United States
Environmental Protection
Agency

Solid Waste
and Emergency Response
(5306W)

EPA530-R-98-017
December 1998
www.epa.gov

EPA

Municipal Solid Waste Source Reduction

A Snapshot of State Initiatives

Printed on paper that contains at least 30 percent postconsumer fiber.

CONTENTS

Introduction 2
Source Reduction Planning 7
State In-House Programs 12
Residential Programs 16
Commercial Programs 21
Local Government Program Support 28
A Final Word 31

Appendices

Appendix A: State Source Reduction Contacts 32
Appendix B: State Source Reduction Resources 38
Appendix C: State Source Reduction Fact Sheets 50

List of Exhibits

Exhibit A Source Reduction Program Breakdown 3
Exhibit B Examples of Source Reduction Activities 4
Exhibit C Source Reduction Planning 7
Exhibit D MSW Materials Banned From Disposal Facilities by Various States 9
Exhibit E State In-House Programs 12
Exhibit F Consumer Purchasing Programs 16
Exhibit G Composting/Grasscycling Programs 17
Exhibit H Commercial Programs 21
Exhibit I Local Government Program Support 28

List of Tables

Table 1 State Source Reduction Efforts 5
Table 2 Source Reduction Planning 10
Table 3 State In-House Programs 15
Table 4 Consumer Education Programs 19
Table 5 Backyard Composting/Grasscycling Programs 20
Table 6 Commercial Programs 26
Table 7 Support for Local Governments 30

INTRODUCTION

Over the past few years, the United States has made significant progress in diverting municipal solid waste (MSW) from landfills and combustion facilities. In 1996, 27 percent of MSW was recovered,[1] exceeding the national goal of 25 percent set by the U.S. Environmental Protection Agency (EPA). States have played an integral role in helping the nation to achieve this goal through a variety of MSW management practices, including recycling, composting, and source reduction. Source reduction (also called waste prevention) has come to be recognized as a commonsense approach with significant potential to use resources efficiently, save money, and reduce waste. Consequently, the benefits of source reduction are prompting an increasing number of states to move beyond traditional waste management programs and find new options for waste reduction initiatives. These initiatives emphasize creating less waste in the first place as opposed to simply diverting waste from disposal.

Since the late 1980s, many states have demonstrated initiative by instituting a number of innovative source reduction policies, such as mandating reduction goals and planning requirements, legislating disposal bans, and implementing extensive education and outreach campaigns. Source reduction remains a top priority for EPA's solid waste management program, and states will continue to play a crucial role in assisting the Agency to meet its current goal of freezing U.S. per capita waste generation at 1990 levels. *Municipal Solid Waste Source Reduction: A Snapshot of State Initiatives* features a number of successful and innovative state programs. It also catalogs publications and resources related to source reduction.

EPA took this snapshot to get a picture of state initiatives, to share successful activities and strategies, and help foster effective source reduction programs nationwide. This snapshot is specifically focused on MSW; state activities geared to the source reduction of hazardous, toxic, or industrial wastes are not addressed in this document. Furthermore, this document highlights state source reduction activities in effect as of the Fall of 1997. Consequently, some of the programs described in this report might have changed since the information was first compiled. In addition, all of the program information highlighted in this snapshot was voluntarily submitted by state government solid waste professionals. It should be noted that an independent review of this self-reported data was not undertaken. Despite these limitations, EPA hopes this information inspires states to take additional actions and enhance existing programs. EPA also encourages states to communicate and partner with each other to share program-specific details when establishing new source reduction programs.

What Are States Doing?

This snapshot reveals state initiatives in five main areas related to source reduction, as shown in Exhibit A with a state-by-state breakdown in Table 1 on page 5: **Source Reduction Planning**, through goal setting and research, **State In-House Programs**, implemented within state governments, **Residential Programs**, within the homes of the residents, **Commercial Programs**, in business and industrial workplaces, and **Support for Local Governments**, through financial and technical assistance. State efforts strive to alter individual behavior through educational and technical assistance programs and also serve the important

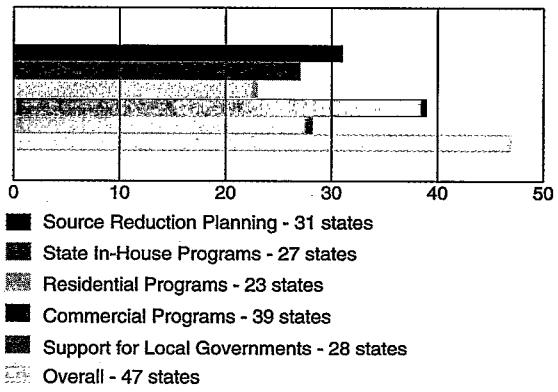
[1] U.S. EPA. 1998. Characterization of Municipal Solid Waste in the United States: 1997 Update. EPA530-R-98-007. Washington, DC.

function of providing financial support for local source reduction activities. Key findings of this report include the following:

- **Most states are active in source reduction.** As shown in Exhibit A, almost all states (47 states) undertake some type of source reduction activity.
- **A number of states have demonstrated significant commitment to source reduction.** Ten states—California, Colorado, Connecticut, Maine, Massachusetts, Minnesota, New York, Rhode Island, Tennessee, and Texas—took a comprehensive approach by adopting a wide array of source reduction activities. As demonstrated in Table 1, these states enacted source reduction efforts across all five of the main areas outlined earlier. In addition, six of these states go a step further by establishing a specific statewide source reduction goal.
- **Many states focus on commercial programs.** With 39 of the 47 states reporting programs, it appears that a primary focus is on the commercial sector. Most commercial sector programs educate the business community about finding ways to reduce waste generation and reuse products.
- **Half of the states support residential programs.** Twenty-three states actively educate residents and foster source reduction in the residential sector. The most popular efforts include backyard composting and consumer purchasing education campaigns.
- **In-house programs and support for local source reduction activities garner equal support.** Twenty-seven states promote and implement in-house source reduction programs, and 28 assist local governments in implementing source reduction efforts. State in-house programs generally focus on procurement and office policies stressing source reduction. Support for local source reduction tends to consist of grant financing and technical assistance programs.

Exhibit A

Source Reduction Program Breakdown



Source Reduction: What Is It?

Source reduction programs seek to change people's behavior by helping them find less waste-intensive practices or alternative uses for existing waste materials without having to dispose of or recycle them. Essentially, source reduction eliminates the need to manage waste. Exhibit B provides examples of source reduction programs implemented by states.

> *"Source reduction, often called 'waste prevention,' is any change in the design, manufacturing, purchase, or use of materials or products (including packaging) to reduce their amount or toxicity before they become MSW."* [2]

EPA considers source reduction to include reuse activities. Reusing materials in their current form, without any conversion process or transportation, reduces the need for manufacturing new products, thereby saving valuable resources and creating less waste for disposal.

[2] U.S. EPA. 1995. Source Reduction Bibliography. EPA530-B-95-011. Office of Solid Waste. Washington, DC.

Exhibit B

Examples of Source Reduction Activities

- Connecticut set a source reduction goal of 15 percent reduction by 2000.
- Minnesota sponsored workshops on environmentally responsible purchasing for public sector employees, focusing on reducing common waste streams through responsible purchasing decisions.
- Maine created the *Master Composter Manual* and funded the certification of volunteers as master composters through annual training courses.
- Massachusetts provides technical assistance to businesses through the WasteCap partnership program, which offers free consulting on source reduction to all businesses in the state.
- Washington provides technical assistance to local governments to help them implement source reduction programs.

Report Organization

This document briefly examines source reduction activities across five major areas, including source reduction planning, state in-house activities, residential programs, commercial programs, and local government support, based on information contained in individual state fact sheets found in Appendix C. Each of the five major areas is discussed individually in the following chapters:

- **Source Reduction Planning** highlights state goals or mandates that call for source reduction. This section also focuses on activities states adopted to help achieve their goals and describes efforts to measure the success of their source reduction programs.
- **State In-House Programs** describes source reduction activities, reuse programs, and procurement guidelines in place within state operations and facilities such as government agencies, courthouses, schools, and park services.
- **Residential Programs** looks at programs targeted to consumers and households, including consumer purchasing education campaigns and support for backyard composting and grasscycling activities.
- **Commercial Programs** presents state efforts to assist the business community in learning about source reduction options and evaluating the resource efficiency of processes and practices.
- **Support for Local Governments** describes state assistance to municipal source reduction programs, primarily in the form of grants and technical assistance as well as other forms of outreach.

Tables are provided at the end of each of the chapters. These tables provide a breakdown of specific source reduction efforts underway in various states. If a state is not listed in a particular table, there was either insufficient information on that state's program or the component is not part of that state's source reduction efforts.

In addition, this document includes several appendices that provide useful reference material. Appendices include individual state fact sheets, state contact information, and source reduction program

Table 1

State Source Reduction Efforts (as reported in fall 1997)

States	Source Reduction Planning	State In-House Programs	Residential Programs	Commercial Programs	Support for Local Government
AL	X				
AK	X	X	X	X	
AR				X	
AZ		X	X	X	X
CA	X	X	X	X	X
CO	X	X	X	X	X
CT	X	X	X	X	X
DE				X	
FL		X			X
GA				X	
HI	X	X	X	X	
ID		X			
IL	X	X		X	
IN				X	
IA	X			X	
KS				X	X
KY	X		X	X	X
ME	X	X	X	X	X
MD	X		X		
MA	X	X	X	X	X
MI				X	X
MN	X	X	X	X	X
MS		X	X	X	
MO	X		X	X	X
MT	X			X	X
NE	X	X	X	X	
NV				X	X
NH	X	X		X	X
NJ	X			X	X
NM	X	X	X	X	

(continued on page 6)

Table 1

State Source Reduction Efforts (continued from page 5)

States	Source Reduction Planning	State In-House Programs	Residential Programs	Commercial Programs	Support for Local Government
NY	X	X	X	X	X
		X	X	X	X
ND	X		X		X
	X	X		X	X
OK				X	
	X			X	X
PA	X	X	X	X	
	X	X	X	X	X
SD	X		X	X	
	X	X	X	X	X
TX	X	X	X	X	X
	X	X		X	X
VA		X			
	X	X		X	X
WV		X			
	X		X	X	X
WY					X

Source Reduction Planning

resources available from the states, organized by source reduction topic areas.

More than half of the states (31 states) undertake some level of source reduction planning. As Exhibit C shows, states approach planning either by establishing numeric statewide goals, investigating the feasibility of various source reduction programs, or mandating source reduction plans at the local level. Table 2 on page 10 summarizes each of the 31 states' approach to planning.

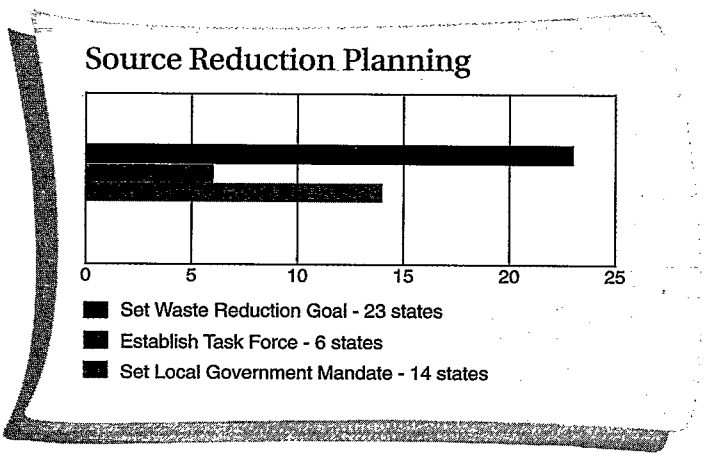
Three major findings of state planning activities stand out:

- Twenty-three states established waste reduction goals. Nearly one quarter of those states (five states) set specific numeric source reduction goals. **Maine, Massachusetts,** and **Minnesota,** for instance, each have a source reduction goal of 10 percent. Other states chose broader reduction goals that encompass recycling and composting as well as source reduction.
- Six states set up task forces or dedicated staff to examine source reduction options and explore the potential for implementing successful programs. For example, both **Maine** and **Rhode Island** established task forces to work with their various state agencies to establish or expand source reduction initiatives in their offices.
- Fourteen states imposed a waste reduction-related mandate at the local level. The most popular mandate is requiring local governments to develop solid waste management plans including source reduction elements. Other mandates include unit-based pricing systems and landfill bans.

Establishing Goals

The five states with numeric source reduction goals—Connecticut, Maine, Massachusetts, Minnesota, and Rhode Island—pledge 10 to 20 percent reduction with target dates ranging from the late 1990s to the early 2000s. Most of these states support their goals with comprehensive source reduction programs targeting all sectors and providing support at the local level as well. For example, Connecticut set a goal of 15 percent source reduction to be reached by 2000. The state supports this goal with strong in-house source reduction program-

Exhibit C



ming, residential and business initiatives, and local government financing programs.

The remaining 18 states adopted broad waste reduction or diversion goals encompassing all activities that reduce materials needing final disposal. These states emphasize waste reduction or diversion goals that are very broad and include not only source reduction activities, but also programs such as composting and recycling. Associated goals range from 25 to 50 percent waste reduction to be achieved by the late 1990s or early 2000s. For example, **Missouri** set a goal to reduce waste by 40 percent by 1998. To support the goal, Missouri offers source reduction public education targeted at residents, provides grants to the commercial sector for source reduction activities, and assists local government source reduction activities through funding efforts. Additionally, **New Hampshire** set a 40 percent waste reduction goal for 2000. Like Missouri, New Hampshire supports goal achievement through a variety of source reduction efforts including state in-house policies, commercial technical assistance, and local government support. Although the goals are broad and states target a variety of sectors, source reduction remains a common thread.

Studying the Source Reduction Options

State task forces often serve as the starting point for state research into successful source reduction program options. Six state task forces were identified, as shown in Table 2, including programs in California, Maine, Maryland, Pennsylvania, Rhode Island, and Washington. Several of the task forces analyze and develop policy recommendations addressing reduction of specific waste streams. Others identify opportunities for internal state activities and outreach to businesses and the public.

Washington appointed a task force to investigate and evaluate product packaging reduction methods. The task force included representatives from the Department of Trade and Economic Development, the Department of Ecology, local governments, the public, environmental associations, and industry. The group reviewed opportunities to reduce the volume and weight of product packaging entering the waste stream, shift from single-use disposable packaging to reusable packaging, and increase awareness of the contribution of packaging to the solid waste stream. The task force conducted outreach to businesses on reducing packaging waste and ensured that state agencies procure materials with minimal packaging to decrease incoming waste.

Washington's task force also considered federal and state packaging standards and requirements as it established guidelines for state agencies and industry to follow. Ultimately, the group submitted an action plan for the state's consideration and recommended guidelines for a state awards program to recognize environmental excellence in packaged products.

Pennsylvania passed legislation in 1988 requiring the state to study source reduction programs. The state chose to designate a staff person, rather than a task force, to analyze source reduction issues and provide direction for potential source reduction programs. The result was an educational program for schools about source reduction methods. The curriculum targets students of all grade levels and is being tested in several schools.

Source Reduction Mandates

The most common mandate requires local governments or solid waste planning authorities to submit solid waste management plans. **North Dakota's** legislature, striving to reach their 40 percent waste reduction goal, requires solid waste management districts to reduce the amount of waste generated, incorporate materials reuse, and initiate composting programs. **California's** legislature also requires local governments to adopt source reduction elements in their waste management plans. The state supports local governments in several ways to ensure they can meet the goals of their plans. The California Materials Exchange provides workshops and outreach to local governments on the creation of waste exchange networks. The state also provides technical assistance in the form of waste reduction workshops and a *Business Kit* to assist local governments in working with businesses in their areas.

In communities across the country, programs using unit-based pricing, also referred to as variable-rate pricing, are in place to encourage resident accountability for waste disposal costs. A common benefit cited by states with unit-based programs is the overall reduction in the amount of waste generated by residents and businesses. One of the states, **Oregon**, reports mandatory institution of unit-based pricing systems. Local governments that do not comply become ineligible for state waste disposal program grants. In two other states, **Wisconsin** and **Iowa**, unit-based pricing programs are required for communities not reaching the statewide 25 percent recycling goal.

Exhibit D

MSW Materials Banned From Disposal Facilities by Various States

- Leaves
- Grass clippings
- General yard waste
- Office and computer paper
- Newsprint
- Corrugated cardboard
- Paperboard
- Glass
- Plastic
- Aluminum
- Steel containers

States also adopted material disposal bans, requiring generators to find other legal disposal options or to change behaviors and processes to eliminate the affected waste streams. As shown in Exhibit D, banned materials range from landscaping waste to recyclable materials like corrugated cardboard or plastic containers. Known material bans are included in the source reduction planning sections of state-specific fact sheets found in Appendix C.

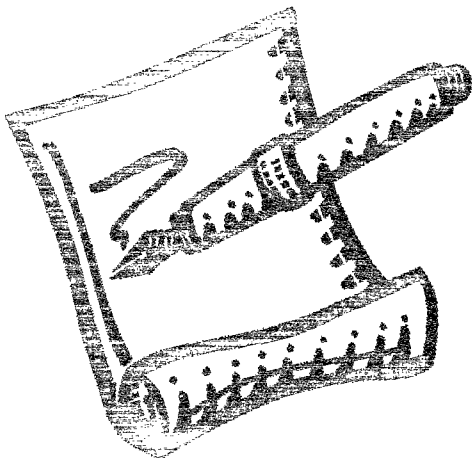


Table 2

Source Reduction Planning (as reported in fall 1997)

States	Type of Goal[A]	Percent Reduction Goal	Baseline Year[B]	Goal Target Date	Designated Source Reduction Planning Task Force	Mandate Local Governments' Source Reduction Planning
AL	Waste Reduction and Recycling	25%				
[illegible]						X
CA	Waste Prevention				X	X
[illegible]	Source Reduction and Recycling	50%		2000		
CT	Source Reduction or	15%	1989	2000		
[illegible]	Source Reduction and Recycling	40%				
[illegible]	Waste Reduction	50%	1991	2000		X
IA						X[C]
[illegible]						X
KY	Waste Reduction	25%		1997		X
[illegible]	Source Reduction	10%	1988		X	
MD					X	
[illegible]	Source Reduction	10%	1990	2000		
MN	Source Reduction	10%		2000		X[C]
[illegible]	Waste Reduction	40%		1998		
MT	Waste Reduction	25%	1991	1996		
[illegible]	Waste Reduction	50%	1994	2002		
NH	Waste Reduction	40%	1990	2000		
[illegible]	Waste Reduction		1990	2000		
NM	Waste Reduction	50%		2000		
[illegible]	Waste Reduction	10%	1987			

(continued on page 11)

Table 2

Source Reduction Planning (continued from page 10)

States	Type of Goal[A]	Percent Reduction Goal	Baseline Year[B]	Goal Target Date	Designated Source Reduction Planning Task Force	Mandate Local Governments' Source Reduction Planning
ND	Waste Reduction	40%	1991	2000		X
OH	Waste Reduction	25%		1994		
OR						X[C]
PA					X	
RI	Source Reduction				X	X
SD	Waste Reduction	50%		2001		
TN						X
TX						X
VT	Waste Reduction	40%		2000		
WA	Waste Reduction	50%	1990		X	X[C]
WI	Overall Solid Waste Management Goal					X[C]

Notes:

[A]State goals documented in this report are as reported by the states either in state policy documents or through direct contact with state officials. Several states indicated waste reduction goals, which EPA interprets to include source reduction in addition to other waste management activities such as recycling and composting.

[B]Baseline year indicates the year against which the state is measuring its progress toward the reduction goal.

[C]In addition to mandating source reduction planning, Iowa, Minnesota, Washington, and Wisconsin require local governments to implement unit-based pricing programs. Oregon also requires unit-based pricing, but does not mandate source reduction planning.

STATE IN-HOUSE PROGRAMS

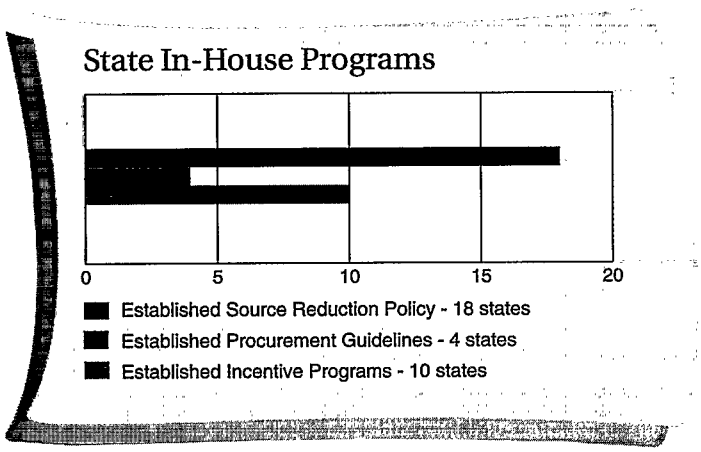
The increased cost of waste disposal and the need for efficient use of resources affect state governments and business and industry in similar ways, generally requiring a review of operating practices and improvements in fiscal management. As shown in Table 3 on page 15, 27 states adopted in-house programs for source reduction. Internal source reduction programs generally seek to reduce waste within selected state departments or agencies, while others encompass entire state governments. Successful efforts add breathing room to tight budgets and make for efficient use of resources. An analysis of in-house efforts shows the following:

- Eighteen of the 27 states with in-house programs, as shown in Exhibit E, have established a source reduction policy. Many states address the common waste stream of office paper by implementing double-sided copying policies for documents. Other states, such as **New Mexico** and **Texas**, have established reuse and surplus supply programs. **West Virginia** and **Rhode Island** set policies requiring composting and grasscycling programs at all state facilities.
- Four states support source reduction policies through their purchasing habits by setting procurement guidelines. For example, **Ohio's** procurement guidelines encourage the purchase of reused or reusable materials, such as reconditioned office furniture and equipment or send-and-return envelopes.
- Ten states choose various other incentives such as funding pilot projects, setting up demonstration sites, or sponsoring awards programs to encourage source reduction within state-owned facilities.

Policies Pave the Way for Reducing Waste

Most states with in-house source reduction programs primarily target paper to cut office waste. Common state policies include double-sided copying and use of waste paper to print draft reports. Other states eliminate the purchase of single-use, disposable items, such as replacing disposable cafeteria implements with reusable mugs and trays. Other emerging policy trends include reusing envelopes for internal mail delivery, establishing an e-mail

Exhibit E



system, and converting to electronic databases to view and store information.

North Carolina relies on source reduction policies as the primary waste reduction strategy at all state agencies. Agencies review their operations to identify source reduction and other waste reduction opportunities. State policies include requiring double-sided copying for all documents, avoiding unnecessary printing or photocopying, and discouraging the use of disposable products when reusable items are available. North Carolina also passed unique legislation that limits distribution of published reports. State agencies notify persons who typically receive state reports that one has been published and provide information on its subject, title, and the location of state libraries where it is available.

Maine established an Interagency Waste Reduction and Recycling Task Force. This task force assists state agencies in establishing new or expanded source reduction initiatives to prevent waste at their offices, such as double-sided copying policies and employee education programs.

Buying Your Way to Savings—Procurement!

Procurement programs and purchasing mandates are common among state governments. Purchasing policies tend to focus on purchasing copy machines and printers with double-sided copying capability, buying remanufactured or rechargeable toner cartridges, acquiring reusable cafeteria items and other reusable products, purchasing products with minimal or reusable packaging, and using send-and-return envelopes.

In 1990, **Massachusetts** set a statewide goal to reduce waste by 10 percent over the next 10 years through an extensive source reduction program. The state government set an example for the state by requiring its agencies to participate in an environmentally preferable purchasing program coordinated by the state purchasing agency. A cornerstone of the program is the use of send-and-return envelopes by five state agencies, eliminating the need for separate return envelopes.

Also in 1990, **Connecticut** developed a program to incrementally eliminate state agency purchases of single-use items. Connecticut's Bureau of Purchasing administers the program and regulates agency participation and annual progress reporting. Agencies periodically update plans to reduce purchases of disposable items in accordance with the procurement policy. Connecticut expects significant waste reduction through this policy and has claimed a 90 percent reduction in the purchase of these items since adopting the guideline.

Fueling Source Reduction Efforts Through Incentives

Ten states set up financial assistance programs, recognition incentives, and technical assistance to encourage agencies to start source reduction programs. **California** funded a demonstration project at the state capitol and financed grasscycling programs at all state office buildings. **Florida** provided internal demonstration project funds and grants for additional research by the state's colleges and universities. **Washington** and **Maine** set up awards programs to recognize government agencies in their states with outstanding source reduction programs.

Three states have chosen to fund onsite composting efforts at schools, another emerging trend. **Massachusetts** and **Vermont** both fund schools that have volunteered to set up composting programs. **New Hampshire** set up a pilot project to investigate best management practices for school composting programs. In 1996, New Hampshire completed the first phase of the project by publishing a school composting manual. With state technical assistance, schools are using the manual to run pilot projects to compost kitchen food waste. Once the pilot projects become successful, New Hampshire plans to expand the composting program to other schools.

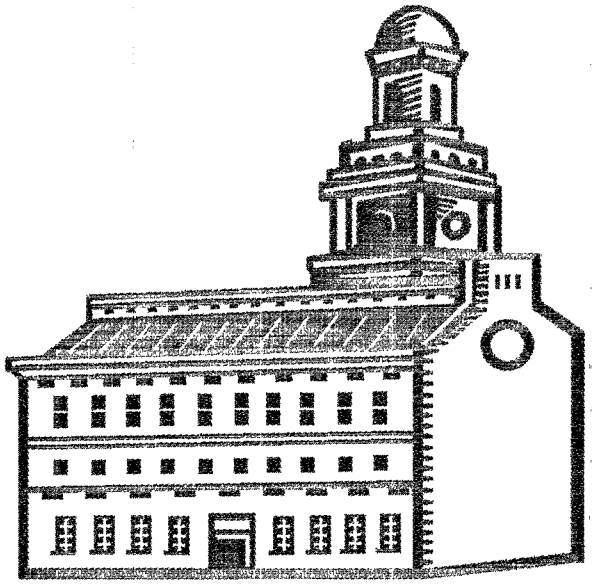


Table 3

State In-House Programs (as reported in fall 1997)

States	Source Reduction Policy Mandate	In-House Procurement Guidelines	Provides Funds or Awards Programs for Source Reduction	School Source Reduction, Composting, or Education Programs
AK	X			
AZ	X			
CA			X	X
CO	X			
CT	X			
FL			X	
HI	X			
ID	X			
IL		X		
ME	X		X	
MA		X		X
MN				X
MS	X			
NE	X			
NH				X
NM	X			
NY	X	X		X
NC	X			
OH		X		X
PA				X
RI	X			
TN	X			
TX	X			
VT	X			
VA	X			
WA			X	
WV	X			

Residential Programs

Research conducted by the Minnesota Office of Waste Management indicates that an average home can reduce its municipal solid waste by 10 percent through source reduction. State governments play an important role in educating and helping residents reduce waste at home. This, in turn, will help contribute to the state's source reduction efforts. Looking across state programs, our snapshot shows the following:

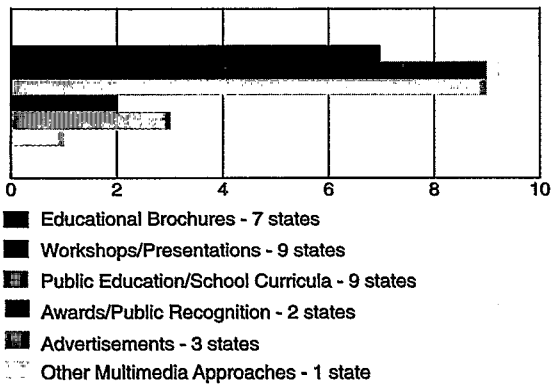
- Twenty-three states implement residential source reduction activities through general consumer programs, more specific backyard composting and grasscycling programs, or both. Tables 4 and 5 on pages 19 and 20, respectively, summarize the states' efforts. The majority of those states (15 states) focus on educating consumers to modify their purchasing practices. Exhibit F shows the array of methods states use to educate consumers. The most popular educational approaches are public education programs and school curricula (nine states). Other states, such as **New York** and **Connecticut**, produce educational materials to inform shoppers of ways to reduce waste.
- Fourteen states support source reduction at home through backyard composting and grasscycling initiatives. Exhibit G presents the types of activities states undertake to support those initiatives. Most of the states (nine states) develop educational brochures. **Missouri**, for example, distributes plans for backyard compost bins and a homeowner's composting guide.

Increasing Action Through Consumer Education on Purchasing Practices

Education is the key to successful source reduction programs. Most outreach programs focus on explaining the relationship between an individual's consumption of goods and the generation of waste. As

Exhibit F

Consumer Purchasing Programs



indicated in Exhibit F, major consumer outreach activities include educational brochures, workshops, integration of source reduction programming in school curricula, awards and recognition programs, and advertisements. **Tennessee**, for example, educates its residents through an outreach program that explains techniques, costs and benefits, and examples of source reduction.

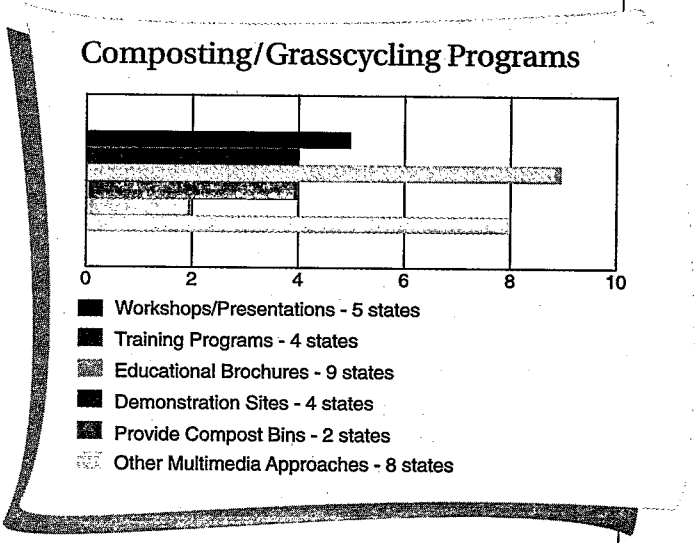
Another successful approach to getting the source reduction message out to residents is multimedia campaigns. The **Minnesota** Office of Environmental Assistance (OEA) educates its residents on solid waste issues through a campaign that includes fact sheets, press releases, staff presentations and workshops, videos, displays, and booths at environmental education events. **Rhode Island** sponsors public education programs that encourage consumers to buy in bulk quantities and to choose products with less packaging. Packaging waste, which makes up more than one third of the U.S. municipal solid waste stream,[3] is a key area for source reduction. The state employs a multimedia public education campaign incorporating presentations, demonstrations, educational tours of landfills, a teacher training curriculum entitled *Solid Waste and the Environment*, and educational brochures and videos.

Residents Pitch in Through Backyard Composting and Grasscycling

Another popular state-level source reduction activity involves reducing the amount of grass, leaves, and other yard trimmings needing disposal or municipal composting. Yard trimmings, another focus area for residential outreach, make up more than 14 percent of municipal solid waste in the United States.[4] As shown in Table 5 on page 20, 14 states fund composting equipment purchases or provide public education through workshops, demonstration sites, advertisements, and technical support materials. These programs provide alternatives to yard trimmings disposal or municipal composting, especially in the states with landfill bans on yard trimmings. **North Carolina** and **Texas** established demonstration sites to educate the public about backyard composting. **Connecticut** and **Rhode Island** set up a partnership between the two states to share outreach materials and programs. **Maine** and **Massachusetts** started successful residential training programs on backyard composting and grasscycling.

In 1991, **Connecticut** initiated a voluntary home composting public education

Exhibit G



[3] U.S. EPA. 1998. Characterization of Municipal Solid Waste in the United States: 1997 Update. EPA530-R-98-007. Washington, DC.

[4] *Ibid.*

program. To increase the effectiveness of yard trimmings source reduction, Connecticut and **Rhode Island** joined forces in 1993, initiating a grasscycling education program entitled *Don't Trash Grass!* The program is funded by federal start-up grants and ongoing in-kind contributions from the states. The program objective is to teach environmentally friendly lawn management techniques using educational tools such as a 12-minute video for television broadcast and brochures distributed at public outlets. Additionally, Connecticut holds workshops to teach nature center educators about home composting and grasscycling.

Maine's Waste Management Agency (MWMA) initiated its Master Composter program in 1993, with the assistance of the University of Maine Cooperative Extension (UMCE). UMCE developed a community education program providing technical instruction on home composting of yard trimmings and food scraps. Participants receive educational materials, including the UMCE Master Composter Manual, and certification as master composters after completing the course. As an additional promotional measure, the state provides grants to towns interested in purchasing backyard composting bins for residents.

Massachusetts educates local trainers on the latest in composting technology and provides the necessary equipment. Since 1991, the Massachusetts Department of Environmental Protection (MADEP) has conducted home composting coordinator training programs. Each year, in the spring and fall, the state holds workshops to educate the general public and enlist volunteer home composting coordinators. More than 300 trained home composting coordinators present workshops in their communities, set up demonstration sites with materials supplied by the MADEP, distribute compost bins, and serve as local sources of composting information. MADEP staff present additional materials and public service announcements to a wide range of audiences in support of the program.

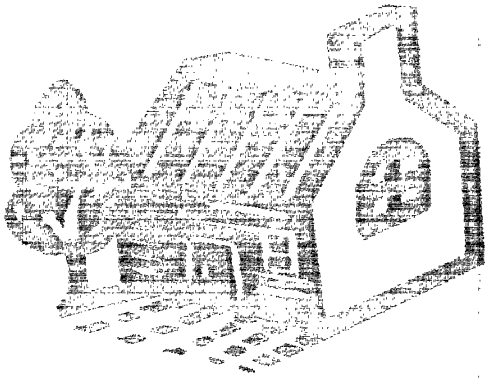


Table 4

Consumer Education Programs (as reported in fall 1997)

State	Educational Program Focus	Educational Brochures	Workshops/ Presentations	Public Education/ School Curricula	Awards and Public Recognition	Advertising	Other (Multimedia Campaigns)
AK	General Source Reduction		X				
CA	Integrated Waste Management			X			
CO	General Source Reduction				X		
CT	Yard Waste Reduction		X	X			
MA	Yard Waste Reduction			X			
MN	General Source Reduction	X	X	X	X	X	X
MS	General Source Reduction			X			
MO	Consumption Issues And Composting			X			
NE	General and Composting	X	X				
NM	Composting Programs	X	X				
NY	General and Composting	X	X	X			
PA	General Source Reduction	X					
RI	Purchasing and Composting	X	X	X		X	
TN	General Source Reduction		X	X			
WI	Composting Programs	X	X			X	

Table 5

Backyard Composting/Grasscycling Programs

(as reported in fall 1997)

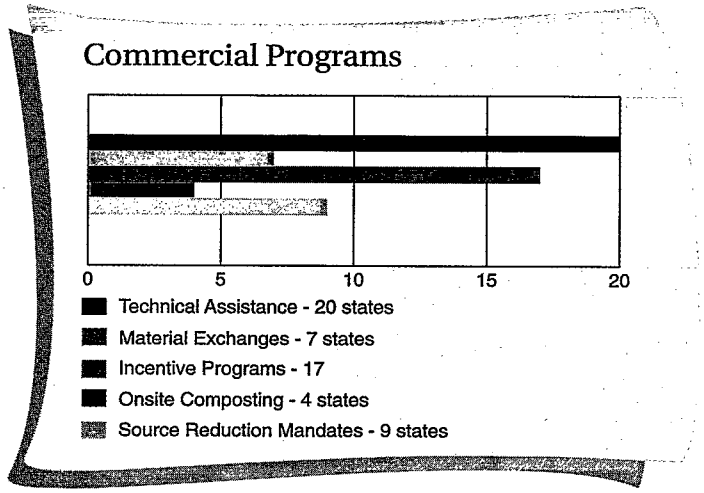
State	Landfill Ban for Yard Waste	Workshops/ Presentations	Training Programs	Educational Brochures	Demonstration Sites	Provide Compost Bins	Other (Multimedia Campaigns)
AZ							X
		X	X	X			X
HI							X
							X
ME		X	X				
				X			
MA	X	X	X	X	X	X	X
				X			X
NE		X		X			
	X		X	X	X	X	
NC	X			X	X		X
				X			
RI	X	X		X			X
					X		

Commercial Programs

Commercial wastes from business and industry make up between 35 and 45 percent of the U.S. municipal solid waste stream.[5] With such a large potential for source reduction, it is no wonder that two-thirds of all states have focused their efforts on commercial reduction programs. As shown in Table 6 on page 26, 39 states sponsor commercial source reduction activities. Specifically:

- As demonstrated in Exhibit H, 20 states provide businesses with onsite technical assistance, publications, workshops, and other outreach activities. **New Mexico** and **Mississippi** provide commercial waste reduction assessments and help businesses to plan their reduction programs. **Ohio's** Department of Natural Resources developed a *Waste Reduction Guide for Ohio Business and Industry.* **Arizona's** Department of Environmental Quality administers a technical assistance program and provides local workshops on source reduction, recycling, and composting for businesses.
- Seventeen states fund commercial source reduction programs through grants, tax credits, and award programs. **Illinois**, one of eight states with grant programs, annually provides commercial source reduction grant and loan awards of $6 to $8 million. Specific tax credits, found in four states, also assist businesses financially. **California** and **New Jersey** sponsor award programs to help spur source reduction activity.
- Seven states set up materials exchange programs to promote reuse of leftover materials and help participating businesses avoid unnecessary disposal or purchasing costs. **Tennessee's** Division of Solid Waste contracts with the University of Tennessee Center for Industrial Services (CIS) to operate a commercial/industrial materials exchange program.
- Four states support onsite composting efforts of businesses. **Arizona**, for

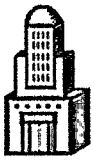
Exhibit H



[5]U.S. EPA. 1998. Characterization of Municipal Solid Waste in the United States: 1997 Update. EPA530-R-98-007. Washington, DC.

example, contributes to a composting demonstration site run by the Desert Botanical Gardens, which demonstrates how small businesses can incorporate composting into their waste reduction programs.

- Nine states adopted mandatory planning and material restrictions to address particularly troublesome waste streams and promote source reduction. Most states mandating source reduction focus on packaging issues, such as **Connecticut's** adoption of regulations for reducing the volume or weight of disposable packaging. **Rhode Island,** taking another route, requires businesses to develop source reduction programs and report annually on their progress.



A Helping Hand—Technical Assistance

State technical assistance programs vary widely. Outreach efforts range from waste reduction publications, which appear to be the most abundant and affordable outreach option, to onsite technical assistance, where the one-on-one interaction proves to be an effective means of outreach.

Maine and **Massachusetts** both administer "WasteCap" programs designed to work directly with businesses to find source reduction and recycling alternatives to waste disposal. The Massachusetts Department of Environmental Protection initiated the WasteCap partnership program to provide source reduction consulting services for Massachusetts businesses. WasteCap assists businesses by identifying waste reduction opportunities, providing technical assistance workshops, and maintaining an information clearinghouse. The state also supports an awards program to recognize manufacturers excelling at packaging reduction. Maine's WasteCap Program, administered by the Maine Chamber and Business Alliance, provides companies with technical expertise and assistance in recognizing waste minimization opportunities, including source reduction, and its benefits in the workplace.

Michigan's Office of Waste Reduction Services (OWRS) actively provides technical assistance. OWRS helps businesses identify source reduction options under a partnership between the Departments of Commerce and Natural Resources. Services include telephone consultations and onsite visits, waste reduction publications, waste stream audits, and analysis of industry-specific waste reduction opportunities and techniques. Michigan also runs the Retired Engineer Technical Assistance Program. Retired engineers, scientists, and other professionals conduct onsite waste assessments to identify waste reduction opportunities at commercial facilities. This service is nonregulatory, voluntary, and provided free of charge to Michigan businesses with fewer than 500 employees and to institutions of any size.

These full-service approaches, exhibited by Maine, Massachusetts, and Michigan, are also supported by several other states, including Connecticut, Tennessee, and Washington. Additionally, some states augment their standard technical assistance programs with composting assistance, materials exchange and reuse programs, and waste reduction partnering opportunities.

One such partnering program works cooperatively with the commercial sector to study waste issues and find effective source reduction strategies. **Missouri** established a source reduction advisory board to create a partnership among state and local governments, the commercial sector, and private citizens. The advisory board studied waste issues and published a report offering suggestions to reduce and reuse packaging,

reduce litter, and educate consumers and industry about product choices and alternatives designed for source reduction.

Publications used in conjunction with the technical assistance efforts or as "do-it-yourself" guides are also popular among state outreach efforts. Additional information on state publications is included in Appendix B.

One Person's Junk—Materials Exchange and Reuse Programs

Materials exchange and reuse programs find alternative homes for wastes bound for final disposal sites. Such programs help generators and users financially since most programs move commodities for free to avoid disposal costs. Exchange programs use word-of-mouth referrals, printed listings, and online services to provide valuable infrastructure to participating businesses.

The **Vermont** Agency of Natural Resources funds the "Vermont Business Materials Exchange," developed to promote reuse of commercial and industrial waste materials. Materials listings are included in quarterly catalogs, on a Web site, and on an electronic list server that announces new listings and materials that need to move quickly.

The **California** Materials Exchange program (CalMAX), created in 1991, helps find alternative uses for nonhazardous discards. Through CalMAX, business, industry, and other organizations can find markets for unwanted materials, reducing disposal costs and providing free or inexpensive materials to others. CalMAX distributes a free bimonthly catalog that contains available and wanted materials listings, innovative matches, and creative reuse ideas.

Natural Source Reduction—Onsite Composting

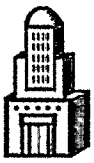
Four states promote onsite composting programs to avert the disposal of organic wastes, such as food scraps and yard trimmings. Finding alternatives to transported disposal of these wastes is an important cost-saving activity for businesses. Common alternatives include onsite composting and mulching, and states typically approach composting assistance through education and technical assistance.

California supports a landscaping waste reduction education and outreach program to businesses, including the publication *Keeping Green: A Landscaper's Guide to Reducing Waste*. California distributes this 40-page information guide to businesses through local governments and advertises statewide in landscaping trade magazines and at major home improvement and gardening centers. The campaign promotes their "landscaping heroes," people who highlight landscaping waste reduction as a responsibility and an important opportunity for industry to impact the environment and their bottom lines.

Hawaii promotes onsite composting by sponsoring an annual workshop for commercial establishments. Hawaii's Department of Health provides information on how to set up onsite composting and covers the costs and benefits of onsite management.

Breaking the Financial Barrier

Providing capital for start-up technology or cutting-edge ideas provides a much needed solution to one of the biggest barriers to new ideas—funding. Setting standards and allowing innovation to dominate the application process produces multiple benefits for the states, including innovation in waste reduction programs, progress toward state reduction goals, and proof of state commitment to source reduction.



Michigan's Department of Environmental Quality (MDEQ) administered waste prevention programs under the 1989 Solid Waste Alternatives Program (SWAP). The competitive SWAP grant and loan program provided the private sector with matching funds for approved research and demonstration projects seeking alternative solutions to solid waste management problems. Grants and loans are no longer available, but many of the nearly 300 funded projects established ongoing, long-term programs. Michigan's Environmental Protection Board also funds alternative solid waste management projects, which supplements the state's funding of alternative waste management options, including source reduction programs.

State governments often provide additional financial incentives for source reduction activities through tax credits. Tax credits generally require businesses to commit to a desired source reduction activity and apply for the credit based upon meeting qualification criteria. Some credits are given based on equipment purchases for source reduction, and others are given based on a company's source reduction performance or activities. In 1992, **Delaware** started the state-sponsored Green Industries Initiative. The program offers tax incentives and loans to industries for waste reduction activities. **Arkansas** provides a system of tax credits offering companies a 30 percent reduction on corporate or income taxes for use of equipment related to source reduction, reuse, or recycling.

Many states identify and showcase commercial source reduction successes to encourage positive actions toward reduction. Whether monetary or honorary awards are given, states recognize the efforts of business and industry. The **California** Waste Reduction Awards Program annually recognizes businesses statewide that have made outstanding efforts to reduce nonhazardous waste.

Forcing the Issue—Mandating Source Reduction

In contrast to promoting source reduction through voluntary programs and outreach, source reduction mandates require businesses to include source reduction as part of their approach to solid waste management. State mandates include restrictions on products and packaging entering or manufactured within the state and mandatory source reduction plans for business and industry.

States looking for source reduction options in the commercial sector sometimes target packaging waste due to the high volume of this material in the waste stream. Five states have used this approach to mandate source reduction. States sometimes require manufacturers to change package specifications for their products and absorb the associated costs. Aside from initial costs, changes which substantially reduce packaging result in savings to the manufacturer and its customers.

Consumers can either reuse the packaging or have less to dispose of or recycle.

Oregon, for example, mandates that all rigid plastic containers must either be reusable five times, in addition to meeting other recycled-content criteria, or be source-reduced 10 percent over 5 years if no recycled content is included in the containers.

Some states adopted packaging source reduction practices through the Coalition of Northeastern Governors (CONEG) Challenge. The Challenge, initiated by CONEG's Source Reduction Task Force, seeks to encourage companies to eliminate unnecessary packaging, minimize waste wherever possible, reuse products whenever possible, and use recycled-content packaging.

Another approach to mandatory source reduction is the requirement for submission of commercial source reduction plans for state approval. Found in only three states, planning mandates are uncommon due to the reporting burden and administrative requirements. **Pennsylvania** has passed legislation targeted specifically at the reduction of private sector municipal solid waste. The state mandated that all businesses generating municipal solid waste prepare source reduction plans by 1993. Businesses report on the types of wastes that they generate and discuss their strategies for source reduction.

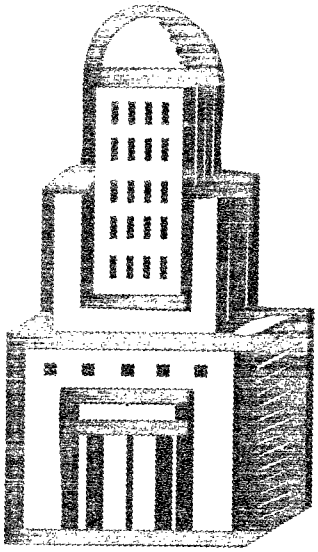


Table 6

Commercial Programs (as reported in fall 1997)

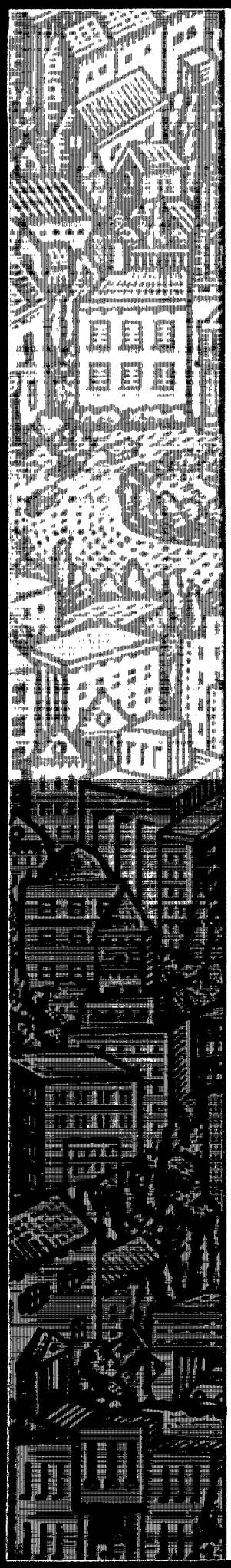
State	Technical Assistance Programs	Materials Exchange/ Reuse Programs	Financial/Public Recognition Incentives	Onsite Composting	Source Reduction Mandates
AK		X			
	X		X	X	
AR			X		
		X	X	X	X
CO			X		
	X				X
DE			X		
			X		
FL	X	X		X	
			X		
IN					X
					X
KS					X
	X				
ME	X				
	X		X		
MI	X		X		
	X	X	X		
MS	X				
	X		X		
MT	X				
					X
NV	X				
	X			X	
NJ			X		
	X				
NM	X	X	X		
			X		
OH	X		X		
			X		

(continued on page 27)

Table 6

Commercial Programs (continued from page 26)

State	Technical Assistance Programs	Materials Exchange/ Reuse Programs	Financial/Public Recognition Incentives	Onsite Composting	Source Reduction Mandates
OR					X
PA					X
RI					X
SD	X				
TN	X	X			
TX	X				
VT		X			
WA	X				
WI			X		



Local Government Program Support

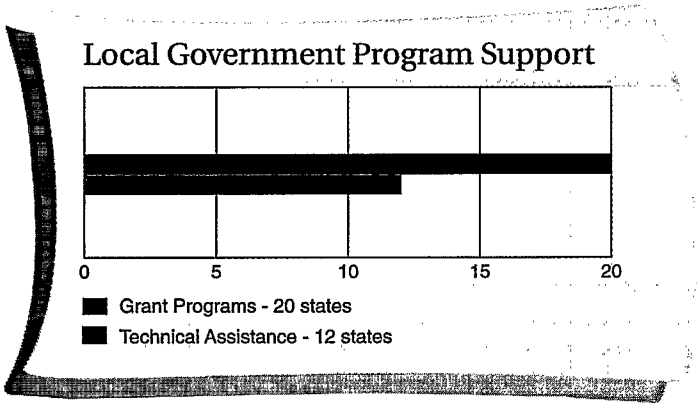
Local governments play a critical role in source reduction by working directly with residents, consumers, businesses, and institutions to implement the array of source reduction activities described in the preceding chapters. Twenty-eight states, shown in Table 7 on page 30, provide financial and technical assistance to local governments to aid them in their efforts. Examples include providing grants, sponsoring workshops, and preparing technical outreach materials for local governments to distribute to their targeted audiences. Other findings show:

- The most popular means of support is through financing programs. As shown in Exhibit I, 20 states provide grant funds to local governments. Whether large or small, grants often open doors to new and innovative local source reduction programs and activities. **Vermont** awards small grants (less than $5,000) for source reduction projects, including a packaging reduction program and educational materials on reuse and composting. **Minnesota**'s Office of Environmental Assistance also awarded grants, totaling $381,000 in 1994, to local governments and school district projects.
- Twelve states provide technical assistance to strengthen local programs. States provide two main types of technical assistance—onsite assistance and outreach materials—that focus on specific source reduction issues, such as backyard composting, outreach to businesses, or unit-based pricing. For example, the University of **Kentucky** Extension Service provides consumer education and information materials to counties throughout the state. The Extension service also provides educational materials on backyard composting, reuse, and source reduction.

Financial Incentives Bring Source Reduction Opportunities

Many states support local source reduction efforts through grant programs. Such grant programs generally incorporate flexible requirements allowing local governments to choose their own approaches and programming. These types of financial incentives assist local governments over the first hurdle in source reduction programming by taking away the pressure of putting municipal dollars on the line.

Exhibit I

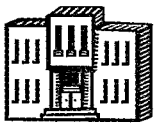


Texas supports local backyard composting efforts through the state's municipal solid waste grant program. The grant program provided $3.9 million in new capital to local governments in 1996 and 1997, split between centralized municipal composting and residential backyard efforts. **Michigan** sponsors Solid Waste Assistance Program (SWAP) grants for local governments. SWAP grants fund programs that demonstrate the effectiveness of alternative solid waste management practices, which commonly include source reduction elements.

Experts Reach Out—Technical Assistance

States offer technical assistance to their local governments as a means to help local planners do their jobs and strengthen municipal source reduction efforts. State approaches include providing onsite technical assistance to municipalities, such as source reduction workshops, and developing technical outreach materials and resources for local program managers.

California assists local government technical assistance efforts through training and outreach materials. The state sponsors frequent "train the trainer" workshops with local governments to convey residential outreach techniques that promote backyard composting. California also helps local governments work with the commercial sector through the California Materials Exchange program (CalMAX). CalMAX offers workshops and information to local governments to assist the development of local waste exchange networks. Additional commercial outreach comes from California's Business Kit. It was developed to assist municipal commercial outreach efforts by providing outreach techniques and model assistance resources local governments can adapt for use in their outreach programs.



New Hampshire works with local governments through annual site visits to all types of local solid waste facilities. The visits incorporate technical assistance elements to help municipalities find effective waste management activities, typically including source reduction elements. To support the ongoing education efforts of New Hampshire municipalities, the state publishes a newsletter that provides source reduction, reuse, and recycling program ideas.

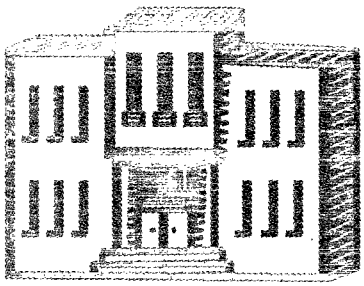


Table 7

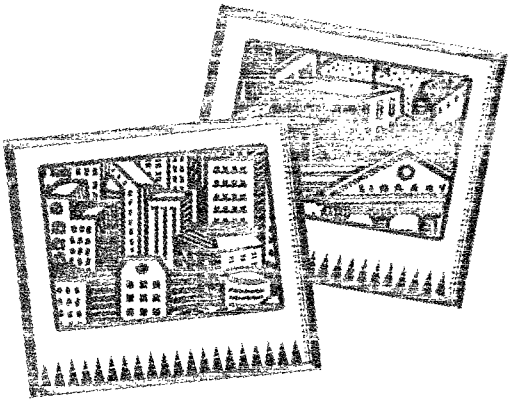
Support for Local Governments (as reported in fall 1997)

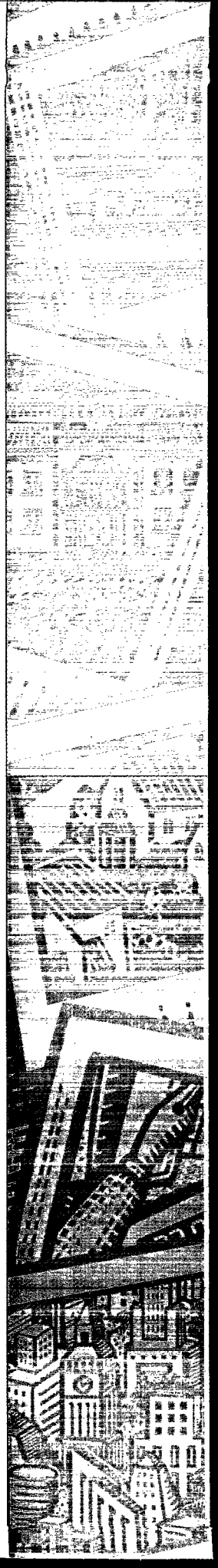
State	Grant Programs	Onsite Technical Assistance	Technical Outreach Materials
AZ	X		
		X	
CO	X		
	X		
FL	X		
	X		
KY		X	X
	X		
MA	X		
	X		
MN	X		
	X		
NV	X		
		X	X
NJ	X		
		X	X
NC	X	X	X
			X
OH	X	X	X
		X	
RI	X	X	X
		X	
TX	X	X	X
	X		
WA	X		
	X	X	
WY	X		

A Final Word

State source reduction efforts vary across the country, but there is little doubt that the efforts are a strong testament to the importance of reducing waste. The benefits of source reduction programs lie in their potential to prevent waste, increase efficiency, and save natural resources. This helps explain why source reduction is at the top of the nation's MSW management hierarchy. By prioritizing source reduction activities, organizations can avoid the inevitable costs of solid waste collection and disposal and achieve solid waste management goals effectively.

This snapshot is intended to be a reference tool for states. The examples within the chapters and the elaborations found in the fact sheets in Appendix C are meant to help states generate new ideas for future programs and understand how others are approaching this valuable waste management strategy. EPA encourages states to incorporate source reduction into their integrated solid waste management programs. The state programs highlighted in this report illustrate the positive impacts such an approach can have.





Appendix A

State Source Reduction Contacts

(as of December 1998)

ALABAMA
Alabama Department of Economic and Community Affairs
Michael W. Forster
State Recycling Coordinator
401 Adams Avenue
P.O. Box 5690
Montgomery, AL 36103-5690
Phone: 334 242-5336
Fax: 334 242-0552

ALASKA
Alaska Department of Environmental Conservation
Division of Statewide Public Service
555 Cordova Street
Anchorage, AK 99501
Phone: 907 269-7586
Fax: 907 269-7600
Web site: http://www.state.ak.us/dec/home.htm

ARIZONA
Arizona Department of Environmental Quality
Waste Programs Division
3033 North Central Avenue
Phoenix, AZ 85012
Phone: 602 207-4865
Fax: 602 207-2383

ARKANSAS
Arkansas Department of Pollution Control and Ecology
8101 I-30 Building D
P.O. Box 8913
Little Rock, AR 72219-8913
Phone: 501 682-0812
Fax: 501 682-0880

CALIFORNIA
California Integrated Waste Management Board
Kathy Frevert
8800 Cal Center Drive
Sacramento, CA 95828
Phone: 916 255-2200
Fax: 916 255-2602
E-mail: kfrevert@CIWMB.ca.gov
Web site: http://www.ciwmb.ca.gov/

COLORADO
Colorado Office of Energy Conservation
Kelly Roberts
1675 Broadway, Suite 1300
Denver, CO 80202-4613
Phone: 303 620-4292
Fax: 303 620-4288
E-mail: oec@csn.net
Web site: http://www.state.co.us/ gov_dir/oec

CONNECTICUT
Department of Environmental Protection
Kim Trella
79 Elm Street
Hartford, CT 06106
Phone: 860 424-3365
Fax: 860 424-4081
E-mail: kim.trella@po.state.ct.us
Web site: http://dep.state.ct.us

DELAWARE
Department of Natural Resources
89 Kings Highway
P.O. Box 1401
Dover, DE 19903
Phone: 302 739-3820
Web site: http://www.dnrec.state.de.us./air/air_wste.htm

FLORIDA
Florida Department of Environmental Protection
Waste Reduction Section
Ron Henricks, Administrator
2600 Blair Stone Road
Tallahassee, FL 32399-2400
Phone: 850 921-9223
Fax: 850 921-3000
E-mail: henricks_r@dep.state.fl.us
Web site: http://www.dep.state.fl.us/waste

GEORGIA
Department of Natural Resources
Seven Martin Luther King Jr. Drive, Suite 450
Atlanta, GA 30334
Phone: 404 651-5120
Web site: http://www.ganet.org/dnr/p2ad

HAWAII
Hawaii Department of Health
Office of Solid Waste Management
Carrie McCabe
919 Ala Moana Boulevard, Third Floor
Honolulu, HI 96814
Phone: 808 586-4240
Fax: 808 586-7509
E-mail: cmccabe@eha.health.state.hi.us

IDAHO
Idaho Division of Environmental Quality
Donna Rodman
1410 North Hilton
Boise, ID 83706
Phone: 208 373-0502
Fax: 208 373-0169
E-mail: drodman@deq.state.id.us

ILLINOIS
Illinois Department of Commerce and Community Affairs
Office of Recycling and Waste Reduction
325 West Adams Street, Third Floor
Springfield, IL 62704
Phone: 217 785-2800
Fax: 217 785-2618
Web site: http://www.commerce.state.il.us

INDIANA
Department of Commerce
Energy Policy Division
One North Capital, Suite 700
Indianapolis, IN 46204-2288
Phone: 317 232-8940
Fax: 317 232-8995

IOWA
Natural Resources Department
Wallace State Office Building
Des Moines, IA 50319
Phone: 515 281-6284
Fax: 515 281-8895
Web site: http://www.state.ia.us/government/dnr/

KANSAS
Department of Health and Environment
Division of Environment, Bureau of Waste Management
William Bider
Forbes Field Building 740
Topeka, KS 66620-0001
Phone: 913 296-1600
Fax: 913 296-1592
Web site: http://www.state.ks.us/public/kdag/bwm

KENTUCKY
Resource Conservation and Local Assistance Branch
Division of Waste Management
Joy Morgan or Charles Peters
14 Reilly Road
Frankfort, KY 40601
Phone: 502 564-6716
Fax: 502 564-4049
E-mail: morgan@nrdep.nr.state.ky.us or peters@nrdep.nr.state.ky.us

LOUISIANA
Department of Environmental Quality
Solid Waste Division
7290 Blue Bonnet
P.O. Box 82178
Baton Rouge, LA 70810-2178
Phone: 225 765-0792
Fax: 225 765-0299

MAINE
Maine Waste Management Agency
Office of State Planning
Waste Management and Recycling Program
State House Station 38
Augusta, ME 04333
Phone: 207 287-5313
Fax: 207 287-6489
Web site: http://www.state.me.us/spo

MARYLAND
Maryland Department of the Environment
2500 Broening Highway
Baltimore, MD 21224
Phone: 410 631-3315
Fax: 410 631-3321
Web site: http://www.mde.state.md.us/was

MASSACHUSETTS
Department of Environmental Protection
Division of Solid Waste
1 Winter Street, Fourth Floor
Boston, MA 02108
Phone: 617 292-5960
Fax: 617 556-1049

Executive Office of Environmental Affairs
Scott Cassel
Director of Waste Policy and Planning
100 Cambridge Street, 20th Floor
Boston, MA 02202
Phone: 617 727-9800, extension 291
Fax: 617 727-2754
E-mail: scassel@state.ma.us

MICHIGAN
Department of Environmental Quality
Waste Management Division
P.O. Box 30241
Lansing, MI 48909
Phone: 517 373-2730
Fax: 517 373-4797

MINNESOTA
Minnesota Office of Environmental Assistance
520 Lafayette Road North
St. Paul, MN 55155-4100
Phone: 612 296-3417 or 800 657-3843
Fax: 612 215-0246
Web site: http://www.omea.state.mn.us

MISSISSIPPI
Department of Environmental Quality
P.O. Box 20305
Jackson, MS 39289-1503
Phone: 601 961-5241
Fax: 601 354-6612

MISSOURI
Division of Environmental Quality
Solid Waste Management Program
P.O. Box 176
Jefferson City, MO 65102-0176
Fax: 573 526-3902
Web site: http://www.state.mo.us/dnr/deq/swmp/homeswmp.htm

MONTANA
Montana Department of Environmental Quality
Pollution Prevention Bureau
P.O. Box 200901
1520 East 6th Avenue
Helena, MT 59620
Phone: 406 444-6697
Fax: 406 444-6836

NEBRASKA
Nebraska Department of Environmental Quality
M.J. Rose
The Atrium Building
1200 "N" St. Suite 400
P.O. Box 98922
Lincoln, NE 68509-8922
Phone: 402 471-4210
Fax: 402 471-2909
E-mail: deq201@mail.deq.state.ne.us

NEVADA
Nevada Division of Environmental Protection
Bureau of Waste Management
Solid Waste Branch
Suzanne Sturtevant
Recycling Coordinator
333 West Nye Lane
Carson City, NV 89706-0851
Phone: 702 687-4670, extension 3008
Fax: 702 687-6396

NEW HAMPSHIRE

Department of Environmental Services
Waste Management Division
Christopher Way
Supervisor
6 Hazen Drive
Concord, NH 03301
Phone: 603 271-6847
Fax: 603 271-2456
E-mail: nhpoas@des.state.nh.us
Web site: http://www.state.nh.us/des

NEW JERSEY

Department of Environmental Protection
401 East State Street
P.O. Box 414
Trenton, NJ 08625-0414
Phone: 609 530-8208
Fax: 609 777-0769
Web site: http://www.state.nj.us/dep/dshw/recycle

NEW MEXICO

Solid Waste Bureau
Cathy Tyson
P.O. Box 26110
Santa Fe, NM 87502
Phone: 505 827-2883
Fax: 505 827-2902
E-mail: catherine_tyson@nmenv.state.nm.us

NEW YORK

Department of Environmental Conservation
Division of Solid Waste and Hazardous Materials
Bureau of Waste Reduction
Steve Hammond
50 Wolf Road
Albany, NY 12233-7250
Phone: 518 457-6934
Fax: 518 457-0629

NORTH CAROLINA

Division of Pollution Prevention and Environmental Assistance
P.O. Box 29569
Raleigh, NC 27626-9569
Phone: 919 715-6500
Fax: 919 715-6794
Web site: http://www.p2pays.org

NORTH DAKOTA

North Dakota Department of Health
Division of Waste Management
Robert Tubbs-Avalon
P.O. Box 5520
Bismarck, ND 58506-5520
Phone: 701 328-5166
Fax: 701 328-5200
E-mail: ccmail.btubbsav@ranch.state.nd.us
Web site: http://www.ehs.health.state.nd.us

OHIO

Ohio Department of Natural Resources
Division of Recycling and Litter Prevention
Donna M. Stusek
1889 Fountain Square Court, F-2
Columbus, OH 43224-1331
Phone: 614 265-6333
Fax: 614 262-9387
E-mail: donna.stusek@dnr.state.oh.us
Web site: http://www.dnr.state.oh.us.odnr/recycling

OKLAHOMA

Department of Environmental Quality
Pollution Prevention Program
707 North Robinson
Oklahoma City, OK 73102
Phone: 800 869-1400
E-mail: dianne.wilkins@oklaosf.state.ok.us
Web site: http://www.deq.state.ok.us

OREGON

Oregon Department of Environmental Quality
Waste Management and Cleanup Division
Paul Slyman
811 SouthWest 6th Avenue
Portland, OR 97204
Phone: 503 229-6165
Fax: 503 229-5830
E-mail: SLYMAN.Paul@deq.state.or.us
Web site: http://www.deq.state.or.us/wmc/solwaste/rsw.htm

PENNSYLVANIA

Bureau of Waste Management
Department of Environmental Resources
P.O. Box 2063
Harrisburg, PA 17105
Phone: 717 787-7382
Fax: 717 787-1904
Web site: http://www.dep.state.pa.us

RHODE ISLAND

Department of Environmental Management
235 Promenade Street
Room 425
Providence, RI 02908
Phone: 401 222-3434
Fax: 401 222-6802
Web site: http://www.state.ri.us/dem

SOUTH CAROLINA

Department of Health and Environmental Control
Office of Solid Waste Reduction and Recycling
2600 Bull Street
Columbia, SC 29201
Phone: 803 896-4225
Fax: 803 896-4001
Web site: http://www.state.sc.us/dhec/eqchome.htm

SOUTH DAKOTA

South Dakota Department of Environment and Natural Resources
Solid Waste Program
Greg Buntrock
Environmental Project Scientist
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3181
Phone: 605 773-3153
Fax: 605 773-6035
E-mail: gregb@denr.state.sd.us
Web site: http://www.state.sd.us/denr/denr.html

TENNESSEE

Division of Solid Waste Assistance
Department of Environment and Conservation
401 Church Street, 14th Floor
L&C Tower
Nashville, TN 37243-0455
Phone: 615 532-0091
Fax: 615 532-0231
Web site: http://www.state.tn.us/environment/swa

TEXAS

Office of Pollution Prevention and Recycling
Andrew Neblett
TNRCC, MC 112
P.O. Box 13087
Austin, TX 78711-3087
Phone: 512 239-3166
Fax: 512 239-3165
E-mail: aneblett@tnrcc.state.tx.us
Web site: http://www.tnrcc.state.tx.us

UTAH

Utah Department of Environmental Quality
Office of Planning and Public Affairs
Sonja Harriet
168 North 1950 West
P.O. Box 144810
Salt Lake City, Utah 84114-4810
Phone: 801 536-4477
Fax: 801 536-4401
Web site: http://www.eq.state.ut.us/

VERMONT

Agency of Natural Resources
Department of Environmental Conservation
Environmental Assistance Division
Carolyn Grodinsky
103 South Main Street
Waterbury, VT 05671-0411
Phone: 802 241-3477
Fax: 802 241-3273
E-mail: Carolyng@wasteman.anr.state.vt.us
Web site: http://www.state.vt.us/anr/waste.htm

VIRGINIA

Department of Environmental Quality
629 East Main Street
P.O. Box 10009
Richmond, VA 23240-0009
Phone: 804 698-4000
Fax: 804 698-4083
Web site: http://www.deq.state.va.us/envprog/wstman.html

WASHINGTON

Department of Ecology
Solid Waste and Financial Assistance Program
P.O. Box 47600
Olympia, WA 98504-7600
Phone: 360 407-6000
Fax: 360 407-6102
Web site: http://www.wa.gov/ecology/swfa/swhome.html

WEST VIRGINIA

Department of Conservation Education and Litter Control
Division of Natural Resources
1900 Kanawah Blvd.
Building 3, Room 782
Charleston, WV 25305
Phone: 304 558-3370
Fax: 304 558-6207

WISCONSIN

Wisconsin Department of Natural Resources
Bureau of Waste Management
Susan Hundt Bergan
Recycling Team Leader
101 S. Webster St.
P.O. Box 7921
Madison, WI 53702
Phone: 608 264-6032
Fax: 608 267-2768
E-mail: bergas@dnr.state.wi.us
Web site: http://www.dnr.state.wi.us

WYOMING

Wyoming Department of Environmental Quality
250 Lincoln Street
Lander, WY 82520
Phone: 307 332-6924
Fax: 307 332-7726
Web site: http://www.trib.com/wyoming/recycle

Appendix B

State Source Reduction Resources

(Listed in chapter order)

STATE IN-HOUSE PROGRAMS

Title: **Cafeteria Waste Composting: Suggested System Design**
Format: Manual
Published:
Notes:
Contact: Carolyn Grodinsky
Agency of Natural Resources, Department of Environmental Conservation,
Environmental Assistance Division
103 South Main Street
Waterbury, VT 05671-0411
Phone: 802 241-3477
E-mail: Carolyng@wasteman.anr.state.vt.us
Web site: http://www.state.vt.us/anr/waste.htm

Title: **Consolidated Solid Waste Report**
Format: Report
Published:
Notes: This report profiles Minnesota's solid waste management successes and future issues. Source reduction is discussed along with other waste reduction methods.
Contact: Waste Education Clearinghouse, Office of Environmental Assistance
520 Lafayette Road North, Second Floor
St. Paul, MN 55155
Phone: 612 215-0232
E-mail:
Web site:

Title: **Recycling and Waste Prevention Presentations for Schools**
Format: Brochure
Published:
Notes: This brochure specifically targets and promotes waste reduction education for children, highlighting programs available on request for school presentations.
Contact: Mississippi Department of Environmental Quality
P.O. Box 10385
Jackson, MS 39289-0385
Phone: 601 961-5171
E-mail:
Web site:

Title: **The G.O.L.D. Manual: Methods to Assist State Agencies and Institutions in the Development of Waste Reduction and Recycling Plans**
Format: Manual
Published:
Notes: This manual contains an outline of plan components, worksheets, and waste reduction information for various types of facilities. The topics covered in this manual include facility assessments, purchasing practices, educational efforts, and communication program evaluations.
Contact: Washington State Department of Ecology
National Technical Information Service, 5285 Port Royal Road
Springfield, VA 22161
Phone: 800 553-6847
E-mail:
Web site:

Title: **The G.O.L.D. Plan: A Strategy for Waste Reduction and Recycling at State Government Facilities**
Format: Manual
Published:
Notes: This publication defines a strategy for incorporating waste reduction into management and operation of state government facilities. The plan explains the type of waste generated at state facilities and addresses issues such as waste reduction, procurement, and education.
Contact: Washington State Department of Ecology
National Technical Information Service, 5285 Port Royal Road
Springfield, VA 22161
Phone: 800 553-6847
E-mail:
Web site:

Title: **You Can Do It Too! Preventing Office Waste at the California Integrated Waste Management Board**
Format: Manual
Published:
Notes: This manual assists all types of state organizations in establishing their own waste prevention programs. Options for reducing office waste are discussed along with tips on implementing reduction programs.
Contact: Kathy Frevert
California Environmental Protection Agency, Integrated Waste Management Board
Cal Center Drive
Sacramento, CA 95826
Phone: 916 255-2200
E-mail: kfrevert@CIWMB.ca.gov
Web site: http://www.ciwmb.ca.gov/

RESIDENTIAL PROGRAMS

Title: **Make a Difference...A Little Bit at a Time**
Format: Manual
Published:
Notes: This publication offers practical tips to reduce household waste.
Contact: New York State Department of Economic Development, Office of Recycling Market Development
1 Commerce Plaza, Room 950
Albany, NY 12245
Phone: 518 486-6291
E-mail:
Web site:

Title: **Minnesota's Consumer Handbook to Reducing Waste**
Format: Manual
Published:
Notes: This manual explains solid waste issues and how reducing, reusing, and recycling positively impacts the waste stream. It also provides examples of different activities and methods of reducing waste and includes a glossary of solid waste terms.
Contact: Minnesota Office of Environmental Assistance
520 Lafayette Road, Second Floor
St. Paul, MN 55155
Phone: 612 296-3417 or 800 657-3843
E-mail:
Web site:

Title: **Nature's Way: Composting at Home**
Format: Manual
Published:
Notes: This manual provides guidance on home composting of yard waste and food scraps.
Contact: New York State Department of Economic Development, Office of Recycling Market Development
1 Commerce Plaza, Room 950
Albany, NY 12245
Phone: 518 486-6291
E-mail:
Web site:

Title: **Pathways to Community Solid Waste Education**
Format: Manual
Published:
Notes: This workbook focuses on source reduction techniques residents can employ.
Contact: Division of Solid Waste Assistance, Department of Environment and Conservation
401 Church Street, 14th Floor, L&C Tower
Nashville, TN 37243-0455
Phone: 615 532-0091
E-mail:
Web site: http://www.state.tn.us/environment/swa

Title:	**Paydirt in Your Yard: Composting, Grasscycling, and Landscaping With Less Water**
Format:	Manual
Published:	
Notes:	This outreach manual provides residents with information on composting, grasscycling, and landscaping. It also recommends additional resources to assist residents with source reduction.
Contact:	North Carolina Division of Pollution Prevention and Environmental Assistance P.O. Box 29569 Raleigh, NC 27626-9569
Phone:	919 715-6500 or 800 763-0136
E-mail:	nowaste@owr.ehnr.state.nc.us
Web site:	

COMMERCIAL PROGRAMS

Title: **1997 Case Studies on Waste Reduction in Businesses**
Format: Case Studies
Published: 1997
Notes: These case studies, compiled in 1997, discuss waste reduction in businesses. Successful waste reduction programs are outlined and serve as examples for other businesses.
Contact: Department of Environmental Quality, Pollution Prevention Program
1000 NE 10th Street
Oklahoma City, OK 73117-1212
Phone: 405 271-1400
E-mail: dianne.wilkins@oklaosf.state.ok.us
Web site: http://www.deq.state.ok.us/waste.html

Title: **Comparison of Using Disposable Versus Reusable Dishes and Silverware in a Cafeteria**
Format: Report
Published:
Notes:
Contact: Carolyn Grodinsky
Agency of Natural Resources, Department of Environmental Conservation, Environmental Assistance Division
103 South Main Street
Waterbury, VT 05671-0411
Phone: 802 241-3477
E-mail: Carolyng@wasteman.anr.state.vt.us
Web site: http://www.state.vt.us/anr/waste.htm

Title: **Get Down to Business...Reduce, Reuse, Recycle**
Format: Manual
Published:
Notes: This manual provides tips on reducing waste generated by small businesses including source reduction, recycling, and reuse.
Contact: Michael Forster
Alabama Department of Environmental Management, Land Division - Solid Waste Branch
1751 Congressman W.L. Dickinson Drive
Montgomery, AL 36109-2608
Phone: 334 242-5336
E-mail:
Web site:

Title: **Illinois Success Stories in Waste Reduction**
Format: Report
Published:
Notes: This report presents models of successful waste reduction programs implemented by businesses for other businesses to emulate.
Contact: Illinois Department of Energy and Natural Resources Information Clearinghouse
325 West Adams Street, Room 300
Springfield, IL 62704-1892
Phone: 800 252-8955 (in Illinois) or 217 785-0310
E-mail:
Web site:

Title: **Office and Commercial Waste Reduction: A How-To Guide for Illinois Businesses and Organizations**
Format: Manual
Published:
Notes: This manual focuses on waste reduction, including practical examples of source reduction techniques, to help businesses reduce the cost of waste disposal.
Contact: Illinois Department of Energy and Natural Resources Clearinghouse
325 West Adams Street, Room 300
Springfield, IL 62704-1892
Phone: 217 785-0310
E-mail:
Web site:

Title: **Office Guide to Recycling and Buying Recycled Products**
Format: Manual
Published:
Notes: This manual provides strategies for reducing waste in the office. It also includes examples of forms and worksheets to assist with program monitoring.
Contact: Donna M. Stusek
Ohio Department of Natural Resources, Division of Recycling and Litter Prevention
1889 Fountain Square Court, F-2
Columbus, OH 43224
Phone: 614 265-6333
E-mail:
Web site: http://www.dnr.state.oh.us/odnr/recycling

Title: **Resourceful Waste Management: A Guide for Minnesota/Metropolitan Area Business and Industries**
Format: Manual
Published:
Notes: This publication provides Minnesota businesses with source reduction information and resources. Examples include environmentally sound lunchrooms, office spaces, and production areas.
Contact: Waste Education Clearinghouse, Office of Environmental Assistance
520 Lafeyette Road North, Second Floor
St. Paul, MN 55155
Phone: 615 215-0232
E-mail:
Web site:

Title: **Reusable Transport Packaging Directory**
Format: Manual
Published:
Notes: This directory is compiled to assist businesses in locating manufacturers that make reusable containers. The type of packaging and names of manufacturers are provided for each.
Contact: Minnesota Office of Environmental Assistance
520 Lafayette Road, Second Floor
St. Paul, MN 55155-4100
Phone: 612 296-3417 or 800 657-3843
E-mail:
Web site: http://www.pca.state.mn.us/waste/index.html

Title: **The Bottom Line...A Guide to Waste Reduction for New York State Businesses**
Format: Manual
Published:
Notes: This manual helps businesses in New York develop effective waste management programs emphasizing waste prevention techniques.
Contact: New York State Department of Economic Development, Office of Recycling Market Development
1 Commerce Plaza, Room 950
Albany, NY 12245
Phone: 518 486-6291
E-mail:
Web site:

Title: **Waste Minimization**
Format: Newsletter Special Issue
Published: 1993
Notes: This special issue contains articles on a variety of topics, including: waste reduction guidance, recycling, buying recycled, waste exchange, and packaging waste reduction.
Contact: Office of Waste Reduction
North Carolina Department of Environment, Health and Natural Resources
PO Box 27687
Raleigh, NC 27611-7687
Phone: 919 571-4100
E-mail:
Web site:

Title: **Waste Reduction Guide for Iowa Businesses**
Format: Manual
Published:
Notes: This manual is designed to assist businesses in evaluating various alternatives to manage waste materials more efficiently.
Contact: Iowa Department of Natural Resources, Waste Management Assistance Division
900 East Grand Avenue, Wallace State Office Building
Des Moines, IA 50319-0034
Phone: 515 281-8941
E-mail:
Web site: http://www.state.ia.us/government/dnr/organiza/epd/solwaste/solwste.htm

Title: **Waste Reduction Guide for Ohio's Business and Industry**
Format: Manual
Published:
Notes:
Contact: Donna M. Stusek
Ohio Department of Natural Resources, Division of Recycling and Litter Prevention
1889 Fountain Square Court, F-2
Columbus, OH 43224
Phone: 614 265-6333
E-mail:
Web site: http://www.dnr.state.oh.us/odnr/recycling

LOCAL GOVERNMENT PROGRAMS

Title: **A Source Reduction and Recycling Guidance Document for North Carolina Communities**
Format: Manual
Published:
Notes: This manual discusses how source reduction can become a successful method of reducing waste through public education, reduction in commercial, industrial, and institutional waste, and diversion potential.
Contact: North Carolina Division of Pollution Prevention and Environmental Assistance
P.O. Box 29569
Raleigh, NC 27626-9569
Phone: 919 715-6500
E-mail:
Web site:

Title: **Business Kit**
Format: Manual
Published:
Notes: This manual is designed to assist local governments in working with the commercial sector and also provides outreach ideas.
Contact: Kathy Frevert
California Integrated Waste Management Board
8800 Cal Center Drive
Sacramento, CA 95828
Phone: 916 255-2200
E-mail: kfrevert@CIWMB.ca.gov
Web site: http://www.ciwmb.ca.gov/

Title: **Buyer's Guide to a Healthy Planet**
Format: Display
Published: 1993
Notes: This tabletop display illustrates the basic concept of how consumers can implement source reduction methods. Additional information on grasscycling and home composting complements the display.
Contact: Kim Trella
Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127
Phone: 860 424-3365
E-mail: kim.trella@po.state.ct.us
Web site: http://dep.state.ct.us

Title: **Pollution Prevention Resource Guide**
Format: Manual
Published:
Notes: This guide discusses the reasons and methods for instituting a pollution prevention and source reduction program in local communities.
Contact: Alaska Department of Environmental Conservation, Pollution Prevention Office
555 Cordova Street
Anchorage, AK 99501
Phone: 907 269-7500
E-mail:
Web site:

Title: **Quantifying MSW Source Reduction: Grasscycling and Home Composting**
Format: Fact Sheet
Published:
Notes: This publication provides equations to help municipalities estimate the amount of waste prevented by grasscycling and home composting.
Contact: Kim Trella
Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127
Phone: 860 424-3365
E-mail: kim.trella@po.state.ct.us
Web site: http://dep.state.ct.us

Title: **Waste Reduction Programs for Commercial/Industrial Solid Waste: A Guide for Local Governments**
Format: Manual
Published:
Notes: This manual is designed to assist community establishment or expansion of waste reduction programs for commercial and industrial solid waste. Information is provided to help local governments work with offices, retailers and wholesalers, service industries, universities and colleges, and institutions.
Contact: North Carolina Office of Waste Reduction, Department of Environment, Health and Natural Resources
3825 Barret Drive, Suite 300
Raleigh, NC 27609
Phone: 919 541-4100 or 800 763-0136
E-mail:
Web site:

MULTIPLE AREAS

Title: **Department of Environmental Health and Natural Resources Fact Sheet Series**
Format: Fact Sheet
Published:
Notes: This series of fact sheets covers many different topics including: commercial and industrial solid waste reduction, residential solid waste source reduction, and swap shops cost-effective residential reuse.
Contact: North Carolina Division of Pollution Prevention and Environmental Assistance
P.O. Box 29569
Raleigh, NC 27626-9569
Phone: 919 715-6500
E-mail:
Web site:

Title: **Kentucky Division of Waste Management Web Site**
Format: Electronic
Published:
Notes: Various materials from the Kentucky Division of Waste Management are made available through this Web site. Regulations, statutes, forms, reports, and program publications can either be viewed online or ordered from contacts provided.
Contact: Joy Morgan or Charles Peters
Resource Conservation and Local Assistance Branch
14 Reilley Road
Frankfort, KY 40601
Phone: 502 564-6716
E-mail:
Web site: http://www.state.ky.us/agencies/nrepc/waste/dwmhome.htm

Title: **Pollution Prevention Information Available from Ohio EPA**
Format: Publications List
Published: 1993
Notes: This series of fact sheets, guides, reports, assessments, and other resources covers source reduction and other related topics. Titles can be obtained by contacting the Ohio Environmental Protection Agency.
Contact: Office of Pollution Prevention
Ohio Environmental Protection Agency
1800 Watermark Drive, P.O. Box 1049
Columbus, OH 43266-0149
Phone: 614 644-3469
E-mail:
Web site:

Title: **Source Reduction Case Studies and Fact Sheets**
Format: Fact Sheet
Published:
Notes: This series of case studies and fact sheets covers source reduction and other related topics. Topics include conservation tips for businesses, waste reduction terms, and employee involvement in waste reduction.
Contact: Michigan Environmental Services Division, Departments of Commerce and Natural Resources
P.O. Box 30004
Lansing, MI 48909
Phone: 517 335-1178
E-mail:
Web site:

Title: **Source Reduction Now**
Format: Manual
Published: 1993
Notes: This comprehensive manual is designed to assist organizations in implementing source reduction programs. The manual complements a training video of the same title.
Contact: Waste Education Clearinghouse, Office of Environmental Assistance
520 Lafayette Road North, Second Floor
St. Paul, MN 55155
Phone: 612 215-0232
E-mail:
Web site:

Title: **The Resource**
Format: Report
Published:
Notes: This bimonthly report focuses on source reduction activities occurring in the public and private sectors.
Contact: Waste Education Clearinghouse, Office of Environmental Assistance
520 Lafayette Road North, Second Floor
St. Paul, MN 55155
Phone: 612 215-0232
E-mail:
Web site:

Title: **You Can Cut It!: A Complete Guide to Reducing Indiana's Solid Waste at the Source**
Format: Manual
Published:
Notes: This guide is full of tips for business and industry, institutions, and everyday citizens to help them understand waste practices they need to change, how they are involved, and how participation benefits them.
Contact: The Indiana Department of Environmental Management, Office of Pollution Prevention and Technical Assistance
P.O. Box 6015, 105 South Meridian Street
Indianapolis, IN 46206-6015
Phone: 317 232-8172 or 800 451-6027
E-mail:
Web site:

Title: **Keeping Green**
Format: Manual
Published:
Notes: This information guide supports the California Integrated Waste Management Board's backyard composting program. It assists residents wishing to start and continue home composting.
Contact: Kathy Frevert
California Integrated Waste Management Board
8800 Cal Center Drive
Sacramento, CA 95828
Phone: 916 255-2200
E-mail: kfrevert@CIWMB.ca.gov
Web site: http://www.ciwmb.ca.gov/

Appendix C

State Source Reduction Fact Sheets

States voluntarily provided information on solid waste source reduction activities in the many areas highlighted in the *Snapshot*. Program details provided by the states are included in this appendix. Information is broken out into five primary areas:

- **Source Reduction Planning.** Any activity that assists the state in implementing state source reduction activities. Some examples include goal-setting activities, local planning mandates, and task forces.
- **State In-House Programs.** Activities and programs that focus on source reduction opportunities within the walls of the state government, including agencies and departments, courthouses, schools, and parks. Some examples include educational programs, equipment and supply reuse, and procurement guidelines.
- **Residential Programs.** Source reduction programs that affect residents at home. Examples include outreach and consumer educational campaigns on purchasing choices, backyard composting assistance and programs, and grasscycling programs.
- **Commercial Programs.** Programs that affect source reduction in state businesses. Examples include technical assistance outreach and educational campaigns, state supported materials reuse and exchange programs, tax incentives, and awards programs.
- **Support for Local Governments.** State efforts to assist local governments pursue source reduction programs including financial and technical support.

ALABAMA

Source Reduction Planning
Alabama established a 25 percent waste reduction and recycling goal.

State In-House Programs
None noted.

Residential Programs
None noted.

Commercial Programs
None noted.

Support for Local Governments
None noted.

ALASKA

Source Reduction Planning
Alaska requires solid waste permit applicants to demonstrate consideration of source reduction in their solid waste plan.

State In-House Programs
Alaska requires its state agencies to participate in the Green Star program, which includes elements of source reduction.

Residential Programs
Alaska provides consumer education and local workshops to its residents.

Commercial Programs
Alaska supports a statewide materials exchange. The state also encourages businesses to join its statewide voluntary Green Star program, which includes elements of source reduction.

Support for Local Governments
None noted.

ARIZONA

Source Reduction Planning
None noted.

State In-House Programs
Arizona has an in-house "Green Team" which promotes a double-side copying policy to all state employees. The state reuses paper from copy centers as notepads. Additionally, Arizona established a reuse program that includes surplusing used equipment and furniture.

Residential Programs
Backyard composting programs, which have been implemented in 12 municipalities, are supported by the state of Arizona.

Commercial Programs
Arizona Department of Environmental Quality (ADEQ) staff administer a technical assistance program and provide local workshops on source reduction, recycling, and composting for businesses. The state also contributes to a composting demonstration site run by the Desert Botanical Gardens, which demonstrates how small businesses can incorporate it into their waste reduction programs.

Arizona sponsors Waste Reduction Assistance (WRA) grants that fund public jurisdiction, profit, and non-profit entities that implement projects that will incorporate source reduction or recycling initiatives. Arizona, along with Arizona Clean and Beautiful, cosponsors the "Governor's Pride In Arizona" awards each year. The awards program recognizes organizations and citizens who have been exemplary in beautification, litter reduction, waste reduction, and recycling projects.

Support for Local Governments
Arizona sponsors the Waste Reduction Initiative Through Education (WRITE) grant assistance program that funds local public education programs, which incorporate source reduction, recycling, buy recycled, and composting related curricula.

Arizona also administers educational programs that focus on technical assistance, and the ADEQ provides local workshops on waste prevention and recycling. Additionally, the state contributes to a technical assistance program on waste reduction for rural areas of the state.

ARKANSAS

Source Reduction Planning
None noted.

State In-House Programs
None noted.

Residential Programs
None noted.

Commercial Programs
Arkansas provides business incentives to encourage more small businesses to recover their transport packaging. The state also has established a system of tax credits that gives companies a 30 percent reduction on corporate or income taxes for using equipment related to recycling, waste reduction, or reuse.

Support for Local Governments
None noted.

CALIFORNIA

Source Reduction Planning
The California Integrated Waste Management Board (CIWMB) developed a Statewide Waste Prevention Plan in 1993. The plan includes six goals:

1) Create awareness and encourage individuals to incorporate waste prevention practices into daily activities.

2) Acquire basic information about the effectiveness of waste prevention approaches needed to initiate efforts.

3) Build or expand communication networks within and across the CIWMB board, other state agencies, local governments,

educational institutions, and commercial and industrial facilities.

4) Assist local governments in achieving waste diversion mandates through waste prevention.

5) Encourage waste prevention within organizations including state and local governments, institutions, universities and schools, and businesses.

6) Develop incentives and assistance to encourage design, manufacture, distribution, sales, and reuse of products or packaging that decrease the amount or toxicity of waste generated.

In 1994, the state legislature required counties statewide to adopt source reduction elements in their waste management plans. CIWMB created the Waste Management Task Force to identify opportunities in waste prevention statewide.

State In-House Programs
California has instituted several 'in-house' source reduction programs, including demonstration projects for grasscycling at the state capital and construction and demolition waste prevention projects at the Presidio.

CIWMB implemented a "You Can Do It Too! Preventing Office Waste at the CIWMB" model waste prevention program at two other California state agencies.

Residential Programs
California supports educational efforts through inclusion of source reduction programming in school curriculum on integrated waste management.

Commercial Programs
A 1993 legislative waste prevention mandate was adopted on recycling or reuse of rigid plastic containers. The legislation specifically required the plastics industry to reach, by 1995, an aggregate recycling rate of 25 percent or reuse of the containers at least 5 times. Alternatively, the containers may be composed of 25 percent post-consumer content or be source reduced by 10 percent over 5 years.

In addition to the in-house demonstration projects noted, the state also funded a pilot waste reduction program aimed at assisting businesses in identifying waste prevention opportunities.

Technical assistance and outreach to the commercial sector in California is based in several waste prevention areas. California supports a landscaping waste reduction education and outreach program to local governments and businesses, a "Keeping Green" landscaper's guide, and a backyard composting information guide. Technical assistance also is offered through print materials focusing on construction and demolition waste prevention opportunities.

The California Materials Exchange program (CalMAX) includes outreach to local businesses to provide them with workshops and information on creating their own waste exchange networks. Additional outreach includes an educational program aimed at top management of California industry and is complemented by the "Waste Reduction Awards Program," created to recognize outstanding voluntary non-hazardous waste reduction activities in the private sector.

Support for Local Governments
To assist local government, CalMAX includes outreach to local governments to provide them with workshops and information on creating their own waste exchange networks. Additional state outreach to local governments includes waste reduction workshops and the development of a "Business Kit" to assist them in working with their local businesses.

California provides assistance to local governments for residential backyard composting programs. Assistance includes seed funding for "train the trainer" programs and provision of a limited number of composting bins for backyard composting activity.

CIWMB encouraged localities to use unit-based waste disposal pricing (UBP) systems. A follow-up survey was initiated in 1993 to collect information on impacts of UBP on waste prevention.

In Addition...
CIWMB has supported primary research to attempt to quantify the effects of waste prevention efforts with two initiatives, including the development of a Waste Prevention Measurement Methodology and a Waste Prevention Community Audit Pilot aimed at measuring the effectiveness of the educational efforts.

COLORADO

Source Reduction Planning
Colorado's Governor has issued a challenge to divert 50 percent of Colorado's waste from landfills through source reduction and recycling by the year 2000.

State In-House Programs
Colorado established a state office recycling program entitled Recycle Colorado that includes a source reduction education program.

Residential Programs
The state supports an annual "Colorado—Don't Let It Go To Waste!" awards program recognizing the successful source reduction efforts of state residents.

Commercial Programs
A $1 million grant program was established to promote recycling and source reduction and is funded through a tax on windfall energy profits.

Support for Local Governments
Two separate rounds of grants funded through oil overcharge revenues have been awarded to community waste minimization projects.

CONNECTICUT

Source Reduction Planning
In 1989, Connecticut established a 15 percent source reduction goal for solid waste generated, or a 40 percent reduction through a combination of source reduction and recycling by January 1, 2000.

State In-House Programs
In two separate pieces of legislation Connecticut has worked to require state agencies to adopt source reduction practices. First, in February 1990, a law required the Commissioner of the Department of Administrative Services (DAS) to develop and implement a two-part program to incrementally eliminate the use of disposable and single-use items in state government by 1992. An oversight committee received verbal reports from agencies until it disbanded as goals set were met. A report has not been issued yet but the state believes it has accomplished 90 percent of the 1990 plan.

A later law required that by October 1, 1990, each state agency having care, control, or supervision of state property prepare and periodically update a plan to reduce the use of disposable and single-use products in accordance with the February 1990 DAS plan. Agencies were required to report annually, but there have been no reports since 1993, and the Connecticut Department of Environmental Protection (DEP) has proposed amending the legislation to create stimulus for compliance.

Residential Programs
Connecticut legislation bans the disposal of grass clippings at solid waste and resource recovery facilities after October 1, 1998. This legislation includes a public information program and funding for DEP pilot projects for grass clipping composting. This ban heightens the need for yard waste disposal options that was created by the 1991 mandate on leaf recycling statewide. Several initiatives were

developed during the leaf mandate and in preparation for the 1998 grass ban.
In 1991 the state initiated a voluntary home composting public education program funded by a $20,000 grant from the Stripper Well Fund and additional support from the DEP. In 1993, Connecticut partnered with the Massachusetts Department of Environmental Protection (MADEP) on a grass recycling education program entitled "Don't Trash Grass!" The program is funded by federal start-up grants and ongoing in-kind services by the Connecticut and Massachusetts DEPs. Education tools include a 12-minute video broadcast on television and a brochure distributed at public outlets and independently by local governments and organizations. The goal of the program is to encourage grasscycling and other environmentally friendly lawn management techniques like onsite composting education. Additional support came in the Spring of 1995 and Fall of 1996 when DEP held workshops to teach nature center educators about home composting and grass recycling.

Connecticut law requires the DEP to develop a public education program addressing waste reduction, with a goal of promoting the basic concepts of consumer source reduction. A state-developed source reduction presentation entitled "Environmental Shopping" is given to groups upon request. Examples and the potential economic benefits of source reduction are typically discussed with the audience.

Commercial Programs
In 1992, the Connecticut DEP began working with the Connecticut Business Environmental Council, Inc. (CBEC), an independently operated nonprofit organization of business volunteers. A state Technical Assistance Committee trains and supervises the CBEC volunteers. The group provides technical assistance in recycling and solid waste management to Connecticut companies. Volunteers assist companies with waste audits, hauler contract negotiations, and developing more cost-effective waste minimization and source reduction programs. The program is free, but assisted companies are expected to become active volunteers or contribute to the organization's technical assistance fund. CBEC is currently providing free waste audits to businesses with under 100 employees.

Support for Local Governments
The Connecticut DEP funds source reduction and recycling education by allocating more than $600,000 and granting $1.7 million annually to regions and municipalities through the Recycling Trust Fund established by the General Assembly in 1986.

In Addition...
Connecticut DEP is engaging in early measurement on source reduction initiatives by local governments through annual reporting requirements. Municipalities report on activities related to grasscycling and backyard composting, which gain the localities source reduction credits that apply toward its source reduction and recycling rates.

DELAWARE

Source Reduction Planning
None noted.

State In-House Programs
None noted.

Residential Programs
None noted.

Commercial Programs
Delaware supports a system of commercial tax incentives to reward source reduction activities. The state offers tax credits to companies using recycled equipment or providing source reduction opportunities. Credits are determined by the level of source reduction achieved, or per employee expenditures on recycled content products or supplies. In 1992, Delaware started the state-sponsored Green Industries Initiative. This program offers tax incentives and loans to industries for waste reduction.

Support for Local Governments
None noted.

FLORIDA

Source Reduction Planning
None noted.

State In-House Programs
In 1988, Florida established the Solid Waste Management Trust Fund to provide funding for the solid waste activities of the Florida Department of Environmental Protection and for research by Florida's state and private colleges and universities.

Residential Programs
None noted.

Commercial Programs
None noted.

Support for Local Governments
Florida provides grants to local governments for recycling programs, which often incorporate source reduction activities.

GEORGIA

Source Reduction Planning
None noted.

State In-House Programs
None noted.

Residential Programs
None noted.

Commercial Programs
Tax credits are offered by the state of Georgia to businesses in less developed areas for creating recycling or source reduction jobs. Also, in 1992, Georgia instituted a Coalition of Northeastern Governors (CONEG) model ban on heavy metals in packaging.

Support for Local Governments
None noted.

HAWAII

Source Reduction Planning
Hawaii set a goal to divert 50 percent of its waste from the landfill by the year 2000, using 1991 as its baseline year. Hawaii requires each county to develop a solid waste management plan to support that goal.

State In-House Programs
Hawaii state law mandates double-side copying for all state documents.

Residential Programs
Hawaii Department of Health (HDOH) promotes backyard composting to residents to encourage on-site management of green waste.

Commercial Programs
HDOH supports a materials exchange program to promote reuse to businesses. HDOH is also supporting research for the development of a construction waste minimization guide, which will be distributed with building permits, at commercial workshops, and upon request.

HDOH hosts an annual workshop to promote on-site composting to commercial establishments. The department also provides information on how to set up composting on-site and covers cost benefits of on-site management.

Support for Local Governments
None noted.

IDAHO

Source Reduction Planning
None noted.

State In-House Programs
Idaho encourages a double-sided copying policy and using e-mail rather than sending memos.

Residential Programs
None noted.

Commercial Programs
None noted.

Support for Local Governments
None noted.

ILLINOIS

Source Reduction Planning
The Illinois Solid Waste Management Act of 1986 requires counties with populations exceeding 100,000 to complete solid waste management plans by 1991.

State In-House Programs
Illinois' in-house source reduction program relies on a state procurement plan based upon purchasing preferences.

Residential Programs
None noted.

Commercial Programs
Illinois provides for a commercial source reduction incentive program based on annual grant and loan awards of $6 million to $8 million. Additional support for source reduction is Illinois' adoption of the Coalition of Northeastern Governors (CONEG) packaging reduction model.

Support for Local Governments
None noted.

INDIANA

Source Reduction Planning
None noted.

State In-House Programs
None noted.

Residential Programs
None noted.

Commercial Programs
In 1992, Indiana industry voluntarily agreed to reduce all packaging by 15 percent by 1994. Reduction methods include: reusing transport packaging by suppliers, industry requests for minimal amount of packaging from suppliers, an increase in bulk container and concentrate usage, reuse of corrugated, shrink wrap, and cords, and operation of both in-house and shared reuse programs. The program is supported by the State Package Waste Reduction Task Force.

Support for Local Governments
None noted.

IOWA

Source Reduction Planning
Iowa requires unit-based pricing programs for communities not reaching the statewide 25 percent recycling goal.

State In-House Programs
None noted.

Residential Programs
Residential source reduction is promoted by Iowa through a yard waste ban at landfills.

Commercial Programs
Iowa has a comprehensive recycling law that includes packaging restrictions. A portion of the law adopts a Coalition of Northeastern Governors (CONEG) model ban on heavy metals in packaging.

Support for Local Governments
None noted.

KANSAS

Source Reduction Planning
None noted.

State In-House Programs
None noted.

Residential Programs
None noted.

Commercial Programs
Kansas passed a comprehensive recycling law in 1990, which includes the establishment of source reduction programs. However, the state restricts mandates on businesses; therefore the law cannot require industry to adopt alternative waste management approaches.

Support for Local Governments
In 1995, the Kansas Legislature introduced a grant program targeting cities to support solid waste management planning.

KENTUCKY

Source Reduction Planning
Kentucky set a 25 percent waste reduction goal to be reached by July 1, 1997. Progress toward achieving that goal has not been measured at this time.

Kentucky requires each county to prepare a Solid Waste Management Plan that addresses all aspects of solid waste management. All counties incorporated public education as an integral part of their plan and many encourage wiser purchasing practices such as buying products packaged to create less waste.

State In-House Programs
None noted.

Residential Programs
Backyard composting is promoted by the Cooperative Extension Service and the Division of Waste Management.

Commercial Programs
The University of Louisville's Pollution Prevention Center offers free services to business and industry to help them reduce waste. The center trains solid waste coordinators to conduct site assessments. One industry saved thousands of dollars and reduced its waste flow 20 percent through reusable shipping containers and packaging reductions.

Support for Local Governments
The University of Kentucky Extension Service provides source reduction and wise shopping education and informational materials to counties throughout the state. Extension also provides educational materials on backyard composting, reuse, and waste reduction.

LOUISIANA

Source Reduction Planning
None noted.

State In-House Programs
None noted.

Residential Programs
None noted.

Commercial Programs
None noted.

Support for Local Governments
None noted.

MAINE

Source Reduction Planning
Maine set source reduction and reuse goals that specify a 10 percent reduction of municipal solid waste generated based on a 1988 baseline.

State In-House Programs
A 1992 Executive Order required that state agencies establish new or expand current waste reduction initiatives and created the Inter-Agency Waste Reduction and Recycling Task Force. The order mandates state agencies to follow certain office policies such as double-sided copying and employee education.

The Governor's Waste Reduction Awards Program, initiated in 1992, awards the public and private sector for outstanding waste reduction efforts and programs.

Residential Programs
In 1993, the Maine Waste Management Agency initiated the Master Composter program. The University of Maine Cooperative Extension (UMCE) was contracted to develop a community education program promoting home composting of yard trimmings and food scraps and to provide technical instruction. In 1994, Maine contributed $26,600 to this program, creating the *UMCE Master Composter Manual*, and funding the certification of volunteers as Master Composters through a training course. An evaluation and program report is being prepared by UMCE.

Commercial Programs
The Maine WasteCap Program was implemented in 1990 to provide companies with technical expertise and assistance in recognizing waste minimization opportunities and the benefits of waste prevention in the workplace. The program is administered by the Maine Chamber and Business Alliance.

In 1994 MWMA began a series of industry-targeted technical assistance workshops on purchasing for source reduction. Their focus was primarily on the health care industry, and funding was only available for one year.

Also in 1994, Maine started its "Reusable Bag Campaign," a voluntary program that encourages businesses and citizens to use reusable bags. In fiscal years 1994 and 1995 Maine contributed approximately $7,000 for administrative costs and staff time and $3,500 for development of the logo and slogan "Bring Your Own Bag." A $5 license fee is charged for merchants using the logo. Revenues from this fee help fund the program.

The Maine Packaging Reduction Challenge is a voluntary program initiated in 1994, modeled after the Coalition of Northeastern Governors (CONEG) packaging reduction challenge.

The Governor's Waste Reduction Awards Program, initiated in 1992, awards the public and private sector for outstanding waste reduction efforts and programs.

Support for Local Governments
Maine provides grants to local governments to purchase backyard composting bins for residents in support of the state's extensive yard waste programs.

MARYLAND

Source Reduction Planning
A proposed legislative bill in 1995 planned the creation of a task force to address the issue of waste reduction activities in Maryland.

State In-House Programs
None noted.

Residential Programs
Maryland created a fact sheet on backyard composting for educating residents.

Commercial Programs
None noted.

Support for Local Governments
None noted.

MASSACHUSETTS

Source Reduction Planning
In 1990 the state established a source reduction goal of 10 percent by the year 2000.

State In-House Programs
Massachusetts has an environmentally preferable purchasing program coordinated by the state's purchasing agency, the Operational Services Division (OSD), with funding provided by Massachusetts Department of Environmental Quality (MADEP). Two recent purchases focusing on source reduction included a contract for a "Send and Return" envelope eliminating the need for a separate return envelope by five agencies, and the installation of roll paper towel dispensers replacing individual multi-fold paper towel dispensers in a state office building in Boston.

OSD will evaluate the "Send and Return" contract and may attempt to extend its use to other agencies if deemed successful. Massachusetts is planning programs to reduce organics generated at state facilities, parks, prisons, universities, and military facilities. The state also implemented a school composting and educational program.

Residential Programs
Massachusetts implemented municipal leaf and grass composting programs and has banned these materials from landfill disposal. MADEP has conducted Home Composting Coordinator training programs since 1991. Workshops are held each year in the Spring and Fall to educate the general public and to enlist volunteer Home Composting Coordinators. A core of more than 300 trained Home Composting Coordinators present workshops in their communities, set up demonstration sites with materials supplied by the MADEP, distribute compost bins, and serve as local sources of composting information. Additional presentations and public service announcements (PSAs) are presented by MADEP staff to a wide range of audiences.

DEP also sponsors the "Don't Trash Grass" program that encourages residents to grasscycle. The program is supported by workshops and the dissemination of printed materials, videos, and print and radio PSAs.

Commercial Programs
MADEP helped initiate the "WasteCap" partnership program, which provides free consulting on source reduction to all businesses in Massachusetts. The WasteCap program assists businesses by helping to identify waste reduction opportunities, provides technical assistance workshops, and maintains a clearinghouse of information. The state also supports an awards program to recognize manufacturers that have reduced packaging.

Additionally, a joint program with the Massachusetts Department of Food and Agriculture encourages and trains farmers to compost organics generated on the farm to avoid disposal at landfills.

Support for Local Governments
DEP has provided home composting bins and educational materials to 184 communities since 1994 through a state-funded grant program. An estimated 78,000 bins had been distributed by 1997, reducing disposal by an estimated 30,000 tons per year.

MICHIGAN

Source Reduction Planning
None noted.

State In-House Programs
None noted.

Residential Programs
None noted.

Commercial Programs
The Michigan Department of Environmental Quality (MDEQ) administers waste prevention programs under the 1989 Solid Waste Alternatives Program (SWAP). The competitive SWAP grant and loan program provides the private sector with matching funds for approved research and demonstration projects related to alternative solid waste management. Grants and loans are no longer available, but many of the 299 funded projects involved long-term implementation of programs and are ongoing. An additional program managed by the Environmental Protection Board distributes funds for solid waste alternative projects.

The Michigan Office of Waste Reduction Services provides technical assistance including source reduction to businesses under a partnership between the Departments of Commerce and Natural Resources. Services include technical assistance through telephone consultations, on-site visits, publications including waste reduction checklists, analysis of waste reduction opportunities and techniques by industry sector, and audits and analysis of waste stream data.

Through the Retired Engineer Technical Assistance Program (RETAP), retired engineers, scientists, and other professionals conduct on-site waste assessments and identify waste reduction opportunities at commercial facilities. Upon invitation by a facility, teams of RETAP professionals review operations for potential waste reduction strategies and opportunities, including source reduction. This service is nonregulatory, voluntary, and provided free of charge. It is available to Michigan businesses with less than 500 employees and institutions of any size.

Support for Local Governments
The MDEQ administers SWAP grants for the public sector with matching funds for approved research and demonstration projects related to alternative solid waste management.

MINNESOTA

Source Reduction Planning
The state of Minnesota set goals for increasing source reduction and regulates new types of packaging introduced into the state. Additional goals were established to achieve a 25 percent reduction in per capita packaging waste by 1995 and 10 percent overall source reduction by the year 2000. If this voluntary program does not work, Minnesota plans to seek a regulation.

One option Minnesota employs is establishing unit-based pricing programs in communities not complying.

Minnesota has allocated administrative duties in the waste reduction and source reduction arena to the Legislative Commission on Waste Management and program responsibilities to the Minnesota Office of Waste Management, now called the Office of Environmental Assistance (OEA). OEA conducts, implements, and executes legislation, mandates, and goals.

State In-House Programs
Minnesota OEA conducts School Waste Reduction Workshops with assistance from the Minnesota Technology Assistance Program (MnTAP). Workshops are conducted throughout the state to educate school administrators and personnel on source reduction in a school environment. Also, workshops on environmentally responsible purchasing, held in 1994, taught public sector purchasing employees about alternatives available for reducing common waste streams through responsible purchasing decisions.

Residential Programs
Source reduction education programs implemented by the state include an information hotline, online information sites, workshops, speaker bureaus, school activities, meetings, and conferences.

Commercial Programs
For the 1991-1992 period, the Office of Waste Management offered $800,000 in source reduction-specific grant funds to Minnesota business and industry with matching grants of up to $50,000, provided by a group of 23 public and service sector sources. In 1994 OEA awarded $381,000 in grants to 18 local governments, business, school districts, and community group projects designed to reduce generation of solid waste.

OEA supports several commercial source reduction programs. The Minnesota Materials Exchange Alliance, initiated in 1993, is a state-wide umbrella organization representing four local exchange programs and other interested parties. Waste materials useful to other industries are exchanged for reuse. The office supports the Governor's Awards for Excellence in Pollution Prevention, which began in 1994 honoring Minnesota businesses, public institutions, organizations, and individuals displaying excellence in solid waste source reduction. Also, the fourth annual Pollution Prevention Conference, held in June 1994, addressed key solid waste source reduction issues such as transport packaging reuse and source reduction in hospitals.

Technical assistance outreach is provided by OEA through a case study series of industrial and commercial business sectors developed for

a newspaper publisher. Source reduction implementation videos for the commercial sector have been developed and a source reduction guide was developed to accompany the series.

OEA has been working with the MnTAP and Minnesota Technology, Inc. (MTI) to explore using waste prevention as a manufacturing improvement tool to enhance efficiency, quality, productivity, and competitiveness. With the OEA and MnTAP as partners, the Minnesota Manufacturing Technology Center (MnMTC), an operating division of MTI, has received federal funding to integrate certain types of waste prevention into its services. The effort will help MnMTC manufacturing specialists identify competitive waste prevention opportunities.

Additionally, the state has adopted the Coalition of Northeastern Governors (CONEG) model for packaging reduction.

Support for Local Governments
The 1994 OEA grant awards of $381,000 included local governments, and school district projects designed to reduce generation of solid waste.

MISSISSIPPI

Source Reduction Planning
None noted.

State In-House Programs
The state of Mississippi encourages the use of two-sided copying and interdepartmental envelopes by state staff.

Residential Programs
Mississippi provides educational programs for elementary education and civic clubs on source reduction, reuse, and composting.

Commercial Programs
The Mississippi Technical Assistance Program (MissTAP), based out of Mississippi State University, provides waste minimization plan review opportunities to business and industry in the state.

Support for Local Governments
None noted.

MISSOURI

Source Reduction Planning
Missouri has set a waste reduction goal of 40 percent by 1998.

State In-House Programs
None noted.

Residential Programs
Missouri established an ongoing public education program in 1990. The program aims to inform the public of the relationship between an individual's consumption of goods and the generation of different types and quantities of waste.

Missouri supports local backyard composting programs. The state designed plans for backyard compost bins and published a "Homeowner's Composting Guide," which was distributed to the public. The Department of Natural Resources also developed a video for elementary students entitled "Break it Down: The Compost Connection," which discusses the usefulness of backyard composting.

Commercial Programs
To achieve the state's waste reduction goal, the Solid Waste Management Program of Missouri's Department of Natural Resources administers a grant program to award more than $17 million to solid waste management districts and both public and private entities. Of the total financial assistance, $2.7 million is dedicated solely to source reduction programs.

Missouri also established a source reduction advisory board to create a partnership between state and local governments, industry, the commercial sector, retailers, and private citizens. The advisory board published a report that offered suggestions to reduce and reuse packaging, reduce litter, and educate consumers and industry about product choices and alternatives designed to reduce waste at its source.

Support for Local Governments
A portion of the Solid Waste Management Program's $17 million grant program is provided to solid waste management districts to help the state meet its waste reduction goal.

MONTANA

Source Reduction Planning
Montana set a voluntary waste reduction goal of 25 percent by 1996, with 1991 set as its baseline year for 1996. No results have been measured yet.

State In-House Programs
None noted.

Residential Programs
None noted.

Commercial Programs
Montana has a small business assistance center devoted to providing technical assistance to small businesses for implementing source reduction initiatives.

Support for Local Governments
A Community Assistance Center provides technical assistance on source reduction to local governments.

NEBRASKA

Source Reduction Planning
Nebraska established a goal of 50 percent solid waste reduction by 2002 with July 1, 1994, set as a the baseline date. The Department of Environmental Quality determined waste was reduced by 25 percent as of July 1, 1996. This level of achievement was met through a variety of activities, including source reduction, recycling, and composting. Nebraska plans to reduce waste by 40 percent as of July 1, 1999, in order to meet its 2002 goal.

State In-House Programs
The Departments of Environmental Quality and Administrative Services work together on an in-house source reduction pilot project. A planning committee outlined a process for data collection, determined possible source reduction activities, and discussed the economic impacts of implementing a program. Following review of the pilot project, the state plans to expand source reduction activities to other state office buildings.
Nebraska set up a state policy directing all agencies to use duplex copying whenever possible and an office supply reuse program.

Residential Programs
State agency work with Keep America Beautiful affiliate programs in Nebraska provides support, training, and resources for solid waste education, including source reduction activities for homes and business offices. These affiliates and local municipalities work together to provide brochures and workshops on backyard composting. One program gave each workshop participant a composting bin after completing the training.

Commercial Programs
Nebraska implemented state regulations banning some types of nonbiodegradable packaging, such as plastic rings, plastic trash and grocery bags, and disposable diapers. Regulations, however, would only apply if alternative biodegradable packaging and products cost less to use.

The Nebraska Department of Environmental Quality administers annual solid waste grants, which consider source reduction as the top priority for waste reduction.

Keep America Beautiful affiliates coordinate the Nebraska Materials Exchange program and manage a statewide database for businesses, industries, and schools in Nebraska.

Support for Local Governments
None noted.

In Addition...
The pilot in-house state source reduction program tracks reduction of waste. Initial data is collected through a waste audit, then paper use is measured through copiers, printers, mail, and recycling bins. From this data, duplex copy rates and recycling rates are calculated. Forms were created to gather data and develop recommendations for source reduction activities. A quality assurance plan was designed to maintain accuracy and consistency in data collection.

NEVADA

Source Reduction Planning
None noted.

State In-House Programs
None noted.

Residential Programs
None noted.

Commercial Programs
Nevada's Department of Environmental Protection (NDEP) funds nonprofit organization and university efforts to work with businesses in implementing source reduction and recycling programs.

Support for Local Governments
NDEP sponsors an annual grant awards program for local governments to support their source reduction and recycling community programs.

NEW HAMPSHIRE

Source Reduction Planning
New Hampshire has established a goal of 40 percent solid waste reduction in the year 2000, using 1990 as the baseline year.

State In-House Programs
New Hampshire started a pilot composting project, which operates at two schools. In 1996, the state completed the first phase of the project by publishing a composting manual for schools. The schools are running pilot projects to compost kitchen food waste, with state technical assistance. Once the pilot projects are deemed successful, New Hampshire plans to expand the composting program to other schools.

Residential Programs
None noted.

Commercial Programs
New Hampshire's WasteCap program links businesses desiring to share information on waste reduction and recycling opportunities. It provides technical assistance to businesses that want to help achieve state solid waste reduction goals through voluntary efforts.

New Hampshire also promotes composting of source separated food wastes at commercial facilities.

Support for Local Governments
New Hampshire conducts site visits to more than 100 local solid waste facilities every year. This effort provides information to local governments on solid waste management activities that they can implement. New Hampshire also publishes a newsletter which provides information to local governments on recycling, reuse, and source reduction options.

NEW JERSEY

Source Reduction Planning
New Jersey established goals to limit per capita waste generation at 1990 levels, cap total waste generation by 1995, and reduce total waste generation by the year 2000.

State In-House Programs
None noted.

Residential Programs
None noted.

Commercial Programs
New Jersey supports an awards program, which recognizes businesses that have implemented successful source reduction programs.

Support for Local Governments
New Jersey advocates source reduction by encouraging counties to limit the amount and toxicity of materials in the waste stream and offers recycling grants to counties while allowing them to be used to finance source reduction programs. Several counties have responded by requiring businesses to perform waste audits and receive recommendations from county offices on source reduction opportunities. Many counties also have mandated unit-based pricing programs as an incentive to practice source reduction.

NEW MEXICO

Source Reduction Planning
The state of New Mexico set waste stream reduction goals of 25 percent by 1995 and 50 percent by 2000.

State In-House Programs
New Mexico promotes the reuse of state supplies and equipment through the State Surplus Office.

State Building Recycling Coordinators are also educated on source reduction methods and programs and educational signs are posted to promote waste reduction activities.

Residential Programs
The Solid Waste Bureau in New Mexico developed and distributed backyard composting brochures and distributed composting bins in 5 municipalities. The bureau also provides consumer education slide shows on source reduction.

Commercial Programs
New Mexico provides investment tax credits to materials manufacturers who create jobs through source reduction programs.

The Solid Waste Bureau provides commercial waste reduction assessments to characterize wastes and plan reduction programs. In addition, it promotes nearby materials exchanges in Texas and California.

Support for Local Governments
None noted.

NEW YORK

Source Reduction Planning
New York set a goal in its 1987 State Solid Waste Management Plan to reduce waste by 8 to 10 percent and made source reduction its top strategy for waste reduction.

State In-House Programs
New York established mandates for state agencies to reduce waste through source reduction and set up programs to educate the public and private sectors on source reduction. An executive order issued in 1991 requires state agencies to reduce waste, primarily through source reduction activities. New York requires state agencies to reuse envelopes to send materials, purchase and use double-sided copying equipment, and submit an annual report on waste reduction efforts.

Residential Programs
New York initiated an on-going source reduction educational program in 1989. The Department of Environmental Conservation (DEC) allocated two person-years to the educational programs and one person-year to source reduction. DEC has prepared source reduction brochures and provided presentations to schools and other public forums. DEC also received two grants from the U.S. Environmental Protection Agency to produce consumer educational materials to educate shoppers on ways to reduce waste through their purchasing choices.

DEC initiated an educational and technical assistance program in 1993, entitled "Leave It on the Lawn," which promotes on-site yard management with goals to encourage backyard composting and grasscycling. DEC provides

promotional assistance and demonstrations to educate the public on the practice of backyard composting. New York has also produced a backyard composting brochure and continues to develop additional educational and promotional materials for its program. New York has issued a material ban on grass clippings and other yard materials going to incinerators.

Commercial Programs
New York's material ban on grass clippings and other yard materials going to incinerators applies to commercial programs. DEC also received two grants from the U.S. Environmental Protection Agency to produce a source reduction manual for grocery stores.

Support for Local Governments
Sixteen communities in New York have established unit-based pricing programs. The state provides technical assistance and education to any community that wants to start a unit-based pricing program. New York also provides community program officials the publication *Variable Rates in Solid Waste: A Handbook for Solid Waste Officials*. All community programs are voluntary and not routinely monitored by the state of New York.

DEC also provides grants to municipalities to develop source reduction educational programs.

NORTH CAROLINA

Source Reduction Planning
None noted.

State In-House Programs
North Carolina legislation requires state agencies to incorporate source reduction in their management strategies. North Carolina's governor issued an executive order in 1993 that requires state agencies to review their operations and determine where waste can be reduced. The order also requires that state agencies:

- Avoid unnecessary printing or photocopying of printed material.
- Use two-sided copying on all documents when feasible and practicable.
- Discourage the use of disposable products where reusable products are available and economically viable.
- Acquire durable items or items with minimal packaging.
- Purchase reusable, refillable, repairable, more durable, and less toxic supplies and products.
- Report annually on the amount of waste generated.

State agencies are not allowed to distribute reports in mass; instead, they must notify persons that a report has been published and where they can find it (e.g., libraries, state offices).

Residential Programs
North Carolina mandates some residential source reduction by issuing landfill bans on aluminum cans and yard waste. To support the yard waste ban, North Carolina's Department of Pollution Prevention and Environmental Assistance (DPPEA) helped establish backyard composting demonstration sites in 33 counties. North Carolina's Cooperative Extension Service established a "Grasscycling Lawn Care Plan" to promote proper watering, fertilizing, and mowing of lawns and leaving clippings on the ground after mowing it. The state also developed a brochure on grasscycling, backyard composting and vermicomposting to provide information to the public.

Additional efforts to promote source reduction in the state include:

- Backyard composting and grasscycling informational inserts in state employee payroll envelopes.
- Earth Day ad campaign encouraging reuse reduction of waste materials.
- Use Less Stuff Day campaign encouraging the reduction in unsolicited mail.

Commercial Programs
The North Carolina DPPEA manages the Pollution Prevention Challenge grant program, which provides businesses with matching funds to develop source reduction programs.

North Carolina has taken regulatory action to mandate some source reduction by issuing landfill bans on aluminum cans and yard waste.

Support for Local Governments
North Carolina sponsors two grant programs that provide incentives for source reduction and recycling. North Carolina's Community and Business Assistance Section annually issues a request for proposals to local governments for Solid Waste Reduction Assistance Grants (SWAG). The program currently allows local governments to use these grants to establish source reduction projects rather than recycling programs.

DPPEA codeveloped a workshop on source reduction strategies for businesses and local governments, which it presented from 1993 to 1995 upon request. It also produced a fact sheet on source reduction which local governments can distribute to area businesses.

Additional assistance to local governments includes Use Less Stuff Day support and a *Planning Resource Guide for Local Governments*. The Use Less Stuff Day assistance included source reduction and reuse artwork and program information for municipal governments. The *Planning Resource Guide* included a chapter on source reduction, which included specific information on how local governments could implement programs.

NORTH DAKOTA

Source Reduction Planning
In 1991 North Dakota set a goal of 40 percent waste reduction by the year 2000. To meet the waste reduction goal, North Dakota has passed legislation requiring solid waste management districts to implement source reduction strategies.

State In-House Programs
None noted.

Residential Programs
North Dakota's Department of Health provides a backyard composting and grass recycling brochure for public distribution.

Commercial Programs
None noted.

Support for Local Governments
North Dakota purchased a copy of the National Recycling Coalition's transport packaging reduction slide show for use by local governments in outreach to businesses.

OHIO

Source Reduction Planning
Ohio has established a goal of 25 percent solid waste reduction by 1994.

State In-House Programs
Ohio state agencies follow procurement guidelines that encourage the purchase of reused materials. The state also provides waste reduction technical assistance to state colleges and universities.

Residential Programs
None noted.

Commercial Programs
Ohio's Department of Natural Resources developed a technical assistance resource for the commercial sector, entitled *Waste Reduction Guide for Ohio Business and Industry*. The state also implemented the Governor's Award for Outstanding Achievement in Pollution Prevention that annually recognizes Ohio businesses for their waste reduction programs.

Support for Local Governments
The state provides start-up funding for local governments seeking to expand their waste management programs to waste reduction.

Ohio also provides technical assistance to local government. The state assists municipalities in developing waste reduction and yard waste composting programs. Educational materials also are provided to support the program.

OKLAHOMA

Source Reduction Planning
None noted.

State In-House Programs
None noted.

Residential Programs
None noted.

Commercial Programs
Oklahoma created a tax credit program within its Recycling, Reuse, and Source Reduction Incentive Act.

Support for Local Governments
None noted.

OREGON

Source Reduction Planning
Oregon mandates the use of unit-based pricing programs in all communities. Local governments that do not comply become ineligible for state waste program grants.

State In-House Programs
None noted.

Residential Programs
None noted.

Commercial Programs
Oregon mandates that all rigid plastic containers must either: be reusable five times, in addition to other recycled content criteria, or the packaging must be source reduced 10 percent over five years with no material substitution allowed. Oregon also issued a landfill ban on yard wastes.

Support for Local Governments
Oregon has given two grants to two counties (Ashland and Curry), to establish composting programs. Ashland County will provide support for a backyard composting program. Curry County will implement food composting programs at its schools.

Oregon developed a resource efficiency program that provides support to local governments for source reduction programs. Interested local governments receive a tool kit of materials and a video on source reduction.

PENNSYLVANIA

Source Reduction Planning
Pennsylvania passed legislation in 1988 that designated one staff person to study the implementation of source reduction programs. Source reduction staff found the best approach would be the development of an educational program for schools on source reduction methods. The curriculum is targeted for students of all grade levels and is currently being tested in several schools.

State In-House Programs
Pennsylvania's in-house programs took the form of a source reduction education program for schools.

Residential Programs
Pennsylvania created a unit-based pricing system for waste disposal, issued a landfill ban on leaves, and required yard waste to be composted. Pennsylvania has developed educational outreach programs to its citizens to inform them about source reduction.

Commercial Programs
Pennsylvania passed legislation targeted specifically at the reduction of private sector municipal solid waste. The state mandated that all businesses that generate municipal solid waste must prepare source reduction plans by 1993. Businesses are required to report the types of waste they generate and discuss their strategies for source reduction. The state also issued a landfill ban on leaves and requires yard waste to be composted.

Support for Local Governments
None noted.

RHODE ISLAND

Source Reduction Planning
Rhode Island supports source reduction as one of its top priorities in its overall effort to reduce waste. State law requires solid waste management officials to maximize methods of source reduction before any new waste disposal facility is sited. The Department of Environmental Management (DEM) employs 10 people who work specifically on the development of source reduction programs.

Rhode Island set up a Source Reduction Task Force to study possibilities for developing in-house source reduction programs. The task force developed some recommendations, and Rhode Island contracted with the Rhode Island Resource Recovery Corporation (RIRRC) to implement the recommended source reduction strategies.

State In-House Programs
The RI RRC conducted a waste composition analysis in 1989 and 1990 to identify targets for source reduction and subsequently issued a report entitled *Potential for Source Reduction Activities Through Procurement in Rhode Island State Agencies.* The report identified several items that could be targeted through source reduction strategies, including air filters, disposable cups, laser-printer cartridges, typewriter ribbons, unwanted mail, bathroom paper towels, and two-way envelopes.

Currently, Rhode Island requires all state agencies to purchase double-sided copiers and use duplex copying for all memorandums, reports, and other documents. Rhode Island also passed legislation requiring all state agencies to participate in the DEM's grasscycling program.

Residential Programs
Rhode Island sponsors public education programs to promote consumer waste reduction. Key messages include purchasing products in bulk quantities, choosing products with less packaging, and recycling waste materials. The state uses adapted instructional brochures and videos developed by the State of Connecticut. RI RRC sent more than 25,000 brochures about waste reduction programs to the public during the first six months of the campaign. Radio and newspaper advertisements were placed and local government and business presentations were used to advertise the program. The state also established a hotline, staffed by RI RRC, for the public to ask questions about waste reduction activities.

RIRRC conducted a source reduction educational program that targeted many audiences, including residents, teachers, and students. The educational activities implemented include presentations and demonstrations, educational tours of local landfills, development of a "Solid Waste and the Environment" teacher training curriculum, and various educational brochures.

The state has banned the disposal of yard wastes in landfills. To support the source reduction of these wastes Rhode Island started a home composting education program. Rhode Island developed a brochure, *OSCAR's Guide to Home Composting*, to educate the public about alternative yard waste options. Rhode Island also placed advertisements on radio stations, ran newspaper advertisements, and continues to conduct local events to create awareness and educate the public on composting. Rhode Island is currently testing various backyard composting educational projects in conjunction with school recycling programs.

The state expanded its yard waste composting program in 1993 to include a grasscycling educational campaign called "Don't Trash Grass." Rhode Island distributed brochures and a community action handbook to local governments and the general public. The state also promoted the program through newspaper and radio advertisements.

Commercial Programs
Rhode Island requires businesses with 50 or more employees to report annually on their waste reduction activities. The annual report

addresses a company's recycling program, its waste management costs, and its source reduction methods. The state also issued a landfill ban on leaves, grass clippings, and other yard wastes.

Support for Local Governments
Six communities in Rhode Island have unit-based pricing waste disposal programs. In October 1992, DEM awarded $5,000 in grants to each community to study its feasibility. The state also provides these communities technical and educational assistance on unit-based pricing and source reduction.

SOUTH CAROLINA

Source Reduction Planning
None noted.

State In-House Programs
None noted.

Residential Programs
South Carolina has issued a landfill ban on yard wastes.

Commercial Programs
South Carolina's landfill ban on yard wastes applies to commercial programs.

Support for Local Governments
None noted.

SOUTH DAKOTA

Source Reduction Planning
South Dakota set a goal to reduce waste by 50 percent by 2001.

State In-House Programs
None noted.

Residential Programs
To meet the state goal, South Dakota has issued strict landfill bans on several waste streams. Waste banned from landfills include yard waste, office and computer paper, newsprint, corrugated cardboard and paperboard, glass, plastic, aluminum, and steel containers.

Commercial Programs
South Dakota's landfill ban applies to commercial programs.

The state provides technical assistance that includes source reduction activities through the Industrial Outreach and Community Assistance Program located at South Dakota State University.

Support for Local Governments
None noted.

TENNESSEE

Source Reduction Planning
The Tennessee Solid Waste Management Act of 1991 required counties to establish regional plans for solid waste management. Twenty-five counties have included source reduction as part of their overall strategy to reduce waste in their region. A four-county region evaluated commercial and industrial businesses in waste reduction methods.

State In-House Programs
TDEC initiated an in-house waste reduction guidance from the commissioner.

Residential Programs
Tennessee has incorporated source reduction in public education programs. A portion of the program includes techniques, cost and benefits, and examples of source reduction.

Commercial Programs
Tennessee's Division of Solid Waste Assistance contracts with the University of Tennessee Center for Industrial Services (CIS) to operate a commercial and industrial materials exchange program. A generator of waste is matched with a business that may need to use the waste as a raw material to produce another product. The CIS also works with businesses to determine how to reduce waste generated in the production process. During

the last year, CIS has conducted more than 100 waste assessments for Tennessee businesses. These waste assessments have helped many businesses begin source reduction activities.

Support for Local Governments
TDEC held 15 waste reduction workshops in 1997 in locations across the state, drawing a total of more than 400 participants.

TEXAS

Source Reduction Planning
Texas passed legislation that requires cities to develop solid waste plans and to include yard waste composting programs.

State In-House Programs
The Texas Natural Resources Conservation Commission's (TNRCC) Recycling Market Development staff facilitates exchange of surplus supplies and equipment to multiple independent school districts in Texas.

The TNRCC also set an internal goal of 75 percent reduction in non-hazardous waste generation by the year 2000. To reach the goal the Permanent Pollution Prevention team recommended multiple activities including toner cartridge reuse and return, washable utensils for the cafeteria, composting and mulching of landscape trimmings, reduction in use and waste of paper, and additional waste reduction in the agency cafeteria. The TNRCC Board of Directors recommended that all state agencies make voluntary non-hazardous waste reduction commitments.

Residential Programs
Backyard composting demonstration gardens were established for public education and training.

Commercial Programs
Texas formed the Texas Military Recycling Committee that partnered with joint military services to develop waste reduction programs at installations in the state. Texas also worked with individual businesses to begin waste reduction programs statewide.

Support for Local Governments
The state Council of Governments awarded 142 MSW grants for home and centralized composting in 1996 and 1997 totaling $3.9 million in new capital.

Residential waste prevention workshops, publications, on-site assistance, and direct consultation are provided to local solid waste decision-makers in planning and implementing effective programs for solid waste streams. Source reduction strategies include the "Don't Bag It" promotion and backyard composting program. More than 87,000 copies of waste reduction and recycling publications were distributed to Texas communities in 1996. Additional "Blueprint for 40 Percent" workshops were conducted for municipalities to influence comprehensive municipal waste reduction. Also, with EPA assistance, Texas conducted waste assessment training for community recycling coordinators.

UTAH

Source Reduction Planning
Utah has issued a landfill ban on scrap metal and electronics.

State In-House Programs
None noted.

Residential Programs
None noted.

Commercial Programs
None noted.

Support for Local Governments
None noted.

VERMONT

Source Reduction Planning
Vermont set a goal to reduce waste by 40 percent in the year 2000.

State In-House Programs
Vermont has set up a school cafeteria waste composting program.

Vermont's state materials management plan specifically addresses source reduction in two ways. State agencies must reduce paper use by 5 percent every year from 1995 to 2000 and procure products and supplies that are source reduced.

Residential Programs
None noted.

Commercial Programs
The Vermont Agency of Natural Resources funds a program called the "Vermont Business Materials Exchange," which was developed to promote reuse of commercial and industrial waste materials. Materials listings are included in quarterly catalogs, in the *Vermont Business* magazine, on a Web site, and on an electronic list server that announces new listings and materials that need to move quickly.

Support for Local Governments
Vermont awards small grants (less than $5000) for source reduction projects including a packaging reduction program and educational materials on reuse and composting.

VIRGINIA

Source Reduction Planning
None noted.

State In-House Programs
In 1996, Virginia state agencies developed pollution prevention plans that include solid waste prevention and reduction components.

Residential Programs
None noted.

Commercial Programs
None noted.

Support for Local Governments
None noted.

WASHINGTON

Source Reduction Planning
In 1990, Washington set a 50 percent waste reduction goal.

One way Washington is working to reach the goal is through implementation of unit-based pricing programs in municipalities.

State In-House Programs
Washington established an intensive program to reduce waste within state agencies. The state also set up a product packaging task force to evaluate volume or weight reduction methods for product packaging entering the waste stream, reduce the reliance on disposable packaging, and increase public awareness of packaging materials' effect on the municipal solid waste stream.

Washington also established an awards program to recognize schools that successfully implement waste reduction programs.

Residential Programs
None noted.

Commercial Programs
Washington sponsors workshops and seminars for business and industry that highlight successful waste reduction techniques that eliminate or substantially reduce the amount of waste generated.

Support for Local Governments
Washington's Comprehensive Recycling Law supports its 50 percent waste reduction goal by providing loans and grants to local governments for waste reduction, composting programs, and public education. The state also provides technical assistance to local governments to help them implement source reduction programs.

WEST VIRGINIA

Source Reduction Planning
None noted.

State In-House Programs
West Virginia supports state agency composting programs. Many agencies use the compost in landscaping projects around their office buildings.

Residential Programs
West Virginia has issued a landfill ban on yard wastes.

Commercial Programs
West Virginia's landfill ban on yard wastes applies to commercial programs.

Support for Local Governments
None noted.

WISCONSIN

Source Reduction Planning
Wisconsin's recycling laws prioritize management of solid waste first through source reduction, then reuse, recycling, and composting waste.

Wisconsin also requires the use of unit-based pricing programs for communities not reaching state recycling goals.

State In-House Programs
None noted.

Residential Programs
Wisconsin supports a waste reduction outreach campaign that utilizes workshops, print brochures, and radio PSAs. The state also supports a backyard Master Composter program managed by the Department of Natural Resources and the University of Wisconsin Extension Service.

Commercial Programs
In 1989, Wisconsin implemented a waste reduction and recycling demonstration grant program to accompany its comprehensive recycling law. The grant program is a cost-sharing grant program for public and private entities interested in innovative waste reduction and recycling projects. Past waste prevention test projects included a waste minimization project for construction methods. Wisconsin designates five waste reduction and business outreach specialists to provide regional technical assistance support, primarily to apartment complexes, restaurants, hotels and resorts, and special events coordination.

Support for Local Governments
Wisconsin's waste reduction and recycling demonstration grant program offers cost-sharing grants for public entities interested in innovative waste reduction and recycling projects.

Wisconsin also supports residential, commercial, and local government in-house source reduction programs implemented through county governments. Support to the counties is based on technical assistance programs focusing on residential household projects, business and industry source reduction opportunities, and source reduction in local government buildings. Written materials are provided for local government outreach to these groups.

WYOMING

Source Reduction Planning
None noted.

State In-House Programs
None noted.

Residential Programs
Wyoming has issued a landfill ban on yard wastes.

Commercial Programs
None noted.

Support for Local Governments
The state of Wyoming supports a grant program sponsored by the Governor's Committee on Recycling. Source reduction is a qualifying activity for the grants. To date municipalities have been awarded more than $145,000.

EPA

United States
Environmental Protection Agency
5306W
Washington, DC 20460

Official Business
Penalty for Private Use
$300