

Final Report

Waste Prevention Program Survey and Library

Prepared for

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Harding ESE Project No. 53727.8

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EXECUTIVE SUMMARY

The purpose of the Waste Prevention Program Survey and Library project for the Alameda County Waste Management Authority and Source Reduction and Recycling Board (Agency) was to conduct research and interviews to identify and acquire waste prevention resources for the Agency's Resource Library. The Agency is interested in resources that will assist staff, member agencies and others to develop and implement programs to achieve the goal of reaching 75% diversion of materials from landfill by 2010, including 20% waste prevention by this date.

This report summarizes the process and findings of a survey of waste prevention programs and the resulting establishment of a library of selected waste prevention resources. The work was accomplished by a team of consultants and Agency staff.

The key results of the project include:

- Sixteen profiles of selected waste prevention programs across the country.
- A bibliography of resources identified through research and interviews.
- Acquisition of approximately 316 waste prevention resources that have been catalogued labeled and shelved or stored electronically in the Agency's Resource Library.
- Resources available to Agency staff, member agencies and others through the Resource Library and on the Agency's website.

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1.0 INTRODUCTION

1.1 Purpose

The purpose of this Final Report is to document the process and findings of a survey of waste prevention programs and the resulting establishment of a library of selected waste prevention resources for the Alameda County Waste Management Authority and Source Reduction and Recycling Board (Agency).

1.2 Project Goals and Objectives

The Agency has a goal of reaching 75% diversion of materials from landfill by 2010, including 20% waste prevention by this date. The objective of this Waste Prevention Program Survey and Library Project is to support efforts to reach this goal by researching and identifying selected waste prevention resources and acquiring them for the Agency's Resource Library.

1.3 Organization of Report

This report is organized into several sections that track the tasks and activities associated with this project. They include:

- Section 2.0 Survey Design
- Section 3.0 Summary of Interviews and Bibliography of Resources
- Section 4.0 Library, Catalogue and Website of Resources

Several appendixes contain the deliverables associated with the completion of various tasks during the project. These include:

- Appendix A: Final Survey Strategy
- Appendix B: National Waste Prevention Forum Listings
- Appendix C: Resource Recycling Article Listings

- Appendix D: Survey Contact List
- Appendix E: Program Profiles
- Appendix F: Bibliography

1.4 Acknowledgements

This project was managed for the Agency by Todd Sutton, Program Manager. Work was performed by Harding ESE, Inc. under contract to the Agency. Delyn Kies, Kies Strategies, managed the consultant team. The consultant team included David Allaway, Kerry Barlogio and Angie Tomlinson, Harding ESE, Inc.; Holly Stirnkorb, Tabor Consulting Group; and Christopher Williams and Steven Sherman, Applied Compost Consulting.

This project was supported by Agency staff responsible for the maintenance of the Resource Library, including Corey Rothermel, Executive Assistant, and Alyssa Bostwick, Special Projects Assistant. The creation of the library database, not only for the newly acquired waste prevention resources but also for the Agency's entire Resource Library, was accomplished by Larry Tubbs, Information Technology Manager, and Rachel Hemmer, Information Technology Specialist and Tammy Lee, Database Technician.

2.0 SURVEY DESIGN

2.1 Summary of Survey Strategy Development

The first task of the project included a meeting between key members of the consultant team and Agency staff. At this meeting, overall project goals and objectives, the survey strategy, and the process to select, acquire, and shelve resources were discussed.

The next major task was to develop a detailed strategy for conducting surveys and research to identify the most useful and targeted waste prevention resources for the Agency. The objective of this project was not to conduct a broad survey to attempt to prepare an exhaustive list of every waste prevention document that might be available. Rather, the objective was to identify either “classic” waste prevention resources that are the foundation for current successful efforts or more current resources that have been produced by effective and progressive programs throughout the country. The Agency wishes to build upon current efforts to reach diversion and waste prevention goals.

Appendix A: Final Survey Strategy includes sections on the types of information to be obtained and the approach to assuring successful interview and resource searches, an initial contact list, and a discussion of the project’s working definition of waste prevention. Appendixes to the Final Survey Strategy include a sample program profile, key words for waste prevention, and the proposed interview questionnaire.

3.0 SUMMARY OF INTERVIEWS AND BIBLIOGRAPHY OF RESOURCES

3.1 Summary of Survey Implementation

Following the strategy detailed in the Final Survey Strategy (see Section 2.0), several organizations were contacted and publications researched to identify potential programs for interviews and documents to acquire. The most helpful of these included the National Waste Prevention Forum and *Resource Recycling*, a recycling and composting journal. Appendix B: National Waste Prevention Forum Listings includes selected postings between July 2001 and February 2002 from the Forum's listserv with relevant contacts and resources highlighted in red. Appendix C: Resource Recycling Article Listings includes articles with waste prevention/source reduction content from 1997 through early 2001. It was used to identify likely candidates for further research and interviews. Both of these resources can continue to be used by Agency staff and others interested in researching current waste prevention programs and strategies.

3.2 Summary of Survey Results

Once contacts for interviews were identified, calls were made to targeted organizations to verify information and their interest and willingness to participate in an interview. Appendix D: Survey Contact List includes the organizations contacted, regardless of whether or not an interview was completed. Each organization's name, address, telephone and fax numbers, and website are included as well as similar information for the contact individual at the organization, including e-mail addresses. Notes regarding the interview process are included. This information can be used by the Agency for any follow-up or additional information that may be desired.

Initially, summaries of interviews and research of four waste prevention related programs were prepared. Agency staff was then given an opportunity to evaluate whether or not the questions were eliciting the types of information they would find most useful as well as identifying the types of resources they might want to acquire. Following this review, some minor clarifications were made in the questions asked and

it was determined that an additional 12 programs would be surveyed for a total of 16. The interviews, research and summaries were more comprehensive than originally expected, and sometimes required interviewing more than one individual in order to answer all of the interview questions. Since the interview summaries were more thorough, it was decided to limit the number and focus on preparing more complete “profiles” (program descriptions) rather than completing a larger number of less informative interviews. In addition, early in the project the consultant team discovered several existing published documents that already contained a large number of program profiles. Copies of these documents were obtained for the Agency.

Appendix E: Program Profiles contains the 16 interview summaries. These include profiles of New York City waste prevention programs; three programs of the Oregon Department of Environmental Quality; three programs of Metro in Portland, Oregon; three City of Seattle programs; three King County, Washington programs; and programs in the State of Massachusetts, the State of Minnesota, and the State of Vermont. The interviews for the City of Seattle, King County, Metro and Oregon Department of Environmental Quality were conducted in person for more in-depth information and acquisition of resources.

3.3 Completed Bibliography of Resources Identified and Resources Acquired

Once interviews and research were completed, a bibliography of identified resources was prepared. The initial bibliography included the type of resource, the title, the author, the date, a description of the document, the acquisition contact, pricing information, and notes regarding the resource. The listings were then compared with existing waste prevention resources in the Agency’s Resource Library and then noted as such in the bibliography.

The bibliography was submitted to Agency staff for review and then a meeting was held with members of the consultant team and Agency staff to select the resources the Agency wished to acquire. These resources were noted on the second version of the bibliography. Follow-up research was conducted on

the availability and applicability of certain resources identified at the meeting. A third version of the bibliography was prepared for use in the acquisition process. Following acquisition, a final bibliography was prepared and is included in Appendix F: Bibliography. It includes the type of resource, the title, the author, the date, and a description of the documents and other resources acquired for the Agency's Resource Library.

In the interest of waste prevention, it was decided by the Authority that electronic documents were preferred over paper copies of those documents. The acquisition process thus included not only telephone calls to order documents that were not available electronically, but also downloading files for electronic transfer to the Agency's server. A library tracker form was developed from the bibliography to track orders for each document throughout the ordering, shipping, payment and receiving process. Project funds were used to purchase documents and to pre-pay the costs of shipping. This approach was particularly helpful for public agencies and other organizations that do not routinely ship documents or have predetermined prices for sharing their documents.

4.0 LIBRARY, CATALOGUE AND WEBSITE OF RESOURCES

4.1 Electronic Cataloguing of Acquired Resources

During the course of this project, and immediately prior to the cataloguing stage, the Agency determined that the current database being used, All Media Library, was no longer meeting their needs. The Agency's information technology staff was approached with the question of whether they could develop a customized electronic database for the Agency's entire library. The response was positive and timely. Agency staff then took this opportunity to develop a new listing and numbering system for cataloguing all resources in the Resource Library. Waste prevention resources were given a separate category listing that had not been available previously. The category listing to be used for cataloguing newly acquired and existing waste prevention resources in the Agency's Resource Library included:

800 - Waste Prevention/Source Reduction & Reuse

810 - Waste Prevention/Source Reduction

811 - Commercial/Industrial/Institutional

815 - Residential

830 - Reuse

831- Commercial/Industrial/Institutional

835 - Residential

850 - Waste Prevention Measurement

870 - Materials Exchange

The newly developing library database was also designed for website access in addition to greater in-house accessibility. It was also designed for ease of entering new titles and more helpful and informative descriptions and key words. It was recognized that maintaining the database and library is a dynamic function, with new resources identified and received continually. This fact necessitated a change in the process of this project that also improved efficiency. Cataloguing, labeling and shelving of resources no longer needed to be done sequentially, but could be done concurrently as resources were received.

4.2 Establishing Resources in Library

After decisions were made about the number and type of resources to be acquired from the resources identified in the bibliography, estimates were made of the space and shelving needs in the Agency's current library space. It was determined that the newly acquired resources would fit within the available space, but that new shelving would be needed for ease of use.

As indicated in Section 4.1 above, the development of the customized library database allowed for efficiencies in all steps of the process to establish resources in the library, both for this project and ongoing. Once documents and other resources were entered into the database, labels could be generated with the appropriate catalogue information.

PDF (Portable Data Format) and other electronic files (RTF - Rich Text Format, XLS - Excel spreadsheet, and DOC - Word document) were acquired over the Internet and downloaded to the `wma/apps/library/cwdata/~alldocs` folder on the Agency's "Waste" server. Resource Library catalog users simply click on the filename listed in a given record in the library database to review, save, or print the electronic document as needed.

At the time most of the newly acquired resources had been received, catalogued, and labeled, the new shelving had not arrived. Documents and resources were placed temporarily in boxes to be shelved at a later date.

4.3 Resource List for Agency Website

In the initial scope of work for the project, the Agency required a list of acquired resources for inclusion on the Agency's website. This list was originally intended to contain pertinent information from the bibliography, including descriptions of the documents and other resources, and to be as similar as possible in content and format to the library resource catalogue. With the development of the new custom database that was designed for both in-house computer and website access, this objective changed. A resource list was prepared that included all deliverables resulting from the project that may be of interest to users researching or curious about waste prevention programs and resources. It also included suggestions for a "waste prevention" page on the Agency's website that could link with the identified resources.

APPENDIX A

Final Survey Strategy

**Final Survey Strategy
Waste Prevention Program Survey
and Library Project
Alameda County, California**

Prepared for

**The Alameda County Source Reduction
and Recycling Board
and Waste Management Authority**
777 Davis Street, Suite 100
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This document was prepared by Harding ESE, Inc. (Harding ESE), at the direction of the Alameda County Source Reduction and Recycling Board and Waste Management Authority (Agency) for the sole use of Agency the only intended beneficiaries of this work. No other party should rely on the information contained herein without the prior written consent of the Agency. This report and the interpretations, conclusions, and recommendations contained within are based in part on information presented in other documents that are cited in the text and listed in the references. Therefore, this report is subject to the limitations and qualifications presented in the referenced documents.

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1.0 INTRODUCTION

This Survey Strategy has been prepared by Harding ESE, Inc. (Harding ESE) for the Waste Prevention Program Survey and Library project of the Alameda County Source Reduction and Recycling Board and Waste Management Authority (hereafter, "Agency").

The primary objective of this project is to provide resources for the Agency's Library that will be used for waste prevention program, planning and policy purposes. This will be done by identifying and researching waste prevention programs elsewhere in the United States as well as other countries, and by identifying and obtaining printed resources for inclusion in the Agency's Library.

This document describes a strategy for identifying and obtaining information about waste prevention programs and activities conducted by government agencies, non-profit organizations, and businesses.

2.0 TYPES OF INFORMATION TO BE OBTAINED

In accordance with the Scope of Work for this project, and the kick-off meeting held on May 25, 2001, the information to be obtained through this survey strategy is of three basic types:

- Program profiles
- Documents/reports/videos/other materials
- Resource and contact lists (bibliography).

Each of these is described in greater detail below.

2.1 Program Profiles

Program profiles are written descriptions of waste prevention programs, prepared by Harding ESE specifically for the purpose of this project. Profiles will be based on interviews with waste prevention program staff in government and other organizations (see Section 3.2). The typical profile will include a brief description of the waste prevention program identified, program objectives, key features of the program, information on program evaluation including any measurement and evaluation tools and methods (when available), contact information, and a listing of the documents, reports, videotapes or other relevant resources that are available from that program. A sample profile is provided as Appendix A.

2.2 Documents/Reports/Videos/Other Materials

The second type of information to be obtained and listed through this survey are pre-printed documents and reports, fact sheets, brochures, videos, and other materials describing waste prevention programs or used in conjunction with waste prevention programs. These materials may be associated with specific programs where Harding ESE prepares a program profile, or may be associated with other programs where no profile is prepared. These types of materials may also include research or other academic studies that are not associated with any specific waste prevention program.

2.3 Resource and Contact Lists

The third type of information to be obtained through this survey are lists of resources and contacts. Contacts include individuals and organizations that are interviewed for the development of program profiles and obtaining other materials (above), as well as other individuals and organizations that could be contacted in the future. Resource lists will include all resources identified, regardless of whether copies are obtained or not.

In rare cases, we may identify an organization that maintains its own waste prevention library. For example, the California Integrated Waste Management Board (CIWMB) has an extensive waste prevention library that is indexed and available to the County on the Internet. The Oregon Department of Environmental Quality (DEQ) is just beginning to catalog its collection of waste prevention resources, but does not plan on making the catalog available to the general public. In cases such as this, we will explore the possibility of sharing data so that the results of the Agency's project are made available to the other organization (upon project completion), in reciprocity for electronic access to that organization's library data.

2.4 How Resource and Contact Lists will be Used

Generally speaking, the resource and contact lists developed during this project will grow and evolve and direct which program profiles, reports and other documents are obtained for the Authority. An initial list of contacts is included in Section 3.0, below. As these people and organizations are contacted, it is expected that many will identify other individuals and organizations, as well as a number of other documents and reports. In this way,

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conducting research provides leads for additional research, although eventually ongoing calls and research will lead to diminishing returns. If we begin to see diminishing returns from additional survey contacts, we will confer with Agency staff to make a decision about completing that effort or spending the time on other portions of the project. In this way, the research and survey effort involves iterative steps of identifying programs and resources, determining which programs to profile and which resources to obtain, contacting those individuals and organizations, adding to the list of programs and resources known, and then again determining which programs to profile, and so on.

3.0 INITIAL CONTACT LIST

The overall scope of this research project is waste prevention programs and activities conducted by, and resources prepared by governments, businesses, and other non-governmental organizations. While it is expected that the majority of the research effort will be focused on programs, activities, and resources in the U.S.A., key programs and activities in other counties will also be identified.

3.1 Internal Contacts

Internal contacts refers to resources within the Agency.

Harding ESE will conduct short, informal telephone interviews with selected Agency staff. The purpose of these interviews will be twofold: first, to obtain feedback on their use of the Library (i.e., why they use or don't use the Library more frequently), and second, to identify other waste prevention programs that should be contacted or resources that should be obtained. Staff to be contacted includes:

- Brian Mathews (food waste)
- Teresa Eades (landscaping)
- Wendy Sommer (green building)
- Ann Ludwig (green building)
- Meri Soll (green building)
- Todd Sutton (residential issues)
- Rory Bakke (non-residential issues)
- Debra Kaufman (procurement).

In addition, Harding ESE will review the existing catalog listing of Library resources (in *All Media Library*). The purpose of this is twofold: first, to identify which resources the Agency already has (and avoid obtaining duplicates), and second, to identify possible improvements to existing report descriptions (key words) so that these existing resources are more likely to be found during key word searches in the future (see Appendix B for key words currently being used in the literature search).

3.2 Initial List of External Contacts

As noted earlier, the purpose of external contacts is to develop program profiles, identify (and obtain) resources, and identify other programs and contacts. Not all of these objectives will necessarily be met with each external contact. For example, some contacts may not be appropriate for developing program profiles, but may simply provide a good list of resources or contacts in other programs.

The following is our initial list of people and organizations outside the Agency who will be contacted; the list of contacts will grow extensively once we begin our literature and file review:

- King County, Washington (Tom Watson, Kinley Deller, Dale Alakel, possibly others)
- California Integrated Waste Management Board (Brian Foran, Kathy Frevert, Tom Estes, others)
- Portland Metro (Steve Apotheker)

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- Oregon DEQ (Jan Whitworth)
- City of Seattle (Matt Fikejs)
- State of Minnesota (Ken Brown, Jennifer Havens, Cathy Berg-Moege)
- Envirous/RIS (Gordon Day)
- National Recycling Coalition (NRC)(Source Reduction Forum; also review of proceedings of conferences if available)
- State of Florida and Polk County (current source reduction study)
- Environmental Protection Agency (EPA) Headquarters (Judy Taylor), Region 5 (Susan Mooney)
- Sherrie Gruder, University of Wisconsin
- Susan Kinsella (Conservatree)
- Ann Schneider (U.C. Santa Cruz Extension work)
- Marjorie Clarke (City University of New York)
- Northwest Product Stewardship Council (David Stitzahl)
- Institute for Local Self Reliance
- Environmental Defense/Alliance for Environmental Innovation
- INFORM
- Natural Step
- Businesses for Social Responsibility
- Natural Resources Defense Council
- New York City Department of Sanitation
- City of Santa Monica
- Cities of Calgary and Toronto
- Pollution Prevention Resource Centers
- Tellus Institute
- Cornell Waste Management Institute
- Gildea Resource Center
- ReDO (Julie Rhodes)
- Indiana Institute on Recycling (closed June 30, 2001, but staff may still be available).

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3.3 Methods of Identifying Additional External Contacts

The list of potential external contacts will be added to by the following:

- References and suggestions provided by other Agency staff.
- References and suggestions provided by other external contacts.
- References identified in a review of files and reports located at Harding ESE.
- References identified in a review of *Resource Recycling* magazines. Initially we plan to review these magazines going back as far as January 1997. Additional issues will be reviewed if time and budget are available.
- References identified in a review of postings on the Waste Prevention Forum. Archived postings as far back as January 1999 are located at <http://www.reuses.com/nwpcarchive/>.
- We will also post a notice on the Waste Prevention Forum describing this project inviting anyone who wants to share information about successful waste prevention programs to contact us. (Alternatively, we may personalize the request by sending customized e-mail messages to each member of the Waste Prevention Forum list-serve.)
- An Internet search using key words.
- SWANA (Solid Waste Information Clearinghouse Hotline program staff).
- EPA RCRA/CERCLA publications directory.

These activities will be helpful in identifying potential additional contacts. However, before such contacts are made, we will review the list with Agency staff. This will also be used to help prioritize and focus the research effort on an ongoing basis.

4.0 APPROACH TO ASSURING SUCCESSFUL INTERVIEW AND RESOURCE SEARCHES

Of the organizations and individuals we propose contacting, only the State of California is required to provide technical assistance to the Agency. All other contacts and interviews will be of a purely voluntary nature. Harding ESE will try to secure a high rate of participation by pre-scheduling interviews if desired (this involves calling potential interviewees, scheduling an interview, and sending a pre-prepared list of questions; see Appendix C). We will also offer to provide a copy of the *Alameda County Resource Catalog*, providing them with an opportunity to obtain at no charge a variety of useful resources. We will also offer copies of program profiles from similar programs, if they desire.

The Scope of Work provides for Agency review of a list of the resources (reports, videos, etc.) identified during the interviews, prior to actually obtaining any of the resources. However, if interviewees freely offer up copies of resources, at no cost, and if the resource is likely to be of use to the Agency, Harding ESE will request copies of these resources at the time of the initial interview (as opposed to waiting for Agency staff to approve the acquisition, and then calling the organization back).

5.0 WORKING DEFINITION AND FOCUS

There are many different definitions of “waste prevention”. Some individuals use the terms “source reduction” or “waste reduction” to express many of the same concepts. This lack of consistency sometimes leads to confusion and misunderstanding between various people in the solid waste, materials management, and environmental fields.

For example, Section 40196 of the California Public Resources Code provides the following definition of “source reduction”:

"Source reduction" means any action which causes a net reduction in the generation of solid waste. "Source reduction" includes, but is not limited to, reducing the use of nonrecyclable materials, replacing disposable materials and products with reusable materials and products, reducing packaging, reducing the amount of yard wastes generated, establishing garbage rate structures with incentives to reduce the amount of wastes that generators produce, and increasing the efficiency of the use of paper, cardboard, glass, metal, plastic, and other materials. "Source reduction" does not include steps taken after the material becomes solid waste or actions which would impact air or water resources in lieu of land, including, but not limited to, transformation."

The Alameda County Waste Reduction and Recycling Initiative (1990) provides a very similar definition of “source reduction program”.

The *Executive Summary, Alameda County Integrated Waste Management Plan (IWMP) Countywide Element (1996)*, provides a much shorter definition of the term source reduction: “avoiding the creation of waste”.

Yet another definition comes from the *Alameda County Source Reduction and Recycling Plan (2000)*, which defines “reduction” in the context of the “Hierarchy of Waste Management”:

Support for the "Hierarchy of Waste Management" is a basic principle of this Plan and determines many of the program choices and priorities identified in the following section. The "Hierarchy" is a descriptive device that establishes program priorities among waste management program concepts. It is promoted because, *in general*, it maximizes the net cost-effectiveness and environmental benefits of waste reduction. Of course, these benefits must be assessed on a program-by-program basis.

1. **Reduction** is minimizing the *generation* of potential waste products in the first place. A simple example is the use of ceramic cups in place of paper cups. Reduction typically results in the least environmental and economic life cycle costs because it requires little or no collection and processing of materials. Importantly, it typically also produces significant benefits in terms of production efficiencies and use of resources.
2. **Reuse** of discarded materials typically requires collection but relatively little new processing. Examples include a used bookstore or a thrift shop.
3. **Recycling and composting** of discarded materials typically require a method of collection, and a method of material processing/conversion into a new product. Both collection and processing may generate adverse environmental impacts. This should be recognized and efforts made to minimize impacts. Efforts should also promote the "highest and best use" of recovered materials. By this term is meant uses that have either the highest market value or the highest environmental value. An example of the latter would be a new recycled-content product that replaces a product which uses valuable virgin resources or which generates toxic byproducts in its production.

This example is useful in that “reduction” is defined in part by comparing it to what it isn't: reuse, recycling, and composting.

While each of these definitions share much in common with each other, they do present some inconsistency. For example, is composting of grass clippings and leaves in a home composting bin “composting” or “reduction”? In

another example, most people would agree that copying on both sides of a sheet of copy paper is reduction, but what if paper that has been used on one side is put into a printer for printing “draft” documents on the back side: is this reduction, or re-use?

For this project, the term “waste prevention” is used in place of “source reduction” or the even broader “waste reduction”. For the purpose of this project, the following working definition for “waste prevention” will be used.

- **Waste prevention** is any activity that reduces, eliminates, or avoids the waste of solid materials. It reduces the amount of material collected for the purposes of recycling, composting, energy recovery, or disposal. Waste prevention does not include burning, burying, or stockpiling materials on-site, nor does it include discharging the waste materials in a liquid medium.

This definition is a working definition for the purposes of defining whether a topic or project is inside or outside the scope of this research project, and is not intended to be used for any other program development, planning or policy purposes.

This working definition provides a four-point test to determine if an activity is “waste prevention” or not. Only activities that meet all four of these criteria will be considered as waste prevention, for the purposes of this project:

1. Does the activity reduce, eliminate, or avoid the waste of materials? (if yes, proceed to Question 2)
2. Are the materials solid materials (as opposed to liquid or gaseous)? (if yes, proceed to Question 3)
3. Does it reduce the amount of material collected for the purposes of recycling, composting, energy recovery or disposal, i.e. have an impact on the measurable waste stream? (if yes, proceed to Question 4)
4. Is the activity something other than burning, burying, or stockpiling materials on-site, or the discharging of materials in a liquid medium?

In some cases, whether all four tests are met depends on unique local conditions. In these circumstances, whether an activity counts as “waste prevention” will be determined on a case-by-case basis.

The following examples illustrate how this working definition can be used, first illustrating examples of activities that are included in the working definition of waste prevention, and then showing examples of activities that would not be included:

5.1 Examples of Activities Included as Waste Prevention

Example One: Double-sided copying. A government agency sets its copy machines to default to “duplex” copying. This counts as waste prevention as it passes all four tests. Specifically, the waste of materials is reduced; the materials in question are solid; eventually fewer materials will be collected for the purposes of recycling or disposal; and there is no burning, burying, or stockpiling involved.

Example Two: Improved mailing list management. A company improves the management of its lists used to generate mailing labels for promotional catalogs. Duplicate catalogs are no longer produced and sent. This counts as waste prevention *even though* the amount of waste recycled or disposed of *at the company’s site* is not impacted. Regardless, solid waste is reduced (at the customers’ end); once these catalogs are received at the addresses where they are mailed to, and then eventually discarded, a smaller amount will be collected (for the purpose of recycling or disposal).

Example Three: Home composting. Mr. and Ms. Vermi compost their food scraps in a worm box in their apartment. This activity counts as waste prevention. Even if the food scraps were otherwise flushed down the kitchen sink’s garbage disposal (and didn’t enter the traditional solid waste system), the food scraps would have contributed to the amount of material collected at the back end of the wastewater treatment plant for the purposes of sludge composting, disposal, or incineration.

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Example Four: Food choices in schools. A local elementary school switches from a single-entrée menu to offering choices between multiple entrees. As a result, a higher percentage of students purchase lunch at school. Although the amount of food waste per tray is reduced (as a result of increased acceptance of the food), the total amount of waste generated by hot-lunch eaters goes up (due to more hot lunch eaters), as does the amount of material (food) used to prepare this increased number of lunches. Despite this, it could still be considered as waste prevention. Assuming that the impact on cold lunch foods (both the amount of food put into cold lunches and the amount discarded) is unknown, there could be a net reduction in the waste of materials, and a reduction in the amount of materials collected for composting or disposal.

Example Five: Use of durable totes. A municipal library system uses totes to transport books from one site to another. Previously, cardboard totes were used. The library changes to a more durable plastic tote. The plastic tote is not recyclable, but can be used an average of 500 trips, as opposed to an average of 20 trips for the cardboard totes. This would count as waste prevention since the amount of material wasted over a fixed number of trips is reduced, even though the new totes are not recyclable, and even if the cardboard boxes were recycled 100 percent of the time.

Example Six: Simplicity workshops. A local church provides its members with workshops on contentment and living simply. As a consequence, some households buy less stuff, and generate less waste. This would be included as waste prevention.

Example Seven: Sharing of power tools. Power tools are shared between neighbors, or through a tool rental shop. This saves all of the households from needing to purchase their own set of power tools, thus reducing (over an extended period) the amount of packaging and product discarded. As a result, this would count as waste prevention.

Example Eight: Community garage sale. The City of Sunnyvale sponsors an annual “City garage sale” where hundreds of households set out reusable materials for sale all on the same weekend. While some materials purchased at garage sales probably end up being stockpiled (and thus just delay their entry into the solid waste system), others truly do displace the purchase of new products (and thus the generation of waste). This would be included as an example of waste prevention.

Example Nine: Living Christmas trees. A garden shop sells living Christmas trees in pots, and encourages customers to plant the trees in the yards after Christmas is over or return to the garden center for donation for planting elsewhere, like a public school or a park. For people who do so, this would reduce the collection of a “spent” tree for disposal or composting. This would count as waste prevention.

5.2 Examples of Activities Not Included as Waste Prevention

Example Ten: “Drink All Your Milk” Campaign. A local school encourages children in the lunchroom to drink all of their milk. This would not count as waste prevention, as no solid materials are involved. Further, if the school required students to drain their unfinished milk into a sink (as opposed to the garbage), there would be no impact on the amount of waste collected for disposal.

Example Eleven: Tires-to-Tomato Planters Project. A garden shop encourages households to use their old tires as tomato planters in the beds of their vegetable gardens. Although this is a creative form of reuse, tires are an inert material. Eventually, the existing or future owner of the property will most likely have the tires removed from the site. Presumably, the use of tires doesn’t displace the purchase (and eventual waste) or any other material. Thus, this kind of idea wouldn’t count as waste prevention.

Example Twelve: Eco-Industrial Park. An eco-industrial park is established where neighboring businesses use each other’s waste products as feedstocks to manufacture new products. This makes it easier (more convenient, less expensive) for the companies to incorporate recycled-content feedstocks into their manufacturing processes, and reduces the energy use and air pollution associated with transporting these materials over longer distances. However, as long as the materials in question are being recycled, this activity would not qualify.

Example Thirteen: Demonstration Green Building. A demonstration green building includes the following environmental attributes: various energy and water efficiency measures; use of low volatile organic compound

Final

(VOC) paints; use of rapidly renewable resources (bamboo flooring); use of recycled and recyclable materials throughout. Despite the environmental benefits, unless the building also had some other features such as special durability, it does not include any waste prevention features.

5.3 Household Hazardous Waste and Small Business Hazardous Waste

Although not the primary focus of this project, the survey and literature collection will include information about household hazardous waste (HHW) reduction projects if the information is readily available. Examples include “greener cleaner” kits to introduce households to the benefits of less-toxic cleaning products, and natural gardening education programs to reduce the amount of pesticides and herbicides purchased and used.

APPENDIX A

SAMPLE PROGRAM PROFILE

APPENDIX A

SAMPLE PROGRAM PROFILE

**OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
INTERVIEW SUMMARY REPORT
WASTE PREVENTION SURVEY AND LIBRARY
ALAMEDA COUNTY WASTE MANAGEMENT AUTHORITY
(NOTE: THIS IS A MOCK-UP SAMPLE ONLY!)**

Date of Interview: July 6, 2001

Name of Interviewer: Delyn Kies

Interview Contact Information

- **Name/Title of interview contact:** David Allaway, Waste Prevention Specialist
- **Phone number/e-mail:** (503) 229-5479; allaway.david@deq.state.or.us
- **Organization name and location (verify):** see interview contact list
- **Website:** <http://www.deq.state.or.us>

Background Program Information

1. **Please briefly describe your program(s) and its goals. Is the program internal to your operations, or does it target a population (such as members of your trade association, residents in your community, etc.)?**

Department of Environmental Quality (DEQ) funded a series of five pilot projects between 1996 and 1999: Corvallis, Milwaukie, Cannon Beach, Bend/Central Oregon, and Yamhill County. Each project involved a local public-private partnership that helped to co-fund a local "Resource Efficiency Program". Although the five programs varied in detail, all provided a part- to full-time "Resource Efficiency Coordinator" (REC) who recruited small and medium sized businesses and government facilities. The REC then conducted comprehensive assessments that included energy and water conservation but focused on waste prevention. Recommendations were provided to each participant, with follow-up assistance with implementation and measuring results. The fifth community, Yamhill County focused on pilot projects to reduce "shrink" (unsold food) in grocery stores.

2. **How long has the program been in operation? Is it still in operation?**

Pilot programs were funded by DEQ for periods of two to four years each. Currently the only program still in its original operation is in Bend. Through its solid waste grants program, DEQ is currently providing funding for similar projects in Corvallis and Jackson County. DEQ staff are available to provide assistance to communities who wish to implement similar programs in their areas.

3. **What parties are involved with program implementation? (city/county/state, haulers, partnerships with other organizations, technical assistance providers, other contractors).**

DEQ provided funding, and through a contractor also trained the RECs, and provided ongoing technical assistance and program evaluation. Local sponsors included cities and counties, chambers of commerce, energy and water utilities, and business leaders. Oregon Grocery Industry Association was a partner in the Yamhill County project.

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4. What are the roles of parties involved with implementation?

Local sponsors primarily provide funding or in-kind services (office, identity, etc.) as well as helping with promotion and participant recruitment. Some of the energy and water utilities have provided limited technical assistance.

Measuring Program Success

1. How do you evaluate the effectiveness of your program?

All five communities were required to report for each participant: the recommendations made, the recommendations implemented, and where known, the resource and financial savings (and cost) for each implemented recommendation. For the first three communities, a more extensive evaluation was conducted. It included “exit interviews” with selected participants and RECs upon program conclusion. One community (Cannon Beach) included more community-wide resource efficiency outreach, and they attempted to evaluate this with two baseline surveys (one of residents, one of businesses) and then follow-up surveys two years later. Copies of 6 reports are being provided:

- Evaluation report for the first three communities
- Evaluation report of the grocery “shrink” project
- Baseline and follow-up surveys of residents and businesses in Cannon Beach.

2. What data do you evaluate, or find useful to evaluating your program’s effectiveness?

Percentage of recommendations implemented; resource savings; financial savings.

3. How do you quantitatively measure program effectiveness? (please be specific, i.e. cost per ton diverted, # of businesses contacted, other).

See #2

Overall

1. What do you consider to be particularly successful or valuable about this program?

Demonstrated a need for these types of services for small and medium sized businesses. Demonstrated a wide variety of cost-effective resource efficiency activities for businesses, with a focus on waste prevention. Many of these are included in “vignettes” (short case studies) on DEQ’s web page:
<http://www.deq.state.or.us/wmc/solwaste/cstudy.html>.

2. Are there any upcoming changes or improvements in your program? (funding increases/decreases, service provider changes, regulatory changes, change in program focus, etc.)

DEQ does not have funding to provide for ongoing support of these programs except through the solid waste grant program, which is competitive with other types of applications. Most local communities also have not been able to develop the funding to continue these services. This has been one of the greatest frustrations with the program.

3. Is there anything you would like to do differently in your program?

Find permanent funding.

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Documentation

Please send copies of handouts, posters, promotional materials, budget information, program descriptions, program evaluations, copies of grant proposals, case studies, other.

In addition to the reports noted above, DEQ will also send a copy of its "Participant Tools", which are described as an early attempt to provide information about how to implement resource efficiency. DEQ hopes to revise and simplify this document in the future. Also sending a copy of a report about conducting waste prevention assessments at businesses.

Other Programs

Are there other waste prevention (and reuse) programs that you are particularly impressed with? Please provide us with a name and contact information if available.

He recommended contacting Judy Henderson of DEQ regarding DEQ's solid waste grant program for local governments. Last year (2000) for the first time the DEQ grant program provided for a "focus area" and the focus area was waste prevention/reuse. Many local waste prevention/reuse programs were funded.

Other Programs He Recommended:

- King County Waste Free Fridays
- Metro/Multnomah Bar Association "Be a Partner in Waste Prevention" legal industry campaign
- State of Minnesota (Ken Brown)

Other Documentation

Are there other reports, documents, web-sites, videos, etc. on the topic of waste prevention (and reuse) that you think are particularly valuable? Do you know where we can obtain copies of these resources? (We do have a duplications/purchasing budget for resources that can be used to reimburse duplication and shipping of such resources.)

DEQ is currently developing its own waste prevention library. He expects it will be complete in late 2001 and may be able to share data with Alameda County at that time.

Other Comments/Notes

He also recommended contacting the EPA WasteWise program, the National Recycling Coalition (NRC) Source Reduction Forum, and Polk County Florida, who is doing a source reduction measurement/potential study right now.

APPENDIX B

KEY WORDS FOR WASTE PREVENTION

APPENDIX B

KEY WORDS FOR WASTE PREVENTION

Key words for Resource Recycling source reduction information review:

Waste prevention
Source reduction
Waste reduction
Waste minimization
Re-use
Reusables (or disposables)

Also:

Advance disposal fees
Air dryers/hot air dryers
Cleaning supplies
Cloth bags
Concentrates
Custodial supplies (other than recycling, garbage containers)
Materials exchange
Waste exchange
Reusable packaging
Refillable bottles
“Precycling”
Product stewardship
Extended product stewardship
Extended producer responsibility
Manufacturer responsibility
Junk mail
Unwanted mail
Repairability
Design for reuse
Design for repairability
Cloth diapers
Reusable envelopes
Two-way envelopes
Permanent dishware, cutlery (as opposed to disposables)
Food salvage
Food donations
Garage and yard sales
Green marketing
Household hazards and safer products
Alternatives to HHW
Resource efficiency
Industrial ecology
Integrated pest management
Labeling
Lifecycle analysis
Surplus medical equipment donation
Equipment donation
Reuse of supplies
“Paperless office”
Double-sided copying
Packaging reuse
Packaging lightweighting

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Public awareness campaigns (specific to waste prevention, not recycling)
Waste generation
Per-capita waste generation
Repair
Retread tires
“Use Less Stuff” reports
Xeriscaping
Grasscycling
Mulching mowers
Home composting
On-site composting
Vermicomposting
Master Composter programs
Master Gardener programs
Simplicity
Voluntary simplicity
Anti-consumerism
Product bans

APPENDIX C
QUESTIONNAIRE

APPENDIX C

QUESTIONNAIRE

WASTE PREVENTION (SOURCE REDUCTION) PROGRAM REVIEW ALAMEDA COUNTY (CALIFORNIA) WASTE MANAGEMENT AUTHORITY

Interview Questions August 2001

Thank you for participating in this survey.

We are conducting the survey for the Alameda County Source Reduction and Recycling Board. We are surveying about 100 businesses and communities throughout the nation and abroad about their prevention (source reduction and reuse) programs for solid waste. Examples of waste prevention include office and packaging practices to reduce the amount of material used per product or service (also called “dematerialization”), home composting and grasscycling, deconstruction, and other reuse activities.

The survey will take about 20-30 minutes. (If your organization sponsors multiple waste prevention programs, such as a home compost program and a packaging efficiency technical assistance program, the survey may need to be repeated for each separate program.) The questions that are going to be asked are listed below. You can answer questions during the interview, respond to some directly on the questionnaire, and/or send us already prepared information about your programs.

If you would like copies of profiles from other, similar waste prevention programs, we will send them to you.

Date of Interview:

Time of Interview:

Name of Interviewer:

Interview Contact Information

- Name/Title of interview contact:
- Phone number/e-mail:
- Organization name and location (verify):

Background Program Information (Repeat for Each Program):

1. Please briefly describe your program(s) and its goals. Is the program internal to your operations, or does it target a population (such as members of your trade association, residents in your community, etc.)?
2. How long has the program been in operation? Is it still in operation?
3. What parties are involved with program implementation? (city/county/state, haulers, partnerships with other organizations, technical assistance providers, other contractors)
4. What are the roles of parties involved with implementation?

Final

Measuring Program Success (Repeat for Each Program):

1. How do you evaluate the effectiveness of your program?
2. What data do you evaluate, or find useful to evaluating your program's effectiveness?
3. How do you quantitatively measure program effectiveness? (please be specific, i.e. cost per ton diverted, other)

Overall (Repeat for Each Program):

1. What do you consider to be particularly successful or valuable about this program?
2. Are there any upcoming changes or improvements in your program? (funding increases/decreases, service provider changes, regulatory changes, change in program focus, etc.)
3. Is there anything you would like to do differently in your program?

Documentation (Repeat for Each Program)

Please send copies of handouts, posters, promotional materials, budget information, program descriptions, program evaluations, copies of grant proposals, case studies, other.

Other Programs/Contacts

Are there other waste prevention (and reuse) programs that you are particularly impressed with? Please provide us with a name and contact information if available.

Other Documentation

Are there other reports, documents, web-sites, videos, etc. on the topic of waste prevention (and reuse) that you think are particularly valuable? Do you know where we can obtain copies of these resources? (We do have a duplications/purchasing budget for resources that can be used to reimburse duplication and shipping of such resources.)

Other Comments/Notes**Survey Contact Information:**

Delyn Kies; Telephone (415) 209-0321 or
Christine Abad; Telephone (415) 884-3197
Harding ESE, Inc.
90 Digital Drive
Novato, California 94949
Fax (415) 884-3300
drkies@mactec.com
clabad@mactec.com

Thank you.

APPENDIX B

National Waste Prevention Forum Listings

February 8, 2002

From Maggie Clarke, New York City Waste Prevention Coalition, New York, NY: Great things are happening in NYC. On Feb. 7, the brand spanking new City Council Sanitation Committee held its first hearing. (Heretofore, all solid waste issues were covered - when they had the time - by one environmental protection committee; now solid waste issues get this committee's full focus.) The first people they called up to testify were the 5 of us from the **NYC Waste Prevention Coalition**. The chair and the new Council members seem to be all for waste prevention and other things we've wanted for a longtime. They already had introduced their first bill - agency environmental procurement and waste prevention practices. This is the same bill that died, for the second time, as Mayor Giuliani and the old City Council left office. This website has information on the NYC Waste Prevention Coalition, including our testimony at yesterday's meeting and related materials:

<http://everest.hunter.cuny.edu/~mclarke/WPComm.htm> We also gave the council committee the Grassroots Recycling Network's model Zero Waste bill. E-mail: mclarke@shiva.hunter.cuny.edu

Link to the new **Green Office Guide**, from the City of Portland Office of Sustainable Development (forwarded by Miranda Clark): http://www.sustainableportland.org/Grn_Off_Guide.pdf This guide is in PDF format.

February 6, 2002

Excerpted from a message from **David Stitzhal, Full Circle Environmental, Seattle, WA**: REQUEST FOR SOURCING, ECONOMIC, AND CASE STUDY INFORMATION ON DURABLE RETURNABLE TOTES AND HEAVY-DUTY PLASTIC PALLETS If you have information, case studies, economic analyses, etc., on durable reusable totes (as replacements for cardboard boxes), I would appreciate your forwarding them to me. I am focusing on totes used for shipments in the 40-pound range. As part of some work I am doing for Starbucks and King County, WA, we identified possible source reduction opportunities through introduction of return-trip totes. Any information I can gather will be most helpful in guiding Starbucks' consideration of implementing such an option. For a different application, I am also hoping to provide them with sourcing information on heaviest-duty plastic pallets. Thanks in advance for your responses. E-mail: stitzhal@fullcircleenvironmental.com Phone: (206) 723-0528

February 1, 2002

Excerpted from the January, 2002, U.S. Green Building Council (USGBC) electronic newsletter (forwarded by Theresa Koppang): The U.S. Environmental Protection Agency estimates that businesses discard 3 million tons of office furniture each year. New USGBC member **Revest Northeast**, the re-manufacturing arm of Steelcase, reclaims and re-manufactures abandoned and out-dated Steelcase furniture, diverting it from trash heaps and landfills. Revest negotiates for old furniture and re-manufactures fully-warranted furniture to meet changing office needs, at a fraction of the usual price. Revest, located in Manchester, CT, is also ready to provide documentation for how re-manufactured furniture helps meet LEED (Leadership in Energy and Environmental Design) certification (Materials and Resources and Indoor Environmental Quality credits). Note: For more information on Revest Northeast, see their website at: <http://www.revestne.com>

Link to information on a free one-day conference, "Rebuilding Communities Through Deconstruction Enterprises," sponsored by the **Institute for Local Self-Reliance**, to be held March 11, 2002, in Hartford, CT: <http://www.ilsr.org/recycling/announcement.html>

January 29, 2002

Ann Schneider, Mountain View, CA, Repair, Resale and Reuse Council, California Resource Recovery Association:

Link to a job posting from the **Orange County, NC, Solid Waste Management Department** for a Construction and Demolition Recycling Education and Enforcement Specialist (forwarded by Blair Pollock): <http://www.co.orange.nc.us/prsnl/3043.htm> This is a new position. The salary range is \$32,265 to \$39,219. Job duties include conducting **deconstruction assessments and coordinating deconstruction activities**. If you or someone you know is interested and may be qualified, please contact Orange County Personnel or Dave Ghirardelli at the Solid Waste Management Department at: dghirard@co.orange.nc.us Applications are available online at <http://www.co.orange.nc.us/prsnl>

January 24, 2002

Excerpted from a message from Wayne Gash, Washington State University, Material Resource Services, Pullman, WA: Some time back I was inquiring about some information regarding electric hand dryers vs. recycled paper towels. The **article linked to below**, by Nadav Malin in the January, 2002, Environmental Building News, is the first thing I've seen that isn't just an ad for an electric dryer manufacturer. Maybe this is too, but it appears to have a legit life-cycle analysis to back it up. The referenced material indicates that virtually any electric hand dryer is more efficient than any hand towels. I'm disappointed as a recycler, but since the university is planning to generate its own electricity, at first glance it appears electric is the way for us to go. The article, which describes a new hand dryer for public restrooms that gets hands dry in one-third the time, and uses about one-third the energy of conventional dryers, is at: <http://www.buildinggreen.com/products/xlerator.html> E-mail: wcgash@wsu.edu

From **Dale Alekel, King County Solid Waste Division, Seattle, WA**: I recently completed a pilot reusable packaging project involving a small natural food store chain, a local farmer and a container rental company that rented durable produce containers. Pilot results will be added to the following website by April: <http://www.metrokc.gov/greenworks>

Send me an e-mail at dale.alekel@metrokc.gov if you'd like to receive the **report** electronically sooner than April. Last year, King County's Green Works Program worked with **Albertson's** (a grocery store chain with nearly 2,500 stores in 37 states). Their waste prevention and recycling achievements and practices are worth looking at:
http://www1.albertsons.com/corporate/ourcomp/oc_recycle.asp?cat=2&subcat=5

From **Blair Pollock, Orange County Solid Waste Management Department, Chapel Hill, NC**:

At the "eco" Wal-Mart in the Kansas City area about 1995, the store itself had a station for customers to discard and deposit unwanted packaging after they paid for the item. The store then ostensibly recycled it. I saw this project in action on a tour, don't know the outcome of it. Further, two of our local natural foods-oriented grocery stores, **Weaver Street Market Coop and Wellspring Grocery**, practice separation of prep waste (not post-consumer) for composting, and sell milk in returnable glass bottles from a local dairy (a number of the conventional grocery stores also sell this local milk; one stopped doing it because there was no bar code on the bottles). Wellspring, one of the natural food stores, part of the Whole Foods chain, formerly had a program we funded with a grant, where they provided sanitized take-out containers to customers for a one-dollar deposit (most containers didn't come back, and the program ended due to under-use). They participate in the Stonyfield Farm Yogurt container mail-back program. The State of North Carolina Health Board just denied the Town of Chapel Hill's request to allow citizens to bring their own take-out containers to delis for refills (they

can bring their own containers to grocery stores for bulk items like cooking oil, grains, etc., but not to get prepared food at a deli). E-mail: bpollock@co.orange.nc.us

The next two postings are in response to the 1/22/02 posting seeking information for a student research project on the life cycle of disposable paper coffee cups.

From Ben Packard, **Starbucks Coffee Company**, environmental affairs, Seattle, WA: We did a significant research project on this very issue in collaboration with **the Alliance For Environmental Innovation**, a project of Environmental Defense. Together we wrote a report summarizing our research efforts around disposable cups and the environmental benefits of reusable serveware (glass and ceramics). Go to <http://www.environmentaldefense.org> Search for Starbucks, and it will bring you to the Adobe Acrobat file of our **report**. E-mail: BPackard@starbucks.com

From Susan Ziolk, Clackamas County Community Environment Division, Clackamas, OR: **Washington County, in Oregon**, has a display showing the number of cups that one reusable mug could replace. You may want to contact Paul Seitz, at paul_seitz@co.washington.or.us He may have some other data as well. E-mail: susanz@co.clackamas.or.us

Link to the new website for **Hospitals for a Healthy Environment**, or H2E: <http://www.h2e-online.org>
H2E is a voluntary program designed to help hospitals enhance workplace safety, reduce waste and waste disposal costs, and become better environmental stewards and neighbors. H2E is a joint project of the American Hospital Association, the Environmental Protection Agency, Health Care Without Harm, and the American Nurses Association. This website provides tools including a list of mercury reduction resources and a guide to minimizing waste.

January 22, 2002

From Christy Halvorson Shelton, Cascadia Consulting Group, Seattle, WA: **The Vancouver Folk Music Festival in Vancouver, B.C.**, uses reusable plastic plates for all its food service. Each vendor serves food on a reusable plate, for which patrons pay a \$2 (Canadian) deposit. The money is refunded when the plate is returned to a collection station. The plates are washed and then used again. The system seems to work great, and people are very supportive of it - of course, that's in Canada! The festival also has post-consumer food waste composting and other recycling. I'm sure you could check with the organizers to find out more about how the system works, such as whether a private vendor provides the plate service and other details. I've also heard of other festivals using compostable dishware, but I think that reusable materials are the environmentally preferable option. This festival web page mentions the reusable plate program and has information on the festival's other environmental efforts: <http://www.thefestival.bc.ca/social.cfm> E-mail: christy@cascadiaconsulting.com

From John Okun, New York Wa\$teMatch, Industrial & Technology Assistance Corporation, New York, NY: **JOB OPENINGS**

New York Wa\$teMatch's (NYWM's) mission is to foster environmentally sound economic development through innovative waste reduction and resource recovery strategies. Our materials management services, in addition to our education and research and development projects, merge environmental responsibility with sensible business practices, guiding New York's businesses towards a sustainable future. Services include a **citywide materials exchange, waste reduction technical assistance and environmentally preferable purchasing programs**. NYWM focuses on secondary commodities, surplus inventory, and used equipment and furnishings markets.

Two NYWM position openings are now available. One is for a Materials Placement / Outreach & Education Coordinator and the other is for a Materials Placement/ Research Coordinator. Salaries are expected to be in the mid-30's. Interested applicants should send a cover letter and resume to: John Okun, Program Director New York Wa\$teMatch Industrial & Technology Assistance Corporation (ITAC) 253 Broadway, Room 302 New York, New York 10007 Phone: 212-442-5219 Fax: 212-442-4567 E-mail: jokun@itac.org Website: <http://www.wastematch.org>

January 18, 2002

Excerpted from a job announcement sent by **John Crisley, Massachusetts Department of Environmental Protection (DEP), Boston, MA**: The City of Newton, Massachusetts is seeking to fill its new Municipal Source Reduction Coordinator position. The Source Reduction Coordinator will be responsible for managing the implementation of the city's **Municipal Source Reduction Plan**. The plan, developed by the city under a grant from Massachusetts DEP, is online at: <http://www.state.ma.us/dep/recycle/cities.htm#sr>

This is a full-time job (37.5 hours per week) working within the Department of Public Works, in a consulting position. The position is funded through June 30, 2003. The application packet is available on the City of Newton web site at: <http://www.ci.newton.ma.us/main.htm> Click on "Invitations for Bids" and scroll down to "Source Reduction Coordinator."

Completed application packets must be received by the city no later than January 31, 2002. Applicants with questions about the position should contact: Ms. Re Cappoli, Chief Procurement Officer, Purchasing Department, City of Newton, 1000 Commonwealth Avenue, Newton, MA, 02459, phone (617)552-7001. E-mail: rcappoli@ci.newton.ma.us

January 9, 2002

Link to information (on the Minnesota Office of Environmental Assistance website) on the **Memorandum of Understanding for Carpet Stewardship**, which was signed on January 8, 2002, in Atlanta, Georgia: <http://www.moea.state.mn.us/carpet/index.cfm>

This agreement establishes a ten-year schedule to increase the amount of reuse and recycling of post-consumer carpet and reduce the amount of waste carpet going to landfills. The Memorandum of Understanding is the result of a two-year negotiation process between members of the carpet industry, representatives of government agencies at the federal, state and local levels, and non-governmental organizations. The agreement is a voluntary initiative that encourages manufacturers to assume product stewardship - the responsibility for the lifecycle of carpet from point-of-sale to disposal.

Link to information on cellular phone donation programs, on the website of the Cellular Telecommunications & Internet Association's (CTIA) **Wireless Foundation**: <http://www.donateaphone.com/index.htm>

The Wireless Foundation now has two programs to benefit charities by reusing and recycling cell phones: The **Call to Protect** program (which has been featured on the Forum in the past) and **Phone Raising**, a program that allows non-profits to raise money by collecting used cell phones.

January 4, 2002

Link to a new waste prevention website for New York City (forwarded by Robert Lange): <http://www.nycwasteless.com/indiv/index.html>

This website, "NYCWasteLe\$\$," is produced by the **New York City Waste Prevention Partnership**, which includes the New York City Department of Sanitation. This site is aimed at individuals. There are also two connected sites, which are in the process of being redesigned:

- **For businesses:** <http://www.nycwasteless.com/gov-bus/index.htm>
- **For government:** <http://www.nycwasteless.com/gov-bus/citysense/index.htm>

December 31, 2001

Link to **Toyota's** first comprehensive North America Environmental Report, released on 12/11/01:
http://www.toyota.com/html/about/environment/news_awards/enviroreport.html

This report is in Personal Document Format (PDF).

Toyota's North America waste prevention goals listed in this report include:

- Implement a nationwide waste tracking program by Fiscal Year 2003.
- Set nationwide waste reduction targets by Fiscal Year 2003.
- Implement returnable-packaging program at parts distribution facilities, where volume warrants, by Fiscal Year 2005.
- Increase returnable-packaging and direct shipment programs to vehicle distribution centers where practical. (These goals and others are in Section 3, "Greening Sales, Distribution and Service.")

December 26, 2001

Excerpted from an article by Tom Byerly in the December, 2001, online version of Government Technology magazine: ELECTRONIC FORMS CHANGING THE WAY GOVERNMENTS DO BUSINESS

A few years ago a bumper sticker appeared that went something like this: "Save trees - trim government."

Paperwork has long been the bane of civil service. Thankfully, recent years have seen an explosion of Web-based front-end applications aimed at making the public's contact with government agencies as painless as possible. Unfortunately, in many cases, information collected electronically up front was still being processed using paper-intensive procedures. Back-end solutions were lagging behind.

Recent advances in integration and development are allowing agencies to create, deploy and process electronic forms, or e-forms, across an enterprise network, taking them a step closer to a paperless environment. Yet, despite these strides, paper forms still clutter many government offices. The Gartner Group reports that the average American worker still spends 2.5 hours per week filing, moving and fetching paper. Perhaps more surprising is that less than 1 percent of the paper documents kept in this country are captured electronically. "Paper-pushing," it seems, is a hard habit to break.

"We get tripped up over our own language because we keep talking about a 'paper trail,' but we need to start thinking in terms of a 'digi-trail' because there are transactions for which paper simply isn't necessary," said Paul Taylor, deputy director of the Washington state Information Services Division.

By conservative industry estimates, about 33 percent of the 30 billion original documents used annually in the United States are forms. The use of cost-cutting electronic forms has grown in recent years, particularly in government enterprises. However, in many cases, convoluted methods for moving e-forms through a system can negate their benefits and drive users back to old paper processes. Making a system efficient and user-friendly from end to end is critical.

That need has spawned some new approaches to e-forms deployment. One is an e-forms platform that allows users to organize many forms in a single Web-based point of access. Form designers can store their creations and users can fill out, sign and send the forms via standard Web browsers. The platform allows form designers to maintain an online inventory of forms, which can be updated instantly, and supports the use of intelligent e-forms that can perform database queries, calculations and automatic formatting.

Officials in **Cabarrus County, N.C.**, have successfully implemented a system to create e-forms to replace paper travel vouchers, accident reports, purchase requests and personnel evaluations. The **Kansas Department of Transportation** is employing e-forms to handle a host of administrative functions ranging from processing travel payment vouchers to tracking printshop requisitions. From a Web-based form warehouse, employees can select, fill out and file forms.

Despite the availability of technology and numerous successful case studies, the migration to paperless processes has been met with some resistance. History has shown that quantum leaps in technology have typically been followed by periods of social adjustment, as users slowly learn to accept the new technology and integrate it into their culture. Similarly, government officials have had to cope with the cultural acceptance of new technology applications, not only by constituents but also by staff, many of whom cut their teeth in government service on decades-old paper processes.

Washington state, an acknowledged pioneer in digital government, realized early on that effective implementation would require fundamental cultural changes behind cubicle walls. To that end, the state put line managers and IT (information technology) supervisors from two dozen state agencies through its Digital Government Applications Academy, where staff worked together and with private-sector experts to define the state's approach to advanced electronic forms. Case studies were developed which ultimately became a template for other agencies to follow.

However, obstacles remain. "An unfortunate place you can find yourself in is to have a thoroughly electronic process end to end and then have to printout the product for some statutory reason," said Washington state's Taylor. "We have legislation and agency rules that represent the best thinking at the time they were created, but they were created at a time when paper was the dominant way of doing things. That needs to change."

Despite the inertia of government, most government officials believe the need for paperless processes, coupled with continued advances in technology, will ultimately break down any remaining legislative barriers. "Five years from now there will be an expectation that government lose the paper and over time there may have to be legislative change," noted Taylor. "The public's business can be done in a way that has integrity without killing forests worth of paper."The full text of this article is at:
<http://www.govtech.net/magazine/story.phtml?id=3030000000003962.0>

Link to the website for the **Center for a New American Dream's Procurement Strategies Program** (first seen in the U.S. Environmental Protection Agency's WasteWise bulletin):
<http://www.newdream.org/procure> This program helps state and local governments and other large purchasers incorporate environmental considerations into their purchasing decisions.

December 21, 2001

Excerpted from a message from Katie Kaluzynski, **WasteCap Wisconsin**, Milwaukee, WI:JOB OPENING - EXECUTIVE DIRECTOR WasteCap Wisconsin, a leading statewide, nonprofit environmental organization that assists businesses with waste reduction and recycling, seeks a dynamic Executive Director to administer the organization, manage and provide services, and develop and grow new programs. Start date is March 1, 2002. Salary and benefits commensurate with

experience. Send resume and cover letter by January 14 to: WasteCap Wisconsin, Inc., 2647 Stowell Avenue, Milwaukee, WI, 53211.

December 7, 2001

Excerpted from a news item in the 12/7/01 New York Times, and from a 12/5/01 press release from the Illinois governor's office: ILLINOIS GOVERNOR ANNOUNCES NEW "GREEN GOVERNMENT" INITIATIVES

On Dec. 5, 2001, **Illinois Governor George Ryan issued a broad-based executive order** requiring state agencies to take a number of steps to improve the environmental efficiency of their facilities and operations. These measures, which state agencies must put into effect within the next six months, are in four main areas: Waste reduction; energy efficiency; environmentally preferable purchasing; and "green" construction. The executive order is based on recommendations from the **Illinois Green Government Coordinating Council**, which Governor Ryan created last year. The press release, which includes the entire executive order, plus other background information and website links, is at: <http://www.state.il.us/PressReleases/ShowPressRelease.cfm?SubjectID=1&RecNum=1603>

The waste reduction measures (which state agencies must put into effect by March 1, 2002) include:

- Whenever possible, specify that all new and re-manufactured photocopy machines and printers purchased shall have duplexing (double-sided) capability.
- Require all laser printing jobs to be double-sided unless specific justification is provided not to do so. Exceptions may be provided when existing technology does not allow for duplexing or when specific documents require single-sided printing.
- Conduct an educational program to encourage employees to copy on both sides of paper, make the least number of hard copies necessary, route documents rather than distribute copies, post memos and bulletins in central locations, proof documents on the computer, store files electronically rather than in hard copy, avoid needless printing of e-mail, and take other reasonable steps to save paper.
- Where appropriate, eliminate unnecessary paper transactions by increasing the use of electronic media, such as e-mail and the Internet, to circulate or distribute announcements, memoranda, documents, reports, forms, manuals and publications.
- Establish office reuse programs (such as reuse cabinets, reuse rooms or online exchanges) where unneeded supplies can be returned for reuse.
- Discourage the use of disposable products when reusable products are available and economically viable.
- To the extent feasible, acquire items that are more durable, have minimal packaging or are readily recyclable when discarded.

Link to the website for the **Neighborhood Bike Works**, Philadelphia, PA:

<http://www.neighborhoodbikeworks.org> The Neighborhood Bike Works is a nonprofit educational organization in West Philadelphia that seeks to increase opportunities for urban youth through the repair and reuse of bicycles. Since the program started two years ago, about 300 donated bikes have been renovated and earned by participating youths, or sold to the public. Participants and staff have also repaired hundreds of additional bikes owned by neighborhood kids.

December 5, 2001

Link to information on beverage container deposit systems, or "bottle bills," in nine European countries, from the website of the **Container Recycling Institute**, Arlington, VA:
<http://www.bottlebill.org/Worldwide/Worldwide.htm>

All nine of the deposit systems that are described - in Austria, Belgium, Denmark, Finland, Germany, the Netherlands, Norway, Sweden, and Switzerland - encourage the use of refillable bottles. **This website also gives the percentage of market share for refillable bottles in each of these countries.**

Link to a web page for **Alternative Gifts International**, a non-profit based in Lucerne Valley, CA, which offers humanitarian alternatives to traditional gift-giving (forwarded by Frances Ambrose and Marcia Rutan): <http://www.altgifts.org/contents.htm>

Link to the website for the **Health Care Environmental Purchasing Tool**, a joint project of several agencies and organizations in the Midwest U.S.(first seen in Jim Schrock's "**Delete This Newsletter**"): <http://www.ahrmm.org/HCEPT/> This website was developed through a grant from the Great Lakes Protection Fund. The objective of the project was to develop a means of reducing the amounts of mercury and dioxin in the Great Lakes.

November 30, 2001

Excerpted from a message from **Vicki Robin, New Road Map Foundation, Seattle, WA**, to her New Road Map mailing list (forwarded by Marcia Rutan): The **Turning Tide Coalition** is a not-for-profit organization whose purpose is to contribute to creating a thriving, just, and sustainable way of life for all. We're observing that some people are participating in what could be called a great "gift shift." They are shifting from buying gifts to donating money or time, from spending money on presents to spending time with people, from making rote gestures to expressing deeper connections. Millions of people are choosing to do the holidays differently. If you too are seeing and doing the holidays differently, whether it is Christmas, Hanukah, Ramadan, Kwanzaa, Diwali or the Winter Solstice, we invite you to share your story with us by e-mailing it to this address: giftshift@turningtide.net (Please include where you are from.) We will pass your story on to inspire others in rethinking this most precious and intimate time of year. We say, even the Yuletide is turning!

Excerpted from a release sent by Blaise Backer, INFORM, New York City: We thought Waste Prevention Forum readers might be interested in a new resource that INFORM has made available in order to assist local waste prevention efforts throughout the country. **The Community Waste Prevention Toolkit** - on our website at <http://www.informinc.org/cwasteprev.htm> - is a valuable resource and reference for individuals and groups who are concerned about the waste generated in their homes, schools, workplaces, or communities. It is the latest waste prevention publication from INFORM, a national environmental research organization, based in New York City, that has been a leader in the search for practical ways to reduce municipal and commercial waste streams for over a decade.

The Community Waste Prevention Toolkit is an interactive, on-line resource designed to help community leaders, grassroots environmental organizations, and policymakers implement cost-effective programs that reduce the amount and toxicity of materials entering the waste stream. It outlines the successful strategies used in INFORM's **New York City Waste Prevention Initiative**, which played a key role in the city's decision to incorporate the first major waste prevention mandates in the recent modification of its Solid Waste Management Plan.

INFORM's Toolkit includes:

- A clear description of what "waste prevention" is and how it differs from recycling.
- A step-by-step guide to building community support for waste prevention and coordinating an effective campaign.

- A list of key questions to consider when investigating local waste prevention practices and policies and identifying the options for change.
- Model legislation mandating waste prevention practices by local government.
- Key purchasing strategies to reduce waste.
- Case studies of government-sponsored "trash busting" programs throughout the country.
- Fact sheets on minimizing waste and pollution from specific waste streams.
- Hundreds of links to manufacturers of waste-preventing products, reuse and recycling businesses, and other useful on-line resources.

INFORM would welcome the opportunity to learn about and support waste prevention initiatives in which you are involved. If you have feedback or questions, please contact **Emily Brown**, communications coordinator, by e-mail at brown@informinc.org or by phone at 212-361-2400, extension 250. Please feel free to forward this notice to others who might be interested in INFORM's toolkit.

November 28, 2001

From Jerry Powell, Resource Recycling magazine, Portland, OR: According to **Recycling Canada, Heinz Canada** has installed a new production line at its Leamington, Ontario, plant to allow for the packaging of food-service ketchup, mustard and other condiments in reusable, 2.8-liter plastic containers. Heinz will not reuse the containers, but will promote their reuse to food establishments.

E-mail: RESRECYCLE@aol.com

Excerpted from a message from Julie Rhodes, Reuse Development Organization (ReDO), Indianapolis, IN (from the ReDO listserv):

The National Recycling Coalition (NRC) has completed **a groundbreaking study of the nation's recycling and reuse industries**. Findings of the study include:- The reuse industry alone employs nearly 170,000 workers in more than 26,000 establishments nationwide. The reuse industry also supports an annual payroll of \$2.7 billion and generates revenues of approximately \$14.1 billion. The reuse industry is widespread and ranges from more traditional establishments such as local thrift stores and antique shops to more recent, dynamic operations such as computer manufacturers, pallet rebuilders, and materials exchanges.- The combined recycling and reuse industry consists of approximately 56,000 establishments that employ over 1.1 million people, generate an annual payroll of nearly \$37 billion, and gross over \$236 billion in annual revenues. For the complete study details, see the NRC website at: <http://www.nrc-recycle.org>

Link to an August, 2001, **life cycle assessment study of air dryers vs. paper towels**, commissioned by a British air dryer manufacturer and an air dryer supplier (forwarded by Kinley Deller from the GreenBiz.com website): <http://www.getf.org/file/toolmanager/O16F20922.pdf>

This study is in Adobe Acrobat Personal Document Format (PDF).

November 20, 2001

Link to information on the Australian government's National Packaging Covenant (referred to by Libby Chaplin): <http://www.ea.gov.au/industry/waste/covenant/index.html>

The **National Packaging Covenant** is the leading instrument for managing packaging waste in Australia. It was signed in August, 1999, by the Australian and New Zealand Environment and Conservation Council Ministers, local governments and a broad range of companies and industry groups. It is a self-regulatory agreement between industries in the packaging chain and all spheres of government, based on the principles of shared responsibility through product stewardship, and applied throughout the packaging chain, from raw material suppliers to retailers, and the ultimate disposal of waste packaging. To see some of the action plans submitted by companies and government agencies under the Covenant, go to: <http://www.packcoun.com.au/> On the left, click on "The Covenant and NEPM", then scroll down and click on the names of companies, organizations or agencies. **Many of these action plans include extensive reduction and reuse measures.**

From **Kinley Deller, King County Solid Waste Division, Seattle, WA**: SEEKING EXAMPLES OF ON-SITE WORM COMPOSTING AT OFFICE BUILDINGS A couple of my co-workers and I have taken on the task of trying to get our building's property management company to allow a demonstration worm bin in the courtyard of our two-year-old, eight-story-high office building here in Seattle. We would like this worm bin to handle a significant amount of food waste from several of the building's "break rooms," or kitchens. Our property manager wants to see examples of some other buildings ("Class A" buildings, if possible) that have worm bins (small or large), and would like contacts at relevant buildings to call and ask about the issues. Do any of you have a successful worm bin in your office or in your office's courtyard, or do you know of any good examples? Is there someone who my property manager could contact for reassurances that a worm bin can indeed be a happy part of a business office? Suggestions regarding worm bin models and types would be welcome, too. Thanks. E-mail: kinley.deller@metrokc.gov

Link to the website for the **Product Stewardship Institute at the University of Massachusetts at Lowell**: <http://www.productstewardshipinstitute.org>

Link to the U.S. Environmental Protection Agency (EPA) Environmentally Preferable Purchasing "**Promising Practices Guide**" (first seen on the **EPA's WasteWise** program listserv): <http://www.epa.gov/oppt/epp/ppg> This website features case studies of model federal Environmentally Preferable Purchasing (EPP) programs, including contact information and lessons learned from these projects. Although the guide is geared toward government agencies, the information may be beneficial to other types of organizations interested in EPP.

November 19, 2001

From **Steve Long, Massachusetts Department of Environmental Protection (DEP), Boston, MA**: WORKSHOP RESOURCES NEEDED Massachusetts DEP is seeking resources to help us run professional recycling/source reduction workshops. The resources could include, but are not limited to: Video tapes or slide presentations; guidance documents or workbooks; curriculum or syllabi. Workshop topics requested by municipalities include: transfer station planning; **swap shop development**; multilingual outreach strategies; multi-family recycling; business recycling development; drop-off/curbside assessment and evaluation; **source reduction**; difficult-to-manage materials (food, construction & demolition, bulky). We are also interested in any other workshops not mentioned above, including commodity-based workshops that help municipalities better understand quality assurance, contamination and end-uses. We do not anticipate having funds to hire consultants to run these workshops, so we need to use the resources ourselves with minimal adaptations. Our state recycling organization is in a transitional phase and unable to act as a vehicle for such courses. Thanks.

E-mail: Stephen.Long@state.ma.us Phone: (617) 292-5734 Mailing address: Steve Long,
Massachusetts Department of Environmental Protection, One Winter Street, Boston, MA, 02108

November 14, 2001

From **Tom Watson, King County Solid Waste Division, Seattle, WA, and the National Waste Prevention Coalition**: A Forum subscriber who heard that King County won an award for **our junk mail reduction projects** asked me to run an item in the Forum about these projects. So, here goes: The award was from the Solid Waste Association of North America - a Bronze Award for public education for our junk mail reduction campaign. This educational campaign has two main components:

- 1) **Residential junk mail reduction**. We publish a small kit, with detachable postcards, telling people how to get off mailing lists. We have revised it several times, and have distributed more than 30,000 copies. This information is also on-line, in a slightly different format, at:
<http://dnr.metrokc.gov/swd/resrecy/wasteprevention/junkmail.shtml>
- 2) **Business junk mail reduction**. These resources, which are on-line only, are provided through the National Waste Prevention Coalition. The Coalition (which also sponsors this listserv) is funded and coordinated through King County. However, Coalition participants from around the nation have contributed to the Reduce Business Junk Mail website. This is the most extensive - if not the only - package of resources to help businesses and agencies reduce the amount of unwanted mail they receive. The website is at: <http://dnr.metrokc.gov/swd/nwpc/bizjunkmail.htm>

Please let me know if you have any questions about these projects (note that I will be out of the office on Thursday and Friday, Nov. 15-16). Thanks! E-mail: tom.watson@metrokc.gov

November 5, 2001

Link to extensive information on waste prevention and recycling strategies for businesses, from the **Wastesaver.com** website (first seen in Roger Guttentag's "Recycling in Cyberspace" column in Resource Recycling magazine):http://www.wastesaver.com/wp_sectors.asp In this website, detailed waste prevention information is provided for these business sectors: Apartment/condominium complexes; construction and demolition; hospitals; hotels; manufacturers; offices; printers; restaurants; and retail stores. Wastesaver.com is a privately-owned online service based in New York City that links businesses with recycling and garbage haulers. The co-founders of Wastesaver are **Steve Hammer and Jill Krevlin Edinburg**.

Note from Tom: This is a very useful website that includes tips, waste composition graphs for each sector, a "Trends to Watch" section and links to other websites.

Link to a November, 2001, column on office paper reduction by Dan Ruben on the **GreenBiz.com** website (forwarded by Dan Ruben):
http://www.greenbiz.com/news/columns_third.cfm?NewsID=18334&pic=3

October 31, 2001

Link to **"Leasing: A Step Toward Producer Responsibility,"** a report by Bette Fishbein, Lorraine McGarry, and Patricia Dillon, published in December, 2000, by Inform, a non-profit environmental research organization (first seen in the Business and the Environment newsletter):<http://www.informinc.org/leasingbook.htm> The report is in Adobe Portable Document Format (PDF).

Link to various research on **Extended Product Responsibility by Inform**, the environmental research organization: <http://www.informinc.org/eprgate.htm>

From **Stephen Long, Massachusetts Department of Environmental Protection, Boston, MA**: The Massachusetts Department of Environmental Protection (DEP) has posted a request for responses for the administration of its Recycling Loan Fund(RLF) at: http://www.comm-pass.com/Comm-PASS/Scripts/xdoc_view.idc?doc_id=012286&dept_code=EQE&cp_xx=DEP seeks responses from interested parties ("Respondents") desiring to manage and administer the RLF. The RLF is a \$4.4 million revolving loan fund aimed at providing credit enhancement to eligible businesses (**recycling, reuse, and source reduction**) to enable them to take advantage of the state's other economic development programs and leverage private sector financing for business purposes. E-mail: Stephen.Long@state.ma.us

October 25, 2001

Excerpted from a 10/22/01 press release from the Oregon Department of Environmental Quality, Portland, OR (forwarded by David Allaway):

Three short videos touting the environmental and economic benefits of waste prevention in businesses are now available to businesses and other organizations interested in saving money while conserving natural resources and reducing pollution.

The videos were produced by the Oregon State University Extension Master Recycler Program and Clackamas County Community Environment Division through a \$15,314 grant from the Oregon Department of Environmental Quality (DEQ) Solid Waste Program, plus assistance from Clackamas County and the Portland-based environmental organization Recycling Advocates. The videos are available free of charge through a lending program (with preference to in-state requests), or may be purchased. Each of the tapes highlights a different aspect of waste prevention and is targeted to different staff. The videos include:

"Why Should I Bother: Waste Prevention in the Workplace" (10 min.): This is designed as an introduction to the benefits of cutting waste. Emphasis is on motivating company executives, managers and employees to take action to save money and resources. It can be used at community meetings or shown to employees as part of a comprehensive waste prevention education effort.-

"Better Than Recycling: Waste Prevention in the Office" (14 min.): This focuses on the biggest waste item in most offices - paper. Various businesses show techniques they practice to reduce the amount of paper they use, increase efficiency, save money and improve communications with customers. It is primarily designed to show to office staff.

"Better Than Recycling: Waste Prevention in Manufacturing and Distribution" (15 min.): This video focuses on the many waste-saving challenges facing manufacturers. It shows how a number of Oregon businesses met that challenge. Tips include using reusable packaging and using new materials and methods to produce and ship goods. The video is geared to company manufacturing line staff and supervisors, and others interested in streamlining operations.

Businesses and other groups in Oregon can borrow individual videos or the complete set for free from OSU Extension offices in Multnomah, Crook, Lane, Coos Bay, Lincoln and Sherman counties, or by calling DEQ Solid Waste program offices in Bend, Eugene, Portland, Salem and The Dalles. In the Portland metro area, solid waste program government offices (Metro, cities, counties) also have videos available to loan. Persons contacting DEQ about the videos may call toll-free in Oregon at 1-800-452-4011, ext. 5913. In addition, copies of the three-video set have been distributed to chambers

of commerce and small business development centers throughout Oregon for community outreach purposes.

The videotapes may be purchased individually or as a set of three by writing to: Publication Orders, Extension and Station Communications, Oregon State University, 422 Kerr Administration Building, Corvallis, OR, 97331-2119. The phone number is (541) 737-2513. Individual videos are \$19.95 and the complete set is \$48, including shipping. Discounts are offered for bulk orders: 25 percent off for 10 to 49 copies per address, and 40 percent off for 50 or more copies per address. Purchase order requests may also be made by writing to: puborders@orst.edu

Link to online resources for simplifying the holidays, from the October-December, 2001, [Simple Living Newsletter](http://www.simpleliving.net/newsletter/holiday_insert.asp?inum=35) (forwarded by Marcia Rutan):
http://www.simpleliving.net/newsletter/holiday_insert.asp?inum=35 Scroll down. Includes articles, books for sale, excerpts from those books, and other resources.

October 17, 2001

Excerpted from a 10/15/01 article by Jim Konkoly in Waste News about Target's waste reduction and recycling programs:

The Target Corp., headquartered in Minneapolis, MN, is one of the nation's major retailers, with 1,055 stores and annual sales of \$36.9 billion. The company emphasizes waste reduction, especially packaging reduction. Target is able to track and measure its waste per unit of sale, and that has been dropping since 1994, said [Jim Bosch, environmental manager for Target](#). "We've essentially been able to reduce the waste generated per dollar of sales by 33 percent," he said. Target reuses or recycles 455 million clothes hangers and 20,000 shopping carts per year. In both cases, hangers and carts are reused whenever possible (carts are sent to a refurbisher). The shopping carts "that meet our standards are repaired and reused at Target stores," Bosch said. "Those that don't meet our standards are delabeled and either resold or recycled." One of the benefits of this reuse is that it makes the carts available to Target's stores for one-third of the cost of a new cart, he added.

From [Bob Lilienfeld, Cygnus Group](#), Ann Arbor, MI:

I've got The [ULS \(Use Less Stuff\) Report](#) back on-line. A few other reference materials are also up, including "[42 Ways to Trim Your Holiday Wasteline](#)" and the [National Science Teachers Association \(NSTA\) Source Reduction Curriculum](#) done a few years ago. Hope to have more up soon.

The new address is, appropriately enough, <http://www.use-less-stuff.com>

E-mail: bob@cygnus-group.com

October 12, 2001

Excerpted from the Bank of America website (related information was first seen on the GreenBiz.com website):

The [Bank of America's Environmental Progress Report](#) for 2000 includes this information on their reuse programs:

Bank of America is an advocate for the reuse and refurbishment of existing furniture and equipment. This policy has saved millions of dollars in new capital purchases for the bank and lessens the amount of additional raw materials and energy required in making new furniture and equipment.

BANK OF AMERICA FURNITURE REUSE STATISTICS - Reconditioned and reissued 64,434 pieces of surplus furniture, saving natural resources and also realizing a significant cost avoidance of \$10,197,165. - Partnered with vendors, selling 54,045 pieces of used furniture for a total of \$455,382. - Donated 11,279 pieces of furniture the bank no longer needed to schools, government agencies and nonprofit organizations.

BANK OF AMERICA EQUIPMENT REUSE STATISTICS - Reconditioned and reissued 23,646 pieces of equipment, realizing a cost avoidance of \$3,373,685. - Sold 16,671 pieces of equipment from our warehouses for a total of \$67,999; also processed 1,296 sales directly from various bank sites, with multiple pieces each for a total of \$283,770. - Donated 25,315 pieces of obsolete equipment. - Recovered and donated, through the bank's Livermore (CA) Operations site, approximately 86 tons of used desktop office supplies; donations were primarily to a nonprofit organization.

For more from the Bank of America's 2000 Environmental Progress Report regarding their reuse, reduction and recycling programs and results, see this web page:

<http://www.bankofamerica.com/environment/2000epr/section7.html>

This website has additional information on the company's environmental programs:

<http://www.bankofamerica.com/environment>

Bank of America, which has its headquarters in Charlotte, North Carolina, has more than 4,300 banking centers in the U.S., offices in 38 countries, and about 144,000 employees

October 9, 2001

Link to an article by Judy Heim in the October, 2001, issue of **PC World magazine about the reuse and recycling (mostly reuse) of personal computers:**

<http://www.pcworld.com/features/article/0,aid,58266,pg,1,00.asp>

Also be sure to check out the resources that accompanying this article, which include: - Charitable Checklist: <http://www.pcworld.com/features/article/0,aid,58266,pg,2,00.asp>

Attic Alternatives: <http://www.pcworld.com/features/article/0,aid,58266,pg,3,00.asp>

Link to the **Community Waste Prevention Toolkit from INFORM, Inc.**, a New York City-based environmental research organization:

<http://www.informinc.org/cwasteprev.htm>

This website is designed to help community leaders and grassroots environmental organizations launch effective solid waste prevention programs in their towns and cities. It offers extensive

resources, including fact sheets on minimizing waste and pollution from these waste streams: Batteries; carpeting; computers; construction and demolition materials; and toner cartridges.

October 5, 2001

From **Julie Rhodes, Reuse Development Organization (ReDO)**, Indianapolis, IN:

I would suggest that repair/refurbish would be the same, or at least both should be under the topic of reuse. My interpretation is that, for computers, repairing and refurbishing both are starting with a system and with minimal upgrades in memory, cleaning hard drives, adding a modem or a CD disk drive, adding software, etc.; the items are easily reusable in their nearly original form. I think of remanufacturing as a means for parting-out systems and potentially reusing some component parts. When I do my "waste hierarchy" spiel (and I do with every presentation that I give), I differentiate between reuse, repair/refurbish, and remanufacturing from a resource perspective - How many more resources, in terms of time, energy, human labor, etc., will it take to make the item reusable or valuable? Typically the resources used for repairing/refurbishing are minimal, compared with remanufacturing. I also always mention that there are fine gray lines between them, and that often, offering the "value-added" component of repair/refurbish means that much more material has the potential for reuse than in programs without that component.

E-mail: info@redo.org

From Tanya Schaefer, Recycling Advocates, Portland, OR:

WASTE PREVENTION AND RECYCLING AT EVENTS: A NEW RESOURCE Recycling Advocates, a nonprofit organization in Portland, Oregon, announces the publication of "Recycling at Events: A Guide to Reducing Waste at Any Event." The perfect resource for anyone involved in event planning, the guide is chock-full of tips for preventing waste and maximizing recycling at events.

Read it and learn how to:

- Reduce packaging and "throw-aways"
- Collect and compost food waste - Maximize collection of recyclables
- Promote your efforts

For a free copy of the guide, please contact us at (503) 777-0909 or info@recyclingadvocates.org A Portable Document Format (PDF) version is available to download at our website at:

<http://www.recyclingadvocates.org>

E-mail: tk@hevanet.com

October 1, 2001

From **Wayne Rifer, Rifer Environmental**, Portland, OR:

As part of my work with the **Western Electronic Product Stewardship Initiative**, I'd like to solicit comment on the hierarchy below. Electronic scrap, a more sophisticated waste stream, demands a more sophisticated management hierarchy. Please review this and provide your ideas and comments to me at: wrifer@concentric.net

There is also a diagram that goes with this, called the "End-of-First-Life E-Product Management Pathway." If you are interested in that, e-mail me and I will try to e-mail it to you as an attachment. E-WASTE MANAGEMENT HIERARCHY The traditional integrated solid waste management

hierarchy has been adopted in various forms by the U.S. Environmental Protection Agency and numerous state and local governments:

1. Reduce
2. Reuse
3. Recycle
4. Recover energy
5. Dispose

Electronic products are a new type of waste that demand a more sophisticated hierarchy, based on the same principle of resource conservation:

1. Reduce - Extend the functional life of products through methods such as product design for longer-life and software upgrades
2. Reuse
 - a. Pass-on - Second hand trading of the product
 - b. Service - Repair, upgrade or rebuild the product at the location where product is being used
3. Remanufacture
 - a. Refurbish - Rebuild the product at a central facility
 - b. Remanufacture - Disassemble product into component parts at a central facility and assemble remanufactured products with used and new parts
4. Recycle
 - a. Recycle with disassembly - Reclaim materials after product disassembly to generate clean materials streams, recover valuable components, and remove hazards
 - b. Recycle without disassembly - Shred and separate material streams using mechanical methods
5. Recover energy
6. Dispose

E-mail: wriifer@concentric.net

Link to the "Use It Again" waste reduction and recycling website, from the United Kingdom's Department for Environment, Food and Rural Affairs: (Note to Delyn: the "contacts" page on this website might be a good place to start if we want to look for programs in Europe.)
<http://www.useitagain.org.uk>

This website from the British government has resources and information on reuse, reduction and recycling. (Note that some of the pages may take quite awhile to load.)

September 27, 2001

From **Marcus Archambeault, Community Cycling Center**, Portland, OR:

I am serving an Americorps position at the Community Cycling Center on Alberta Street in Portland, Oregon. I'm the recycling coordinator. This organization is involved with many programs designed to create sustainable communities and educate citizens on bicycle awareness, safety and maintenance, and is in the process of developing a comprehensive waste prevention/reuse program for bike materials. Tires and tubes have become a waste product that we desperately need to be recycling or reusing. Is there any information people can provide, as to a cost-effective way to take care of these products? We are a non-profit, so it would be a stretch for us to pay a recycler. I'm not sure we generate enough to make it worthwhile for them either. I believe the tubes are Butyl rubber and the tires are Buna. I am also interested in aluminum recycling, but the tires are my main focus. Thank you for your time and concern. This is the beginning of a progressive movement in dealing with bicycles that have been put out to pasture! I look forward to hearing from you.

E-mail: chainmail_76@yahoo.com
Phone: (503) 228-8864

From **Victor Aguiar, Ecology Action, Santa Cruz, CA:**

HOW DO YOU ENCOURAGE BUSINESSES TO REDUCE WASTE?

We at Ecology Action are gearing up for another year of business waste reduction assistance in Santa Cruz County and elsewhere. To increase our chances of success, we'd like to know what other assistance providers are doing to ensure follow-through after businesses are given recommendations. This has been the hardest part of the process for us, even after providing a clear task list and evidence of potential savings.

We're interested in knowing about any business assistance programs and how they encourage operators to act on recommendations in the absence of mandates. We've gotten some excellent information from Spokane County in Washington state, where employee resistance is suggested as a major factor in non-participation. Any thoughts, stories?

E-mail: vaguiar@ecoact.org
Phone: (831) 426-5925, ext. 13

From **Jerry Powell, Resource Recycling magazine, Portland, OR:**

Ricoh Co. has developed a process to make reusable paper that can be reprinted more than 200 times. The paper uses dyestuff currently employed in thermo-sensitive paper. The machine used for printing is also used for erasing.

E-mail: RESRECYCLE@aol.com

September 29, 2001

Excerpted from a message from Jeanette Hardison, the Get SMART! Resource Efficiency Program in Benton and Yamhill counties, Corvallis, OR, responding to the 9/24/01 posting about companies that buy empty ink-jet and laser printer cartridges:

Here is another company: Step Forward Activities, Inc., in Baker City, OR, is a not-for-profit that buys AND remanufactures empty inkjet and laser printer cartridges, while providing jobs for people with disabilities. They guarantee their product won't damage your equipment or they'll replace your entire machine. Here is their contact information:

Website: <http://www.stepforwardactivities.org/page5.html>

E-mail: stepfwd@eoni.com

Phone: 888-606-6166 (toll-free)

Jeanette's e-mail: lunadancer@earthlink.net

Links to companies that buy empty ink-jet and laser printer cartridges (for reuse) from schools and non-profits, as fund-raisers (forwarded in part by Shirley Shimada):

- Recyclers USA, Las Vegas, NV. <http://www.recyclersusa.com>
- The Funding Factory, Erie, PA. <http://www.fundingfactory.com>
- We Buy Empties, Las Vegas, NV. <http://www.webuyempties.com>

According to a 8/20/2000 item in Newsweek magazine (which mentioned these three companies), the Funding Factory works with 10,000 schools that collect 295,000 cartridges per year. Note from Tom: We don't endorse any companies, of course, but it's good to know that these kinds of programs exist, and that there is more than one company to choose from.

Link to information about the **Pillsbury Company's** ambitious environmental goals and programs (first seen on the Grassroots Recycling Network website):

Environmental principles and goals: <http://www.pillsbury.com/about/principles.asp>

Pillsbury's waste prevention programs: <http://www.pillsbury.com/about/successstories.asp>

From David Allaway, Oregon Department of Environmental Quality (DEQ), Portland, OR:

Here are three news items from Oregon:

1. New **waste prevention legislation in Oregon** This year Oregon's legislature passed, and Governor John Kitzhaber signed into law, several pieces of legislation that include waste prevention elements.

These include:

HB 3744 (solid waste reduction): Recognizes that there are limits to Oregon's natural resources and the capacity of the state's environment to absorb the impacts of increasing consumption of resources and increasing waste generation. Establishes waste prevention goals as follows: no annual increase in per capita municipal solid waste (MSW) generation for the year 2005 and subsequent years; no annual increase in total MSW generation for the year 2009 and subsequent years. Expands the list of options for which local communities can receive a "2 percent waste prevention credit" (this credit applies towards the county's recovery rate, since Oregon does not quantify waste prevention per se). Expands the "2 percent residential (home) composting credit" so that communities can claim more than 2 percent if they can demonstrate that more than 2 percent of their waste generated is being diverted through on-site home composting and grasscycling programs.

HB 3007 (mercury): Prohibits the sale of novelty products containing mercury as of 1/1/2002. Prohibits the sale of mercury fever thermometers as of 7/1/2002. Phases out the installation of new mercury thermostats over five years. Prohibits the sale of vehicles with mercury light switches as of 1/1/2006.

SB 764 (tax credits): Shifts pollution control tax credit away from compensation for basic regulatory compliance and towards encouraging voluntary investment in activities that go "beyond compliance." Establishes a policy to promote sustainability and provide incentives for the voluntary prevention of environmental impacts, including solid waste, through the voluntary application of innovative solutions to achieve the environmental goals of the state.

HB 3909 (tires): Establishes a Task Force on Tire Recycling which is chartered to make recommendations on the development of methods to increase the reuse, recovery, and recycling of tires, giving consideration to the solid waste management hierarchy.

2. Oregon Waste Prevention Grants Oregon DEQ's Solid Waste Program is accepting applications for solid waste grants. This year **the focus areas for solid waste grants are commercial waste prevention and natural gardening**. Applications for projects in these topical areas can receive up to 10 additional points (out of 100 total possible). Only local governments in Oregon are eligible to apply for grants. In

addition, a separate pool of money is available for household hazardous waste (HHW) prevention grant projects. Applications are due October 1.

For more information: <http://www.deq.state.or.us/wmc/solwaste/grants.html>

3. **Chipper Tax Credit** Oregon is now offering a tax credit for the purchase of wood chippers. The use of chippers by businesses and households will reduce solid waste generation and in some areas of the state reduce nonpoint source air pollution caused by the burning of woody debris. New and used wood chippers purchased for commercial or residential applications are eligible for the credit. The credit is a dollar-for-dollar reduction of income taxes owed to the State of Oregon. The credit is currently 50 percent of the cost of the wood chipper but it will be reduced to 35 percent when 2001 legislation becomes effective later this year. (A temporary rule to interpret ambiguous language in the law regarding the effective date of the reduction is scheduled to go before the Environmental Quality Commission on September 21, 2001.) The application fee is \$50. Interested persons may submit an application to the Department of Environmental Quality after purchasing a wood chipper. The two-page application and instructions for chippers costing less than \$50,000 are located at:

http://waterquality.deq.state.or.us/wq/taxcredits/TCApp1_WoodChip.pdf

(these are in Adobe Portable Document Format).

E-mail: ALLAWAY.David@deg.state.or.us

From Wayne Gash, Washington State University, Surplus & Recycling, Material Resource Services, Pullman, WA, responding to the 9/5/01 e-mail seeking information on the pros and cons of replacing paper towels with forced-air dryers at a school:

I've just been asked similar questions as we prepare a major remodel of one of our buildings. The wild card in this is the current and likely continued higher electricity rates in the West. The point at which economies of the methods intersect has to be considerably different than just a year ago. A major concern here is that recycled-content paper towels are a big portion of our "buy recycled" campaign, although it becomes a lower percentage every year as we buy more recycled office paper. Very timely subject out here in the West.

E-mail: wcgash@mail.wsu.edu

September 10, 2001

From Tom Watson, King County Solid Waste Division, Seattle, WA, and the National Waste Prevention Coalition:

The **cover story in the October, 2001, issue of Consumer Reports, "Fix it or Nix It?"**, gives people tips on whether it is cheaper to repair major household products or replace them. The article, which the magazine describes as a repair guide, also describes which types of products are most likely to need repair, and which brands are repair-prone. In addition, it gives tips on preventive maintenance, to make products last longer. (The article is not available on the Internet, except by subscription.)

September 5, 2001

From **Rachel Balsley, Alameda County Waste Management Authority and Source Reduction & Recycling Board, San Leandro, CA:**

Hi list members - I am conducting **research on paper use reduction** for a guide that our agency is developing for businesses and public agencies. It would be much appreciated if anyone could forward me any websites, reports, case studies, or other publications that specifically address reducing paper

use. Documented cost savings, strategies, or ways to overcome barriers (such as the perceived need to still print a hard copy for the files) would be of particular interest.

Thanks in advance for your help!

Email: rbalsley@stopwaste.org

Phone: (510) 614-1699

Fax: (510) 614-1698

Mailing address:

Alameda County Waste Management Authority and Source Reduction & Recycling Board

777 Davis Street, Ste. 100

San Leandro, CA

94577

From David Allaway, Oregon Department of Environmental Quality, Portland, OR:

I am doing some research in support of a school that is considering replacing paper towels with forced-air dryers. I've reviewed the considerable amount of information already on the Waste Prevention Forum Archive, as well as some other literature. At this point, I'm looking for more information on the following topics:

1. The typical labor cost to replace a paper towel dispenser with a hot air dryer (or just to install a hot air dryer without removing the paper towel dispenser), assuming no major electrical retrofits are needed.
2. The electrician at the school is concerned that the installation of the hot air dryers will overload the building's electrical distribution system. However, some of the wiring and supply boxes may be replaced as part of an upcoming building remodel. Also, a small lighting retrofit at the school is planned and while this will reduce electrical load somewhat, the electrician believes that any savings will be overwhelmed by increasing plug loads (computers). I am not an electrical engineer and hadn't encountered this problem before. Does anyone have any experience with it? Specifically, if the supply boxes are going to be replaced anyways, what is the marginal cost to add the extra capacity required to run the hot air dryers (which pull about 15 amps of current each)?
3. Any information that answers the claim that forced-air dryers "blow bacteria around." The relative effectiveness of paper towels vs. hot air dryers at reducing different types of bacteria remaining on the hands after washing has been studied by several academics (using different methodologies, and arriving at conflicting results). In addition, some research indicates high levels of bacteria inside the air nozzles. This leads to the claim that activating a forced-air dryer "blows bacteria around", thus depositing them on other people, etc. My question: Does anyone know if this is a legitimate public health concern, a red herring, or something in between?

Please respond to allaway.david@deq.state.or.us
or (503) 229-5479.

Thank you!

Excerpted from e-mails from Julie Rhodes, Reuse Development Organization (ReDO), Indianapolis, IN, and from information from the National Recycling Coalition, Alexandria, VA:

As part of the National Recycling Congress in Seattle, ReDO will present a Reuse Workshop at the Seattle Convention Center on Sunday, Sept. 30, from 1 to 4 p.m. This "nuts-and-bolts" workshop will help you learn how reuse programs actually get funded, start up, operate day-to-day, expand, and sustain themselves over the long term. We have a great line-up of speakers:

Terry McDonald, executive director, St. Vincent de Paul, Eugene, OR. St. Vincent's in Eugene has been a leader in innovative reuse programs. –

Shane Endicott, director, the ReBuilding Center, Portland, OR. Shane started up and operates a building materials reuse center that provides assistance to low-income people for refurbishing their homes. The ReBuilding Center also recently started a deconstruction branch. –

Kathleen Hennesey, the Moscone Center, San Francisco, CA. Kathleen has set up a successful program to divert all the materials left behind after conferences at this major convention center. –

Jim Petuch, recycling division, Youngstown State University in Ohio. Jim started up Re:CREATE, a joint venture between the university and the county's solid waste district to divert reusable art, craft, and theatrical supplies to local non-profits and schools. –

Michael Murphy, Hillsborough County (FL) Recycling Task Force. This task force has started up numerous reuse programs that divert building materials, guns, university waste, computers and more. –

Anna Traktoueva, New York City Department of Sanitation. Anna leads NYC's new Stuff Exchange, a toll-free automated phone system that helps people find reuse centers in the community. –

Buddy Grimmer, an executive with TVI, Inc. which is headquartered in the Seattle area. TVI operates Value Village and Savers, two of the largest, for-profit thrift store chains in North America.

Julie Rhodes from ReDO will moderate the workshop. The cost for the workshop is only \$15 for National Recycling Congress attendees and \$20 for non-attendees. There are already more than 40 people signed up for this workshop, so register in advance to make sure you get a spot. For registration information, call NRC at (703) 683-9025 or see their website at: <http://www.nrc-recycle.org/> If you have specific questions about the workshop, you can contact Julie at: info@redo.org

August 23, 2001

From Victor Aguiar, Ecology Action, Santa Cruz, CA, responding to the 8/16/01 posting seeking examples of a municipal grant program, where the municipality offers a grant to a non-profit or for-profit company to partially fund the development of a waste audit:

I lead a program for the County of Santa Cruz (California), providing waste auditing in the Industrial/Commercial/Institutional sector. We have implemented this program for over five years, and have also provided auditing on behalf of the Salinas Valley Solid Waste Authority, the City of San Francisco, and directly for businesses. This started with grants, and has since been executed under contract. We have developed software for implementing these projects, which we have provided to other jurisdictions, for whom we have also given trainings.

A demo of the software and description of our program are on our web site: <http://www.ecoact.org> (Click on WasteNot Business Solutions.)

E-mail: vaguiar@ecoact.org

From Sandra Thorp Nussbaum, Hennepin County Environmental Services, Minneapolis, MN,
following up on the 8/21/01 posting about **the Minnesota Retired Engineers Technical Assistance
Program (Minnesota RETAP)**, which provides waste reduction assessments and other assistance to
businesses and institutions:

Here is the link to the website for **WRATT, the Waste Reduction And Technology Transfer
Foundation**, administrators of the recently-launched Minnesota RETAP:

<http://www.wratt.org>

E-mail: sandra.nussbaum@co.hennepin.mn.us

Link to information on new mercury reduction laws in six states, from the website of **Health Care
Without Harm**, Falls Church, VA:

http://www.noharm.org/index.cfm?page_ID=14

In the past four months, these six states have passed mercury reduction laws: Oregon, Rhode Island,
Maine, Maryland, Indiana and Minnesota. This web page has links to the full text of each law.

From Sarah Weimer, California Integrated Waste Management Board, Sacramento, CA: REUSE
GRANTS FOR CALIFORNIA AGENCIES

The **California Integrated Waste Management Board** is offering \$250,000 for the 3rd Cycle of the
Reuse Assistance Grants to provide incentives for local public agencies in California to promote and
apply the concept of reuse in their community. All cities, counties, special districts, and regional
agencies that have the authority to provide solid waste handling services are eligible to apply
individually or regionally, and may partner with any entity or entities that seek to promote the concept
of reuse and to establish new or expanded opportunities for reuse in California.

Questions must be sent in writing via e-mail or Postal Service.

For more information, or to download the application, visit:

<http://www.ciwmb.ca.gov/Reuse/>

E-mail: sweimer@ciwmb.ca.gov

Mailing address: California Integrated Waste Management Board Reuse Assistance Grants Program,
MS-14 P.O. Box 4025 Sacramento, CA 95812-4025

August 21, 2001

Excerpted from a 8/15/01 press release sent by Kevin McDonald, Minnesota Office of Environmental
Assistance, St. Paul, MN:

Minnesota businesses can now tap the wealth of experience and knowledge of local retired engineers
to find cost-saving solutions to their environmental challenges. With support from state and federal
environmental agencies, the Minnesota Retired Engineers Technical Assistance Program (Minnesota
RETAP) will begin providing confidential, non-regulatory and free pollution prevention assistance to
Minnesota's fast-growing commercial/service sector.

Data shows that this sector is a major contributor to the ever-increasing amount of garbage generated
in the state. In addition, many opportunities exist for water and energy conservation. Yet, historically,
this sector has not been the focus of environmental outreach and assistance. Also, the non-
manufacturers that make up the commercial/service sector have not been subjected to the strict
scrutiny and pollution rulemaking activities faced by heavier industries such as manufacturers and
power plants.

Minnesota RETAP's first batch of 25 retirees has undergone in-depth training and orientation at Minnesota Office of Environmental Assistance headquarters in St. Paul. Together, these retired engineers and scientists - formerly employed by companies such as 3M, Honeywell, Pillsbury, Ford and Alliant Techsystems - have over 1,000 years of on-the-job technical expertise and know-how. At a ceremony to formally kick off the new program, each of the participating retired engineers was presented with an official RETAP pocket protector - a common accessory of an engineer's attire in times past.

The crew of Minnesota retirees is being coached by fellow retirees from Alabama and Michigan, two of now more than a dozen states that have RETAP programs. Four Twin Cities businesses and institutions have agreed to open their doors as training sites to teams of retirees. These sites will provide real-world conditions for the new recruits to conduct environmental assessments under the watchful eye of one of the veteran out-of-state RETAPers. The RETAP teams will descend on their facilities with notepads in hand to perform assessments. These assessments are designed to tease out the oft-overlooked hidden gems of ideas that could result in saving bundles of money and reducing negative environmental impacts. In about 30 days the companies will receive a detailed report of the retirees' findings and recommendations. Minnesota RETAP expects to complete over 50 additional environmental assessments of Minnesota businesses over the next two years.

The Minnesota Office of Environmental Assistance has partnered with the Waste Reduction Technology and Transfer (WRATT) Foundation, a non-profit based in Alabama, to administer the program. Over the past decade, the WRATT Foundation has conducted over 1,500 on-site assessments in five states and saved companies millions of dollars. For each dollar invested in conducting assessments, companies have documented \$50 in savings, plus significant environmental benefits.

E-mail: kevin.mcdonald@moea.state.mn.us

Link to "[A Landscaper's Guide to Grasscycling](http://www.stopwaste.org/gr.html)," a publication of the Alameda County Waste Management Authority, San Leandro, CA:

<http://www.stopwaste.org/gr.html>

From this page, the guide is available in both Adobe Acrobat and Microsoft Word formats.

August 16, 2001

Link to the executive summary of the final report on the project, "[Waste Management Policies in Central and Eastern European Countries: Current Policies and Trends](http://www.eurowaste.org/art.asp?id=21)" (forwarded by [Barbara Zaccheo](#)):

<http://www.eurowaste.org/art.asp?id=21>

Link to [two recent publications on deconstruction](#), from the U.S. Department of Housing and Urban Development (forwarded by Gary Liss and Roger Guttentag):

<http://www.huduser.org/publications/destech/deconstruct.html>

<http://www.huduser.org/publications/destech/decon.html>

August 9, 2001

From **John Crisley, Massachusetts Department of Environmental Protection (DEP)**, Municipal Waste Reduction Program, Boston, MA:

COST/BENEFIT STUDY OF REUSABLE VS. DISPOSABLE SCHOOL CAFETERIA SYSTEMS

The Massachusetts DEP is looking for a source(s) of a reliable cost/benefit study that has been done to answer the following question: "In a school cafeteria setting, is it economically and environmentally beneficial in the long-term to use reusables vs. disposables?" Specifically, we want to locate a study that has analyzed the complete labor, equipment purchase and installation and operational costs of a dishwasher system for reusable trays, plates and stainless steel utensils versus a system that uses all disposable trays, plates, cups, plastic utensils, etc. To date, we don't know of any study that accurately outlines a long-term cost comparison of the two systems. Any sources of information or referral would be appreciated.

E-mail: john.crisley@state.ma.us
Phone: (617) 556-1021

Link to a report called "**Building Deconstruction: Reuse and Recycling of Building Materials**," prepared by the Center for Construction and Environment, University of Florida, Gainesville, FL (forwarded by **Gary Liss**):

<http://www.cce.ufl.edu/past/deconstruction/reuse.html>

This August, 2000, report was prepared for the Alachua County (FL) Solid Waste Management Innovative Recycling Project.

August 7, 2001

Excerpted from a job announcement sent by Sarah Land, INFORM, New York City:

JOB OPENING - DIRECTOR, INFORM'S SOLID WASTE PREVENTION PROGRAM INFORM, a national not-for-profit environmental research and education organization based in New York City, has an immediate opening for a Solid Waste Prevention Program Director.

The director is responsible for shaping the vision and goals of this program, and designing and overseeing its research and outreach strategies. The director works with INFORM's development staff to raise the program's funds.

2001 Program Focus

INFORM's Solid Waste Prevention Program is national in scope but also has a specific focus on New York City, which recently closed its last remaining landfill. The program promotes model waste prevention practices, including changes in procurement guidelines and facility-operating practices that reduce waste and increase the purchase of products and packaging that contain recycled materials. The program may also focus on advancing waste preventing policies at the federal, state or local level that can drive businesses to design products that are more durable, reusable and recyclable.

The director's first responsibility is to implement the program goals that have been established for 2001, which is the second year of a multi-year initiative aimed at making New York City a leader in solid waste prevention. The goals include: -

- Evaluating the **New York City** solid waste budget to insure that funding is sufficient for effective implementation of feasible solid waste prevention programs. This includes, but is not limited to, two key initiatives that were mandated in the November, 2000, NYC Solid Waste Management Plan Modification: 1) **a three-year \$6.3 million Local Waste Prevention Coordinators Program**; and 2) **establishment of an Office of Environmental Purchasing in the City's central procurement agency**, the Department of Citywide Administrative Services (DCAS). –
- Seeking to advise DCAS and other city agencies on procurement and operational strategies they can use to reduce product and packaging waste, drawing on INFORM's extensive expertise. –
- Monitoring and reporting on the progress the city makes in implementing various waste prevention programs, with an emphasis on waste that is generated by government agencies, public institutions and residents. –
- Collaborating with the **NYC Waste Prevention Coalition**, a group of local and national organizations created in 1999 to advocate for comprehensive solid waste prevention. –
- Testifying at NYC Council hearings on solid waste issues. –
- Developing briefing materials for Mayoral and City Council candidates in order to bring waste prevention issues into the dialog of the upcoming elections.

The program director also: -

- Works with the development staff to create and market grant proposals. –
- Hires and oversees staff. –
- Works with the editor and production coordinator to publish reports, fact sheets and articles.

Qualifications for this position: -

- Experience in working with solid waste policy and program issues, preferably waste prevention and/or recycling. –
- Demonstrated ability in program management and strategic planning. –
- Excellent analytical, writing and communication skills. –
- A Bachelor's degree (or equivalent professional experience); graduate degree preferred.

Salary: Depends on experience. To apply: Please e-mail or send a resume, a writing sample, the names and addresses of three references, and a cover letter to Samuel Arnoff at:

E-mail: arnoff@informinc.org

Regular mail:

INFORM, Inc.,
120 Wall Street,
16th Floor,
New York, NY 10005

The full job announcement is at: <http://www.informinc.org/jobdirsolwst.htm>

Link to the **U.S. Army's list, updated in April, 2001, of approved tire retreaders for light trucks, heavy trucks, buses and trailers** (first seen in the National Recycling Coalition's newsletter):

<http://www.ofee.gov/recycled/tacom.htm>

These tires and manufacturers have passed qualification testing or technical reviews, to meet the Army's standards. The Army's Cooperative Tire Qualification Program is a voluntary program designed to help ensure tire quality and performance.

August 1, 2001

From **Tom Watson, King County Solid Waste Division, Seattle, WA**, and the **National Waste Prevention Coalition**:

As we have done several times in the past, the National Waste Prevention Coalition - the group I coordinate, which sponsors this Forum - will have a joint booth at the National Recycling Congress (NRC), along with the Reuse Development Organization (ReDO).

I'm especially excited about NRC this year because it's in my home city of Seattle. The dates are Sept. 30 - Oct. 3. Our booth will be a nice, double-sized booth, and I call it the Waste Prevention Lounge, because we invite people interested in reduction and reuse to stop by, sit for awhile, learn some new things about waste prevention, and meet each other. We'll have a couch and some comfortable chairs. If you're at NRC, be sure you come by.

The booth will feature educational materials, products, etc., related to reduction and reuse. If you have any interesting new materials from your programs, please send them to me, and we may feature them in the booth. Some striking posters would be great. Make sure they deal with reduction or reuse, not recycling. We can't promise to use everything people send, but we'll consider it (but please don't send too much stuff). We can't promote specific products, but we will consider displaying single examples of innovative reuse or reduction-related products. Here's the address to send materials to: Tom Watson, King County Solid Waste Division, 201 South Jackson St., Room 701, Seattle, WA, 98104.

We also could use some people to help staff the booth (show and explain the materials, greet people, introduce people, answer questions about waste prevention, etc.). The exhibit hall is open Monday, Oct. 1, from 11 until 5:30, and Tuesday, Oct. 2, from 11 until 5. If you are interested in helping out, let me know. We would like people to do two-hour shifts if possible. This is not part of the official NRC volunteer program.

Thanks everyone, and we hope to see you in a couple months!

E-mail: tom.watson@metrokc.gov

Phone: (206) 296-4481

Link to a column by Jon Hahn in the 7/31/01 Seattle Post-Intelligencer about the Industrial Materials Exchange (IMEX) in Seattle: http://seattlepi-i.nwsource.com/hahn/33252_hahn31.shtml
This column gives examples of the wide variety of items available on materials exchanges.

July 26, 2001

Excerpted from an item in the ArcaMax e-mail health newsletter (forwarded by **Carl Woestwin**):

A new method of chemical-free pest control uses heated air. In one of these heat treatment systems, ThermaPure, the infested area is wrapped and the air is heated to as high as 150 degrees Fahrenheit. This eliminates termites, roaches, ants and other pests, and kills toxic mold, fungi and bacteria, according to Peter Varga, a manager of Precision Environmental, which manufactures the system. "There's no odor; in fact, it oxidizes the odor. It takes from six to eight hours instead of days, and it can be targeted and compartmentalized, which is wonderful for apartment buildings and condos," he said. The ThermaPure technology propels superheated air from propane heaters ducted to the home or building's interior, where temperature-monitoring probes relay data to a computer outside. Thermal blankets are used to cover and protect heat-sensitive items such as electronics components, medical equipment, computers, artwork, CDs and video cassettes. Researchers at the Centers for Disease Control and Prevention say most bacteria will die when exposed to temperatures of 140 degrees F for one hour. For more information on this method, see the **ThermaPure** website at: <http://www.thermapure.com/whatis.htm>

Link to a website with information on two resource consumption reduction projects offered by the **Center for a New American Dream, Takoma Park, MD** (forwarded by **Marcia Rutan**):

<http://www.newdream.org/turnthetide/> One program, "Turn the Tide," is designed to impact the decisions and actions that individuals take in their own daily lives. The other program, "Step by Step," is designed to impact the decisions and actions of a larger community, institution, government, or business.

July 13, 2001

Excerpted from a job announcement sent by Heather Abrams, **Central Contra Costa Solid Waste Authority**, Walnut Creek, CA:

The Central Contra Costa Solid Waste Authority (CCCSWA) is seeking a Waste Prevention and Recycling Assistant to work with businesses, multi-family residents and schools in Danville, Lafayette, Moraga, Orinda, Walnut Creek, and Contra Costa County, California.

The CCCSWA is a small regional agency that sponsors innovative waste prevention, recycling, composting and reuse programs. For more information on the agency, visit:

<http://www.wastediversion.org>

Salary range: \$2,985 to \$3,628 per month, plus excellent benefits.

Resume, cover letter and CCCSWA application are due by 5:00 p.m. Friday, August 3, 2001 to:

Central Contra Costa Solid Waste Authority,
1280 Civic Dr., Suite 210,
Walnut Creek, CA, 94596

For an application packet, phone (925) 906-1801 or e-mail: authority@wastediversion.org

July 11, 2001

From **Stephanie Davis, Waste Reduction Remedies, Berkeley, CA**:

- Besides taking an expired fire extinguisher to one's household hazardous waste site or event (if they accept these) - what can one do with them? –
- Are they really useless past the expiration date/when the pointer indicator is in the red zone? (Mine, half-way in the green zone after 10+ years, reads: "Discard when pointer is in the red area." I'm guessing there are a lot of fire extinguishers in municipal landfills. Besides the toxic contents, these are pressurized canisters that can explode under the pressure of landfill gases. Not a good thing.) –
- Can they be "refurbished" so the owner can continuously reuse the canister and only the contents are disposed or recycled? –
- Can the contents be recycled? –
- Does it make a difference whether it is an individual or a large facility (with multiple fire extinguishers) in the ability to refurbish/recycle, - if this is done at all? –

If recycling is an option, does anyone know what companies do this? Thanks for any info on this.

E-mail: ScD18@WasteReductionRemedies.com

From the 7/1/01 **Institute for Local Self-Reliance (ILSR)** "Waste to Wealth" electronic newsletter:
REFILLABLE BEVERAGE CONTAINERS

In Germany, citizens consume more than 70 percent of all drinks in refillables. In Austria, 95 percent of beer and 65 percent of soft drinks are sold in refillable containers. In Finland, refillables make up 95 percent of beer and 99 percent of soft drinks. Closer to home, many Canadian provinces promote refillables too. All beer and soft drinks produced in Prince Edward Island province, for instance, are in refillable glass bottles. Throughout Canada, 91 percent of beer sales are in refillable bottles.

What policies promote refillable beverage containers? Which ones can best be replicated in the U.S.? What are the economic and environmental impacts of switching to refillable containers in the U.S.? Under a joint project with **the GrassRoots Recycling Network (GRRN)**, ILSR is addressing these and other questions. GRRN will publish a booklet on the subject by the end of the year. For more information on this project, contact **Brenda Platt** at: bplatt@ilsr.org

From **Barbara (Nichols) Zaccheo**, U.S. Environmental Protection Agency (EPA), **WasteWise Program**, Washington, DC:

Readers of the waste prevention listserver may be interested in a new EPA fact sheet entitled "Electronics: A New Opportunity for Waste Prevention, Reuse, and Recycling." It is on the Internet, in Adobe Acrobat Personal Document Format, at:
http://www.epa.gov/epaoswer/osw/elec_fs.pdf

The fact sheet includes sections on: -

- What products are considered consumer electronics? –
- Why prevent electronics waste? –
- How to reduce electronics waste. –
- Reusing, donating, and recycling electronics. –
- Where can I recycle my computer? –
- Buying green. –
- What EPA is doing to encourage reuse, recycling, and greener purchasing of electronics. –
- A list of publications and organizations on these topics.

The EPA contact for this fact sheet is Gordon Hui at: hui.gordon@epa.gov
E-mail: Zaccheo.Barbara@epamail.epa.gov

APPENDIX C

Resource Recycling Article Listings

Month	Year	Page
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June	2000	50
May	2000	24
May	2000	47
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April	2000	50
March	2000	6
March	2000	49

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February	2000	36
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February	2000	46
January	2000	11
January	2000	37
January	2000	52
December	1999	17
November	1999	27
October	1999	54
September	1999	60
September	1999	62
September	1999	62
August	1999	8
August	1999	42
July	1999	6
July	1999	8
June	1999	49
June	1999	50
May	1999	12
May	1999	55
April	1999	7
April	1999	8

April	1999	10
March	1999	21
March	1999	43
March	1999	43
February	1999	49
February	1999	49
January	1999	10
January	1999	11
January	1999	45
January	1999	45
December	1998	16
December	1998	43
December	1998	43
October	1998	11
October	1998	17
October	1998	49
September	1998	12
September	1998	62
September	1998	68
August	1998	6
August	1998	7

August	1998	9
August	1998	15
August	1998	32
August	1998	44
August	1998	45
August	1998	45
August	1998	45
August	1998	47
July	1998	65
July	1998	66
June	1998	9
June	1998	10
June	1998	13
June	1998	24
June	1998	50
May	1998	64
May	1998	67
April	1998	39
March	1998	58
February	1998	9
February	1998	10
February	1998	10
February	1998	30
January	1998	15

January	1998	64
December	1997	11
December	1997	11
December	1997	12
December	1997	54
November	1997	58
November	1997	18
October	1997	56
September	1997	14
September	1997	63
August	1997	46
August	1997	61
July	1997	14
July	1997	98
June	1997	15
June	1997	61
May	1997	33
May	1997	40
May	1997	65
May	1997	68
May	1997	77
May	1997	80

May	1997	80
May	1997	80
May	1997	80
March	1997	54
March	1997	54
February	1997	60
January	1997	9
January	1997	16
January	1997	23

Other notes:

Indiana Institute on Recycling. Ww
 Need to check Canadian provinces.
<http://www.ciwmb.ca.gov/organics/C>

Resource Recycling magazine: source reduction/waste prevention content review

Citation (if article: article name and one sentence summary [from Table of Contents]; if other: name of column and short summary)
"Design for environment: A last will and testament for scrap electronics" Product design changes made today will affect scrap electronics recycling tomorrow; discusses reuse and case study of packaging reduction and reuse at Motorola
News & Views. German guidelines call for 72% of beer and soft drink packaging to be refillable. Danish environmental officials have proposed taxing packaging materials based on their environmental impacts.
"Building C&D recovery: A Constructive approach to recycling" Recent building projects hit the nail on the head by successfully recovering construction and demolition materials. (Includes limited information, case studies of deconstruction/salvage).
Information Sources. New York City has issued a series of reports on waste prevention. Reports summarize efforts to see if waste prevention could be measured and achieved, provide details about many of the city's programs in residential and work-related waste reduction.
Recycling in Cyberspace: Being hospitable to waste reduction. Hospitality-related businesses.
Information Sources. "The Bag Book" provides over 500 ideas on how to reuse paper, plastic, cloth and other bags.
Recycling in Cyberspace: Home Composting. Links to many home composting web pages, link to report on home composting education programs.
"Source reduction can be measured" A new study finds that source reduction programs can be cost-effective in managing solid waste. (Estimates source reduction impact of pay-as-you-throw)
News and Views. Japanese researcher has concluded that the environmental damage from one-way glass bottles is five times greater than for refillables.
Reducelt Windows-based application estimates the program potential for six source reduction options. Companion document "Source Reduction Program Potential Manual" from EPA.
Information Sources. "Waste Reduction: Overlooking the Overlooked 'R'" is a curriculum designed to help solid waste management professionals educate adults about waste reduction.
"Measuring apples and oranges in waste generation" Should waste generation be measured on the basis of population, or on the basis of economic activity per person?
"Needed: A new approach to managing used resources" Recent trends indicate wasting is again on the rise and is outpacing the growth of recycling. Refers to GrassRoots Recycling Network report "Wasting and Recycling in the United States 2000"
Information Sources. "National Source Reduction Characterization Report for Municipal Solid Waste in the U.S. is a 82-page presentation of data and analysis prepared for the US EPA.
Recycling in Cyberspace: odds and ends. Los Angeles Smart Gardening site and Sustainable Jobs Fund info on Reuse and Recycling Industry Information.
Information Sources. "Construction and Demolition Debris Briefing Paper: Reducing, Reusing and Recycling" includes case studies of successful waste reduction efforts.
Information Sources. "Pallets and the Environment" brochure prepared by the National Wooden Pallet and Container Association detailing aggressive reuse and recycling systems.
State & Province Watch. Minnesota has launched a five-week \$500,000 "Reduce Waste -- If Not You, Who?" consumer waste prevention campaign.
Recycling in Cyberspace. www.rethinkpaper.org provides techniques to improve paper efficiency

"The economics of deconstruction" While a traditional practice, deconstruction of buildings is confronted with several sizable barriers to growth. Refers to 17-page report "Demolition: The First Step of Reconstruction" that includes 5 case studies of deconstruction projects.
"Demanufacturing: The emergence of an urban industry" Urban resources are key to overcoming barriers to demanufacturing obsolete products. Written by the director of the Center for Demanufacturing and Urban Economic Development at Rutgers.
Recycling in Cyberspace. Reuse-oriented trade associations.
Information Sources. "Another Use for 101 Common Household Items"
Programs in Action. A partnership involving more than 400 Northern California supermarkets has launched its fifth annual educational campaign designed to get consumers to reduce their waste volumes. "Save Money and the Environment Too" focuses on reusable items and purchasing groceries packaged in largest sizes.
"What works best to increase waste diversion?" Data now exists for determining which approaches have the most effect in reducing waste disposal volumes. Seattle-area study shows that a \$10,000 increase in annual median household income increases waste generation 291 pounds.
Information Sources. "Green Catalogs: Improving Paper Practices in the Catalog Industry" examines the paper-use practices of 10 major catalog retailers.
"Trends for buy-recycled programs" Six approaches help expand demand for recycled-content products. Short discussion of how source reduction programs could hurt "buy recycled" program statistics, if wrong metrics are used.
"Reuse in your community: Keys to making more reuse happen faster" Innovative programs are helping establish reuse as a viable component of the solid waste management hierarchy.
Information Sources. "Waste Prevention Pays: A Media Outreach Toolkit" published by the Source Reduction Forum of the NRC. Designed to assist in promoting source reduction and reuse in local media markets.
Information Sources. "Selected ASTM Standards on Packaging" 495-page edition features 89 documents.
Information Sources. EPA "Source Reduction Program Potential Manual: A Planning Packet"
Information Sources. McEntee Media Corp. has acquired the newsletter Waste Reduction Tips.
State & Province Watch. Vermont has awarded grants for seven projects focusing on source reduction and reuse.
"Knock on wood: Real recycling opportunities are opening up" The development of grade standards for recycled timber and lumber will aid in reclaiming the value of wood.
Association Watch. "Source reduction promoted by new group", the Reusable Pallet and Container Coalition is composed of members representing plastics companies, produce growers/shippers, and Wal-Mart. Initial goal is to change tax policy to favor reusable pallets and containers.
Composting Update. Test trials of 12 commercial compost bins; researchers evaluated products according to cost, size, rate of composting, and ease of handling.
Information Sources. "A Field Guide for Residential Remodelers" is a follow-up to the "Builders Field Guide" and presents opportunities on how to be cost- and resource-efficient. National Association of Home Builders Research Center.
Information Sources. "Packaging Waste: Whose Responsibility is it Anyway?" European, Canadian, and Asian examples of extended producer responsibility to reduce packaging waste.
News & Views. New report: "Welfare for Waste: How Federal Taxpayer Subsidies Waste Resources and Discourage Recycling"
Information Sources. "Waste Reduction in Hotels and Motels" (State of Florida)
Association Watch. Connecticut gives grants including backyard and school composting programs.
Composting Update. Mulching mower program proves successful. Mercer Island, WA.

News & Views. Recently released report, "Greening the Mail", includes recommendations for encouraging waste prevention, designing more resource-efficient mailings, reducing undeliverable mail, eliminating non-respondents.
"Cutting-edge research: Trimming grass collections" Public education on grasscycling pays for itself in less than a full grass-growing season. Project in Baltimore County, Maryland.
Information Sources. "The Worm Café: Mid-scale Vermicomposting of Lunchroom Waste: A Manual for Schools, Small Businesses and Community Groups" gives instructions on implementing vermicomposting in schools.
Information Sources. "The Sydney 2000 Olympic Games Integrated Waste Management Solution" by the Sydney Organizing Committee details eight waste streams; specifications for foodware and packaging are outlined in the strategy.
Information Sources. "Beverage Container Reuse and Recycling in Canada" by Container Recycling Institute.
Information Sources. "Master Composter Program Implementation Guide" and "Master Composter Resource Manual" by Cornell Waste Management Institute.
News & Views. Eight month project by UPS and Alliance for Environmental Innovation examining affordable and resource-saving changes to UPS' packaging will result in 13 percent reduction in waste and pollution from production of its shipping materials.
News & Views. Boulder, Colorado Green Star Kid Campaign to increase customer demand for recycled or reusable back-to-school supplies.
Information Sources. Worldwatch Institute's "Mind Over Matter: Recasting the Role of Materials in Our Lives"
Information Sources. "Demonstration of Packaging Materials Alternatives to Expanded Polystyrene" report on environmental, economic and performance characteristics of three alternative cushioning packaging materials.
"Bin there, done that" Knowing who composts at home - as well as why, what and how - helps make this technique a reliable solid waste diversion method.
Information Sources. "Preventing Waste at the Source" by Norman Crampton gives over 50 company case histories and guidance on how to develop and implement a waste prevention program.
Information Sources. "Use Less Stuff -- Environmental Solutions for Who We Really Are" by Robert Lilienfeld and William Rathje gives nearly 200 pages of everyday ways to reuse and reduce.
State & Province Watch. New York State Secondary Materials Energy Conservation Program expanded in an effort to encourage research and development of new technologies that will reduce waste generated by small businesses and not-for-profit organizations. Eligible projects enhance source reduction or material substitution, in-process recycling, energy and natural resource conservation, and other practices.
"Opportunities and strategies for reusable plastic containers": Increasing demand for recycled plastic could result from the rising use of reusable shipping containers.
Information Sources. "Discarding Waste As We Know It: Managing Materials for the 21st Century" by Paul Relis and Howard Levenson of the Gildea Resource Center. Critique and proposed alternative to integrated waste management framework.
News & Views. Hospital waste survey released. Includes information on reusable products.
Information Sources. "Compost: Truth or Consequences" is a video showing how to have success in composting. Two-part manual on how to start a master composter program.
At Press Time. Home compost bin in S. Oregon spontaneously combusted during hot weather, causing \$70,000 in damage to a duplex.
State & Province Watch. Connecticut's recycling and source reduction rate has increased; more than 31,000 tons of MSW were source reduced through backyard composting and grasscycling.
Programs in Action. Reusable fax cover sheet will be available soon.

News & Views. National ad campaign shifts focus (EDF): Buy Smart, Waste Less, Save More.
"High-value markets for deconstruction wood" Markets for reusing reclaimed lumber are becoming sustainable and wide-ranging.
"Organics take a number" For the first time, the diversion potential of composting is quantified. (Discusses EPA report "Organic Materials Management Strategies" that includes home composting, grasscycling, on-site institutional composting.)
Information Sources. "The Source Reduction Program Potential: A planning Tool" and "Reduce It" software from U.S. EPA
Information Sources. "Building for the Future: Strategies to Reduce Construction and Demolition Waste in Municipal Projects", by INFORM.
Information Sources. "Scrap Tires: Disposal and Reuse" by Dr. Robert H. Syder, claims that by 1998 we will be reusing scrap tires at the rate at which they are generated.
Information Sources. "Plastic Packaging Waste" by International Solid Waste Association (Copenhagen)
Information Sources. "National Packaging Protocol" reviews environmental packaging impacts in Canada.
State & Province Watch. Vermont has exempted from sales tax all donated materials sold by building materials stores to the public.
News & Views. "Mulching lawn mowers get a push". King County area discounts on mulching lawn mowers.
Association Watch. "Texas to implement waste reduction program" \$80,000 Waste Reduction Outreach Program of educational workshops on source reduction, home composting, recycling.
Programs in Action. University of Colorado (Boulder) is exploring ways to limit the amount of waste delivered to campus, such as free newspapers, pizza boxes and credit card applications.
News & Views. UPS is providing customers with reusable letter-size packets.
"MSW characterization: EPA's annual update" All the data on municipal solid waste generation and recovery rates - plus market conditions. Includes discussion of source reduction and reuse.
Recycling in Cyberspace: Grasscycling. References to many grasscycling programs.
Recycling in Cyberspace: Zero Waste. References to organizations advocating/implementing "Zero Waste" approaches.
Information Sources. "The Massachusetts Business' Guide to Reuse"
Information Sources. "New York City Materials Exchange Roundtable" is a 50-page summary of the recommendations on waste exchange systems generated at a meeting held last November among experts in this field.
Information Sources. American Institute of Architects and Associated General Contractors (both of Washington State) have issued guidance document: Statement on Voluntary Measures to Reduce, Recover and Reuse Building Construction Site Waste.
Programs in Action. Third annual Shop Smart campaign in S.F. Bay area, aimed at showing consumers how money can be saved by purchasing reusable products and products sold with less packaging.
Programs in Action. 100 reuse centers established in South Korea. Facilities accept and upgrade reusable household items and act as repair centers. About 15.4 percent of discarded home appliances are captured and reused.
Programs in Action. Beer producers in Quebec have agreement with provincial environment agency to make and market refillable beer containers.
"Home Composting: Issues, problems & solutions." Millions of households compost organic material on-site. Composting experts show ways to do the easiest and best job.
Programs in Action. Kentucky community encourages use of live Christmas trees; Parks Department picks up and replants.

"Source reduction documents can be yours". Indiana Institute on Recycling "How Companies Cut Costs by Using Less Stuff" details efforts by 80 businesses to cut materials. U.S. EPA "Source Reduction Program Potential Manual" for local governments.
Programs in Action. Minnesota Pollution Control Agency reduces paper use by electronic timesheets and putting internal newsletter on the intranet.
Programs in Action. Rivanna Solid Waste Authority (WV) "Clean Your Office for Our Students" program to donate reusable office supplies and goods to schools.
Composting News. Huge backyard composting system underway in Essex County, UK.
Information Sources. "Beyond Recycling: Reuser's Guide with 336 Practical Tips" how to reuse 70 common items.
Information Sources. "Making Source Reduction and Reuse Work in Your Community" NRC manual for local governments.
Programs in Action. U.S. EPA grant for 2 source reduction projects in South Dakota: distribute reusable shopping bags to residents; promote ways for residents to reduce the amount of unsolicited mail they receive.
Information Sources. INFORM's "Rethinking Resources: New Ideas for Community Waste Prevention" describes local efforts from dozens of communities.
Association Watch. Recycling Council of Alberta launches "Team TREAD" a multi-faceted tire waste reduction campaign that promotes the concept of tire stewardship through public education.
Information Sources. Waste Prevention Tools at Work is a 60-page manual and videotape on ways businesses can cut wastes, from the Cornell University Media Services Resource Center.
"Words and deeds: Getting consumers to do as they say" Shoppers say they want to reduce waste volumes and use recycled products. But do they actually do this? Includes Cornell Waste Management Institute study of consumer choices of packaging, durable products.
Information Sources. Tire Retread Information Bureau has released five videotapes addressing various issues in tire retreading, with an emphasis on successful use of retreads by government agencies.
News & Views. Decline in use of diaper services. Waste prevention by McDonald's Corporation.
Information Sources. "WRAP: Waste Reduction and Prevention" by Manitoba Pollution Prevention Branch is a 39-page overview of the provincial government's waste reduction strategy and programs.
News & Views. National Recycling Coalition has introduced the Reuse-A-Card; consumers can purchase 24 stickers thus allowing them to send cards over and over.
Information Sources. "Solid Waste Management and Environmental Programs of the Foodservice and Packaging Industry" notes the environmental practices, programs and achievements of foodservice firms through 1996.
"Boom markets boost national recovery rate" Recycling makes strong gains in this EPA update on municipal solid waste management. Includes source reduction
"Source reduction in our cities and counties" Local governments teach citizens and business that less is more. Mentions several local government programs.
"The role of reusable shipping containers" Identifying incentives that encourage reuse within distribution systems is a challenge for public policymakers.
"Less waste on the loading dock" Innovative ideas abound for reducing, reusing and recycling transport packaging waste.
Recycling in Cyberspace: Reuse sites.
Information Sources. "The Cost of Reducing Municipal Solid Waste" by Resources for the Future estimates waste reduction potential from deposits/refunds, advanced disposal fees, and recycling subsidies.

Information Sources. "No Time to Waste: Time Use and the Generation of Residential Solid Waste" addresses attitudes of individuals toward consumption and waste generation in light of changing demographics and work and family life.
Information Sources. "Creating Wealth from Everyday Items" focuses on the reclamation potential of common durable goods.
Information Sources. "Sustaining Businesses and Jobs Through Pallet Repair and Reuse" presents data on more than 30 pallet reclaimers.
Information Sources. "Guide on Transport Packaging Reduction" (National Recycling Coalition)
Information Sources. "Transportation Packaging and the Environment 1997" by Raymond Communications addresses environmental issues and provides case studies from the U.S., Canada, and Europe.
Information Sources. "Waste Minimisation: A Cross Industry Review" describes current practices and trends and provides more than 30 case studies. (United Kingdom)
Association Watch. "The future of used building materials" Used Building Materials Association is a nonprofit membership-based organization. (Held annual meeting in Portland, OR in 2001)
Programs in Action. Wine bottle reuse program. EverGreen Glass (Stockton, CA) washes and sterilizes wine bottles.
"Home sweet Home-Works: Diverting organics" A new approach to organic waste management proves efficient and cost effective. Study of on-site composting by single-family and multi-family households and ICI sector in Monmouth County, NJ.

www.Web.indstate.edu/recycle
 Manitoba, New Brunswick, PEI, others.
GreenTeam/Target1/default.htm

APPENDIX D

Survey Contact List

Survey Contact List
Waste Prevention Survey Library Project
August 22, 2002

Organization Name	Address	City/State/ZIP	Phone #	Fax #	Organization Website	Individual Name	Individual Title	Individual Phone	Individual E-mail	Notes	Send Resources (Y/N)
New York City Bureau of Waste Prevention, Reuse & Recycling	44 Beaver Street, Sixth Floor	New York, NY 10004	212-837-8156	212-837-8162	http://www.ci.nyc.ny.us/html/dos/html/bw_wast/index.html	Robert Lange	Manager, Waste Prevention Unit	212-837-8156	rwlange.nycrecycles@verizon.net	Completed interview via e-mail	Y
New York City Waste Prevention Coalition	1795 Riverside Drive, Apartment 5F	New York, NY 10034	212-567-8272	212-567-8272	http://everest.hunter.cuny.edu/~mclarke/WPCo/mm.htm	Maggie Clark	Vice Chair, Waste Prevention Coalition	212-567-8272	mclarke@shiva.hunter.cuny.edu	Completed interview	Y
Oregon Department of Environmental Quality, Solid Waste Program	811 S.W. Sixth Avenue	Portland, OR 97204	503-229-5913	503-229-6977	http://www.deq.state.or.us/wmc/solwaste/rsw.htm	David Allaway	Waste Prevention Specialist	503-229-5479	allaway.david@deq.state.or.us	Completed several interviews	Y
Massachusetts Department of Environmental Protection	One Winter Street	Boston, MA 02108-4746	617-338-2255		www.state.ma.us.dep/recycle	John Crisley	Recycling Information Coordinator	617-556-1021	john.crisley@state.ma.us	Completed interview	Y
Minnesota Office of Environmental Assistance	520 Lafayette Rd N Floor 2	St. Paul, MN 55155-4100	651-296-3417	651-215-0246	www.moea.state.mn.us	Kevin McDonald	Waste Reduction Coordinator	651-215-0262	kevin.mcdonald@moea.state.mn.us	Completed interview	N
South Dakota Department of Environment and Natural Resources	Joe Foss Building, 523 E Capitol	Pierre, South Dakota 57501	605-773-3151	605-773-6035	www.state.sd.us/denr/denr.html	Vonni Kallemeyn	Administrator of Waste Management	605-773-3153	vonni.kallemeyn@state.sd.us	Completed interview - no program	N
Orange County Solid Waste Management Department	200 South Cameron Street, Post Office Box 8181	Hillsborough, North Carolina 27278	919-968-2885	919-932-2900	http://www.co.orange.nc.us/	Blair Pollock	Solid Waste Program Manager	919-968-2788	pollock@co.orange.nc.us	Completed interview	Y
Orange County Solid Waste Management Department	200 South Cameron Street, Post Office Box 8181	Hillsborough, North Carolina 27278	919-968-2885	919-932-2900	http://www.co.orange.nc.us/	Dave Ghirardelli		968-2800 x 163	dghirard@co.orange.nc.us	Completed interview	Y
Vermont Agency of Natural Resources Department of Environmental Conservation	103 South Main Street	Waterbury, Vermont 05671	802-241-3888	802-241-3296	http://www.anr.state.vt.us/dec/wmd.htm	Marci Young	Environmental Analyst	802-241-3449;	marciy@dec.anr.state.vt.us	Completed interview	Y
Vermont Agency of Natural Resources Department of Environmental Conservation	103 South Main Street	Waterbury, Vermont 05671	802-241-3888	802-241-3296	http://www.anr.state.vt.us/dec/wmd.htm	Vicky Viens		802-241-3448	vickyv@dec.anr.state.vt.us	No interview, briefly discussed composting programs	N
The Alliance for Environmental Innovation	18 Tremont St., Suite 850	Boston, MA 02108	617-723-2996	617-723-2999	http://www.environmentaldefense.org/alliance	Chad Laurent	Research Associate	617-723-2996	claurent@environmentaldefense.org	Completed interview	N
Seattle Public Utilities, Community Services Division	Dexter Horton Building, 710 2nd Avenue, Ste. 505	Seattle, WA 98104	206-684-7666	206-684-8529	http://www.cityofseattle.net/util/	Carl Woestwin	Landscape Conservation Planner/Waste Reduction Planner	206-684-4684	carl.woestwin@ci.seattle.wa.us	Completed interview	Y
Seattle Public Utilities, Community Services Division	Dexter Horton Building, 710 2nd Avenue, Ste. 505	Seattle, WA 98104	206-684-7666	206-684-8529	http://www.cityofseattle.net/util/	Vic Roberson	Manager, Environmental Partnerships	206-615-0570	Vic.Roberson@ci.seattle.wa.us	Completed interview	Y

Survey Contact List
Waste Prevention Survey Library Project
August 22, 2002

Organization Name	Address	City/State/ZIP	Phone #	Fax #	Organization Website	Individual Name	Individual Title	Individual Phone	Individual E-mail	Notes	Send Resources (Y/N)
Seattle Public Utilities, Community Services Division	Dexter Horton Building, 710 2nd Avenue, Ste. 505	Seattle, WA 98104	206-684-7666	206-684-8529	http://www.cityofseattle.net/util/	Tom Gannon	Planning and Development Specialist	206-684-8565	tom.gannon@ci.seattle.wa.us	Completed interview	N
Seattle Public Utilities, Community Services Division	Dexter Horton Building, 710 2nd Avenue, Ste. 505	Seattle, WA 98104	206-684-7666	206-684-8529	http://www.cityofseattle.net/util/	Thor Peterson		206-615-0731	thor.peterson@ci.seattle.wa.us	Completed interview	N
Seattle Public Utilities, Forecasting & Evaluation	Dexter Horton Building, 710 2nd Avenue	Seattle, WA 98104	206-684-7666	206-386-9147	http://www.cityofseattle.net/util/	Jenny Bagby, PhD	Principal Economist	206-684-7808	jenny.bagby@ci.seattle.wa.us	Completed interview	N
Seattle Office of Sustainability and Environment	Key Tower, 700-5th Avenue, #2748	Seattle, WA 98104	206-615-0817	206-684-3013	http://www.cityofseattle.net/environment/default.htm	Tracy Dieckhoner		206-386-4595	tracy.dieckhoner@ci.seattle.wa.us	No interview, she referred us to their website	N
King County Department of Natural Resources and Parks, Solid Waste Division	201 South Jackson Street, Suite 701	Seattle, WA 98104	206-296-6542	206-296-4475	http://dnr.metrokc.gov/swd/	Sharon Aller	Program Analyst	206-296-4352	sharon.aller@metrokc.gov	Completed interview	N
King County Department of Natural Resources and Parks, Solid Waste Division	201 South Jackson Street, Suite 701	Seattle, WA 98104	206-296-6542	206-296-4475	http://dnr.metrokc.gov/swd/	Gerty Coville	Program Analyst	206-296-8459	gerty.coville@metrokc.gov	Completed interview	N
King County Department of Natural Resources and Parks, Solid Waste Division	201 South Jackson Street, Suite 701	Seattle, WA 98104	206-296-6542	206-296-4475	http://dnr.metrokc.gov/swd/	Tom Watson	Program Analyst	206-296-4481	tom.watson@metrokc.gov	Completed interview	N
Metro, Regional Environmental Management Department	600 N.E. Grand Avenue	Portland, OR 97232	503-797-1650	503-797-1795	http://www.metro.dst.or.us/rem/rem.html	Steve Apotheker	Associate Solid Waste Planner	503-797-1698	apothekers@metro.dst.or.us	Completed interview	N
Metro, Regional Environmental Management Department	600 N.E. Grand Avenue	Portland, OR 97232	503-797-1650	503-797-1795	http://www.metro.dst.or.us/rem/rem.html	Genya Arnold	Associate Solid Waste Planner	503-797-1676	arnoldg@metro.dst.or.us	Completed interview	N
Metro, Regional Environmental Management Department	600 N.E. Grand Avenue	Portland, OR 97232	503-797-1650	503-797-1795	http://www.metro.dst.or.us/rem/rem.html	Marta McGuire	Assistant Planner	503-797-1806	mcguirem@metro.dst.or.us	Completed interview	N

APPENDIX E

Program Profiles

PROGRAM PROFILE OREGON DEQ – WASTE PREVENTION PROGRAMS

**(SEE ALSO “OREGON DEQ – SOLID WASTE GRANTS PROGRAM” AND
“OREGON DEQ – RESOURCE EFFICIENCY PROGRAM”)**

Interview Contact Information

Name/Title of interview contact: David Allaway, Waste Prevention Specialist
Phone number/e-mail: (503) 229-5479; allaway.david@deq.state.or.us
Organization name and location: Oregon Department of Environmental Quality (DEQ)
Website: <http://www.deq.state.or.us/wmc/solwaste/rsw.htm>

Background Program Information

- 1. Please briefly describe your program(s) and its goals. Is the program internal to your operations, or does it target a population (such as members of your trade association, residents in your community, etc.)?**

State policy identifies a solid waste management hierarchy which places top-most priority on prevention, followed by re-use, then recovery, composting, energy recovery, and finally, disposal. Despite this policy hierarchy, prevention and reuse activities have received relatively much less attention at DEQ (relative to recovery) until recently.

In 2001, the Oregon legislature established waste prevention goals for the state. This was due in part to a finding that between 1992 and 1999, per-capita waste disposal actually went up in Oregon, despite large increases in recovery. (In other words, per-capita waste generation has increased significantly. Oregon defines “waste generation” as disposal plus recovery.) These new goals are:

- Beginning in 2005 and for each year thereafter, no annual increase in per-capita waste generation.
- Beginning in 2009 and for each year thereafter, no annual increase in total waste generation.

In 2001 the Legislature also changed the “policy findings” that underpin the State’s solid waste policy. Previously, waste reduction policy was based on a perception that recovery and prevention was needed to avert a “landfill crisis”. Policy stated that recycling was a matter of statewide concern, the opportunity to recycle should be provided, there was a shortage of appropriate landfill sites in Oregon, and that waste prevention and reuse would extend landfill life and reduce environmental impacts of landfills. New policy in 2001 recognizes that there are significant environmental impacts “upstream” (associated with material production), adding that “there are limits to Oregon’s natural resources and the environment’s ability to absorb the impacts of increased consumption and waste generation” and “it is in the best interest of the people of Oregon to conserve resources and energy”.

DEQ’s approach to solid waste prevention (including reuse) is to involve local governments, consumers, businesses, schools, and non-governmental organizations in voluntary initiatives. DEQ sees its role as

encouraging, providing assistance, providing limited funding, conducting pilot projects, evaluating ideas, serving as a source of information, and ensuring that successful projects get replicated.

DEQ activities in waste prevention (and reuse) during the current biennium (July 2001 – June 2003) tend to focus on non-residential sources of waste and, among households, on the generation of yard debris.

Programs include the following:

- Grants. (DEQ's solid waste grants program has been in existence since 1991 and is described in the separate Oregon DEQ – Solid Waste Grants Program profile.)
- Materials exchanges/reuse. DEQ is promoting the use of existing materials exchange services, such as IMEX and to a lesser extent, CalMAX. DEQ has led the establishment of a materials exchange web portal to help businesses find exchange services, www.NWmaterialsmart.org, and the promotion of this portal to manufacturing firms throughout the state.
- Food salvage. Oregon is ranked as having some of the highest rates of hunger and food insecurity in the nation. DEQ has recently supported several edible "food rescue" projects around the state through its grants program and also through technical assistance and facilitating the exchange of information between programs.
- Business outreach. DEQ is currently leading a project, co-funded by Metro (the regional government of the Portland area) to address waste prevention associated with packaging. The objectives of this project include achieving measurable waste prevention among Oregon businesses, developing best management practices that businesses can use to evaluate and reduce packaging waste, and evaluating the need for a longer-term, ongoing effort in this area. (Packaging comprises approximately 20% - 25% of waste generated in Oregon.)
- Natural gardening. A campaign involving lawn care was planned but is currently on-hold due to a budget shortfall.
- Technical assistance, information sharing, publications, videos. DEQ staff provide "on call" assistance to local governments, businesses and the general public regarding waste prevention. This assistance sometimes includes reviewing and editing draft publications (such as a recent "Green Office Guide" prepared by the City of Portland and waste prevention videos produced by Clackamas County), or producing fact sheets or publications. Resources produced by DEQ include a display regarding household hazardous waste prevention, an elementary school waste reduction curriculum (<http://www.deq.state.or.us/wmc/solwaste/rethinkrecyc/rethinkrecyc.html>), and a natural gardening handbook co-produced with Metro. DEQ also contributes assistance as a member of several project steering committees. For example, DEQ is helping the City of Portland and Metro on an upcoming project to work with copy machine leasing/service companies to expand the practice of "default duplex" on copy machines. DEQ is also helping Metro and the local governments in the Portland area on a series of outreach activities to area legal professionals regarding paper use.
- To facilitate the in-house storage and retrieval of information, staff has created a "Waste Prevention Resource Clearinghouse". This is an MS Access database that allows staff to catalog and rapidly retrieve conventional sources of information (books, magazine articles) as well as unconventional sources (e-mail messages, electronic files) that may contain useful information in the area of waste prevention.

- Chipper tax credit. The State offers a tax credit for the purchase of chippers used to chip yard debris on-site. For more information, please see “Wood Chippers” under <http://www.deq.state.or.us/msd/taxcredits/txcp.htm>.
- Planning and evaluation. During the second half of this biennium, staff will prepare a longer-term waste prevention plan. This plan will be based in part on an evaluation of activities currently underway.

A previous set of projects, the “Resource Efficiency Programs” are also described in the separate Oregon DEQ – Resource Efficiency Program profile.

2. How long has the program been in operation? Is it still in operation?

Prior to 1994, DEQ’s support of waste prevention was mostly limited to a few grant-funded projects and a few publications. In 1994 DEQ began a pilot project that eventually grew into its “Resource Efficiency Program” (see separate profile). In 1997, the Oregon legislature recognized that local governments were not receiving credit for prevention, reuse, and home composting programs and so established a “2% recovery credit” program to serve as an incentive as part of the annual recovery rate calculation that is conducted by DEQ (see <http://www.deq.state.or.us/wmc/solwaste/rrcredit.html> for more on this incentive). In 1999 the grants program was changed to allow for “focus areas” and waste prevention was designated as the “focus area” for the years 2000 and 2001 (see the separate Oregon DEQ – Solid Waste Grants Program profile for more information). In 2000 DEQ hired a limited duration waste prevention technical specialist to help increase waste prevention activities around the state. The legislature established prevention goals in 2001. Many of the programs listed above were initiated during the last two years.

3. What parties are involved with program implementation? (city/county/state, haulers, partnerships with other organizations, technical assistance providers, other contractors).

DEQ works closely with local governments (cities and counties). On certain projects, such as NWmaterialsmart, DEQ partners with economic development organizations or business organizations to help conduct outreach to businesses. Contracted work includes some promotional activities (brochures, etc.), and for the packaging project, both packaging engineering and a limited amount of environmental life cycle impact analysis. For the natural gardening booklet, NWmaterialsmart and packaging projects, DEQ has relied on co-funding from Metro; other local governments also helped fund the NWmaterialsmart campaign.

4. What are the roles of parties involved with implementation?

Varies by program. Some activities are led by DEQ, other times DEQ provides technical assistance and support. Because DEQ’s budget for waste prevention is relatively small, DEQ tries to encourage and support local initiatives, evaluate those activities, and help successful efforts to be replicated.

Measuring Program Success

1. How do you evaluate the effectiveness of your program?

In theory, overall success would be measured by reductions in per-capita and total waste generation. However, DEQ has not identified reasonable methods for either a) quantifying reductions in generation “caused by” or “supported by” DEQ efforts, or b) isolating changes in waste generation due to these efforts from changes caused by external variables such as climate, economic activity, etc.

Individual programs and initiatives have different levels of evaluation. Some are not evaluated at all, while others have rigorous evaluation protocols. Generally speaking, evaluation is seen as important because it supports DEQ's focus of "identifying replicable projects and getting them replicated". However, evaluation is often quite difficult and sometimes involves quantifying (or qualifying) upstream environmental impacts, which can be very difficult to do.

2. What data do you evaluate, or find useful to evaluating your program's effectiveness?

Again, it depends on the activity. Evaluation criteria sometimes include estimates of diversion, estimates of environmental benefits, estimates of money saved (especially for non-residential outreach), and extent of behavior change. Some projects have other evaluation criteria. For example, the NWmaterials smart campaign includes some evaluation of the relative effectiveness of different business outreach methods (direct mail vs. advertisements vs. media relations), for the purpose of helping guide the allocation of resources in future, similar projects. For a recent home compost bin distribution (funded through a grant to a local government), DEQ is helping to design a survey of bin recipients that will evaluate ongoing behavior, relative amount of "new" vs. "shifted" diversion ("shifted diversion" is materials put in the compost bin that would have been diverted from disposal regardless), effectiveness of the specific bin chosen for distribution, and outstanding needs.

3. How do you quantitatively measure program effectiveness? (please be specific, i.e. cost per ton diverted, # of businesses contacted, other).

Please see above.

Overall

1. What do you consider to be particularly successful or valuable about this program?

The change to the grants program (see the Oregon DEQ – Solid Waste Grants Program profile) is probably the greatest single accomplishment. With the introduction of the "focus area" criteria, grant funds spent on waste prevention and reuse activities increased from about 10% of total grant funds (in 1991 – 1999) to 53% for the last two years (2000 – 2001), where waste prevention was included in the focus area. Many of the other activities described above have only recently been implemented and have not been fully evaluated yet, so this question is difficult to answer.

2. Are there any upcoming changes or improvements in your program? (funding increases/decreases, service provider changes, regulatory changes, change in program focus, etc.)

DEQ's Solid Waste Program is facing a budget shortfall (due in part, ironically, to a decrease in per-capita waste generation that began with the softening economy in 2000 and appears to be continuing). While prevention is the top priority in solid waste policy, State statute requires many specific activities of the DEQ and local governments in the area of recovery and this tends to drive behaviors, funding, and priorities. One prevention project that was planned for this biennium, a campaign to advance "natural gardening" (addressing both home composting/grasscycling and hazardous waste reduction issues) has already been put on hold due to budget shortfalls.

3. Is there anything you would like to do differently in your program?

Would like to have a better understanding of the life-cycle impacts of different materials uses and how these are impacted by end-of-life management. Certain recovery activities may be of questionable environmental value (especially if large transportation distances are involved), but there is no easy way to

evaluate these. Knowing more and better life cycle impact information would make it easier to target particular waste or material types for prevention activities, and would provide more confidence that the waste prevention activities were being effectively targeted.

Documentation

Please send copies of handouts, posters, promotional materials, budget information, program descriptions, program evaluations, copies of grant proposals, case studies, other.

(See other Oregon DEQ profiles). Program descriptions/budgets for NWmaterials and the packaging project will be sent. Evaluation reports for these projects are not yet available.

DEQ staff are currently populating a new in-house service, the “Waste Prevention Resource Clearinghouse” (WPRC). The WPRC is intended to be a resource that allows staff to save and easily retrieve information regarding waste prevention, regardless of format (written document, magazine article, e-mail article, electronic document, etc.). It may be possible to share a copy of this with the Alameda County Waste Management Authority, although it would not be practical to provide copies of all of the printed materials referenced by the WPRC. Further, electronic documents (including e-mails) referenced by the WPRC are referenced by hyperlink to DEQ’s server, and so this feature would not be enabled if the WPRC database were copied and shared with the Authority.

Other Programs

Are there other waste prevention (and reuse) programs that you are particularly impressed with? Please provide us with a name and contact information if available.

See other Oregon DEQ profiles.

Other Documentation

Are there other reports, documents, websites, videos, etc. on the topic of waste prevention (and reuse) that you think are particularly valuable? Do you know where we can obtain copies of these resources? (We do have a duplications/purchasing budget for resources that can be used to reimburse duplication and shipping of such resources.)

See other Oregon DEQ profiles.

Other Comments/Notes

See other Oregon DEQ profiles.

PROGRAM PROFILE
OREGON DEQ – RESOURCE EFFICIENCY PROGRAM

**(SEE ALSO “OREGON DEQ – SOLID WASTE GRANTS PROGRAM” AND
“OREGON DEQ – WASTE PREVENTION PROGRAMS”)**

Date of Interview: July 6, 2001

Name of Interviewer: Delyn Kies

Interview Contact Information

Name/Title of interview contact: David Allaway, Waste Prevention Specialist

Phone number/e-mail: (503) 229-5479; allaway.david@deq.state.or.us

Organization name and location: Oregon Department of Environmental Quality (DEQ)

Website: <http://www.deq.state.or.us/wmc/solwaste/repp/resefpp.html> and
<http://www.deq.state.or.us/wmc/solwaste/cstudy.html>

Background Program Information

- 1. Please briefly describe your program(s) and its goals. Is the program internal to your operations, or does it target a population (such as members of your trade association, residents in your community, etc.)?**

The Department of Environmental Quality (DEQ) funded a series of five pilot projects between 1996 and 1999: Corvallis, Milwaukee, Cannon Beach, Bend/Central Oregon, and Yamhill County. Each project involved a local public-private partnership that helped to co-fund a local “Resource Efficiency Program”. Although the five programs varied in detail, all provided a part- to full-time “Resource Efficiency Coordinator” (REC) who recruited small- and medium-sized businesses and government facilities. The REC then conducted comprehensive assessments that included energy and water conservation but focused on waste prevention. Recommendations were provided to each participant, with follow-up assistance for implementation and measuring results. The fifth community, Yamhill County, focused on pilot projects to reduce “shrink” (unsold food) in grocery stores.

- 2. How long has the program been in operation? Is it still in operation?**

Pilot programs were funded by DEQ for periods of two to four years each. Currently the only program still in its original operation is in Bend. Through its solid waste grants program, DEQ is currently providing funding for similar projects in Corvallis (Benton County), Jackson County (Medford/Ashland), and Gresham. DEQ staff are available to provide assistance to communities who wish to implement similar programs in their areas.

- 3. What parties are involved with program implementation? (city/county/state, haulers, partnerships with other organizations, technical assistance providers, other contractors).**

DEQ provided funding, and through a contractor also trained the RECs, and provided ongoing technical assistance and program evaluation. Local sponsors included cities and counties, chambers of commerce, energy and water utilities, and business leaders. Oregon Grocery Industry Association was a partner in the Yamhill County project.

4. What are the roles of parties involved with implementation?

Local sponsors primarily provide funding or in-kind services (office, identity, etc.) as well as helping with promotion and participant recruitment. Some of the energy and water utilities have provided limited technical assistance.

Measuring Program Success

1. How do you evaluate the effectiveness of your program?

All five communities were required to report for each participant: the recommendations made, the recommendations implemented, and where known, the resource and financial savings (and cost) for each implemented recommendation. For the first three communities, a more extensive evaluation was conducted. It included “exit interviews” with selected participants and RECs upon program conclusion. One community (Cannon Beach) included more community-wide resource efficiency outreach, and they attempted to evaluate this with two baseline surveys (one of residents, one of businesses) and then follow-up surveys two years later. Copies of 6 reports are available:

- Evaluation report for the first three communities
- Evaluation report of the grocery “shrink” project
- Baseline and follow-up surveys of residents and businesses in Cannon Beach.

2. What data do you evaluate, or find useful to evaluating your program’s effectiveness?

Percentage of recommendations implemented; resource savings; financial savings.

3. How do you quantitatively measure program effectiveness? (please be specific, i.e. cost per ton diverted, # of businesses contacted, other).

See #2.

Overall

1. What do you consider to be particularly successful or valuable about this program?

Demonstrated a need for these types of services for small- and medium-sized businesses. Demonstrated a wide variety of cost-effective resource efficiency activities for businesses, with a focus on waste prevention. Many of these are included in “vignettes” (short case studies) on DEQ’s web page: <http://www.deq.state.or.us/wmc/solwaste/cstudy.html>.

2. Are there any upcoming changes or improvements in your program? (funding increases/decreases, service provider changes, regulatory changes, change in program focus, etc.)

DEQ does not have funding to provide for ongoing support of these programs except through the solid waste grant program, which is competitive with other types of applications. Most local communities also have not been able to develop the funding to continue these services. This has been one of the greatest frustrations with the program. DEQ is looking to a newly created (and very well funded) organization, The Energy Trust of Oregon, to help fund the energy conservation elements of these projects.

3. Is there anything you would like to do differently in your program?

Find permanent funding. Also, some of the programs seem to have an easier time than others with achieving meaningful waste prevention results. Some of the programs achieve greater results with energy and water conservation (relative to waste prevention), in part because these are better understood, easier to measure, more “in the news” (higher profile), and may require less change in the operations of participating sites. David expressed an ongoing need to find methods to achieve meaningful waste prevention results if DEQ’s Solid Waste Program is going to continue supporting these types of programs.

Documentation

Please send copies of handouts, posters, promotional materials, budget information, program descriptions, program evaluations, copies of grant proposals, case studies, other.

In addition to the reports noted above, DEQ will also send a copy of its “Resource Efficiency Tool Kit”, which includes several sections. “Community Tools” provides information about organizing a community-based resource efficiency program. “Participant Tools” are described as an early attempt to provide information about how to implement resource efficiency. DEQ hopes to revise and simplify this document in the future. “School Tools” provides a condensed version of the “Participant Tools”, supplemented with school-specific information.

DEQ will also send a copy of a report about conducting waste prevention assessments at businesses.

Other Programs

Are there other waste prevention (and reuse) programs that you are particularly impressed with? Please provide us with a name and contact information if available.

David recommended contacting Judy Henderson of DEQ regarding DEQ’s solid waste grant program for local governments. Last year (2000) for the first time the DEQ grant program provided for a “focus area” and the focus area was waste prevention/reuse. Many local waste prevention/reuse programs were funded. (see separate Oregon DEQ – Solid Waste Grant Program profile.)

Other Programs Recommended

- King County “Waste Free Fridays”
- Metro/Multnomah Bar Association “Be a Partner in Waste Prevention” legal industry campaign
- State of Minnesota (Ken Brown)

Other Documentation

Are there other reports, documents, websites, videos, etc. on the topic of waste prevention (and reuse) that you think are particularly valuable? Do you know where we can obtain copies of these

resources? (We do have a duplications/purchasing budget for resources that can be used to reimburse duplication and shipping of such resources.)

DEQ is currently developing its own waste prevention library. David expects it will be complete in 2002 and may be able to share data with Alameda County Waste Management Authority at that time.

Other Comments/Notes

He also recommended contacting the EPA WasteWise program, the National Recycling Coalition (NRC) Source Reduction Forum, and Polk County Florida, who is currently doing a source reduction measurement/potential study.

PROGRAM PROFILE
OREGON DEQ – SOLID WASTE GRANTS PROGRAM

**(SEE ALSO “OREGON DEQ – RESOURCE EFFICIENCY PROGRAM” AND
“OREGON DEQ – WASTE PREVENTION PROGRAMS”)**

Interview Contact Information

Name/Title of interview contact: David Allaway, Waste Prevention Specialist
Phone number/e-mail: (503) 229-5479; allaway.david@deq.state.or.us
Organization name and location: Oregon Department of Environmental Quality (DEQ)
Website: <http://www.deq.state.or.us/wmc/solwaste/grants.html>

Background Program Information

- 1. Please briefly describe your program(s) and its goals. Is the program internal to your operations, or does it target a population (such as members of your trade association, residents in your community, etc.)?**

On an annual basis, DEQ gives grants to local governments for projects that help Oregon meet its waste management and recovery goals. Local governments use these grants to target a variety of populations (residential, nonresidential, etc.). Beginning with the year 2000 grant round (applications due in 2000), DEQ changed this program to include a “focus area”. Each year, the Department determines one or more “focus areas”, such as waste prevention. Grant applications in that year that qualify in the “focus area” receive additional points during the application scoring process, which is usually highly competitive.

- 2. How long has the program been in operation? Is it still in operation?**

The grant program began in 1991. It is still in operation. Since its inception, just over \$3.25 million has been awarded in 179 separate grants, for an average of \$296,000 per year.

- 3. What parties are involved with program implementation? (city/county/state, haulers, partnerships with other organizations, technical assistance providers, other contractors).**

Any local government responsible for solid waste management is eligible to apply, including cities, counties, metropolitan service districts, tribes, sanitary districts, and county service districts. Local governments may receive grant funds to conduct their own projects or may pass through money to community groups, private individuals, non-profit organizations, schools, businesses, or Chambers of Commerce who will work under contract with the local government. This liberal ability to “pass through” funds was initiated with the year 2000 grant cycle. Previously, pass through ability was more limited.

4. What are the roles of parties involved with implementation?

Local governments enter into agreements with DEQ and are responsible for quarterly progress reports and invoices. The actual work may be performed by the local government, or by an agent of the local government. Several of the more successful projects have involved multiple partners in the community.

Measuring Program Success

1. How do you evaluate the effectiveness of your program?

Evaluation occurs at two levels: the grants program overall, and individual projects.

For the program overall, the evaluation metric of greatest interest to DEQ waste prevention staff is the percentage of funds spent on projects that have a waste prevention (or reuse) element. Prior to the establishment of “focus areas”, DEQ received relatively few applications for projects in the areas of waste prevention and reuse, and such applications may have been at a competitive disadvantage during scoring. Staff estimates that between 1991 and 1999, about 10% of grants funds were spent on projects that were exclusively waste prevention/reuse, or on portions of projects that addressed waste prevention/reuse.

In 2000, the first year that “focus areas” were used, the focus area was “waste prevention (including reuse)”. In 2001, the focus area was narrowed slightly to “natural gardening (including home composting and grasscycling) and non-residential waste prevention (including reuse).” This narrower focus was chosen to focus applications away from general residential awareness types of campaigns, which DEQ staff tends to view unfavorably. For these two years (combined), approximately 53% of grant funds were spent on projects that are exclusively waste prevention/reuse, or on portions of projects that addressed waste prevention/reuse.

However, not all of these grant-funded projects have been equally successful. DEQ requires a limited amount of project evaluation and reporting as a condition of quarterly reports and payment. Previously, grantees were asked to answer a standard set of questions as part of a final project report, and the quality of responses has varied widely. In the last two years, DEQ has retained these standard questions while adding customized questions for certain applicants. Not all final reports have been received for projects funded in the 2000 grant cycle, and only a few reports have been received for projects funded in the 2001 grant cycle. These reports will be reviewed as part of DEQ’s larger waste prevention planning effort (see separate Oregon DEQ - Waste Prevention Programs profile) but have not been reviewed for this purpose yet. So it is unknown if this extra effort to collect useful program data will prove fruitful or not.

2. What data do you evaluate, or find useful to evaluating your program’s effectiveness?

Tons of material diverted (if known or reasonably estimated), program cost, leveraged resources, long-term impact, replicability by other communities.

3. How do you quantitatively measure program effectiveness? (please be specific, i.e. cost per ton diverted, # of businesses contacted, other).

Please see above. Measures of effectiveness vary between specific grant-funded projects. For example, a “green business” outreach project may be asked to report number of businesses visited, percentage of recommendations implemented, and an estimate of financial and resource savings at each business. An edible food rescue program may be asked to report the pounds of food diverted and number of meals provided. General awareness projects targeting the residential populations are viewed as the most difficult to evaluate, and evaluation in these areas may be limited to campaign activities (number of radio

spots, number of brochures distributed, etc.) with outcomes reported only if readily available (number of website hits, etc.).

On occasion, DEQ will provide additional assistance to support evaluation of a specific grant project, particularly if this evaluation helps DEQ with statewide planning issues but is of less value to the local government. For example, DEQ recently gave a grant to a small town for a home compost bin distribution event. DEQ is considering the value of this type of campaign on a statewide basis and so is helping the City with design, implementation, and analysis of a survey of bin recipients. Results of the survey will help the City with local planning and will help the State with its larger waste prevention strategy.

Overall

1. What do you consider to be particularly successful or valuable about this program?

With the introduction of the “focus area” criteria, grant funds spent on waste prevention and reuse activities increased from about 10% of total grant funds to 53% for the last two years, where waste prevention was included in the focus area. This has resulted in support for a wide variety of prevention- and reuse-related projects. The information from these projects is expected to be useful as DEQ prepares its waste prevention strategic plan in the 2002-2003 biennium.

2. Are there any upcoming changes or improvements in your program? (funding increases/decreases, service provider changes, regulatory changes, change in program focus, etc.)

In the current year (2002), applications are due in September but funds available are expected to be below average due to budget shortfalls within the State’s Solid Waste Program. The long-term outlook for continued funding for this grants program is unclear. Also for this year, the focus area includes certain types of prevention as well as recovery projects.

3. Is there anything you would like to do differently in your program?

Continue funding effective prevention and reuse projects. Through grant evaluation (currently underway), improve DEQ’s ability to select (and fund) applications that have a high likelihood of success, and avoid funding projects that have a low likelihood of success.

Documentation

Please send copies of handouts, posters, promotional materials, budget information, program descriptions, program evaluations, copies of grant proposals, case studies, other.

All DEQ solid waste grants from 1991 – 2001 are listed and summarized at the website <http://www.deq.state.or.us/wmc/solwaste/grants.html>

Other Programs

1. Are there other waste prevention (and reuse) programs that you are particularly impressed with? Please provide us with a name and contact information if available.

The states of Massachusetts, Minnesota, California, and Florida have given prevention or reuse grants in previous years. Other states may have as well. Many communities have solid waste grant programs, but most have tended to focus on planning, household hazardous waste, and/or recovery.

Other Documentation

Are there other reports, documents, websites, videos, etc. on the topic of waste prevention (and reuse) that you think are particularly valuable? Do you know where we can obtain copies of these resources? (We do have a duplications/purchasing budget for resources that can be used to reimburse duplication and shipping of such resources.)

Reports of specific DEQ-funded grant projects should be available (although older reports may take some time to track down). Please contact David if information is requested on any specific project.

One of the grant projects funded the creation of three short videos that tout the environmental and economic benefits of waste prevention in business. The videos were produced by the Oregon State University Extension Master Recycler Program and Clackamas County Community Environment Division. The videos are available free of charge through a lending program (with preference to in-state requests), or may be purchased.

Each of the tapes highlights a different aspect of waste prevention and is targeted to different staff. The videos include:

- "Why Should I Bother: Waste Prevention in the Workplace" (10 min.): This is designed as an introduction to the benefits of cutting waste. Emphasis is on motivating company executives, managers and employees to take action to save money and resources. It can be used at community meetings or shown to employees as part of a comprehensive waste prevention education effort.
- "Better Than Recycling: Waste Prevention in the Office" (14 min.): This focuses on the biggest waste item in most offices - paper. Various businesses show techniques they practice to reduce the amount of paper they use, increase efficiency, save money and improve communications with customers. It is primarily designed to show to office staff.
- "Better Than Recycling: Waste Prevention in Manufacturing and Distribution" (15 min.): This video focuses on the many waste-saving challenges facing manufacturers. It shows how a number of Oregon businesses met that challenge. Tips include using reusable packaging and using new materials and methods to produce and ship goods. The video is geared to company manufacturing line staff and supervisors, and others interested in streamlining operations.

If Alameda County Waste Management Authority wants to obtain any of these for its library, the videotapes may be purchased individually or as a set of three by writing to: Publication Orders, Extension and Station Communications, Oregon State University, 422 Kerr Administration Building, Corvallis, OR, 97331-2119. The phone number is (541) 737-2513. Individual videos are \$19.95 and the complete set is \$48, including shipping. Purchase order requests may also be made by writing to: puborders@orst.edu.

Other Comments/Notes

David was very impressed with the wide variety of prevention and re-use projects that the DEQ solid waste program has funded, especially in the last two years. This is a partial list of grants with a prevention- or reuse-focus (this list also illustrates how much more activity has occurred in the last two years):

- City of Ashland (1993): \$27,780 for a backyard composting education program.
- City of Sandy (1994): \$23,500 for a mobile chipper that is loaned to residents for on-site chipping of woody debris.

- Columbia County (1995): \$7,499 in pass-through to the St. Helens School District to convert from disposable lunch trays and utensils to reusable lunch trays and silverware, and to purchase a dishwasher.
- City of Eugene (1995): \$2,400 to create two compost demonstration sites and start a grasscycling education campaign.
- City of Eugene (1996): \$20,000 to start a worm bin distribution program and supporting educational activities.
- Linn County (1996): \$4,644 for a home composting demonstration site.
- City of Manzanita and Tillamook County (1996 and 1998): \$41,000 over several grants for a project that included improving a construction and demolition debris reuse/salvage yard.
- City of Corvallis (1997): \$5,891 for a compost demonstration site.
- Curry County (1997): \$4,400 for purchase of 60 composting bins to initiate food composting at schools.
- City of Gresham (1997): \$5,000 for mini-grants to support school waste reduction efforts.
- Metro (1997 and 1998): \$38,510 to help establish SCRAP, a non-profit organization that operates a reuse warehouse primarily as a resource for teachers in the public schools.
- Eugene (1998): \$12,102 to install two in-vessel composting units at a grocery store.
- Clackamas County (1999): \$15,314 to create three business waste prevention videos.
- Jackson County (1999): \$32,500 for a variety of waste prevention, reuse, and home composting programs to help the County qualify for a “6% credit” (2% possible in each of the three program areas under Oregon’s 2% recovery credit program described in the separate Oregon DEQ – Waste Prevention Programs profile).
- Lane County (1999): \$18,720 to establish a Master Recycler program (that includes prevention and reuse).
- Benton County (2000): \$44,309 for a “resource efficiency program” that provides comprehensive (waste, energy, water) assessments to businesses.
- City of Eugene (2000): \$24,110 for assessments at grocery stores, restaurants, and produce marts to help these businesses separate edible food for donation.
- Jackson County (2000): \$29,168 to help pay for start-up of a food rescue service for edible food.
- Jackson County (2000): \$20,000 to help pay for start-up of a “Green Business” certification program.
- City of La Grande (2000): \$15,111 for a project that includes subsidized sales of home composting bins.
- Lane County (2000): \$32,000 for a waste prevention public motivation and awareness campaign.

- Marion County (2000): \$25,203 for a facility to reuse and recycle outdated electronics equipment, focusing on refurbishing computers for resale and donation to low-income families.
- City of Milwaukie (2000): \$4,400 for creation of a “Supply Our Schools” website (now on-line at www.SupplyOurSchools.com)
- City of Ontario (2000 and 2001): \$38,114 for a program that uses prison labor to sort and package edible but non-salable onions from onion processors for donation to the Oregon Food Bank.
- City of Portland (2000): \$61,000 in two grants to be passed through to The Rebuilding Center, a large deconstruction service and retail yard. One grant is to purchase trailers that will expand the Center’s deconstruction capacity. The other is to help establish a “value-added” program that turns reusable building materials into higher-value furniture, etc.
- City of Portland (2000): \$41,070 to support operating expenses at Free Geek Inc., a non-profit community organization that accepts donations of electronic equipment. All reusable equipment is refurbished with volunteer help; volunteers and community groups can obtain refurbished computer equipment and training in exchange for services.
- Benton County (2001): \$3,515 to collect reusable furniture and appliances from students moving from area colleges in June 2002.
- Deschutes County (2001): \$32,243 to purchase a cold storage facility and pay the salary of a person to expand an edible food rescue program.
- Deschutes County (2001): \$7,790 to create a home compost demonstration site and conduct six home composting workshops.
- Douglas County (2001): \$30,000 to develop system for the convenient collection of used building materials.
- City of Eugene (2001): \$28,360 in pass-through funds to support a local deconstruction enterprise.
- City of Gresham (2001): \$41,100 to support a two-year “green business” program that includes waste prevention as well as recycling, stormwater, wastewater, and energy and water conservation.
- Metro (2001): \$18,000 for market research and implementation of an educational campaign targeting the use of low-mercury lamps and proper handling/recycling of fluorescent lamps in multi-tenant commercial buildings.
- City of Springfield (2001): \$5,000 for installation of an in-vessel composter at a hospital.
- City of Tillamook (2001): \$23,000 for expansion of a countywide edible food recovery effort as well as creation of a home composting demonstration site and home composting bin sale.
- City of Wilsonville (2001): \$23,087 for installation of in-vessel composting units at two schools.
- Douglas County (2001): \$19,970 for a household hazardous waste prevention awareness campaign.

PROGRAM PROFILE: NEW YORK CITY

Interview Contact Information

Note: Most of this information was obtained through a review of literature and information on New York City's website(s). Some information was obtained through a March 1, 2002 interview with Maggie (Marjorie) Clarke, a teacher and consultant who is also the Vice Chair of the New York City Waste Prevention Coalition.

Name/Title of interview contacts: Maggie Clarke, Vice Chair of the NYC Waste Prevention Coalition.

Phone number/e-mail: (212) 567-8272; mclarke@shiva.hunter.cuny.edu

Organization name and location: New York City Waste Prevention Coalition

Robert Lange, Director of the Bureau of Waste Prevention and Recycling, provided some supplemental information in a June 7, 2002 e-mail.

Name/Title of interview contacts: Robert Lange, Director, Bureau of Waste Prevention and Recycling.

Phone number/e-mail: (212) 837-8156; rwlange.nycrecycles@verizon.net

Organization name and location: New York City Department of Sanitation

Websites (City's): <http://www.nyc.gov/html/dos/html/recywprpts.html>,
http://www.ci.nyc.ny.us/html/dos/html/bw_wast/index.html, and
<http://www.nycwasteless.org/>

Website (Coalition's): <http://everest.hunter.cuny.edu/~mclarke/WPComm.htm>

Background Program Information

- 1. Please briefly describe your program(s) and its goals. Is the program internal to your operations, or does it target a population (such as members of your trade association, residents in your community, etc.)?**

The New York City Department of Sanitation (DOS) has conducted (directly and through contracts) an extensive amount of research and program development in waste prevention. Programs target all populations: households, businesses, and government. Some programs have been ongoing, while others have been pilot projects. Approximately \$3 million was spent per year for the last seven years for all waste prevention programs. A list of major waste prevention activities includes:

- a. The Partnership for Waste Prevention. An umbrella initiative which involved several discrete partnership projects with businesses and business organizations to educate businesses about waste prevention. Seven (7) specific partnerships are profiled in Part 5 of the report "NYC Recycles: More Than a Decade of Outreach Activities by the NYC Department of Sanitation"

(available on-line at <http://www.nyc.gov/html/dos/html/recywprpts.html>). These 7 partnership projects were:

- An outreach partnership through the Neighborhood Cleaners Association regarding hangers and polyethylene bags at dry cleaners.
 - A promotion of reusable bags through a 23-store grocery chain and a survey of 350 members of the Food Merchants Association.
 - An outreach effort through the Chinese American Restaurant Association to encourage customers not to take more take-out items (chopsticks, silverware, napkins, etc.) than they need.
 - A partnership with the Direct Marketing Association (DMA) where all 2.9 million NYC households received several mailings about unwanted mail. In the first phase (1993), just under 1% of households responded by using the tear-off postcard sent to the DMA. (One of the printed materials, “Stop the Junk Mail Bandit” is available under “Publications” at http://www.ci.nyc.ny.us/html/dos/html/bw_wast/index.html.)
 - Outreach to hotels through the Hotel Association of New York City. Outreach included several seminars and a booklet (Make Waste an Unwelcome Guest) available under “Publications” at http://www.ci.nyc.ny.us/html/dos/html/bw_wast/index.html.
 - Inclusion of waste prevention tips for residents and businesses in phone directories published by Bell Atlantic.
 - A training program for local development corporations and academics, which resulted in several further collaborations including a project to prevent waste in the textile industry.
- b. Waste prevention at businesses. NYC’s business waste prevention initiatives have grown and evolved over time.
- In 1993, waste prevention assessments were provided to HBO, Kinney Shoe, and Columbia University. The report “Cutting Costs and Preventing Waste in NYC Office Buildings and Institutions: Three Case Studies” illustrates how prevention and reuse saves these three organizations \$728,000/year. Examples are provided in the areas of copying, printing (print shop), housekeeping, supplies, food service, computer use, and shipping and receiving. (The report is available under “Publications” at http://www.ci.nyc.ny.us/html/dos/html/bw_wast/index.html.)
 - As an outcome of this project, DOS also co-sponsored a conference for area colleges on prevention, recycling, and energy savings.
 - In 1994, DOS prepared a handbook, “It Makes Business Cents to Prevent Waste”, available under “Publications” at http://www.ci.nyc.ny.us/html/dos/html/bw_wast/index.html.
 - Growing out of the Partnership for Waste Prevention, DOS began a waste prevention technical assistance program called NYC Wastele\$\$\$. (This name eventually came to be used for government and residential outreach as well.) NYC Wastele\$\$\$ lasted almost five years and focused on 9 business and institutional sectors: airport/airline, hospital, manufacturing, restaurant, retail food, other retail, school, wholesale, and stadium/arena/convention center. Wastele\$\$\$ includes prevention, recycling, and water and

- energy conservation. Assessments were provided to businesses and outreach partnerships were developed that included newsletters, seminars, and a video. An extensive website (<http://www.nycwasteless.org/gov-bus/index.htm>) includes case studies, tips, links, newsletters, worksheets, and other information resources. A lengthy report on the assessment services, titled “NYC WasteLe\$\$ Summary Report” can be downloaded at: <http://www.nyc.gov/html/dos/html/recywprpts.html>. The report includes information on business recruitment, assessments, opportunities, and barriers to implementation. The report also details the resulting outreach activities (seminars, video, etc.).
- c. City government waste prevention. The NYC CitySense program conducted waste assessments in parts of representative City agencies. Seminars were held for all agencies. Mayor Giuliani also issued a “Mayoral Directive on Waste Prevention and Efficient Materials Management Policies” for City agencies. A poster was distributed to all City agencies to encourage successful two-sided copying as was “Finding Dollars in City Trash: The Budget Stretching Guide to Preventing Waste in NYC Government Agencies” (available under “Publications” at http://www.ci.nyc.ny.us/html/dos/html/bw_wast/index.html). The current NYC WasteLe\$\$ project includes website information for City agencies at <http://www.nycwasteless.org/gov-bus/citysense/index.htm>. It includes a lengthy list of case studies of successful waste prevention implementation at a variety of City agencies, as well as tips, a waste prevention tutorial, and information on environmentally preferable purchasing and energy conservation. A report, “Life-Span Costing Analysis Case Studies” provides very detailed analysis of waste prevention alternatives for ten products purchased by the City: HVAC air filters, alkaline batteries, antifreeze, envelopes, hand dryers/paper towels, motor oil, photocopiers, replacement slats for park benches, sorbents, and toilet tissue. Another report, “NYCitySense Project Summary” describes waste prevention efforts and successes at a variety of city agencies in detail. Both reports are available at <http://www.nyc.gov/html/dos/html/recywprpts.html>.
 - d. Home composting and grasscycling. The NYC Compost Project is funded by DOS and implemented by the City’s Botanical Gardens. Activities include home compost and grasscycling workshops, discounted bin sales, a Master Composter program, a vermicomposting workshop for teachers, and a website with extensive resources and information (<http://www.nyccompost.org/program/index.html>).
 - e. Materials exchanges. DOS provides financial support to a non-residential exchange service, NY Wa\$teMatch, which is operated by the Industrial Assistance Corporation and the Long Island Business Development Corporation. DOS also has established and promoted the NYC Stuff Exchange, an automated telephone system with information about where residents can donate, buy, sell, rent, or repair reusable goods. The Stuff Exchange was pilot-tested in Staten Island and then expanded Citywide.
 - f. Other support for re-use. An earlier version of the NYC Stuff Exchange was a guide to reuse titled “Reuse It, Repair It, Rent It, Donate It – But Don’t Throw it Away”. The City also provides financial support for Materials for the Arts, which gathers materials from companies that no longer need them, and distributes them to more than 2,500 artists and educators that do: <http://www.mfta.org/home.shtml>.
 - g. General residential education. A wide variety of general waste prevention-related educational materials have been developed and distributed, including a waste reduction handbook, subway posters, and waste prevention holiday cards. More recently, the current NYC WasteLe\$\$ project includes website information for residents at <http://www.nycwasteless.org/indiv/index.html>. It includes a “virtual home tour” of waste prevention opportunities, as well as information on

shopping tips, packaging, unwanted mail, toxics, home composting, reuse, information on waste prevention for schools, an on-line quiz, and an “impact calculator” that illustrates how small actions add up into thousands of tons when implemented City-wide.

- h. Measurement studies. Several measurement studies have been conducted on waste prevention projects, including the following (all reports are available at <http://www.nyc.gov/html/dos/html/recywprpts.html>):
- “Measuring Waste Prevention in New York City” (spring 2000). A forward to this report provides a thought-provoking analysis of the potential of waste prevention, barriers to waste prevention, and measurement challenges. The report itself discusses in some detail several techniques to measure waste prevention and limitations to these techniques. It includes references to earlier (or planned) measurement efforts by the State of Minnesota, U.S. EPA, Alameda County, Connecticut, Denver, Milwaukie, Philadelphia, San Diego, San Jose, Seattle, and Tompkins County (NY). It then goes into detailed evaluations of 14 DOS waste prevention initiatives (all of which are described above).
 - “Recycling: What Do New Yorkers Think? Five Years of Market Research” (Fall 1999). This includes results of telephone surveys and focus groups including attitudes about waste prevention and participation in different waste prevention behaviors (and how this behavior changed after educational interventions). Some of this information is provided specifically for Chinese- and Spanish-speaking residents. A separate chapter addresses on-site management of yard debris through home composting and grasscycling.
 - “Backyard Composting in New York City: A Comprehensive Program Evaluation” (June 1999). This report uses several evaluation techniques, including waste composition studies, market research, and cost-benefit analysis. Information is provided regarding evaluation efforts in other communities, including Seattle, Orange County (NY), Monmouth County (NJ), and metropolitan Portland (OR), as well as a study conducted by Applied Compost Consulting for the U.S. Composting Council.
- i. Other research. Several other waste prevention-related reports were also prepared for or by DOS, including the following (again, all reports are available at <http://www.nyc.gov/html/dos/html/recywprpts.html>):
- “Survey of Waste Prevention Programs in Major U.S. Cities, States and Counties”. The executive summary to this report summarizes other waste prevention programs in five areas: program implementation, program administration, and “content” for residential-, commercial-, and government-sector programs. It then profiles a host of waste prevention and reuse programs in the cities of Atlanta, Denver, Memphis, Milwaukie, Minneapolis, Philadelphia, Phoenix, Sacramento, San Antonio, San Diego, San Jose, Seattle, and San Francisco, the Counties of Hamilton (OH), King (WA), and Tompkins (NY), and the States of Minnesota and California.
 - “Procurement Strategies of Federal Agencies and Jurisdictions Beyond New York City for Waste Prevention and Recycled Products”. This report surveyed procurement programs in six federal agencies, four states, two local governments, and Canada for environmental procurement programs, including “innovative purchases and programs that reflect waste prevention goals”.

- “Packaging Restrictions Research: Targeting Packaging for Reduction, Reuse, Recycling and Recycled Content”. This report discusses, at a policy level, advance disposal fees, beverage container deposits, and “manufacturer’s responsibility” initiatives.

2. How long has the program been in operation? Is it still in operation?

Many of the programs described above were begun in the early 1990’s, although some (such as WasteLe\$\$ and Stuff Exchange) were started in the mid-1990’s. According to Robert Lange, WasteLe\$\$, CitySen\$, the compost project, Wa\$te Match, and NYC Stuff Exchange are still in existence but due to severe budget cuts following September 11, 2001 several of these programs are not scheduled to be funded in the Mayor’s FY 2003 budget.

3. What parties are involved with program implementation? (city/county/state, haulers, partnerships with other organizations, technical assistance providers, other contractors).

DOS makes extensive use of partnerships, both for funding and implementing programs. Funding sources have included the State of New York and the U.S. EPA. DOS funds other organizations to implement some of the programs described here (such as the City’s Botanical Gardens, who implement the home composting/grasscycling program, and the Industrial Assistance Corporation and the Long Island Business Development Corporation, who operate NY Wa\$te Match). DOS also partners with many community and business organizations to conduct outreach.

4. What are the roles of parties involved with implementation?

Varies by program.

Measuring Program Success

1. How do you evaluate the effectiveness of your program?

Varies by program. Please see 1h under “Background Program Information”, above. The report “Measuring Waste Prevention in New York City” (spring 2000) provides detailed evaluations of 14 DOS waste prevention initiatives:

- NY Wa\$teMatch
- NYC Stuff Exchange
- NYC WasteLe\$\$ (business element)
- DOS Unwanted Direct Mail Reduction Campaign
- Materials for the Arts
- Outreach to Chinese Restaurants
- DOS Dry Cleaning Outreach
- DOS Grocery Store Outreach
- CENYC Waste Assessments

- Department of Citywide Administrative Services
- NYC City Sen\$e Program
- Botanical Gardens Compost Projects
- DOS Public Education Materials, Seminars, and other Outreach/Education Initiatives
- Waste Prevention Training and Technical Assistance Services to Local Development Corporations.

2. What data do you evaluate, or find useful to evaluating your program's effectiveness?

DOS has attempted to estimate tons of waste prevented for some projects.

3. How do you quantitatively measure program effectiveness? (please be specific, i.e. cost per ton diverted, # of businesses contacted, other).

Please see above. Key conclusions of evaluation efforts include:

- The process of municipal solid waste (MSW) prevention measurement is still under development, nationwide.
- Waste prevention measurement is a worthwhile undertaking.
- Significant waste prevention achievements will require state, national, and industry initiatives.
- Obstacles to waste prevention measurement should not justify abandoning waste prevention initiatives.

Overall

1. What do you consider to be particularly successful or valuable about this program?

According to Robert Lange, the most valuable projects have include the NYC Stuff Exchange, the NYC Compost Project, Wa\$teMatch, and the WasteLe\$\$ web site. He says that collectively they cost the City about \$1.5 million per year but "generate enormous good will and support".

2. Are there any upcoming changes or improvements in your program? (funding increases/decreases, service provider changes, regulatory changes, change in program focus, etc.)

The City's budget was severely impacted by September 11, 2001 (both expenses and revenues) and so several waste prevention programs will most likely be cut. However, the severity of the budget crisis is allowing a serious discussion of user-pay systems for garbage (currently users do not pay for garbage removal service), and this could provide significant financial incentives to encourage prevention and recycling.

3. Is there anything you would like to do differently in your program?

Robert makes the following general observation about where NYC's waste prevention efforts have been and where they're going:

“... Our waste prevention focus is two fold: 1) Public education to change behavior over time (really a generational issue, though government rarely thinks beyond four years); and 2) Implementation of programs that really produce an impact upon solid waste generation, such as user fees, collection bans, etc. (all very difficult to do politically), and at the same time share the responsibility for the waste generated in NYC with consumers, manufacturers and distributors.

“A great deal of empty rhetoric is promulgated around the idea of waste prevention as a solid waste management option...environmental advocates believe that you can change each citizen's behavior to reflect a more thoughtful consumer attitude. While elected and regulatory officials find waste prevention appealing because the concept, apart from a particular real life program, is totally without substance. To stop waste before it even becomes waste is very appealing conceptually, but the devil is in the details of how you go about making this concept into a day-to-day reality of less municipal waste. In the US, we live in a consumer society where the well-being of the entire country is calculated almost daily based upon the level of consumption of each of its citizens. This is not exactly an ideal atmosphere for a municipality to attempt to change individual consumption patterns. Nevertheless, this is the situation we are presented with and therefore we must make the best of it.”

Documentation

Please send copies of handouts, posters, promotional materials, budget information, program descriptions, program evaluations, copies of grant proposals, case studies, other.

DOS websites (addressed above) provide access to numerous reports, promotional materials, etc.

Other Programs

Are there other waste prevention (and reuse) programs that you are particularly impressed with? Please provide us with a name and contact information if available.

Robert recommends the document “Survey of Waste Prevention Programs in Major U.S. Cities, States and Counties” (profiled above).

Maggie recommended the following within New York City:

- Materials for the Arts. Gathers materials from companies that no longer need them, and distributes them to more than 2,500 artists and educators that do. <http://www.mfta.org/home.shtml>
- Recycle a Bicycle. Teaches kids how to repair bicycles and provides them with repaired bicycles. Contact: Karen Overton, 212 260-7055, e-mail ko@recycleabicycle.org, website: <http://recycleabicycle.org/>
- NYC Department of Sanitation. Anna Bitansky, Associate Staff Analyst, Waste Prevention Unit, 212 837-8250. Dave Kleckner, leads Waste Prevention Unit, 212 837-8175.

- Council on Environment for New York City. Conducts waste audits and demonstrates how businesses can save money through waste prevention. Anne Marie Alonso, 212 788-7920.
- INFORM.
- NYC Department of Citywide Administrative Services (DCAS). Is supposed to have two environmental procurement staff. Maggie wasn't certain what the status of this was, given recent budget cuts.

Maggie also recommended contacting the following communities outside of New York:

- Charlotte, North Carolina.
- Mecklenberg County, NC. Brenda Berger, 704 336-4279.
- Hennepin County, Minnesota.

Other Documentation

Are there other reports, documents, websites, videos, etc. on the topic of waste prevention (and reuse) that you think are particularly valuable? Do you know where we can obtain copies of these resources? (We do have a duplications/purchasing budget for resources that can be used to reimburse duplication and shipping of such resources.)

Other resources on the Waste Prevention Coalition's web page include the following:

- The Waste Prevention Committee's "Top Ten Recommendations For Residential Waste Prevention": <http://everest.hunter.cuny.edu/~mclarke/TOPTENWP.htm>
- Additional information on grasscycling and home composting in New York City: <http://everest.hunter.cuny.edu/~mclarke/Grasscycling.htm>
- A short discussion of refillable bottles, including an overview of policy options (with examples) to support refillable bottles, and a note that school districts in New York State, Connecticut, and Ontario (Canada) have adopted refillable milk service: <http://everest.hunter.cuny.edu/~mclarke/Refillables.htm>
- Testimony on New York City Wa\$teMatch, a waste exchange for businesses and institutions. Wa\$teMatch is operated by Industrial & Technology Assistance Corporation (ITAC), a not-for profit corporation, with funding from NYC DOS. This information includes statistics on costs, benefits and participation, as well as several case studies of successful exchanges: <http://everest.hunter.cuny.edu/~mclarke/WasteMatch.htm>
- Recommendations for targeting materials with waste prevention potential, based on results of a city-wide waste composition study: <http://everest.hunter.cuny.edu/~mclarke/WP%20Comp%20Recoms.htm> Types of materials targeted include wood packaging, furniture and furnishings, clothing and footwear, third class & bulk mail, rubber tires, disposable diapers, carpets and rugs, paper bags, shrink wrap, major appliances, plastic bags and sacks, trash bags, paper plates & cups, books, towels, sheets & pillowcases, small appliances, and plastic containers.

- November 2000 “Waste Prevention Action Plan” includes recommendations for NYC programs as well as references to several reports and short examples of waste prevention programs in NYC and elsewhere: <http://everest.hunter.cuny.edu/~mclarke/2000WPActionPlan.htm> Examples include a grassroots, door-to-door education campaign in Philadelphia; a targeted waste prevention education campaign in Blaine, MN; the King County (WA) Master Composter/Recycler program; NYC Stuff Exchange; Materials for the Arts; San Francisco’s Shop Smart campaign (later renamed “Save Money and the Environment Too”); King County’s Waste Free Fridays; City of San Antonio’s backyard composting and “don’t bag it” education programs; Phoenix Clean and Beautiful commercial sector waste prevention assessment services; and comprehensive business outreach programs in Milwaukee (WI) and Seattle.
- Detailed recommendations for a wide variety of waste prevention programs are also provided in: <http://everest.hunter.cuny.edu/~mclarke/WPCoalition2000budget-5yrplan.html>

Other Comments/Notes

One of the reports makes reference to waste prevention focus groups conducted in California in 1991, “Report on Waste Management Strategic Development, Consumer and Business Focus Groups”, prepared for the CIWMB and DDB Needham Advertising by Gail Golleb Marketing Research, Westlake Village, CA.

PROGRAM PROFILE METRO (PORTLAND, OR) – PROGRAM OVERVIEW

(SEE ALSO “METRO – EDIBLE FOOD DONATIONS” AND “METRO – ‘GARDENS OF NATURAL DELIGHTS’ NATURAL GARDENING PROMOTION”)

Date of Interview: August 15, 2002

Name of Interviewer: David Allaway

Interview Contact Information

Metro is the regional government of the Portland, Oregon metropolitan area. The only directly-elected regional government of its kind in the nation, Metro shares responsibility with 36 cities and counties for solid waste management. It has a long history of supporting creative waste reduction initiatives. Prevention and reuse are integrated into many of Metro’s programs. No single person or group of people within Metro’s solid waste program have exclusive purview over prevention and reuse; instead, the agency divides programs and responsibilities along the lines of generators (business outreach, residential outreach) and type of program (landscaping, toxics, etc.).

Given the large number of prevention and reuse activities that are either currently underway or that have been supported in the last several years, the approach of this profile is to provide a summary overview of Metro’s waste prevention and reuse initiatives. Consequently, not all of Alameda County’s survey questions can be easily answered for each and every program. Two other profiles delve into much greater detail in the areas of natural gardening and edible food recovery.

Information contained in this profile was obtained through a combination of printed information, the author’s personal experience, and an interview with Steve Apotheker, an Associate Solid Waste Planner in Metro’s Regional Environmental Management Department. Steve, in turn, surveyed his co-workers regarding their involvement in waste prevention and reuse activities in order to help develop this profile.

Name/Title of interview contact: Steve Apotheker, Associate Solid Waste Planner

Phone number/e-mail: (503) 797-1698; apothekers@metro.dst.or.us

Organization name and location: Metro, Regional Environmental Management Department

Website: <http://www.metro.dst.or.us/rem/rem.html>.

Background Program Information

- 1. Please briefly describe your program(s) and its goals. Is the program internal to your operations, or does it target a population (such as members of your trade association, residents in your community, etc.)?**

Metro’s 1995 – 2005 Regional Solid Waste Management Plan (RSWMP) has a goal that new waste prevention/reuse should equal at least 1% of generation. This is defined as follows: if generation (defined

in Oregon as recovery + disposal) equals X, then prevention/reuse are to account for the difference between X and (X/0.99). Half of this reduction is to occur in the residential sector; the other half is to come from the commercial sector.

Metro's activities include the following:

- Home composting workshops and an annual truckload bin sale.
- Grasscycling promotion.
- A comprehensive edible food recovery (reuse) program, including grants for collection/storage infrastructure and outreach/education. (This is described in its own separate profile.)
- Commercial-sector outreach, including the following:
 - Funding and support to local governments (cities and counties) for CTAP, the Commercial Technical Assistance Program. This involves staff who visit businesses and conduct “waste evaluations”. The CTAP program was recently revised to include a stronger waste prevention element. Hundreds of businesses are visited each year.
 - Financial support for the Oregon Department of Environmental Quality's (DEQ) materials reuse/materials exchange promotion effort and packaging efficiency pilot project (see description in profile titled “Oregon DEQ – Waste Prevention Programs”).
 - Outreach targeted to the legal industry regarding double-sided copying. This includes a baseline (1996) and follow-up (2001) evaluation survey (the 2001 survey report should be available this fall).
 - A new pilot program (starting this year) that will work with one or more companies that lease and service/maintain copy machines. The objectives of this project are to increase the use of “default duplex” and recycled paper among copy machine users.
 - An awards/recognition program (BRAG – Business Recycling Awards Group) and a new cash incentive (mini-grants) to help businesses implement waste prevention activities.
 - Distribution of other materials, including posters, to help businesses reduce waste.
 - A paper waste prevention general promotion campaign was sponsored in 1996.
 - A monthly column in the area real estate professionals' association publication. The column addresses both in-house (real estate office) waste prevention opportunities as well as information to be shared with customers. For several years Metro had included recycling and waste prevention information in a “welcome packet” for new homeowners but this was discontinued due to the work involved in keeping it updated.
- Residential waste prevention outreach, including a junk mail reduction kit and several general outreach/promotion campaigns.
- Financial support for the Master Recyclers, who incorporate waste prevention and reuse messages into their outreach activities.

- An in-house environmental action team (ENACT) that is working on several projects, including increasing the duplexing rate for copy machines and printers. See <http://www.metro.dst.or.us/enact/index.html> for additional details.
- A variety of toxics reduction programs, including the following:
 - A “Garden of Natural Delights” tour, “Natural Techniques Demonstration Garden”, and other related outreach (described in a separate profile).
 - A pilot education and incentive program with day care center parents to reduce the use of toxics.
 - A pilot outreach to elders on toxics education.
 - Waste prevention education provided to customers of Household Hazardous Waste collection events.
 - Evaluation of needs, barriers, and program impacts through focus groups and surveys.
- Financial support to organizations that provide reuse services, such as the Rebuilding Center (a deconstruction service and retail resale yard), and SCRAP (a retail store-front that provides donated art and other supplies to schools and educators).
- Work through building contractors’ associations to promote deconstruction and salvage among members.
- A series of educational presentations (puppet shows, etc.) to schools. Some of these incorporate waste prevention and reuse information.
- A “Thrift Recycling Credit Program” that provides rebates to the region’s three largest thrift stores in recognition of the reuse and recycling services that they provide, and their high disposal costs associated with managing un-usable “donations”.
- In the past, Metro has provided a variety of grants to waste prevention and reuse demonstration projects, including whole house deconstruction and business waste prevention case studies.

2. How long has the program been in operation? Is it still in operation?

Varies by program. Prevention and reuse activities have increased in the last five or so years.

3. What parties are involved with program implementation? (City/county/state, haulers, partnerships with other organizations, technical assistance providers, other contractors).

Varies by program. Many of the programs listed above are led by or funded by Metro, with the local governments (cities and counties) as key participants. Specific programs have different additional partners.

4. What are the roles of parties involved with implementation?

Varies by program.

Measuring Program Success

1. How do you evaluate the effectiveness of your program?

While this varies by program, Metro puts significant resources into program evaluation, including surveys and focus groups. Recent efforts have included a survey of residents regarding yard waste/yard care practices, a survey of home compost bin recipients, a survey of residents regarding waste prevention and recycling, a focus group of business leaders regarding prevention and recycling, and a survey of businesses regarding waste prevention, recycling, and recycled products. Metro also builds evaluation activities into program implementation, including a short survey conducted as part of home compost bin distribution, and data collection as part of the CTAP program that is used both to formulate recommendations for businesses, and also to track longitudinal changes in business waste prevention behaviors over time.

2. What data do you evaluate, or find useful to evaluating your program's effectiveness?

Data evaluation is mostly focused around the following:

- identifying barriers and opportunities,
- measuring the number of interactions or responses to an outreach campaign (measured in terms such as number of website hits or calls to the Recycling Information Center hotline), and
- evaluating the effectiveness of outreach activities or results of specific activities.

See the two other Metro profiles (natural gardening and edible food recovery) for additional examples.

3. Are you measuring or estimating waste prevention diversion impacts in tons? If so, what is your measurement protocol?

Yes. On an annual basis, Metro estimates the tonnage of waste prevention (and reuse) attributed to the following activities, above and beyond a 1995 baseline:

- Home composting. In 1995, about 37% of households were composting at home. By 2000 the rate had grown to around 50%. This means about 50,000 households began composting. Multiplying by a rough estimate of 500 pounds per household (rough estimate, currently being revised) yields 12,500 tons/year of new diversion. (See below for additional details on quantification.)
- Thrifts. Approximately 20,056 tons of reuse in 2001. (See the report, "Metro's Thrift Recycling Credit Program" for more details regarding methodology.)
- Edible food recovery. Approximately 5,970 tons of edible food recovery in 2000 (2001 estimates are not yet available). Note that this is slightly higher than the tonnage that is *attributed* to Metro's food recovery infrastructure grants. (See the report "Food Donation Initiatives Assessment and Food Recovery Infrastructure Evaluation Revised Final Report" for more details.)
- Building material salvaged by the Rebuilding Center: approximately 2,300 tons in 2001. (Metro relies on a "balancing" of estimates of incoming materials [based on truck records] and outbound materials [based on sale records] as reported by the Rebuilding Center).
- SCRAP (art and other supplies for schools: 16 tons) and StRUT (computer reuse: 99 tons; StRUT reports the number of machines rebuilt and the average weight of a machine).

- Multiple Listing Services (MLS) directory: as encouraged by the Metro/real estate association outreach project, the MLS directory is transitioning from paper to electronic. Prevention is estimated at 458 tons for 2001.

The thrift stores and home composting account for the majority of estimated prevention/reuse, followed by edible food recovery and building material salvage.

Metro's goal is for "new" waste prevention (not counting prevention that occurred prior to 1995, when the RSWMP was adopted), so care is taken with the thrifts and food recovery to subtract out pre-1995 estimates of diversion from current totals. (The other services didn't exist prior to 1995 so baseline diversion was zero.)

Although Oregon does not count prevention or reuse as part of the State- or watershed- recovery rates (as mandated by State law), in 1997 the Oregon Legislature decided to create incentives for watersheds (of which Metro is one) to support prevention, reuse, and home composting programs. The incentive consists of a 2% "recovery credit" for watersheds that have qualified prevention, reuse, or home composting programs (2% credit is provided in each of these three areas, for a total possible credit of 6%). Metro has applied for and received from DEQ a 6% credit (technically, three 2% credits) every year since 1997. Metro's credit application for 2001 was provided as a sample document; this provides much greater detail about many of the waste prevention, reuse, and home composting activities sponsored by Metro and the local governments.

In 2001, State law was again changed to allow watersheds to apply for and receive a credit greater than 2% for home composting efforts if they can provide a "quantitatively verifiable" estimate of sufficient tonnage. Metro has currently retained the services of an evaluation consultant and is in discussions with DEQ regarding an acceptable methodology to quantify this tonnage. Metro staff are also considering proposing additional statutory changes that would allow for the same approach with the reuse credit.

A Metro intern recently produced a report on measuring waste prevention, titled "Measuring Waste Prevention: A Review of Methods and Sources".

4. How do you quantitatively measure program effectiveness? (Please be specific, i.e. cost per ton diverted, # of businesses contacted, other).

Varies by program. Includes number of businesses contacted, number implementing waste prevention practices, number of households composting at home, grasscycling, etc.

5. Are the programs meeting their objectives? Why? Why not?

Yes, the region is meeting its waste prevention goal.

Overall

1. What do you consider to be particularly successful or valuable about this program? (And is it valuable to your organization, your clients, you personally, or whom else?)

Steve Apotheker thinks that the region's best waste prevention/reuse project has probably been edible food recovery (see separate profile), both for the large quantity of diversion, and also the "triple bottom line" benefits in terms of feeding hungry people, reducing waste, and saving money.

2. Are there any upcoming changes or improvements in your program? (Funding increases/decreases, service provider changes, regulatory changes, change in program focus, etc.)

Many of their programs are being evaluated and may be changed to make them more effective.

3. Have you encountered any major or continuing obstacles to effectively implementing waste prevention programs/practices?

Within Metro, meeting the region's recovery goal is a very high priority. Prevention and reuse aren't counted towards recovery (with exceptions, see below) and activities that detract from meeting the recovery goal (including prevention and reuse) may be at a disadvantage as a result. While the State has both generation and recovery goals, statute only created a recovery goal for Metro. Metro has no waste prevention or generation goal in statute.

Other barriers include:

- Metro staff are spending time and effort quantifying reuse and home composting, in part to convince DEQ that they should be included in the recovery rate. Some DEQ staff are not inclined to count reuse and home composting in the recovery rate, in part because reuse and home composting already contribute to a separate waste generation goal in state statute. Steve feels that having two separate goals (one for prevention and one for recovery) could be confusing to some staff. DEQ counters that including prevention tonnage in a recovery goal was tried in California (under the original AB 939, before amendments) and resulted in wildly creative accounting exercises as cities and counties (and their consultants) tried to increase their diversion rates by quantifying reuse resulting from used car sales, garage sales, etc.
- There is a general lack of knowledge about "what works" in the areas of prevention and reuse.
- There is a perception that the tonnage that can be achieved through prevention is small, or that prevention or reuse activities have other significant barriers (such as being inconvenient for people to do, or being worked against by larger market forces, such as the shift away from refillable drink bottles).

4. Is there anything you would like to do differently in your program?

Extended producer responsibility initiatives have a strong waste prevention "sub theme", according to Steve, and Metro is putting some effort into this area.

Documentation

Please send copies of handouts, posters, promotional materials, budget information, program descriptions, program evaluations, copies of grant proposals, case studies, other.

Steve provided a copy of:

- "Metro's Thrift Recycling Credit Program" report,
- Metro application to Oregon DEQ for "2% recovery credits" for waste prevention, reuse, and home composting for 2001, and
- "Measuring Waste Prevention: A Review of Methods and Sources".

Other Metro reports (including surveys of residents regarding yard and lawn care practices, a survey of home compost bin recipients, and several business surveys) are also available.

Other Programs

Are there other waste prevention (and reuse) programs that you are particularly impressed with? If so, why? Please provide us with a name and contact information if available.

This is an area Steve hasn't researched much.

Other Documentation

Are there other reports, documents, websites, videos, etc. on the topic of waste prevention (and reuse) that you think are particularly valuable? Do you know where we can obtain copies of these resources? (We do have a duplications/purchasing budget for resources that can be used to reimburse duplication and shipping of such resources.)

N/A

Other Comments/Notes

N/A

PROGRAM PROFILE
METRO (PORTLAND, OR) – “GARDENS OF NATURAL DELIGHTS” NATURAL
GARDENING PROMOTION

(SEE ALSO “METRO - PROGRAM OVERVIEW”)

Date of Interview: August 15, 2002

Name of Interviewer: David Allaway

Interview Contact Information

Name/Title of interview contact: Genya Arnold, Associate Solid Waste Planner

Phone number/e-mail: (503) 292-1676; arnoldg@metro.dst.or.us

Organization name and location: Metro Regional Environmental Management Department

Website: <http://www.metro.dst.or.us/rem/garden/natgar.html> .

Background Program Information

- 1. Please briefly describe your program(s) and its goals. Is the program internal to your operations, or does it target a population (such as members of your trade association, residents in your community, etc.)?**

Metro is the regional government of the Portland (Oregon) metropolitan area. It sponsors a variety of programs targeting gardening and lawn care, including home composting bin distributions, grasscycling promotion, and education about alternatives to pesticides. (Please see the “Metro - Program Overview” profile for a listing of activities.) One element of the agency’s natural gardening strategy is the “Gardens of Natural Delights” tour and demonstration garden. The goal is to help residents reduce chemical (pesticide, herbicide, and fertilizer) use by observing healthy, flourishing gardens that are grown without chemicals, and talking with the homeowners who have created and maintain these gardens.

The program has three elements: an annual tour of gardens, a permanent demonstration garden, and other educational activities.

The tour of gardens involves a variety of private (residential) gardens located throughout the metropolitan area. From a pool of self-nominating applicants, Metro chooses gardens (and gardeners) to participate based on geographic spread, variety of natural gardening techniques demonstrated, diversity of garden (shade, rock, native, new, well-established, large, small, etc.), gardener (novice, expert) types, and the ability of gardeners to serve as good hosts. Metro then publicizes the tour, and requires pre-registration of tour participants. People call Metro’s Recycling Information Center (hotline) to register. (This year, registration closed in 2-1/2 days.) A cap on participation is set so that the host gardens (and their neighborhoods) aren’t overwhelmed with visitors. Registered participants are mailed a packet with information including a map and descriptions of all of the participating gardens.

On the day of the tour (typically a Saturday in July), signs are set up in the individual gardens that call attention to the various natural gardening techniques. Participants are free to come and go and to visit as many gardens as they would like (within the specified tour hours), in whatever order. Garden hosts are assisted by volunteers who provide additional education. After the tour event, the signs are taken down and put into storage for reuse the following year.

The Gardens of Natural Delights tour only occurs one day each year, so in 2000 Metro inaugurated a Natural Techniques Garden. Located on a residential lot in Southeast Portland, this garden is open seven days a week between April and October. It features several “theme” mini-gardens including shade-loving plants, sun-loving plants, raised beds, native plants, etc. In addition to being open to the general public, the Natural Techniques Garden is also used by garden clubs for meetings and as a location to host tours, workshops, guest speakers, and other special events.

Finally, the Natural Gardening campaign has developed a variety of educational materials, and new outreach mechanisms are in development (see below). Some of the printed materials are included in the packet for tour attendees but are also distributed through other means, including Metro’s popular Recycling Information Hotline and by retail nurseries. Printed materials include a Natural Gardening Shopper’s Guide, which lists nurseries and other retail stores that agree to carry at least 16 “natural gardening” products from a Metro-specified list. Other publications include: “Natural Gardening Guide to Alternatives to Pesticides”, “Simple Steps to a Healthy Lawn and Garden”, “It’s Easy to Make Your Own Compost!”, “Alien Invaders: Himalayan blackberry”, and “Alien Invaders: English ivy”. Metro also sponsors a free spring/fall natural gardening seminar series for the public, and hosted an integrated pest management (IPM) workshop last year (2001) for retail nursery managers.

2. How long has the program been in operation? Is it still in operation?

The tour’s first year was 1999. That year there were 13 gardens and an attendance cap of 750. Because it was the first year of the program, Metro had some difficulty recruiting gardens. In 2000 there were 16 gardens with an attendance cap of 1,600. In 2001 there were 21 gardens with an attendance cap of 1,800. This year (2002) there were 24 gardens with an attendance cap of 1,800 members of the public, although the tour was also open to about 80 Metro employees and 165 volunteers (who helped to staff the individual gardens).

The Natural Techniques Garden was designed in 2000.

3. What parties are involved with program implementation? (city/county/state, haulers, partnerships with other organizations, technical assistance providers, other contractors).

East Multnomah Soils District, Portland Bureau of Environmental Services, Oregon Department of Environmental Quality (DEQ), area nurseries, National Wildlife Federation, Portland Audubon Society, Oregon State University (OSU) Extension Master Gardeners, Portland Public Schools Green Thumb Horticulture Center, horticulture experts, other volunteers, retailers, and the media.

4. What are the roles of parties involved with implementation?

The East Multnomah Soils District (with funding from Portland Bureau of Environmental Services and Oregon DEQ) has a “naturescaping” outreach project that works closely with Metro in providing technical assistance, information, and co-promotion.

Horticulture and other experts provide the “expertise” for the guest lecture series (seminars) as well as assist garden hosts during the tour. For example, one of the gardens in the 2002 tour featured a

hummingbird garden, and so Metro arranged for a hummingbird expert from Portland Audubon Society to be on hand to answer questions.

The National Wildlife Federation’s (NWF) Habitat Program was an active partner for two years, but has recently discontinued some of their habitat education programs in the Pacific Northwest. (NWF has a habitat certification program for residential properties). In 2002, Metro turned to the Portland Audubon Society to replace NWF’s technical assistance and outreach capacity.

The OSU Extension Master Gardener program and NWF Habitat Stewards provide the bulk of the volunteers that help make the tour operate smoothly. These volunteers provide for on-site education of the tour participants. In recent years, the Master Gardener Program has shifted its philosophical focus away from advocating chemical solutions and towards cultural/organic practices.

Of course, there would be no tour without the volunteer hosts and their gardens. In 2002, Metro had 42 applications to choose from.

The Natural Techniques Garden was co-designed by students at the Portland Public Schools Green Thumb Horticulture Center.

Measuring Program Success

1. How do you evaluate the effectiveness of your program?

Metro conducts surveys of tour attendees, volunteers, and host gardeners. An evaluation report should be available this autumn.

2. What data do you evaluate, or find useful to evaluating your program’s effectiveness?

Survey results from all three groups are reviewed for suggestions for program improvement.

Survey results from the participants are also reviewed to determine if people are changing their behaviors in their own gardens as a result of the tour. In 2002, there were 540 survey forms completed from among the 1,800 tour participants. 69% of the respondents were new (they hadn’t participated in previous years’ tours). Of the people who had attended one or more previous tours, 95% are using some “natural gardening” techniques (the survey form asks about participation in a variety of practices). And of these, 29% say that the natural gardening techniques are “very successful”, 45% say “successful”, and 21% say they get “good results”.

3. Are you measuring or estimating waste prevention diversion impacts in tons? If so, what is your measurement protocol?

No.

4. How do you quantitatively measure program effectiveness? (please be specific, i.e. cost per ton diverted, # of businesses contacted, other).

Number of households using natural gardening techniques. Metro has not yet surveyed non-respondents (tour participants that don’t complete the survey form) or people who attend one year and don’t return. Nor is there baseline, community-wide data available regarding participation in natural gardening techniques among the population at large, so Metro has not been able to demonstrate conclusively the magnitude of the impact of this program.

5. Are the programs meeting their objectives? Why? Why not?

Metro’s solid waste plan calls for the agency to reduce the toxicity of the solid waste stream, without specifying implementation details. To the extent that this program is reducing the toxicity of the solid waste stream, it is meeting Metro’s objective.

Overall

1. What do you consider to be particularly successful or valuable about this program? (And is it valuable to your organization, your clients, you personally, or whom else?)

- The program is an educational tour, not a “pretty face” tour. The gardens aren’t perfect. Participants are encouraged to talk with the host gardeners.
 - A variety of garden types and ages are provided as well as a variety of gardeners (including some novice gardeners), so there is something for everyone. All ages and demographics seem to participate in the tour.
 - People appreciate and learn more from the gardens because the natural gardening techniques are used by “real people in real gardens”, as opposed to a government bureaucracy saying “you homeowners should do X, Y, and Z.”
 - Genya Arnold personally enjoys the positive testimonials that are written in the evaluation surveys, such as “seeing is believing” and the delight of knowing that behavior change will result.
 - The tour has achieved good media coverage.
 - The program has a solid base of support from a large number of partners and supporters. The volunteers become engaged as ambassadors of natural gardening.
 - Working with the large number of partners builds community and reduces mixed messages.
 - Using experts (university researchers, etc.) for the seminars provides credibility.
 - The program increases demand for natural gardening services and products that nurseries would like to sell. The nurseries also find valuable the tour report because it provides them with more information about people’s questions, concerns, and observations.
 - Conducting guest lectures/seminars at the nurseries is popular because that is where the public is (as opposed to asking the public to come to a Metro facility).
- 2. Are there any upcoming changes or improvements in your program? (funding increases/decreases, service provider changes, regulatory changes, change in program focus, etc.)**

Metro plans to continue the tour into the foreseeable future.

Beginning in April 2003, Metro plans to partner with two retail nurseries to provide a “Natural Gardening technical assistance desk” on Wednesdays and Saturdays. The desks will be located in the retail space and will be staffed by volunteers from the Master Gardeners. The volunteers will be trained to refer questions to the nursery staff as appropriate. This will be a pilot project that will run through October.

Last year, Metro hosted an IPM workshop for retail managers. Next, Metro wants to figure out how to better educate their staff. One of the challenges is that the retail nurseries have both year-round staff and also peak season staff who only work in the spring and summer. This fall Genya hopes to start a program to educate retail staff, but she isn't certain of the outreach mechanism yet.

3. Have you encountered any major or continuing obstacles to effectively implementing waste prevention programs/practices?

Selecting the host sites for the garden tour, from among the applicants, is challenging. There are a few geographic areas that don't have enough tour sites, and other areas have an overabundance of applicants.

Metro has not received any complaints from the pesticide industry over this project (in contrast to earlier efforts by Metro to promote alternatives to pesticides). Genya says that Metro takes care not to disparage specific products, instead saying “this (alternative) approach works and has limited negative environmental impact.”

4. Is there anything you would like to do differently in your program?

No sweeping changes are planned. They are always fine-tuning the tour based on evaluation and feedback. They will be continuing to work on trying to get “the public and the retail nurseries on the same track”.

Documentation

Please send copies of handouts, posters, promotional materials, budget information, program descriptions, program evaluations, copies of grant proposals, case studies, other.

Hard copies were provided of:

- Host Garden Application for the 2002 tour.
- Metro's natural techniques demonstration garden brochure.

Genya will provide a copy of the packet mailed to tour participants, which includes several of the educational brochures.

An evaluation report of the 2002 tour should be available in the autumn.

Other Programs

Are there other waste prevention (and reuse) programs that you are particularly impressed with? If so, why? Please provide us with a name and contact information if available.

A consultant in California recently provided her with a summary of other “sustainable landscaping” programs in the U.S. A copy of this summary document will be provided.

Other Documentation

Are there other reports, documents, websites, videos, etc. on the topic of waste prevention (and reuse) that you think are particularly valuable? Do you know where we can obtain copies of these resources? (We do have a duplications/purchasing budget for resources that can be used to reimburse duplication and shipping of such resources.)

N/A

Other Comments/Notes

N/A

PROGRAM PROFILE METRO (PORTLAND, OR) – EDIBLE FOOD DONATIONS

(SEE ALSO “METRO - PROGRAM OVERVIEW”)

Date of Interview: August 15, 2002

Name of Interviewer: David Allaway

Interview Contact Information

Name/Title of interview contact: Marta McGuire

Phone number/e-mail: (503) 797-1806; mcguirem@metro.dst.or.us

Organization name and location: Metro, Regional Environmental Management Department

Website: <http://topaz.metro-region.org/rem/food/>.

Background Program Information

- 1. Please briefly describe your program(s) and its goals. Is the program internal to your operations, or does it target a population (such as members of your trade association, residents in your community, etc.)?**

In 1999 the Metro Council adopted a three-year Regional Commercial Organics Work Plan, the goal of which was to recover an additional 52,000 tons of organic waste from the commercial sector. The Plan has two tracks: 1) waste prevention/donation/diversion to highest end-uses, and 2) developing a processing infrastructure (most likely composting) for food wastes that cannot be used elsewhere.

This profile describes an “edible food recovery” initiative that was developed under the first track. While Metro uses the term “recovery” to include the collection and redistribution of edible food to people in need, tonnage of edible food recovery does not count towards Metro’s recovery rate. Rather, it helps the region and the state achieve waste generation (prevention) goals. (For more on this distinction, please refer to the measurement/evaluation section of the separate profile “Metro – Program Overview”).

Metro began this initiative by conducting two studies: 1) direct observations of food handling methods (including where in each business food waste was generated and why, and what best management practices might be) at 92 different businesses; and 2) a study of the media used by the industries Metro was targeting (food processing, restaurants, grocery stores, institutional food service, and others).

With this research underway, Metro directed resources into two outcome-based activities: a food recovery infrastructure development grant program, and a food donation outreach, education and promotion effort.

The grant program has provided nearly \$580,000 in grants to enhance the capacity of food rescue agencies to accommodate new and increased flows of perishable food items. The grants have been used to purchase 5 walk-in coolers, 22 reach-in refrigerators, 23 reach-in freezers, 1 drive-in cooler, 10 outdoor shelter canopies, 6 collection trucks, and a small amount of operating expenses.

Outreach activities have included the development of a dynamic web-based Food Donation Resource Guide with an online search tool (<http://topaz.metro-region.org/rem/food/>), several brochures (some of which are distributed to restaurants by health inspectors in two of the three counties), several articles in trade publications, and a presentation to every incoming class at a regional culinary institute.

2. How long has the program been in operation? Is it still in operation?

This initiative began in 1999 and all elements are still in operation. The three-year work plan adopted in 1999 has expired and is currently being revised.

3. What parties are involved with program implementation? (city/county/state, haulers, partnerships with other organizations, technical assistance providers, other contractors).

Metro, local government waste evaluators, health departments, food rescue organizations (ranging from small church soup kitchens to the umbrella Oregon Food Bank), the Western Culinary Institute, and restaurant and grocery trade associations.

4. What are the roles of parties involved with implementation?

See #1, above.

Measuring Program Success

1. How do you evaluate the effectiveness of your program?

The grants are evaluated primarily through reporting by the grantees of the additional tonnage of food recovered as a result of the grants. A cost-benefit analysis demonstrates the value of the grants. Metro estimates that the \$573,406 in grants has resulted in annual collection of 5,181 tons of food. The annual avoided disposal cost of this recovered food is \$647,650 and the dollar value to the food banks (based on \$1.67 per pound as calculated by America's Second Harvest) is over \$17,300,000, resulting in a benefit-cost ratio of 31 (for the first year only; in subsequent years it is expected that food recovery will continue at no added cost to Metro, so the benefit-cost ratio will be even higher).

The outreach program is evaluated based on number of interventions (and the audience size of these interventions, such as number of people receiving a trade publication with an article on food donation), number of outreach partnerships, and an estimate of the additional amount of food recovered (30,000 pounds) as a result of the outreach effort.

2. What data do you evaluate, or find useful to evaluating your program's effectiveness?

See above.

3. Are you measuring or estimating waste prevention diversion impacts in tons? If so, what is your measurement protocol?

Yes. For the grants, Metro requires the grantees to report their estimate of the tonnage of food diverted as a consequence of the expanded infrastructure.

Metro also tries to estimate the additional diversion resulting from outreach and education. This is done by surveying food rescue programs and asking them if they have seen an increase in food donations following the outreach activities, and if so, if this increase can be attributed (in comments by the donors) to the Metro outreach effort.

4. How do you quantitatively measure program effectiveness? (please be specific, i.e. cost per ton diverted, # of businesses contacted, other).

Cost, tonnage, avoided disposal cost, dollar value of donated food, net savings, cost-benefit analysis (grants) and number of people reached through outreach efforts, number of partnerships, additional tonnage and associated savings (education). Please see the document “Food Donation Initiatives Assessment and Food Recovery Infrastructure Evaluation Revised Final Report” for additional details.

5. Are the programs meeting their objectives? Why? Why not?

Because of delays in siting a regional food composting facility, the objective of recovering an additional 52,000 tons/year of commercial organics has not been met. Despite this, the edible food recovery program has exceeded everyone’s expectations due to the high volume of food recovered, the associated social benefit, and the tremendous benefit/cost ratio.

Overall

1. What do you consider to be particularly successful or valuable about this program? (And is it valuable to your organization, your clients, you personally, or whom else?)

- Food is being diverted to the highest and best use (feeding people), as opposed to composting.
- Oregon is consistently rated as having some of the highest hunger and food insecurity in the nation. This program is a “win-win” that achieves economic, environmental, and social benefit.

2. Are there any upcoming changes or improvements in your program? (funding increases/decreases, service provider changes, regulatory changes, change in program focus, etc.)

The program is being continued. This year, Metro is offering \$200,000 in edible food recovery grants and has received 17 applicants asking for a total of \$270,000. One of the applicants, the Oregon Food Bank, is asking for funds to purchase 34 refrigerators and freezers on behalf of 34 smaller, member agencies who don’t necessarily have the time or resources to apply for a Metro grant.

Outreach efforts are shifting to focus more on supporting the CTAP (commercial technical assistance program) “waste evaluators” that local governments send into the field to talk with businesses about waste reduction.

3. Have you encountered any major or continuing obstacles to effectively implementing waste prevention programs/practices?

The biggest challenge is measuring the effectiveness of outreach efforts. However, as the people who work in food recovery are now seeing their programs benefit from Metro’s involvement in this area, they are becoming more responsive to Metro’s requests for data.

4. Is there anything you would like to do differently in your program?

Marta McGuire would like to increase the program’s presence with the industry associations and help them do a better job of spreading the word to their members (food “waste” generators) about the benefits (and ease) of donation.

Documentation

Please send copies of handouts, posters, promotional materials, budget information, program descriptions, program evaluations, copies of grant proposals, case studies, other.

Marta provided/will provide copies of the following:

- “Food Donation Initiatives Assessment and Food Recovery Infrastructure Evaluation Revised Final Report” (Metro, April 2002). Appendices include Metro’s Regional Commercial Organics Work Plan 1999 – 2002, a literature review of other successful food recovery programs, and a liability case law review.
- “Restaurant and Food Service Guide to Food Donation” (brochure).
- Case studies of food donation at several area businesses (Adventist Medical Center, Assaggio Restaurant, Mentor Graphics, Nike, and Food Front).
- “Food Donation Guide”(s) for Multnomah County, Washington County, and Clackamas County.

Electronic copies are available of the following (as pdf files):

- Organic Waste Diversion Study Phase I Report (Metro, October 2000). The study aims to examine the feasibility of separation of organic waste by each business for donation of edible food and/or separation and collection for processing.
- Organic Waste Diversion Study Phase II Report (Metro, May 2001). This report focuses on information on food safety standards, health codes, expiration dates, zero-donation policies, and strategies and recovery capacity of local food rescue programs.

Other Programs

Are there other waste prevention (and reuse) programs that you are particularly impressed with? If so, why? Please provide us with a name and contact information if available.

The report “Food Donation Initiatives Assessment and Food Recovery Infrastructure Evaluation Revised Final Report” includes an appendix with profiles of food donation efforts in other communities, based on a literature review.

Other Programs Recommended

See above.

Other Documentation

Are there other reports, documents, websites, videos, etc. on the topic of waste prevention (and reuse) that you think are particularly valuable? Do you know where we can obtain copies of these resources? (We do have a duplications/purchasing budget for resources that can be used to reimburse duplication and shipping of such resources.)

See other resources on-line at: http://topaz.metro-region.org/rem/food/index.cfm?do=pub_resources.

(Note: These could be included in the Alameda County Waste Management Authority waste prevention bibliography, at the Authority's discretion). These include:

- “Food Donation: A Restaurateur’s Guide” by the American Restaurant Association.
- “USDA Food Recovery and Gleaning Grants Project, Best Practices Manual”, a report on 12 school districts that received grants to set up food donation programs.

Other Comments/Notes

None.

PROGRAM PROFILE

STATE OF VERMONT – GOVERNOR’S PAPER REDUCTION CHALLENGE

Interview Contact Information

Information was obtained through an August 15, 2002 interview with Marci Young and a review of literature and information on the State of Vermont website.

Name/Title of interview contacts: Marci Young, Environmental Analyst

Phone number/e-mail: (802) 241-3449; marciy@dec.anr.state.vt.us

Organization name and location: Vermont Agency of Natural Resources Department of Environmental Conservation, 103 South Main Street, Waterbury, Vermont 05671

Website: www.anr.state.vt.us/dec/wmd.htm

Background Program Information

- 1. Please briefly describe your program(s) and its goals. Is the program internal to your operations, or does it target a population (such as members of your trade association, residents in your community, etc.)?**

The Governor of the State of Vermont issued a challenge to each department in state government in 2001 to reduce the use of paper. There were two main purposes to this challenge. The first was to ensure that state employees learned how their individual efforts could lead to environmentally responsible work practices; the second was to achieve great savings in the use of paper by state government.

For departments wishing to participate, the goal was a five-percent reduction in paper use over a three-month period and an additional five-percent reduction for a second three-month period. Incentives were offered to participating departments to encourage each state employee to become involved in the effort. The work unit that decreased paper consumption the most would receive the cost savings generated by the paper reduction. The money could be used at the group’s discretion, including distribution to employees as bonuses, for an office outing, or to acquire something for the office. Other incentives were donated by government departments and included reusable coffee mugs and State Park day use passes.

A Governor’s Paper Reduction web page was added to the Vermont Clean State Council website at <http://www.anr.state.vt.us/dec/wastediv/csc/homepage.htm>. The website contains information about the program including how to sign up for the program, how to calculate paper reduction, reasons to sign up for the program, and suggestions for how to reduce paper usage.

- 2. How long has the program been in operation? Is it still in operation?**

The program ran for six months from July 1st until the end of December 2001. A baseline for paper usage was established the previous year. There are no plans to repeat the program.

3. What parties are involved with program implementation? (city/county/state, haulers, partnerships with other organizations, technical assistance providers, other contractors).

A variety of governmental departments were involved in the program. The Department of Environmental Conservation (DEC) coordinated and managed the program. Building and General Services provided purchasing information and various departments donated items to be used for incentives. The departments that participated in the program were required to implement paper reduction measures, educate staff, and track and report their paper usage for six months.

4. What are the roles of parties involved with implementation?

See above.

Measuring Program Success

1. How do you evaluate the effectiveness of your program?

The effectiveness of the program was evaluated by the decrease in number of reams of paper purchased in a six-month period. The program only monitored a particular type of 8 1/2" x 11" copy/fax paper.

2. What data do you evaluate, or find useful to evaluating your program's effectiveness?

The evaluation was possible because all the paper for the government offices was purchased through the Supply Center. The Supply Center (a government office) tracked paper use by department using a customer number for each department. Based on the records of the Supply Center, a six-month baseline of paper usage was established for each department. When departments signed up they were instructed to work with the Supply Center to monitor their paper usage during the challenge period. Information about program evaluation and a spreadsheet for calculating usage is available at <http://www.anr.state.vt.us/dec/wastediv/csc/rulesreg.htm>.

3. Are you measuring or estimating waste prevention diversion impacts in tons? If so, what is your measurement protocol?

No. Paper reduction was measured in reams of paper purchased by each department.

4. How do you quantitatively measure program effectiveness? (please be specific, i.e. cost per ton diverted, # of businesses contacted, other).

See above.

5. Are the programs meeting their objectives? Why? Why not?

Overall the program met the objective. A total of 8000 reams of paper were reduced during the six-month period. The baseline paper usage was 12000 cases of paper for the same six-month period the previous year. At the end of the challenge, 11200 cases were used. This represented a reduction of 500 sheets per employee (7000 State employees). Unfortunately, DEC was not able to determine which department reduced the most use of paper. This was because the Supply Center changed the way they accounted for paper usage during the study period. As a result of this change, it was not possible to determine which department "won" the cash savings.

Overall

1. What do you consider to be particularly successful or valuable about this program?

The program raised awareness about paper reduction and resulted in lasting changes. The incentives seemed to motivate the State departments to participate.

2. Are there any upcoming changes or improvements in your program? (funding increases/decreases, service provider changes, regulatory changes, change in program focus, etc.)

DEC does not plan to run the program again or track paper usage on an ongoing basis.

3. Have you encountered any major or continuing obstacles to effectively implementing waste prevention programs/practices?

No major obstacles. All departments were very cooperative. It was a challenge to work with the Personnel Department to figure out a way to give the cost savings resulting from the paper reduction back to a particular department. However, this was not an issue in the end because it was not possible to determine which department “won” the challenge.

4. Is there anything you would like to do differently in your program?

Devise a different tracking system.

Documentation

Please send copies of handouts, posters, promotional materials, budget information, program descriptions, program evaluations, copies of grant proposals, case studies, other.

Information about this program is available at <http://www.anr.state.vt.us/dec/wastediv/csc/govchall.htm>.

The DEC websites (addressed above) provide information about other waste reduction programs.

Other Programs

Are there other waste prevention (and reuse) programs that you are particularly impressed with? Please provide us with a name and contact information if available.

The State has an extensive composting program. Information is available at <http://www.anr.state.vt.us/dec/wastediv/compost/main2.html>. Vicki Viens, (802) 241-3448 is the DEC composting program contact.

Northeast Recycling Council, www.nerc.org

Other Documentation

Are there other reports, documents, websites, videos, etc. on the topic of waste prevention (and reuse) that you think are particularly valuable? Do you know where we can obtain copies of these resources? (We do have a duplications/purchasing budget for resources that can be used to reimburse duplication and shipping of such resources.)

Northeast Recycling Council, www.nerc.org

Other Comments/Notes

None.

PROGRAM PROFILE

STATE OF MINNESOTA – PROGRAM OVERVIEW

Interview Contact Information

Information obtained through an August 8, 2002 interview with Kevin McDonald and a review of literature and information on the website.

Name/Title of interview contacts: Kevin McDonald, Waste Reduction Coordinator

Phone number/e-mail: 651-215-0262; kevin.mcdonald@moea.state.mn.us

Organization name and location: Minnesota Office of Environmental Assistance

Websites: <http://www.moea.state.mn.us>

Background Program Information

- 1. Please briefly describe your program(s) and its goals. Is the program internal to your operations, or does it target a population (such as members of your trade association, residents in your community, etc.)?**

The Minnesota Office of Environmental Assistance (OEA) offers waste prevention programs targeted at all populations: households, businesses, and government. Some programs have been ongoing, while others have been pilot projects. A list of major waste prevention activities includes:

- a. **Reduce Waste: If Not You, Who?** This statewide education campaign began in January 2000. It targets the general population and highlights the potential for waste reduction. The goal is to clearly describe actions people can take at home, at the office, or at school to prevent waste. The website, www.reduce.org is the main source of information. It contains “fact sheets” on the following topics: composting, reducing waste at home, creating less trash at school, growing a healthy no-waste lawn and garden, reducing trash when shopping, reducing waste at the workplace, reducing waste when traveling, reducing junk mail, and reducing toxic chemicals in the home.
- b. **Office Paper Reduction Targeted Grant Round.** In fiscal year 2003 the OEA will make funds available to businesses and organizations in Minnesota that implement programs to reduce the amount of office paper waste they generate. Eligible projects must involve elements that will reduce the overall amount of paper that is being used and/or disposed of by the organization. Organizations will be asked to look at the opportunity to produce quantifiable environmental and/or economic benefits and must be willing to share these results. The OEA will develop case studies from these grants to be shared locally and nationally. More information is available about the grant at www.moea.state.mn.us/grants/current.cfm#paper.
- c. **RETAP.** The OEA provided grant funding through the Environmental Assistance Grants program (see below) for a program to provide non-manufacturing commercial, industrial, and institutional businesses with environmental assessment services performed by local retired engineers. The program began in 2001. A total of 26 retirees are participating in the program to provide high quality expertise to small and medium sized businesses to reduce waste, energy use,

and water use. The goal is to complete 50 environmental assessments over a two-year period. More information is available about the program at www.moea.state.mn.us/media/010815.cfm.

- d. **Environmental Assistance Grants.** OEA offers Environmental Assistance Grants on a yearly basis. Funds are set aside annually for projects focusing on pollution prevention, recycling market development, waste and environmental education, sustainable communities development and/or resource recovery. Since 1985, the OEA has awarded more than \$11 million in grants to organizations across Minnesota. In 2001 the OEA provided over \$1.5 million to 26 projects, leveraging over \$3 million in matching funds or in-kind contributions. Projects targeting waste prevention have included: A packaging source reduction study and application for food products transportation, source reduction options for hospitals, and a school refillable milk container pilot study. A summary of grants awarded since 1997 is available at www.moea.state.mn.us/grants/awarded.cfm.
- e. **Product Stewardship.** In 1999, the OEA developed a product stewardship policy to promote a new approach to conserving resources, reducing waste, and increasing recycling. The OEA is seeking to achieve the policy's objectives through voluntary efforts and initiatives. Task forces and workgroups are focusing on specific priority products — carpet, electronics with CRTs, and paint. Participants include representatives from manufacturers, retailers, local governments, and non-governmental organizations (NGOs). The OEA is also working on specific projects with manufacturers, retailers and others to demonstrate product stewardship. More information is available at www.moea.state.mn.us/stewardship/policy.cfm.
- f. **MnGREAT!** This program recognizes environmental achievements by government employees. The program focuses on the prevention of waste and pollution, the reduction of waste at its source, and resource conservation. All Minnesota government employees, or groups of employees, are eligible, including staff from counties, cities, Metropolitan agencies, the University of Minnesota, and state colleges and universities. The first awards were presented in 1995, and are now a part of the annual Governor's Awards for Excellence in Waste and Pollution Prevention. Awards have been given for composting and vermicomposting programs, environmentally preferred purchasing, and deconstruction. More information about the program and the awards is available at www.moea.state.mn.us/lc/mngreat.cfm.
- g. **Publications.** OEA offers a variety of publications and videos about source reduction. Most of these materials are targeted at the business sector. Publications include: Retail Hardware: Best Management Practices for Waste Management; Reusable Transportation Packaging Directory; and Transport Packaging: Cost-Effective Strategies for Reducing, Reusing and Recycling in the Grocery Industry. For a complete list of publications and directories available see www.moea.state.mn.us/pubs.cfm.

2. How long has the program been in operation? Is it still in operation?

Programs focused on source reduction began in the early 1990's. The grant program started in 1997. Other programs such as the Reduce Waste: If Not You, Who campaign, the product stewardship policy, and RETAP have been in place since 1999. Budget cuts are expected to impact programs; however, there are no plans to eliminate programs.

3. What parties are involved with program implementation? (city/county/state, haulers, partnerships with other organizations, technical assistance providers, other contractors).

OEA makes extensive use of partnerships for implementing programs. The Reduce Waste: If Not You, Who? campaign relies on local governments, neighborhood associations, and other non-profits to

disseminate the information on a local level. OEA offers matching grants to help fund these efforts. Counties Involved in Solid Waste and Source Reduction (CISSR) is a group of county government representatives that provides input on OEA program development and implementation. The implementation of RETAP has been a partnership between OEA and the Waste Reduction and Technology Transfer Foundation (WRATT). The WRATT Foundation is a non-profit organization that provides waste reduction assessments for businesses conducted by retired engineers. OEA also partners with the Solid Waste Management Coordinating Board (SWMCB), which is a joint power of six Minneapolis and St. Paul metropolitan area counties. The SWMCB has implemented programs for backyard composting and reusable transportation packaging.

4. What are the roles of parties involved with implementation?

Varies by program.

Measuring Program Success

1. How do you evaluate the effectiveness of your program?

Varies by program. The Reduce Waste: If Not You, Who? campaign has relied on market research to evaluate the effectiveness of the program. The RETAP program follows a protocol to quantify source reduction on a case-by-case basis. The grant programs each have their own evaluation component.

2. What data do you evaluate, or find useful to evaluating your program's effectiveness?

The goal of the Reduce Waste: If Not You, Who? campaign is to change behavior. As a result, they have hired professional market research contractors to conduct statistically valid telephone surveys to measure changes in attitude and behavior. They have not tried to link the effectiveness of the program to waste tonnage reductions because they feel no single program is going to impact a change in overall tonnage.

RETAP follows a protocol to quantitatively evaluate the impact of source reduction activities. Tons of wastes reduced and cost savings are evaluated. The Office Paper Reduction Grant will require quantitative evaluations of weight and/or cost depending on the project.

3. How do you quantitatively measure program effectiveness? (please be specific, i.e. cost per ton diverted, # of businesses contacted, other).

Please see above.

4. Are the programs meeting their objectives? Why? Why not?

All programs are meeting their objectives. According to the market research, the Reduce Waste: If Not You, Who? campaign has been effective in changing behavior. The RETAP program has effectively met the needs of an underserved population, small and medium sized businesses. It has also met its quarterly goals for the number of assessments performed. The Office Paper Reduction Grant program has not been operating long enough to evaluate.

Overall

1. What do you consider to be particularly successful or valuable about this program?

According to the market research, the Reduce Waste: If Not You, Who? campaign has been successful. The program is a long-term effort working towards changing behavior. Peer acceptance of the program

has also been very good. The most valuable aspect of the program has been to put practical tools in the hands of the general public. They have produced high quality materials with a consistent look over time, which has resulted in general recognition of the program and has encouraged local dissemination of the material. Working with local governments and other local groups to get the information out to the public has been very successful. The local groups have the knowledge to effectively and economically disseminate the information in their areas.

The RETAP program has provided a cost-effective way to provide high quality expertise to small and medium sized businesses, which is an audience that has been underserved. The Office Paper Reduction Grant program has not been operating long enough to evaluate. The value of the program will be to generate case studies that the OEA can use to launch a statewide promotion program for office paper reduction.

2. Are there any upcoming changes or improvements in your program? (funding increases/decreases, service provider changes, regulatory changes, change in program focus, etc.)

The State's budget will be reduced and so several waste prevention programs will most likely be impacted. The budget reductions have resulted in a freeze on the State's ability to contract for services. As a result, they will not be able to hire public relations firms or market research firms to assist in program development or evaluation.

3. Is there anything you would like to do differently in your program?

Secure long-term stable funding for all programs.

Documentation

Please send copies of handouts, posters, promotional materials, budget information, program descriptions, program evaluations, copies of grant proposals, case studies, other.

OEA websites (addressed above) provide access to numerous reports, promotional materials, etc.

Other Programs

Are there other waste prevention (and reuse) programs that you are particularly impressed with? Please provide us with a name and contact information if available.

King County, Washington Voucher Incentive Program for Conditional Exempt Small Quantity Generators of hazardous waste. The program offers incentives for implemented recommendations that result from on-site audits. Kevin McDonald is interested in modeling this program for solid waste. The contact at King County, Washington is Patrick Hoermann.

The Waste Reduction and Technology Transfer Foundation that offers the RETAP program, www.wratt.org.

Other Documentation

Are there other reports, documents, websites, videos, etc. on the topic of waste prevention (and reuse) that you think are particularly valuable? Do you know where we can obtain copies of these resources? (We do have a duplications/purchasing budget for resources that can be used to reimburse duplication and shipping of such resources.)

OEA websites (addressed above) provide access to numerous reports, promotional materials, etc.

The Solid Waste Management Coordination Board has information available on their website, www.swmcb.org about their programs for backyard composting and reusable transportation packaging.

Other Comments/Notes

None.

PROGRAM PROFILE
STATE OF MASSACHUSETTS – PROGRAM OVERVIEW AND HIGHLIGHT OF
MUNICIPAL RECYCLING INCENTIVE PROGRAM

Interview Contact Information

Information was obtained through an August 9, 2002 interview with John Crisley and a review of literature and information on the State of Massachusetts website.

Name/Title of interview contacts: John Crisley, Recycling Information Coordinator

Phone number/e-mail: (617) 556-1021; john.crisley@state.ma.us

Organization name and location: Massachusetts Department of Environmental Protection (DEP),
One Winter Street, Boston Massachusetts 02108-4746

Website: <http://www.state.ma.us/dep/recycle/>

Background Program Information

- 1. Please briefly describe your program(s) and its goals. Is the program internal to your operations, or does it target a population (such as members of your trade association, residents in your community, etc.)?**

The Massachusetts Department of Environmental Protection (DEP) has developed and implemented a variety of source reduction programs targeting all populations: households, businesses, and government. The Beyond 2000 Solid Waste Master Plan lays out the State's long-term goals for solid waste management. It can be viewed at <http://www.state.ma.us/dep/bwp/dswm/dswmpubs.htm>. A list of major source reduction activities from the Beyond 2000 Solid Waste Master Plan includes:

Implement Executive Office of Environmental Affairs (EOEA) Product Stewardship Initiative.

- Work with manufacturers to promote less packaging in products and more reuse opportunities.
- Support voluntary agreements and actions promoting product take-back, reuse and waste reduction.
- Support state, regional and national product stewardship initiatives.
- Fund the Product Stewardship Institute at the University of Massachusetts at Lowell.
- Participate in national product stewardship negotiations for carpet and electronics and support a pilot paint take-back program with Benjamin Moore Co.

Promote construction and demolition (C&D) reuse and source reduction.

- Create a source reduction guide for contractors.
- Sponsor waste prevention training for residential and commercial building contractors.
- Integrate source reduction strategies into state government building designs/ specifications.
- Expand existing efforts to promote exchange of building materials between contractors and homeowners.
- Revise beneficial use determination regulations to facilitate reuse of C&D materials.

- Encourage municipalities to reduce building permit fees or provide other incentives for contractors that implement reuse strategies.
- Promote source reduction concepts in building design.
- Seek to incorporate source reduction into projects undergoing Massachusetts Environmental Policy Act (MEPA) review.

Expand on-site composting programs for yard, paper and food waste.

- Conduct a statewide public education campaign targeting organic wastes.
- Promote rebate programs with manufacturers and distributors of mulching lawn mowers.
- Promote food banks as a way to keep surplus food out of the waste stream.
- Conduct intensive compost bin distribution and education programs for composting.
- Promote environmentally preferable landscaping strategies (such as use of native species) to reduce organic by-products.
- Provide consumer education grants to municipalities.

Promote material exchanges and reuse networks targeting building materials, industrial waste, household materials and electronic equipment.

- Provide technical assistance, including training and networking.
- Provide equipment grants to reuse organizations (for trucks, facilities, computers).
- Develop an inventory of reuse organizations and services for dissemination via the DEP website and other means.
- Conduct pilot projects to identify best outreach and transportation practices.
- Provide consumer education grants to municipalities.

Conduct a multi-sector paper reduction campaign (targeting the production of fewer catalogs, phone books, junk mail, and office paper).

- Conduct municipal pilot programs targeting catalogs, junk mail, and phone book reduction.
- Work with regional and national organizations to develop agreements with direct mail companies to reduce mailing weight and frequency, use recycled paper, and replace paper catalogs with online catalogs.
- Promote the development and use of innovative technologies to enable electronic document storage and transmission as alternatives to paper.
- Develop a pilot project to obtain a 25% reduction in the use of paper at DEP and other EOEA agencies.
- Promote paper waste reduction initiatives in key sectors (e.g., financial, insurance, legal), through technical assistance and performance recognition.

Enhance business source reduction technical assistance and policies.

- Encourage source reduction through the Environmental Stewardship Program currently being developed by EOEA, which will encourage companies to not only reduce the use of toxic chemicals, but also reduce energy and water consumption and solid waste.
- Support waste audit programs that integrate solid waste source reduction with energy and water efficiency programs.
- Sponsor waste reduction awards and contests.
- Integrate source reduction initiatives into other business assistance programs conducted by agencies, organizations or utilities.
- Support industrial waste exchange programs and eco-industrial parks.

Conduct source reduction education programs that focus on consumer purchasing practices, backyard composting, and reuse opportunities.

- Provide municipal education grants to support smart purchasing campaigns.
- Develop an interactive website with source reduction ideas and reuse opportunities for communities.
- Develop partnerships with agencies, utilities, and businesses to incorporate source reduction concepts in their promotional materials.

Promote state procurement specifications that facilitate source reduction, including leasing and take-back strategies, use of remanufactured products, lightweighting, packaging elimination, bulk packaging, and longer warranties.

The program highlighted in this profile is the Municipal Recycling Incentive Program (MRIP). The MRIP provides performance-based grants to municipalities that meet a set of eligibility criteria designed to increase recycling, source reduction, hazardous household products collection and demand for recycled products. Qualifying municipalities receive a payment for each ton of designated recyclables diverted within a specified six-month period. Municipalities have the choice of meeting “Advanced Tier” criteria to receive a higher payment rate (\$10 per ton for FY2003), or “Basic Tier” criteria to be eligible for a lower payment rate (\$5 per ton for FY 2003). Eligibility criteria are enhanced every six months, requiring increasing levels of municipal program implementation and improvement. Eligibility criteria consist of minimum requirements and five categories of elective criteria, which include instituting source reduction efforts. More information about the grant program is located at <http://www.state.ma.us/dep/recycle/cities.htm#grants>. The source reduction criteria for FY 2003 are as follows:

- Conduct a backyard composting bin distribution and education program
- Adopt and implement a municipal source reduction policy or plan
- Develop/promote a local reuse guide and reuse collection program for 3 product types
- Implement a consumer waste reduction campaign
- Participate as a local government partner in EPA’s WasteWise Program.

In fiscal year 2002, \$1.8 million in grant funds was provided to 180 municipalities. There are a total of 351 municipalities in the State.

2. How long has the program been in operation? Is it still in operation?

MRIP has been offered for six years. The eligibility criteria for source reduction were added in 2001. The source reduction criteria were further defined six months ago.

3. What parties are involved with program implementation? (city/county/state, haulers, partnerships with other organizations, technical assistance providers, other contractors).

Three groups are involved in program implementation: DEP, MRIP coordinators, and local municipalities. DEP manages and maintains the program. There are seven MRIP coordinators that work with the municipalities throughout the state to provide technical assistance and outreach. The local municipalities are responsible for implementation.

4. What are the roles of parties involved with implementation?

See above.

Measuring Program Success

1. How do you evaluate the effectiveness of your program?

The effectiveness of the MRIP program is evaluated by the increase in tons recycled. There is no evaluation program specific to source reduction.

2. What data do you evaluate, or find useful to evaluating your program's effectiveness?

Weight slips for materials recycled and materials disposed are used to calculate the increase in recycling.

3. Are you measuring or estimating waste prevention diversion impacts in tons? If so, what is your measurement protocol?

No.

4. How do you quantitatively measure program effectiveness? (please be specific, i.e. cost per ton diverted, # of businesses contacted, other).

See above.

5. Are the programs meeting their objectives? Why? Why not?

MRIP is being evaluated by Brooke Nash, (617) 292-5984.

Overall

1. What do you consider to be particularly successful or valuable about this program?

The flexibility of the program has contributed to its success. Municipalities are required to meet some general criteria and then they can choose from a menu of elective criteria. This has allowed municipalities to tailor programs to meet their needs. DEP has worked to balance the desire to encourage as many municipalities to participate as possible without making the program too easy.

2. Are there any upcoming changes or improvements in your program? (funding increases/decreases, service provider changes, regulatory changes, change in program focus, etc.)

The eligibility criteria for MRIP is evaluated and modified as needed every year. DEP and the MRIP coordinators work together to do the evaluation and make the modifications. DEP's budget was recently cut by 40%. This budget cut will have a significant impact on this program, and may result in the elimination of incentive funds. DEP is not sure if local municipalities will participate without the financial incentive.

DEP is planning a series of workshops for local governments on municipal source reduction. The purpose is to educate the municipalities about what they can do to develop internal source reduction plans, policies, and programs. The workshops will coincide with the regularly scheduled meetings between the MRIP coordinators and the local municipalities.

3. Have you encountered any major or continuing obstacles to effectively implementing waste prevention programs/practices?

Brooke Nash, (617) 292-5984, may be the most familiar with obstacles to program implementation as she evaluates programs.

4. Is there anything you would like to do differently in your program?

Not at this time.

Documentation

Please send copies of handouts, posters, promotional materials, budget information, program descriptions, program evaluations, copies of grant proposals, case studies, other.

The DEP websites (addressed above) provide access to numerous reports, promotional materials, etc.

The City of Newton - Comprehensive Source Reduction Plan is available at <http://www.state.ma.us/dep/recycle/cities.htm#grants>. It is a citywide solid waste source reduction plan for Newton. DEP awarded the city a planning grant to develop this multi-year solid waste source reduction plan in June 2001.

Other Programs

Are there other waste prevention (and reuse) programs that you are particularly impressed with? Please provide us with a name and contact information if available.

The Municipal Recycling Technical Assistance Grant program has recently provided funding for two source reduction projects that may have interesting results. One grant went to the University of Massachusetts at Amherst to implement and measure the effectiveness of a paper reduction program. The project is studying the organizational and management issues involved in implementing a source reduction program. The second grant went to a non-profit group, Dump and Run. The group has developed a tool kit to hold move-out reuse and recycling sales at college campuses. It includes information on fund raising, logistics, and promotion necessary for a one or two day event. DEP is planning to hold several workshops for colleges this summer to explain the program and promote the tool kit.

Other Documentation

Are there other reports, documents, websites, videos, etc. on the topic of waste prevention (and reuse) that you think are particularly valuable? Do you know where we can obtain copies of these resources? (We do have a duplications/purchasing budget for resources that can be used to reimburse duplication and shipping of such resources.)

Ron Vance with the EPA WasteWise Program, (703) 841-2154, is a source for information on municipal source reduction activities.

Other Comments/Notes

None.

PROGRAM PROFILE KING COUNTY PROGRAM OVERVIEW

(SEE ALSO “KING COUNTY – WASTE FREE HOLIDAYS”; “KING COUNTY – IN-HOUSE WASTE PREVENTION (KING COUNTY WASTEWISE)”; AND “CITY OF SEATTLE AND KING COUNTY – HOME COMPOSTING, GRASSCYCLING, AND ‘NATURAL GARDENING’ PROJECTS”)

Date of Interview: July 31, 2002
Name of Interviewer: David Allaway

Interview Contact Information

King County, Washington, has sponsored a wide variety of programs that feature or incorporate elements of waste prevention and reuse. Our approach in this profile is to provide a summary overview of the County’s initiatives and current thinking regarding waste prevention and reuse. Three other profiles delve into much greater detail in the areas of landscaping waste prevention, a “waste free holidays” promotional program, and the County’s “WasteWise” in-house waste reduction program. Given the large number of programs described in this profile, and the summary nature of this profile, not all of Alameda County’s survey questions can be easily answered for each and every program.

Name/Title of interview contact: Tom Watson, Program Analyst
Phone number/e-mail: (206) 296-4481; tom.watson@metrokc.gov
Organization name and location: King County Department of Natural Resources and Parks, Solid Waste Division

Name/Title of interview contact: Sharon Aller, Program Analyst
Phone number/e-mail: (206) 296-4352; sharon.aller@metrokc.gov
Organization name and location: King County Department of Natural Resources and Parks, Solid Waste Division

Website: <http://dnr.metrokc.gov/swd/resrecy/wasteprevention/wasteprevention.shtml>

Background Program Information

- 1. Please briefly describe your program(s) and its goals. Is the program internal to your operations, or does it target a population (such as members of your trade association, residents in your community, etc.)?**

The County has several waste prevention related policies in its Solid Waste Management Plan, including the following:

- “. . . the mission of King County’s waste reduction and recycling programs is to divert as much material as possible from disposal in a manner which reduces the overall costs of solid waste management to county residents and businesses, conserves resources, protects the environment and strengthens the county’s economy. The county should evaluate its success in achieving this mission through measures that are consistent with . . . Decreasing the total amount of waste generated and disposed per county resident, acknowledging that business activities, average household size and other external factors affect this amount . . .
- The county should use the following measurement targets to identify the region’s effectiveness in meeting objectives in waste reduction and recycling. These targets should be evaluated at least every three years when data becomes available from the waste monitoring studies:
 1. Disposal rates per residential customer should be held constant throughout the planning period. The residential target is 18.5 pounds of solid waste per person per week . . .
 2. Disposal rates per employee should be held constant throughout the planning period. The employee target is 23.5 pounds of solid waste per employee per week . . .”

King County’s waste prevention activities target all sectors and include (or has included) the following elements:

- A comprehensive yard waste prevention program that includes education, Master Composters (“Master Recycler Composters”), and subsidized compost bin and mulching mower sales. These programs are described in more detail in a separate profile.
- A wide variety of business outreach and technical assistance efforts, all of which include a waste prevention element. These efforts include:
 - A business “Green Works” program that includes on-site technical assistance, a telephone assistance hotline, and a quarterly newsletter (past issues can be viewed on-line at <http://dnr.metrokc.gov/swd/bizprog/news/recycling.htm>)
 - Extensive on-line web content with information and case studies of area business waste reduction efforts: http://dnr.metrokc.gov/swd/bizprog/waste_pre/wastepre.htm
 - A packaging reduction project that focused on working with businesses to reduce packaging waste (this project is no longer active)
 - The Medical Industry Waste Prevention Round Table (MIRT), a County-sponsored and -staffed information exchange for the health care community. Periodic meetings and e-mail bulletins help hospitals and clinics to learn about and adopt waste reduction practices. For more information see: http://dnr.metrokc.gov/swd/bizprog/waste_pre/medical.htm
 - The County has also provided financial support for a Retail Grocery Product Stewardship Demonstration Program and Retail Apparel Product Stewardship Demonstration Program. The apparel program is profiled at: <http://www.productstewardship.net/productsApparel.html>
 - Grants to suburban cities to provide waste reduction technical assistance and outreach services to businesses in their city
- The County is a major sponsor of the Reusable Building Materials Exchange, a regional (multi-county) exchange service for building materials: <http://dnr.metrokc.gov/swd/rbme/index.htm>.

- King County has received several awards for its participation in the EPA in-house WasteWise program. This is described in a separate profile.
- In 1998, the County began a pilot project with Goodwill to collect reusable items at the transfer station. The pilot was deemed to be a success and was made permanent in 1999. Goodwill provides a regular donation trailer at the transfer station. The trailer is located after the scalehouse but before the tipping floor. (Some residents have complained that since the trailer is after the scalehouse, they are being charged the same fee to donate as to dump. However, Tom Watson feels that this keeps the quality of donated products high, as there is no incentive to “donate” low-quality/broken items.) This program has diverted approximately 40 tons of product to date.
- Residential outreach and education, including the following elements:
 - A residential waste prevention web page with specific information on a variety of prevention and reuse techniques: <http://dnr.metrokc.gov/swd/resrecy/wasteprevention/wasteprevention.shtml>
 - A “Waste Free Fridays” program, which was recently changed to “Waste Free Holidays” (and is described in a separate profile)
 - A Master Recycler Composter program that includes waste prevention elements
 - A spiral-bound Address Book is mailed to all new homeowners except in Seattle. The Address Book contains the features of a regular address book (alphabetized tabs, spaces to write the names and addresses of people, etc.) but includes a summary of ideas to reduce waste (including hazardous waste), County and City waste reduction contacts, and postcards to the Direct Marketing Association/Mail Preference Service and King County for additional information; approximately 1,200 – 1,400 of these books are mailed each month at a cost of about \$2.90 each
 - 16,000 “How to Reduce Your Junk Mail” kits have been mailed or distributed
 - Periodic surveys of residential attitudes and behaviors
- Extensive “Green Building” initiatives include some waste prevention elements, including County support of “Built Green”, a program of the Master Builders Association of King and Snohomish Counties. Built Green is a standard rating system that quantifies “environmentally friendly” building practices for new home construction. One of the criteria is long-lasting and low-maintenance siding, roofs, and decking material.
- Tom Watson serves as staff coordinator of the National Waste Prevention Coalition (<http://dnr.metrokc.gov/swd/nwpc/index.htm>) and the Northwest Waste Prevention Coalition (<http://dnr.metrokc.gov/swd/nwpc/reg.htm>). This work is done on the payroll of King County. The National Waste Prevention Coalition’s projects include:
 - The Business Junk Mail Reduction Project, which includes a wealth of information on methods businesses can use to reduce unwanted mail sent and received
 - The National Junk Mail Reduction Campaign, which involves other activities to reduce the amount of unwanted advertising mail
 - The Model Cleaners Project, which recognizes environmental stewards in the dry cleaning (and “wet cleaning”) sectors

- An active waste prevention list serve and information clearinghouse (strongly recommended)

A sister organization, the Northwest Waste Prevention Coalition, has as its mission to “undertake regional waste prevention projects that make a difference.” The Northwest Coalition’s projects have included an information forum and strategy sharing session on reuse, and a regional Lawn Waste Prevention Project, which helped to develop resources, share information about, and raise the profile of lawn waste prevention activities among local governments and other organizations in the Pacific Northwest. (A summary of lawn waste prevention projects in more than 15 communities in Washington, Oregon, Idaho, and British Columbia was developed in 1999 and was provided in electronic format.)

2. How long has the program been in operation? Is it still in operation?

King County’s Solid Waste Division began waste prevention and recycling activities in the mid-1980s. Originally, the emphasis was largely on recycling. In the mid-1990s, the County began to put more focus on waste prevention and reuse. The reasons for this shift included advocacy on the part of Tom Watson, support from Tom’s manager, and a growing realization at that time of the limitations (market problems, environmental limitations) of recycling.

One waste prevention program that was discontinued after several years was called “Dollars for Data”. In this program, the County provided funds to businesses for the implementation of “demonstration” waste prevention measures (such as the installation of a commercial dishwasher in lieu of disposable dishes). In exchange, the businesses were required to report costs, savings, environmental impacts and other relevant data. The program was ended because the quality of the data reported was inconsistent.

3. What parties are involved with program implementation? (City/county/state, haulers, partnerships with other organizations, technical assistance providers, other contractors).

Varies by program.

4. What are the roles of parties involved with implementation?

Varies by program. Some programs are led or coordinated by King County, while others are coordinated by other entities that receive partial funding from the County through contracts or inter-local agreements.

Measuring Program Success

1. How do you evaluate the effectiveness of your program?

Varies by program; please see specific program profiles.

2. What data do you evaluate, or find useful to evaluating your program’s effectiveness?

Varies by program.

3. Are you measuring or estimating waste prevention diversion impacts in tons? If so, what is your measurement protocol?

No.

4. How do you quantitatively measure program effectiveness? (Please be specific, i.e. cost per ton diverted, # of businesses contacted, other).

Again, varies by program.

5. Are the programs meeting their objectives? Why? Why not?

See specific program profiles. The County does not have specific system-wide waste prevention objectives.

Overall

1. What do you consider to be particularly successful or valuable about this program? (And is it valuable to your organization, your clients, you personally, or whom else?)

Tom Watson is enthusiastic about all of the waste prevention programs he is working on, including WasteWise, the junk mail project, and reuse at the transfer station. He recognizes that some waste prevention activities are best addressed at a national or regional level, and believes that cities and counties can coordinate their efforts on selected projects to achieve more collectively than each could working by itself (thus King County's support of the National Waste Prevention Coalition). Tom feels that since King County has some stable funding for waste reduction programs, they have an obligation to work on regional and national waste prevention projects.

2. Are there any upcoming changes or improvements in your program? (Funding increases/decreases, service provider changes, regulatory changes, change in program focus, etc.)

The Green Works Program was recently changed. Previously, it included a certification element (where businesses were recognized as "Green Works" members if they met certain criteria), which has been discontinued.

Tom Watson would like the National Waste Prevention Coalition to do another project this year. He is looking for suggestions. The project could continue the Coalition's focus on direct mail, or could address a different topic.

The County is considering supporting a local waste exchange for households, akin to the services provided by www.reuses.com and www.twincitiesfreemarket.org.

3. Have you encountered any major or continuing obstacles to effectively implementing waste prevention programs/practices?

- Waste prevention is "ethereal" and difficult to measure and evaluate.
- Occasionally, the County has to respond to the "waste prevention is bad for business" criticism. A recent example of this is one of the direct marketing companies that are listed in the junk mail packet. This company offers a way for households to be removed from their mailing lists. However, the regional manager took umbrage at being included in the County-sponsored "junk mail" promotion, and took his concern to several County officials. In his view, his company doesn't produce "junk" and the term "junk mail" is insulting and demeaning to his company, his employees, and the companies who use his service. As a consequence, King County has agreed to remove his company from future printings.

4. Is there anything you would like to do differently in your program?

See #2, above.

Documentation

Please send copies of handouts, posters, promotional materials, budget information, program descriptions, program evaluations, copies of grant proposals, case studies, other.

The King County Comprehensive Solid Waste Management Plan (2001) is available on-line at: http://dnr.metrokc.gov/swd/PUBLICAT/complan_intro.htm#below. (A hard copy can also be purchased for the cost of printing and mailing).

Also available on-line is the Solid Waste Division's 2001 Annual Report (<http://dnr.metrokc.gov/swd/PUBLICAT/pubctns.htm>).

Hard copies were provided of:

- The Address Book (see above).
- An electronic copy of "King County Environmental Purchasing 2001 Annual Report" was downloaded from County web pages.
- The "How to Reduce Junk Mail" kit.

The King County "Residential Waste Reduction and Recycling Survey" (2000) was downloaded in .pdf format. Tom Watson also provided an electronic document summarizing the status of yard waste prevention programs throughout the Pacific Northwest, developed by the Northwest Waste Prevention Coalition.

In 1999, the Northwest Waste Prevention Coalition developed a document summarizing lawn waste prevention projects in more than 15 communities in Washington, Oregon, Idaho, and British Columbia. An electronic copy of these profiles, while slightly out of date, was provided.

Other Programs

Are there other waste prevention (and reuse) programs that you are particularly impressed with? If so, why? Please provide us with a name and contact information if available.

Tom Watson is on the Board of Directors of ReDO, the Reuse Development Organization (http://www.redo.org/Board/body_board.html).

The City of Tacoma mailed the junk mail reduction kit to all households in the City.

Other Documentation

Are there other reports, documents, websites, videos, etc. on the topic of waste prevention (and reuse) that you think are particularly valuable? Do you know where we can obtain copies of these resources? (We do have a duplications/purchasing budget for resources that can be used to reimburse duplication and shipping of such resources.)

N/A

Other Comments/Notes

The Solid Waste Division's 2001 budget for Waste Reduction and Recycling, including Moderate Risk Waste (HHW and CEG programs) was slightly over \$7.3 million. Tom estimates that roughly 20 percent of that, or possibly more, went to waste prevention related programs, including reuse, waste prevention, home composting, and toxics reduction.

PROGRAM PROFILE KING COUNTY – WASTE FREE HOLIDAYS

(SEE ALSO “KING COUNTY PROGRAM OVERVIEW”)

Date of Interview: July 31, 2002

Name of Interviewer: David Allaway

Interview Contact Information

Name/Title of interview contact: Sharon Aller, Program Analyst

Phone number/e-mail: (206) 296-4352; sharon.aller@metrokc.gov

Organization name and location: King County Department of Natural Resources and Parks, Solid Waste Division

Website: <http://dnr.metrokc.gov/swd/wastefreeholidays/wfh.htm>.

Background Program Information

- 1. Please briefly describe your program(s) and its goals. Is the program internal to your operations, or does it target a population (such as members of your trade association, residents in your community, etc.)?**

Waste Free Holidays encourages King County residents to give gifts of experiences, as opposed to things, during the holidays. The program works by recruiting organizations that “sell experiences”, such as museums, theaters, music halls, sports teams, health clubs, restaurants, etc. To participate, these organizations must be willing to offer a discount of at least 15% off one or more “experiences” that they sell. Common types of discounts include 25% off tickets to certain concerts, two-for-one meals at restaurants, etc. These organizations are then added to the Waste Free Holidays website. King County promotes both the concept and the website through a variety of media, including posters, bus ads, articles in print media and gift guides, radio coverage, municipal recycling newsletters, and city websites, for example.

- 2. How long has the program been in operation? Is it still in operation?**

Waste Free Holidays (WFH) grew out of an earlier project that was called “Waste Free Fridays” (WFF). WFF began in 1995 as a method to involve King County residents in waste prevention. The campaign involved promotion of (and discounts for) a variety of waste prevention behaviors. Each behavior was promoted for a period of one to three months. Many of the behaviors were seasonal. They included: use of a mulching lawn mower (promoted during the spring, with a lawn and garden store as a partner), use of a reusable coffee cup (promoted with a coffee shop as a partner), double-sided copying (promoted with Kinko’s as a partner), and giving “experiences” instead of “things” as gifts. During designated Fridays, people engaging in these behaviors at the participating businesses received discounts (provided by the businesses).

The WFF campaign continued for several years, but by 1999, it “ran out of momentum, and public interest had faded”, according to Sharon Aller. In 2000, King County decided to extend the holiday theme from WFF and Waste Free Holidays was born as a stand-alone campaign. Autumn of 2000 saw the debut of Waste Free Holidays. It was expanded in 2001 and King County plans to continue it this year, although with a few changes (see below).

3. What parties are involved with program implementation? (city/county/state, haulers, partnerships with other organizations, technical assistance providers, other contractors).

WFH is led by the King County Solid Waste Division and is supported by the King County Arts Commission. Other parties include the cities, a public relations consulting firm, media, and of course the organizations that participate by offering discounts.

4. What are the roles of parties involved with implementation?

Most of the work is shared by King County and the public relations firm, which developed the artistic and graphic elements and pieces (posters, etc.), press releases, and radio ads, and managed media relations.

Measuring Program Success

1. How do you evaluate the effectiveness of your program?

According to Sharon Aller, “Waste Free Holidays is a non-measurable event.” The program is evaluated through:

- Number of hits to the website (approximately 6,000 web hits in 2001, compared to 2,500 in 2000);
- The amount of media coverage (in 2001, for an investment of approximately \$100,000 in contractor and media costs and 0.25 FTE of staff time, the County received media valued at approximately \$500,000); and
- An evaluation form that is sent to all participating organizations. The general response to this evaluation is “this is a great program, although we can’t quantify the level of response to it. We like it because it gives us free attention. Sign us up for next year.”

2. What data do you evaluate, or find useful to evaluating your program’s effectiveness?

See above.

3. Are you measuring or estimating waste prevention diversion impacts in tons? If so, what is your measurement protocol?

No. It isn’t easy (or possible, according to staff) to estimate the actual change in consumer behaviors, in part because of “free riders” who take advantage of the discount offers but would have purchased “experiences” anyway.

4. How do you quantitatively measure program effectiveness? (please be specific, i.e. cost per ton diverted, # of businesses contacted, other).

Number of web hits, number of partners, type and value of media coverage, and results of survey of participants.

5. Are the programs meeting their objectives? Why? Why not?

To the extent that businesses are participating, the website is being used, and media coverage is being generated, yes. Sharon emphasized that this is a “non-measurable” type of program.

Overall

1. What do you consider to be particularly successful or valuable about this program? (And is it valuable to your organization, your clients, you personally, or whom else?)

- By relying on radio and other media, it takes advantage of the fact that people are indoors (or in their cars driving around) during the holiday season.
- It avoids the criticism that “waste prevention programs are bad for the economy” (since people are still spending money in the economy, just not on purchasing goods).
- The program increases awareness of waste prevention and helps King County with its larger “branding” effort.
- She was successful last year at getting links to the website on web pages of all of the suburban cities, and achieved excellent free radio and print media coverage and other high-visibility exposure.
- Last year four or five of the partners subsequently asked for help with their in-house waste reduction efforts, so it helped to recruit businesses for King County’s commercial technical assistance program.

2. Are there any upcoming changes or improvements in your program? (funding increases/decreases, service provider changes, regulatory changes, change in program focus, etc.)

Since all of the creative materials are developed (including the website) and a large number of organizations participated in 2001 and expressed an interest in participating in 2002, the County plans to conduct the program using in-house staff this year, as opposed to a contractor. This will reduce expenses. The County will use the savings to add a new element to its holiday-specific outreach this year: it plans to distribute collection bags and information on where residents can take reusable textiles (clothing, towels, and sheets) for donation to the needy. This is modeled after a program in West Palm Beach County, Florida. One reason the County is reducing funding for Waste Free Holidays while adding this new program is a perceived criticism related to the economic downturn. Program staff feel a need to “scale down” their program at a time when core County services are faced with budget cuts.

3. Have you encountered any major or continuing obstacles to effectively implementing waste prevention programs/practices?

No, not with this program.

4. Is there anything you would like to do differently in your program?

See #2, above.

Documentation

Please send copies of handouts, posters, promotional materials, budget information, program descriptions, program evaluations, copies of grant proposals, case studies, other.

Sharon provided a sample poster. The website is only active between the day after Thanksgiving and Christmas. She has one copy of a project report (including listing of expenditures, sample media articles, etc.) provided by the project contractor, Pacific Rim Resources (PRR). If Alameda County Waste Management Authority wants any of this information, she recommends contacting PRR directly in their Seattle office.

Other Programs

Are there other waste prevention (and reuse) programs that you are particularly impressed with? If so, why? Please provide us with a name and contact information if available.

The new textile collection program is modeled after one sponsored by West Palm Beach County, Florida.

Other Documentation

Are there other reports, documents, websites, videos, etc. on the topic of waste prevention (and reuse) that you think are particularly valuable? Do you know where we can obtain copies of these resources? (We do have a duplications/purchasing budget for resources that can be used to reimburse duplication and shipping of such resources.)

N/A

Other Comments/Notes

N/A

PROGRAM PROFILE
KING COUNTY – IN-HOUSE WASTE PREVENTION (KING COUNTY
WASTEWISE)

(SEE ALSO “KING COUNTY PROGRAM OVERVIEW”)

Date of Interview: July 31, 2002

Name of Interviewer: David Allaway

Interview Contact Information

Name/Title of interview contact: Tom Watson, Program Analyst

Phone number/e-mail: (206) 296-4481; tom.watson@metrokc.gov

Organization name and location: King County Department of Natural Resources and Parks, Solid Waste Division

Website: <http://dnr.metrokc.gov/swd/wastewise/index.htm>

Background Program Information

- 1. Please briefly describe your program(s) and its goals. Is the program internal to your operations, or does it target a population (such as members of your trade association, residents in your community, etc.)?**

King County is a partner in WasteWise, the voluntary EPA program that promotes and supports waste prevention, recycling, and “buy recycled” initiatives in non-residential settings. King County’s WasteWise program is an internal program targeting County operations and the 13,000 County employees.

As a partner in WasteWise, King County sets annual goals, implements projects to meet these goals, and prepares an annual report to EPA. Some of the activities reported to EPA are initiated as a direct consequence of participating in the WasteWise program, while other accomplishments are happening anyway but are reported to EPA nonetheless.

Waste prevention goals for King County for 2001 – 2003 include the following:

- Establish new guidelines for dealing with surplus equipment and furniture, to simplify and speed up the County surplus process.
- Establish an on-line exchange, on the County's internal "Intranet," for surplus equipment and furniture, for at least one major County department.
- For smaller items (office supplies such as binders, folders, etc.), set up new office supplies exchange areas in ten County offices.
- Explore other creative reuse opportunities for office equipment, furniture and supplies, including cooperative efforts with agencies and organizations outside County government.

- Provide assistance in developing waste prevention and recycling plans for new County buildings, and for remodels and relocations of County agencies.
- Reduce the percentage of waste generation per employee by five percent or greater, in at least five County buildings.

King County also has recycling and “buy recycled” goals as part of WasteWise.

King County Solid Waste Division staff offer assistance to other departments, in addition to working to directly implement changes within their own Department. Examples of activities internal to their Department include employee education regarding using less paper, highly visible (and orderly) “reuse centers” for reusable office equipment and supplies, and barrels (throughout the building) for the reuse of polystyrene peanuts.

2. How long has the program been in operation? Is it still in operation?

King County’s Solid Waste Division began its WasteWise program in 1998. It started in what was then the Department of Natural Resources, with the support of the division managers within the Department. It won a “Program Champion” award from EPA in 2000 (“Program Champion” is EPA’s second-tier award for WasteWise). In 2001, WasteWise was expanded to an all-County program, and it won another “Program Champion” award. This year (2002), King County just learned that it is being honored with the “Partner of the Year Award” for local governments by EPA.

3. What parties are involved with program implementation? (City/county/state, haulers, partnerships with other organizations, technical assistance providers, other contractors).

King County Solid Waste Division, other County departments, and the U.S. EPA. The Solid Waste Division obtained approval to expand the program County-wide from the County’s highest-ranking non-elected staff person by selling the expansion as an efficiency measure that won’t cause more work or cost money. This approach was a necessary element of obtaining top-level support because the County has a budget shortfall and administration doesn’t support adding new unfunded mandates on departments.

4. What are the roles of parties involved with implementation?

The EPA program requires participants to set and report goals, and to annually report progress towards meeting those goals. The County’s Solid Waste Division solicits information from other County departments and consolidates it into a comprehensive Countywide annual report. Solid Waste Division staff also try to help other departments with program implementation. Approximately 0.5 FTE of Solid Waste Division staff are devoted to this internal WasteWise program.

King County also has a very active Environmental Purchasing Program. Although started prior to the WasteWise initiative, this program’s accomplishments are included in the annual reports to EPA. The Environmental Purchasing Program is summarized at: <http://www.metrokc.gov/procure/green/index.htm>. Program staff, located in the Department of Finance, Procurement and Contract Services Division, work with purchasers in all County departments to help evaluate and procure environmentally preferable products. Program staff produce a series of “Environmental Purchasing Bulletins”, available on-line at <http://www.metrokc.gov/procure/green/bulindex.htm>. (At the time of this writing, 74 bulletins had been produced). Bulletins addressing waste prevention cover the following topics (among others):

- Holiday waste.
- On-site composting.
- Remanufactured office furniture.
- Janitorial cleaners.

- Integrated pest management.
- Green Home Building.
- Sign refurbishing.
- Remanufactured motors in County buses.
- Dry cleaned air filters.

Measuring Program Success

1. How do you evaluate the effectiveness of your program?

Evaluation is tied closely to the goals set by the program, and the reporting requirement of participants in the EPA WasteWise Program.

Specific to waste prevention, Tom Watson says that “measurement is haphazard, but still good enough to win a national award”.

2. What data do you evaluate, or find useful to evaluating your program’s effectiveness?

For some in-house activities, staff estimate financial savings and waste reduction impacts (in tons). This is generally done on a micro-level (activity by activity), as opposed to total waste generation.

Excerpts of the County’s 2001 report to EPA are provided at the end of this profile.

3. Are you measuring or estimating waste prevention diversion impacts in tons? If so, what is your measurement protocol?

Yes, but only for certain activities that lend themselves to this type of estimate. The protocol varies depending on the activity being measured (and the waste being prevented or reused). EPA does not require that material savings be reported in tons, so sometimes savings are expressed in other terms (number of items, board feet of lumber, etc.).

4. How do you quantitatively measure program effectiveness? (Please be specific, i.e. cost per ton diverted, # of businesses contacted, other).

County staff aggregate the savings (both in materials and dollars) reported to them by various departments.

5. Are the programs meeting their objectives? Why? Why not?

Some of the objectives have been met. Reorganizations and budget shortfalls in some departments have slowed progress towards some objectives.

Overall

1. What do you consider to be particularly successful or valuable about this program? (And is it valuable to your organization, your clients, you personally, or whom else?)

- The EPA WasteWise program provides a structure to make things happen but allows for a great deal of flexibility (and creativity) in how to accomplish change and achieve results.
- EPA WasteWise really emphasizes waste prevention (relative to recycling).

- The office supply reuse shelves are highly visible and are well used. They are easy to use and often save time for employees (if they need something specific, they don't have to order and wait for new items to be delivered). Tom feels that a non-quantifiable benefit of office supply reuse is that by making it easy to use, people who otherwise wouldn't embrace this type of program come to benefit from it. Hopefully it has a "ripple effect" and they change other behaviors as well.

2. Are there any upcoming changes or improvements in your program? (Funding increases/decreases, service provider changes, regulatory changes, change in program focus, etc.)

No major changes are planned. Staff will continue to try and expand the program, and associated savings.

3. Have you encountered any major or continuing obstacles to effectively implementing waste prevention programs/practices?

- Resistance from some staff (such as a computer specialist who is convinced that duplex printing doesn't work and harms productivity).
- Some program evaluation is difficult (due to data not being readily available) and/or labor intensive. Tom is undecided as to the relative merit of some efforts to estimate program costs (diversion and/or cost savings) resulting from some activities.

4. Is there anything you would like to do differently in your program?

None specified.

Documentation

Please send copies of handouts, posters, promotional materials, budget information, program descriptions, program evaluations, copies of grant proposals, case studies, other.

An electronic copy of "King County Environmental Purchasing 2001 Annual Report" was downloaded from County web pages.

The County's year 2001 annual WasteWise report is available on-line in HTML format at <http://dnr.metrokc.gov/swd/wastewise/report.htm>

Other Programs

Are there other waste prevention (and reuse) programs that you are particularly impressed with? If so, why? Please provide us with a name and contact information if available.

Kitsap County, Washington has a "tremendous" in-house program.

Other EPA WasteWise award winners have demonstrated some innovative waste prevention practices as well as organizational models and institutional commitment.

Other Programs Recommended

N/A

Other Documentation

Are there other reports, documents, websites, videos, etc. on the topic of waste prevention (and reuse) that you think are particularly valuable? Do you know where we can obtain copies of these resources? (We do have a duplications/purchasing budget for resources that can be used to reimburse duplication and shipping of such resources.)

See EPA WasteWise website at <http://www.epa.gov/wastewise/>

Other Comments/Notes

The following are excerpts from the County's Year 2001 WasteWise report to EPA:

Waste Prevention Goal #1: SURPLUS AND REUSE - Establish new guidelines for dealing with surplus equipment and furniture, to simplify and speed up the County surplus process. Establish an on-line exchange, on the County's internal "Intranet", for surplus equipment and furniture, for at least one major County department. For smaller items (office supplies such as binders, folders, etc.), set up new office supplies exchange areas in 10 County offices. Explore other creative reuse opportunities for office equipment, furniture and supplies, including cooperative efforts with agencies and organizations outside County government.

Progress made toward this three-year goal, and related activities, in 2001:

- King County's WasteWise coordinators worked with the County's Surplus program to assist them in streamlining the surplus process, and educating County employees about the process. As a result of this work, new surplus education and procedures will be piloted in the County's King Street Center office building in 2002. In 2001, for the first time, the Surplus program began tracking the value of the items that it re-issues to County agencies. For 2001, Surplus re-issued more than 4,000 items, with a total value of more than \$1.5 million. Surplus determines the value of items by estimating the retail cost and multiplying that by 50 percent.
- An on-line exchange for surplus equipment and furniture was set up on the County's internal "Intranet" for the Department of Natural Resources and Parks (DNRP) in early 2001. Employees in other agencies can also use this exchange. This automated system works well, but few employees are using it so far. Increased publicity of this project is planned for 2002.
- One new office supplies exchange area was set up. Publicity was expanded for existing exchange areas in the Solid Waste Division's offices. This was done primarily through e-mails - one for all employees, and one for secretaries. These e-mails specified what types of materials were available in large quantities, who to contact for special orders (for example, if 60 used binders were needed for a project), estimated savings from office supply reuse, etc. Documented reuse of office supplies through these programs in 2001 (actually reused, not just collected): 1,100 pounds. Estimated savings: \$2,600.
- Creative reuse of equipment, furniture and supplies (these are all projects that WasteWise coordinators were directly involved with):
 - The Kingdome sports arena, operated by King County, was demolished in 2000 to make way for a new stadium. Before demolition, the King County Solid Waste Division acquired the large garbage compactor from the Kingdome, at no cost. In 2001, this compactor was installed at the Enumclaw transfer station and converted to compact cardboard collected at the station for recycling. It has been estimated that installing this compactor will save the

Division \$21,000 in hauling costs annually, by reducing the number of hauls needed for the cardboard.

- King Street Center collected 219 pounds of polystyrene packing materials (peanuts and solid blocks) and gave them to a shipping business, which reuses them.
- The Solid Waste Division donated 50 used binders (76 pounds) to a non-profit program called "Backpacks for Kids" that provides backpacks, binders and other school supplies for low-income children.

Waste Prevention Goal #2: WASTE PREVENTION PLANS - Provide assistance in developing waste prevention and recycling plans for new County buildings, and for remodels and relocations of County agencies.

Progress made toward this three-year goal, and related activities, in 2001:

- WasteWise coordinators met with several County managers to discuss this. Progress on this is somewhat slow because of a major county reorganization and budget shortfall.
- Although this was not directly connected with the WasteWise program, a major development occurred related to County construction projects. In November 2001, King County Executive Ron Sims signed the Green Building Initiative, which adopts the U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) rating system for King County's construction methods and techniques. LEED is a performance-based system for rating new commercial and institutional buildings. Under this initiative, all County construction projects are now required to apply LEED criteria in the pre-design and design phase of projects, and are encouraged to seek the highest LEED certification possible.

Waste Prevention Goal #3: WASTE GENERATION - Reduce the percentage of waste generation per employee by five percent or greater, in at least five County buildings.

Progress made toward this three-year goal, and related activities, in 2001:

- WasteWise coordinators began targeting buildings and agencies for this, and began assisting with reduction, reuse and recycling efforts at those agencies.
- One example: King County District Courts. Their activities included adding polystyrene peanuts reuse; reducing paper use by putting forms online; and publicizing other reduction opportunities. Some reduction in the use of paper forms was already underway at the courts, and has saved an estimated \$33,000.

Other Waste Prevention Activities in 2001 not directly related to goals:

- King County Transit purchased 100 new trolley buses without motors, instead choosing to reuse the motors from its old buses. With an estimated savings of \$200,000 per bus, the total savings from this reuse project was estimated at \$20 million.
- King County Transit gave away 29,700 pounds of glass window panels from bus shelters to the public. Most of these were double-paned panels with one of the panes broken. (People use these panels in their gardens, as shelters. Since one of the panes is unbroken, the other broken one has an interesting mosaic-like look.)
- King County Transit also gave away to the public or businesses 230 pounds of used nylon rope and 140 pounds of plastic barrels.

- Reconfiguring and reusing a group of computers in the Solid Waste Division resulted in a documented savings of \$40,000.
- The Department of Construction and Facility Management (DCFM) reused 3,000 to 4,000 native plants in parks, along trails and in parking lots.
- DCFM also cleaned and distributed for reuse 40 fuel tanks, weighing a total of 40,000 pounds.
- In another DCFM project, 90 million pounds (45,000 tons) of contaminated soil underwent thermal remediation. Half of this was used for daily coverage at a landfill, and half was strained for aggregates for use within structural fills.
- DCFM also reused 40 signposts in parks, and 20 office partitions in a remodeling project.
- The Solid Waste Division reused a variety of equipment and materials in a transfer station renovation project in Shoreline, including: security system control panel; electrical panel; temporary scalehouse and scales; old permanent scalehouse (reused off-site); parts for scales; timbers from old warehouse for temporary scale supports; and two old telephone poles for temporary light supports.
- Parks Division salvaged about 70 cubic feet of tongue-and-groove cedar lumber from the Lake Wilderness Conference Center under construction.
- County agencies purchased about 4,700 remanufactured toner cartridges, at a cost of about \$150,000.
- County agencies spent about \$150,000 to retread tires for trucks and heavy equipment.
- The Department of Finance formally decided that it will no longer distribute printed financial reports, known as ARMS (Accounting Records Management System) reports, to County agencies. These reports will now be available on the County's internal Intranet. It is estimated that this change in process will eliminate the printing of nearly 600,000 pages of reports annually, saving the County more than \$16,000. This conversion to online ARMS reports began in 2001 and should be entirely in place by April 2002.
- In November 2001, the Records and Elections Division began accepting internal records transmittal and retrieval forms via e-mail only.

PROGRAM PROFILE CITY OF SEATTLE PROGRAM OVERVIEW

(SEE ALSO “CITY OF SEATTLE AND KING COUNTY – HOME COMPOSTING, GRASSCYCLING, AND ‘NATURAL GARDENING’ PROJECTS” AND “CITY OF SEATTLE – ‘USE IT AGAIN, SEATTLE!’ EVENTS AND PROMOTION”)

Date of Interview: July 30, 2002

Name of Interviewer: David Allaway

Interview Contact Information

The City of Seattle has a long history of supporting creative waste reduction initiatives. Prevention and reuse are integrated into many of the City’s programs. No single person or group of people within the City’s solid waste program have exclusive purview over prevention and reuse; instead, the City divides programs and responsibilities among the lines of generators (business outreach, residential outreach) and type of program (landscaping, toxics, etc.).

Given the large number of prevention and reuse activities that are either currently underway or that have been supported in the last several years, the approach of this profile is to provide a summary overview of the City’s waste prevention and reuse initiatives. Consequently, not all of Alameda County’s survey questions can be easily answered for each and every program. Two other profiles delve into much greater detail in the areas of landscaping waste prevention and reuse.

Information contained in this profile was obtained through a combination of interviews and a review of literature, including the City’s 1998 Solid Waste Management Plan, “On the Path to Sustainability”. Please note that the City of Seattle uses the term “waste reduction” to mean what Alameda County would refer to as “waste prevention” and “reuse”. In Seattle’s parlance, “waste reduction” is not the same as, and does not include “recycling”.

Name/Title of interview contact: Vic Roberson, Manager, Environmental Partnerships

Phone number/e-mail: (206) 615-0570; vic.roberson@ci.seattle.wa.us

Organization name and location: Seattle Public Utilities (SPU), Community Services Division

Name/Title of interview contact: Carl Woestwin, Landscape Conservation Planner/Waste Reduction Planner

Phone number/e-mail: (206) 684-4684; carl.woestwin@ci.seattle.wa.us

Organization name and location: Seattle Public Utilities (SPU), Community Services Division

Name/Title of interview contact: Jennifer Bagby, PhD, Principal Economist

Phone number/e-mail: (206) 684-7808; jenny.bagby@ci.seattle.wa.us

Organization name and location: Seattle Public Utilities (SPU), Forecasting and Evaluation

Websites: <http://www.cityofseattle.net/util/solidwaste/SWPlan/default.htm>,
<http://www.cityofseattle.net/util/solidwaste/SWPlan/wastered.htm>,
<http://www.cityofseattle.net/util/RESCONS/default.htm>, and many others.

Background Program Information

1. Please briefly describe your program(s) and its goals. Is the program internal to your operations, or does it target a population (such as members of your trade association, residents in your community, etc.)?

The City's solid waste plan sets a goal of "maximum waste reduction" and states "The City will make waste reduction a major program priority as part of an integrated campaign to increase our conservation of all resources – water, energy, and raw materials. Not producing waste is by far the cheapest and most environmentally responsible option for managing any waste stream. Waste reduction has long been the top priority in the widely accepted waste management hierarchy: first we want to reduce and re-use what we can, *then* recycle, *then* dispose of the rest. Some 94% of Seattle residents agree waste reduction is important. Now the City wants to make a stronger commitment to conserving our resources. We have been a leader in the recycling revolution, but now we have a new challenge: how can we reduce the total waste we generate, *both* recyclables *and* garbage?"

Seattle's program includes (or has included) the following elements:

- Garbage collection rates that provide strong incentives to reduce waste disposal. Seattle offers both a "mini can" rate (\$12.35/month for weekly collection of a 19 gallon container) as well as a "micro can" rate (\$10.05/month for a 12 gallon container). Beyond the standard one-can (32 gallon) rate of \$16.10/month, rates rise steeply (\$32.20 for two cans, \$48.30 for three cans, etc.).
- In 2000, the City also instituted a variable collection rate for curbside yard debris collection. Previously, there had been no meaningful limit on the quantity of yard waste that subscribing households could set out. Now, subscribers to this program can set out up to 4 containers or bags of yard debris per collection day (every other week) for a base rate of \$4.25/month. But each additional bag is charged \$1.50. One motivation for this new policy is to encourage on-site management of yard trimmings.
- Grants to neighborhood associations and other groups for waste prevention and reuse related projects. The "Less is More" grants were funded at approximately \$85,000 per year but have since fallen to about half that amount. The grants are used in part to generate "good ideas" for waste prevention and reuse. Not all grants were spent on prevention and reuse; some went to recycling and composting projects. Examples of prevention and reuse projects funded through these grants include:
 - The Law Firm Waste Reduction Network published and distributed to all law firms in Seattle "The Case for Waste Prevention", a handbook on methods to reduce paper waste in law offices.

- Meadowbrook Community Center purchased reusable dishware to replace disposable dishware.
- “Rent a Plate” was a non-profit organization that contracted with fairs and festivals to provide permanent dish service, using dishware funded by a City grant. At participating fairs and festivals, food vendors would agree not to provide disposable dishes. Customers would pay a \$1.50 deposit for a plate, silverware, and drink tumbler. When finished, the dishes could be returned and the deposit would be refunded unless people chose to donate it to Rent a Plate. (This organization operated for about three years but when the founder moved, it discontinued.)
- One couple displayed their home to over 600 people to show how they used a variety of waste reduction strategies in their own home. Their “In-Home Waste Reduction Tours” were featured on the front page of Seattle’s two leading newspapers.
- The Association of Women in Landscaping organized a “Plant Pot Return and Reuse” project where people returned used plant pots to a number of locations throughout Seattle. This project became an annual event held each year at a local nursery.
- Other grants were used to provide and promote reusable lunch sacks and reusable grocery bags.
- The City has distributed more than 20,500 “Green Cleaner” kits to encourage households to use less toxic cleaning materials. (Contact person for more information: Michael Davis, Seattle Public Utilities, (206) 615-1376.)
- In the early- to mid-1990s, the City of Seattle promoted to residents ways they could reduce the amount of unwanted mail (“junk mail”) they receive. According to the City’s 1998 Solid Waste Management Plan, “Seattle has one of the nation’s highest subscription rates to the Direct Marketing Association’s service to remove residents from direct mail listings.”
- The City provides significant financial support to BIRV, the Business and Industry Resource Venture. Housed at the Greater Seattle Chamber of Commerce, BIRV provides comprehensive technical assistance to businesses in the areas of waste prevention, recycling, “buy recycled”, water conservation, stormwater pollution, and green building. BIRV is currently supported by a three-year, \$1.05 million dollar contract from the City. Throughout most of the 1990s, BIRV existed under the name “Business and Industry Recycling Venture” and focused exclusively on waste reduction/recycling issues. With this expanded focus on green building and water, less attention is being paid to waste-related issues. For more information regarding BIRV, visit the website at: <http://www.resourceventure.org>. BIRV can be contacted at (206) 389-7304. The primary Seattle Public Utilities liaison for BIRV is Hans VanDusen: (206) 684-4657. A history of BIRV’s programs and accomplishments can be viewed on-line at: <http://www.resourceventure.org/history.htm>.
- Starting in the mid-90’s, Seattle focused additional commercial-sector resources on packaging waste prevention. Technical assistance was provided to a variety of businesses, educational materials were developed, and 350 businesses attended packaging reduction workshops in 1997.
- The City’s two household hazardous waste collection facilities operate a direct waste exchange for certain usable materials, especially latex paint.
- Qualified reuse organizations, such as Goodwill, St. Vincent de Paul, and the Salvation Army, are provided a reduced tipping fee at the City’s transfer stations. This is in recognition of the fact that due to the City’s steep variable can rate, more households are sending marginally re-usable (or not re-usable) items to these thrift stores.

- A number of in-house waste prevention initiatives were started in the last several years. These include:
 - Increased on-site chipping of woody debris in City parks (and using the chips as mulch).
 - In 1997 the City’s Law Department initiated “The Paper Chase”, a pilot project that aimed to reduce paper use by 15%.
 - General employee education.
 - Increased use of electronic billing and electronic data management and sharing (including expansion of the City’s web site).
 - Integrated Pest Management and pesticide reduction at City properties. This program is described at: <http://www.cityofseattle.net/environment/pesticides.htm>. The goals of this program are to a) eliminate the use of the most potentially hazardous herbicides and pesticides and b) to achieve a 30% reduction in overall pesticide use (from a 1995 – 1999 baseline). The first goal has been met and total pesticide reductions (from the baseline) were 26% in 2000 and 17% in 2001. Extensive information on baseline data collection, policies, review processes, pesticide tier tables, and a wide variety of pilot projects are all provided at the website above.
 - The Solid Waste Plan calls for a purchasing preference for copy machines and printers that easily accommodate double-sided copying.
 - The City has an Environmental Management System and in 2000 created an Office of Sustainability and Environment (OSE). The mission of OSE is to “provide leadership, tools, and information to help City government and other organizations use natural resources efficiently, prevent pollution, and improve the economic, environmental, and social well-being of current and future generations.” <http://www.cityofseattle.net/environment/default.htm> provides more information on OSE’s mission, goals, and work program.
 - This year (2002), the Seattle City Council unanimously passed a resolution to begin the process of phasing out the purchase of toxic products such as chlorine bleached paper, utility poles treated with pentachlorophenol, mercury switches in cars, and PVC office materials and building supplies. These materials were targeted because they are or are perceived to contain persistent toxics or result in persistent pollution during their manufacture. The City Council has given the OSE until October to develop an implementation plan to phase out certain products.
- Comprehensive landscaping-related waste prevention activities, including home composting, grasscycling, and toxics reduction. (Please see separate profile.)
- Promotion of reuse, rental, and repair of durable goods, and a series of neighborhood reuse “swap meets”. (Please see separate profile.)

2. How long has the program been in operation? Is it still in operation?

The City’s waste prevention programs began in the late 1980’s. Different programs have evolved over time. Some programs (not described above) have been discontinued.

3. What parties are involved with program implementation? (city/county/state, haulers, partnerships with other organizations, technical assistance providers, other contractors).

Varies by program. Partners include other City departments, the Greater Seattle Chamber of Commerce, neighborhood and business associations, businesses, and contractors.

4. What are the roles of parties involved with implementation?

Varies by program.

Measuring Program Success

1. How do you evaluate the effectiveness of your program?

Varies by program. For details of the landscaping and reuse programs, please see those profiles.

2. What data do you evaluate, or find useful to evaluating your program's effectiveness?

Again, the evaluation of individual programs varies with the program. On a macro-level, the City has experimented with several different types of indicators. These include:

- Waste composition studies. In its 1994/1995 waste composition study, the City's contractor identified several "waste reduction indicators". Seattle defined the indicators to attempt to measure trends in packaging, toxic product use, and reuse of durable goods, and to make comparisons among different time periods. The waste composition study report includes a discussion of these indicators and suggestions for how they could be improved upon. However, in the subsequent waste composition study, waste reduction indicators were not measured due in part to their added cost.
- The City has conducted a series of residential surveys. These surveys provide some gross level information regarding attitudes and awareness.
- While the City does track waste generation, it is not viewed as an overly meaningful indicator of waste prevention, due to external factors outside of the City's control (weather, employment, business activity, population, etc.). For more discussion on this topic, please refer to the following question.

The waste reduction grants program has resulted in a variety of innovative projects over the last ten years or so. However, staff felt that many of the grant-funded projects had not been well evaluated, so it was difficult to conclude which of the efforts had potential for expansion or replication.

3. Are you measuring or estimating waste prevention diversion impacts in tons? If so, what is your measurement protocol?

Other than home composting and grasscycling, the City of Seattle does not measure waste prevention diversion impacts in tons. For a description of the methods applied to home composting and grasscycling, please refer to the separate profile.

While the City does estimate total waste generation (defined as disposal + recovery), Jenny Bagby feels that it is difficult to use in a meaningful way. For example, normalizing the data by population (waste per person per year) tends to show that generation falls when the economy contracts, and not much else. She provided a copy of a presentation made at the 2000 National Recycling Coalition Annual Congress by John Stutz (Tellus Institute) that provides an outline of an alternative method for measuring the waste prevention diversion impact in tons. This method involves identifying a "driver" (variable) that causes waste stream to grow (such as population, gallons of beverages sold, number of copies made, or, at the macro-level, personal expenditures or gross state product), and then normalizing for this driver. Jenny said she was uncomfortable with this approach, even when multiple drivers are utilized. For example, a

staff person at King County had attempted several years ago to adjust waste generation for multiple drivers (population, employment, and others) and then attributed all of the remaining change to “waste prevention”. Jenny feels that this is an inappropriate claim as the remaining change includes waste prevention but also includes all of the other external variables that weren’t adjusted for. She also provided a copy of “The Monthly UnEconomist” from Sound Resource Management, which also critiques the Tellus approach.

4. How do you quantitatively measure program effectiveness? (please be specific, i.e. cost per ton diverted, # of businesses contacted, other).

Again, this varies by program.

5. Are the programs meeting their objectives? Why? Why not?

Varies by program.

Overall

1. What do you consider to be particularly successful or valuable about this program? (And is it valuable to your organization, your clients, you personally, or whom else?)

Vic Roberson, who manages some of the staff who work on prevention and reuse, believes that the backyard composting and other landscaping projects are among the City’s most successful. Because the City provided bins for free (although this is no longer the case), banned yard waste from disposal, and charges households to collect yard waste curbside, strong incentives exist for on-site management. Coupled with good advertisement and education, “home composting became vogue”.

2. Are there any upcoming changes or improvements in your program? (funding increases/decreases, service provider changes, regulatory changes, change in program focus, etc.)

The City has \$280,000 budgeted for new waste prevention activities in the calendar year 2003 – 2004. Vic Roberson isn’t sure yet exactly how they’re going to spend the funds, as his solid waste outreach coordinator recently left the Utility. He says that he really struggles with “what to do” with waste prevention and is thinking about analyzing potential by looking at sectors (commercial, residential, self-haul) and waste composition, and identifying specific items in specific sectors that have prevention potential.

3. Have you encountered any major or continuing obstacles to effectively implementing waste prevention programs/practices?

According to Vic Roberson, the City spends less time, resources, and effort on prevention relative to recycling and composting. He says that during the early 1990s, the City pushed resources into waste prevention, but it was difficult to determine what some of those projects were accomplishing. By the mid-1990s, recycling and composting were receiving much greater emphasis, and “our prevention efforts tailed off.” Vic says it is difficult for them to effectively determine where they should place their effort to achieve meaningful results with prevention.

Jenny Bagby related a problem with the reduced tipping fee provided to thrift stores. Recently, a mattress retailer offered a “take back” program; customers were told they could bring in their old mattresses and they would be “recycled”. In reality, the store reused/resold a small number of mattresses (the best ones),

and then “donated” the rest to a thrift shop (in lieu of disposal) in order to take advantage of the thrift shop’s reduced disposal charge.

4. Is there anything you would like to do differently in your program?

N/A

Documentation

Please send copies of handouts, posters, promotional materials, budget information, program descriptions, program evaluations, copies of grant proposals, case studies, other.

Hard copies were provided of the following:

- “Tracking and Measuring Source Reduction” (John Stutz, Tellus Institute; overheads from presentation to 2000 National Recycling Coalition Annual Congress).
- “Waste, Waste Generation, Source Reduction, Price Indexing & Variable Rates – We probably can’t tell the score even with a scorecard!” (January 2000 issue of “The Monthly UnEconomist”, published by Sound Resource Management, Seattle. A critique of the methodology proposed by John Stutz, above.)

According to the City’s website, hard copies are available of the 1998 Solid Waste Management Plan, “On the Path to Sustainability”.

Electronic copies are available of:

- “1994/95 Residential Waste Stream Composition Study”. (This includes a discussion of waste prevention indicators.)

Other Programs

Are there other waste prevention (and reuse) programs that you are particularly impressed with? If so, why? Please provide us with a name and contact information if available.

Carl recommends Marcia Rutan at Snohomish County, Washington. She works extensively with residents on voluntary simplicity as a method of achieving waste prevention.

Other Programs Recommended

N/A

Other Documentation

Are there other reports, documents, websites, videos, etc. on the topic of waste prevention (and reuse) that you think are particularly valuable? Do you know where we can obtain copies of these resources? (We do have a duplications/purchasing budget for resources that can be used to reimburse duplication and shipping of such resources.)

- Jenny Bagby recommended a report on waste prevention measurement produced by Metro (Portland) and titled “Measuring Waste Prevention: A Review of Methods and Sources”.

- The overheads from John Stutz (Tellus Institute) referenced above make reference to a report prepared for the State of Massachusetts. This report, “Source Reduction in Massachusetts”, is available on-line or in printed form from Tellus. In addition to estimating the diversion tonnage of source reduction, it also provides a discussion of diversion potential from future programs.

Other Comments/Notes

Additional details are available from interviewed staff regarding program specifics, if needed.

PROGRAM PROFILE
CITY OF SEATTLE AND KING COUNTY – HOME COMPOSTING,
GRASSCYCLING, AND “NATURAL GARDENING” PROJECTS

(SEE ALSO “CITY OF SEATTLE PROGRAM OVERVIEW”)

Date of Interview: July 30 and 31, 2002

Name of Interviewer: David Allaway

Interview Contact Information

Historically, the City of Seattle and King County have often developed separate programs for solid waste management, with King County providing planning and services for all (or most) areas of the county outside of the City of Seattle. Some of the other cities, such as Renton and Bellevue, share some program responsibilities with King County, but nowhere is the division of responsibilities as clearly split as between King County and Seattle. However, King County and the City of Seattle, as well as other local governments in the region, are increasingly cooperating to provide common services in the areas of home composting, grasscycling, and “natural gardening”. Therefore, Harding ESE has chosen to describe these types of programs in this area into a single profile. As part of our research into waste prevention projects at these two governments, Harding ESE talked in-person with four staff involved in these projects: Carl Woestwin and Jenny Bagby at the City of Seattle, and Sharon Aller and Gerty Coville at King County.

Name/Title of interview contact: Carl Woestwin, Landscape Conservation Planner/Waste Reduction Planner

Phone number/e-mail: (206) 684-4684; carl.woestwin@ci.seattle.wa.us

Organization name and location: Seattle Public Utilities (SPU), Community Services Division

Name/Title of interview contact: Jennifer Bagby, PhD, Principal Economist

Phone number/e-mail: (206) 684-7808; jenny.bagby@ci.seattle.wa.us

Organization name and location: Seattle Public Utilities (SPU), Forecasting and Evaluation

Name/Title of interview contact: Sharon Aller, Program Analyst

Phone number/e-mail: (206) 296-4352; sharon.aller@metrokc.gov

Organization name and location: King County Department of Natural Resources and Parks, Solid Waste Division

Name/Title of interview contact: Gerty Coville, Program Analyst

Phone number/e-mail: (206) 296-8459; gerty.coville@metrokc.gov

Organization name and location: King County Department of Natural Resources and Parks, Solid Waste Division

Websites: <http://www.ci.seattle.wa.us/util/composting/>,
<http://www.ci.seattle.wa.us/util/composting/binsale.htm>,
<http://www.ci.seattle.wa.us/util/composting/cmtour.htm>,
<http://dnr.metrokc.gov/swd/resrecy/composting/composting.shtml>,
<http://dnr.metrokc.gov/swd/resrecy/events/compostevents.shtml>,
<http://dnr.metrokc.gov/swd/resrecy/recycling/grasscycling.shtml>,
<http://dnr.metrokc.gov/swd/resrecy/events/naturalyard.shtml>, and many others.

Background Program Information

- 1. Please briefly describe your program(s) and its goals. Is the program internal to your operations, or does it target a population (such as members of your trade association, residents in your community, etc.)?**

The City of Seattle's and King County's "programs" for home composting, grasscycling, and natural gardening have changed focus over time from focusing primarily on diversion (waste reduction) to a broader list of environmental benefits, including soil health, water conservation, and air and water quality.

Seattle's program includes (or has included) the following elements:

- Subsidized home compost bin distributions.
- Subsidized sales of mulching mowers and other "natural gardening" products. This program is co-sponsored with King County and other environmental agencies under the name "Northwest Natural Yard Days".
- Primary research, including research trials of mulching mowers (reports available), and a five-year research project titled the "Soundscape Lawn & Garden Demonstration Project" (report not yet available).
- A "Chip and Mulch Tour" that provides households with mobile chipping services. Households are asked to identify a location (such as a large driveway) and at least four households who will bring their woody debris to that location on a designated day. At the designated time, a contractor arrives with a large mobile chipper and chips the woody debris. All wood chips are left on-site for the participating households to use.
- Extensive outreach to households and professional landscapers, including the following:
 - A wide variety of printed materials have been developed. Many of these are distributed through nurseries via a contract with a fulfillment house. The materials are popular with nurseries, in part, according to Carl Woestwin, because they focus more on "how to have a healthy, beautiful

garden” and less on “this will reduce environmental impacts” (even though the techniques described are environmentally beneficial).

- SPU also sponsors the Master Composter Soil Builders (formerly just “Master Composters”) and a “Natural Lawn & Garden Hotline”. The Master Composter Soil Building program was recently redesigned to include grasscycling, natural lawn care, integrated pest management, and water conservation, in addition to its traditional focus on home composting. This change was due in part to a focus group with gardeners that revealed that they are looking for in-depth information about natural gardening techniques.
 - The Natural Lawn & Garden Hotline has recently expanded from being a City-only service to offering countywide service, and it is co-funded by the King County Local Hazardous Waste Management Program (which is housed in the King County Department of Health, separate from the King County Solid Waste Division, which is in the County’s Department of Natural Resources and Parks).
 - The City used to maintain several home composting demonstration sites, but stopped funding them several years ago. According to Carl, the sites had low attendance and were expensive to maintain.
 - A “Green Gardening” program, including “Green Gardening” tours held between 1993 and 1996. The current “Green Gardening” program is an education program focused on pesticide reduction. It involves presentations to community, gardening and workplace groups, Green Gardening training for Master Gardeners, a regular column in a local newspaper, training sessions at nurseries, and a large, annual Integrated Pest Management seminar (which this year was attended by 350 landscape professionals, primarily various agency staff). (For a more detailed description of a green gardening tour project that is currently in operation, please see the profile of Metro’s (Portland, Oregon) “Garden of Natural Delights”).
- In-house pesticide reduction and landscaping conservation efforts. These are described in the “City of Seattle – Program Overview” profile.
 - A new “pay as you throw” rate incentive in the curbside yard waste collection program (which is a subscription program). The City has a ban on the disposal of yard waste. Up until 2000, there was no meaningful limit on the quantity of yard waste that subscribing households could set out. Beginning in 2000, the City changed the rate structure to allow up to four 32-gallon bags or containers per week as part of the “base rate”; additional yard waste set-outs are charged extra. One motivation for this new policy is to encourage on-site management of yard trimmings.
 - Seattle Public Utilities also devotes significant resources to reducing water used for irrigation purposes. These projects are coordinated with the efforts listed above but will not be described in further detail in this profile.

King County’s program includes the following elements:

- Subsidized home compost bin distributions. In 2002, King County and Seattle combined efforts and used a common sales platform and promotions. King County’s goals for the home composting effort are:
 - Increase diversion of yardwaste from the solid waste stream. (The County does not have a specific tonnage goal.)

- Provide another choice to residents allowing for easy composting of yardwaste.
- Improve soil health by helping residents compost and use compost in their yards.
- Subsidized sales of mulching mowers and other “natural gardening” products. This program is co-sponsored with the City of Seattle and other environmental agencies under the name “Northwest Natural Yard Days”.
- Extensive outreach to households and professional landscapers. A wide variety of printed materials have been developed. King County sponsors the Master Recycler Composters (which is separate from the Seattle Master Composter Soil Builders) and maintains a County Recycling and Composting Information Hotline. The King County Local Government Hazardous Waste Management Program also co-funds (with Seattle) a separate “Natural Lawn & Garden Hotline”. The County also maintains three home composting demonstration sites.

2. How long has the program been in operation? Is it still in operation?

Seattle’s outreach programs originated at the non-profit Seattle Tilth in the early 1980s. The City began sponsoring home composting outreach in 1986. Subsidized home compost bin distribution began in 1989. The City’s research into the efficacy of mulching mowers was conducted in 1994 and 1995, and mower rebates began in 1998. In 1997 SPU underwent a reorganization that resulted in solid waste reduction and water conservation staff working more closely together. Its home composting/mulching outreach program took on a much more comprehensive approach, increasing emphasis on water conservation, water quality, pesticide/herbicide reduction and integrated pest management. The Chip and Mulch Tour was initiated in 2001. The only programs to have been discontinued are the demonstration sites and the garden tours portion of the Green Gardening Program (tours of area residents’ gardens to demonstrate natural gardening practices).

King County’s efforts to promote home composting started in the early 1990s. Subsidized bin distributions were offered for several years, then discontinued, and then started up again in 2000. The County’s and Seattle’s mulching mower rebates began in 1998. Other cities in King County have conducted home compost bin distributions throughout the 1990s and into the present.

It is worth noting that both the home compost bin and mulching mower subsidy programs have undergone significant changes over time. Seattle started its program by fully subsidizing bins and delivering them to people’s homes by a trained specialist who helped set up the bin and answer questions. The bins were actually purchased and warehoused by the City (unlike many communities that rely on the “truckload sale” approach where the bins are sold directly by the manufacturer to the end-user at centralized events). This individualized delivery proved to be quite expensive, and so the City dropped home delivery, made the home visit optional, offered a phone consultation instead, and eventually switched to a workshop format. Subsequently, the City replaced its full subsidy with a partial subsidy, requiring recipients to share the cost of the bin. In its most recent change, the City has gotten out of the bin purchasing/warehousing/re-sale business altogether and now relies on a contractor to provide one-day “truckload” sales, with City staff and contractors providing education to people as they wait in line. Over time, the City’s subsidy has dropped from a high of \$70 per bin (the full cost of the bin plus the cost of the on-site delivery and visit) to just \$10 per bin. This year the City also began promoting Internet sales of partially subsidized bins. The City is currently subsidizing the “Seattle Composter” manufactured by Recycled Plastics Marketing (RPM). Previously, the City subsidized the Earth Machine composter as well as a limited number of Green Cones specifically designed for rodent-resistant composting of food wastes. Prior to that, the City had experimented with a number of different brands and types.

King County's subsidized sales of home composting bins began in the early 1990s and operated for several years. Like Seattle, King County began with home deliveries of compost bins to participating households. King County then discontinued bin subsidies altogether, focusing exclusively on education for about five years. Popular demand for the bins caused the County to reconsider this decision, and in 2000, the County sponsored three "truckload sales" of the Earth Machine bin, followed by four truckload sales in 2001. In 2002, the County co-sponsored four truckload sales (one of which was co-sponsored by the City of Seattle) of the RPM "Seattle Composter" and also began Internet sales. Internet sales are promoted on the County's web page but are conducted exclusively by RPM. The County's subsidy is a very small percentage of the bin price.

The joint City/County mulching mower rebate program grew out of a crisis at the region's largest yard debris composting facility, Cedar Grove Composting. In 1995 or 1996 the facility was beset with serious odor problems and complaints from angry neighbors. The primary cause of the odors was a larger-than-usual amount of grass clippings sent for composting, caused by heavy spring rains. In response, the City and County stepped up their efforts to promote grasscycling as an alternative to complement curbside collection. King County, Seattle, and other area cities and counties worked collaboratively to develop a regional program; it was originally titled "Get Mower For Less" but the name was later changed to "Northwest Natural Yard Days". Local government agencies co-sponsoring this project have included not only solid waste agencies, but also agencies with interests and mandates in air quality, hazardous waste, and water quality. The project has always involved partnering with retailers to provide a combination of county/city-funded rebates coupled with retailer/wholesaler-provided discounts. Coupled together, these have provided discounts in the range of 25% to 50% off the cost of push reel, cordless electric, and corded electric mulching mowers. The combined value of the rebates and discounts range from \$15 to \$100 per mower; rebates alone are less than \$50 per mower. Other "natural lawn/garden care" items have been added, including a weed puller in 2001, followed by many more items in 2002: insecticidal soap, natural lawn fertilizer, bagged compost, water timers, soaker hoses, and rain pails. In previous years, multiple one-day sales events were held throughout the region. In 2002, the events were scaled back to only one kick-off event (held in April), followed by a month of ongoing incentives at approximately 30 participating retailers. The one-day events also provide households an opportunity to drop-off (trade-in) their old gasoline-powered mowers.

3. What parties are involved with program implementation? (city/county/state, haulers, partnerships with other organizations, technical assistance providers, other contractors).

In 2002, the Northwest Natural Yard Days were co-sponsored by 36 city and county water districts and environmental agencies, including air quality, water quality, and solid waste agencies. This program was developed and continues to be implemented through a collaborative, region-wide approach. This program relies heavily on partnerships with retailers such as Home Depot, Lowe's, and local hardware stores. This program is overseen by a private contractor (a promotions firm), Pacific Rim Resources.

The current home compost bin distributions provide for truckload and Internet sales to be managed by a private contractor, currently Recycled Plastic Marketing. Some outreach and education is provided by Seattle Tilth's Master Composter Soil Builders (funded by SPU) and King County's Master Recycler Composters (funded by King County). The Green Gardening Program is co-sponsored by Seattle Tilth, Washington Toxics Coalition, and the Washington State University Cooperative Extension. County and City staff are involved in all of these projects.

4. What are the roles of parties involved with implementation?

Specific to Northwest Natural Yard Days, King County, Seattle, and other partners sit on a large steering committee. A private contractor, Pacific Rim Resources, administers the program, including development and distribution of promotional materials, recruiting retail partners, and reimbursing partnering retailers

for the value of the rebates. The retailers receive free publicity (or in some cases, shared costs on co-op advertising) in exchange for participating. A subcontractor provides education to people as they wait in line at the event and at some of the participating retailers. In 2002, Home Depot supplied and sold the items at the kick-off event.

Recycled Plastic Marketing manages both the truckload and Internet compost bin sales.

Measuring Program Success

1. How do you evaluate the effectiveness of your program?

Random surveys of households, random surveys of bin recipients, participation data from sales events and educational events, and surveys of participants at sales events (home compost events and mulching mower events). In the early- to mid-1990s, the City also conducted some limited studies where people composting at home were provided with portable scales and asked to weigh the amount of materials they composted. Both King County and Seattle also survey bin recipients at events as they are waiting in line; King County is planning a follow-up survey of their actual experiences. (Preliminary survey results from two of the 2002 events were provided; Gerty Coville is currently designing the follow-up telephone survey, which is scheduled to be administered this fall).

2. What data do you evaluate, or find useful to evaluating your program's effectiveness?

- Number of bins and mulching mowers sold through the events.
- Number of other interventions, such as residents that have received education in their own yards or at a workshop, number of educational contacts made by the Master Composter Soil Builders and Master Recycler Composters, and number of calls made to the hotline.
- Percentage of households composting at home (with and without a provided bin) and practicing grasscycling.
- Participation in other behaviors, such as not using “weed and feed” products and not watering turf.
- Behaviors among bin recipients: are they using them, are they harvesting the finished compost, what are they composting, what are their problems.
- Tonnage of material diverted through home composting and grasscycling (City of Seattle only).

3. Are you measuring or estimating waste prevention diversion impacts in tons? If so, what is your measurement protocol?

The City of Seattle periodically estimates the tonnage of material diverted through home composting and grasscycling. King County does not. According to Sharon Aller (King County), “we could, but nobody has asked us to”.

Seattle's approach, designed by Jenny Bagby, is summarized in a Microsoft PowerPoint presentation currently on-line at <http://www.ci.seattle.wa.us/util/solidwaste/reports.htm>. The basic formula is tons = (number of bins) x (pounds per bin). Data was drawn from numerous studies (some of which were provided), including 1995 and 2000 surveys of households, a 1997 survey of bin recipients, numerous waste composition studies, data from curbside collections, and a series of backyard composting program evaluation reports conducted in the early and mid-1990s.

The City estimates that the average residential household generates 906 pounds of yard waste per year. This number is derived by adding yard waste from the curbside program, earlier estimates of home composting and grasscycling tonnages, an estimated fraction of the yard waste delivered for composting by self-haulers (some of whom are residents or landscaping firms hauling from residential sources), and the remaining (disposed) residential yard waste as observed in waste composition studies. This total tonnage (67,700 tons in 1995) is then divided by the number of Seattle households (149,400 in 1995) to arrive at 906 pounds per household.

The amount of yard debris composted per bin is estimated starting with the average generation quantity (906 pounds per household), which is then multiplied by 70%, an estimate of the fraction of yard waste that is leaves and grass. This estimate is a weighted average of waste composition study results from residential collection routes and self-haul routes. This results in an estimate of 625 pounds per household that is potentially compostable. The City finally estimates that households will compost 90% of what they can compost, resulting in a per-household estimate of 562 pounds of composting per year. Interestingly, this is quite close to two previous estimates of ~500 pounds and 537 – 551 pounds. The ~500 pound estimate was derived from a non-scientific study of individuals who actually weighed the amount of yard waste they put into their bins. The 537 – 551 pounds estimate was derived from 1991, 1992, and 1995 telephone surveys where bin recipients were asked how many times they filled their bin in a year (and the corresponding average volume was multiplied by an assumed density).

The number of bins in use was derived using two methods: first, 1995 and 2000 surveys of all residents, and second, surveys of bin recipients (to find out how many were still using their bins). By 1995, the City had distributed bins to 35,102 households; the 1995 Organics Survey (of all residents) found that 23% of households had received City bins, which extrapolates to 34,500 households, a very close match! Both types of surveys revealed that over time, approximately 70% of bin recipients were still using their bins. Thus, the number of City bins still in use was multiplied by the estimated diversion per bin to yield an estimate of total diversion in City compost bins.

This number was then adjusted to account for: a) home composting that occurs outside of City bins [based on the 1995 and 2000 surveys; City staff assume that these households compost, on average, 60% of what City bin users compost]; and b) diversion due to grasscycling [again, based on the 1995 and 2000 surveys, and also adjusted so that households that both grasscycle and compost at home don't have their diversion double-counted).

Jenny Bagby, SPU's Solid Waste Economist, recently concluded an informal study that compared ten years of yard debris curbside data against four weather-related variables in order to see if annual variation in quantities could be explained due to variation in weather. The four variables were: spring rain, spring temperatures, summer rain, and summer temperatures. She concluded that spring rain is a significant variable. After accounting for this variable, the City has concluded that the new (2000) "pay as you throw" rate incentive for the subscription yard waste collection program is not significantly reducing yard waste set-outs. Anecdotal observations suggest that people are stockpiling their extra yard waste on-site and setting it out on an ongoing basis, taking care not to exceed the four bags/cans limit.

The City has also demonstrated that fertilization and irrigation practices can have a very significant impact on yard waste generation. Specific to grass clippings, Carl states that if people water their lawns during the dry summer season, the amount of grass clippings generated during that period is almost doubled.

4. How do you quantitatively measure program effectiveness? (please be specific, i.e. cost per ton diverted, # of businesses contacted, other).

Because Seattle's home composting and grasscycling efforts are led by Seattle Public Utilities (and the solid waste services are operated like a public utility), the City of Seattle periodically quantifies program cost, tonnage diverted, and cost-per-ton for its home composting and grasscycling program.

5. Are the programs meeting their objectives? Why? Why not?

In 1990, the City had a goal of distributing yard waste compost bins to 25% of Seattle households. This goal was exceeded in 1998, although almost as many households report composting without City-provided bins as those who have received the bins. While this objective has been achieved, and the City continues to distribute bins (although at a reduced subsidy) and promote home composting, a new objective has not been set. Carl's personal opinion is that a reasonable goal would be for 55% to 60% of all households to be composting at home. At the end of 1999, an estimated 46% of households reported composting yard waste at home.

Originally, the mulching mower program had a goal of reducing problems caused by excessive quantities of grass clippings in curbside set-outs and drop-off loads. There is no official goal for number of mulching mowers sold (although the rebate/discount programs have been applied to almost 17,000 mowers since program inception).

For other programs, the City's goals include attendance at educational events, numbers of volunteers trained, reduction in water used for landscaping, and number of incentive products sold. There are no firm goals (nor is their measurement of) actual pesticide use reduction, as this is very difficult to measure.

Overall

1. What do you consider to be particularly successful or valuable about this program? (And is it valuable to your organization, your clients, you personally, or whom else?)

According to Carl, the natural gardening programs haven't been evaluated in much detail yet, so it is difficult to say how successful they have been. He feels that the philosophical shift in programs from "diversion only" to a more holistic view of environmental benefits is positive.

One program that he feels has contributed to very positive change is the effort focused on natural lawn care. Using purchased questions in a series of longitudinal "SoundStats" surveys of King County residents conducted in the spring and fall over a period of five years, the following results have been observed (although Carl points out that they are not all attributable to the City's efforts):

- Households leaving grass clippings on their lawn "most of the time" increased from 28% to 42%.
- Households not using a weed and feed product on their lawn increased from 47% to 61%.
- Households not watering their lawns increased from 18% to 36%.

Gerty stated that both the truckload and internet sales of home compost bins are viewed as successful in part because the County can carefully brand the events/sales and promote King County's involvement in bringing reasonably priced compost bins to the residential population. She views the on-site education as successful because it allows the County to provide fundamental "how to" compost information as well as information about a myriad of other programs that contribute to soil health. She states that "we have few public events that draw as many residents and allow for such a captive audience."

On the organizational side, Gerty thinks that the coordination with cities (both Seattle and the suburban cities) is successful because it allows for a more focused approach to bin distribution, helping King County to see the best place to apply its resources to composting education and bin distribution county-

wide. It also allows for a common platform from which to understand bin distributions and education programs countywide.

2. Are there any upcoming changes or improvements in your program? (funding increases/decreases, service provider changes, regulatory changes, change in program focus, etc.)

As noted above, the City's and County's home composting and related programs are undergoing philosophical shifts that reflect a more holistic view of environmental impacts of yard care. The programs are expanding their view "beyond diversion" to include water and soil benefits. For example, what was called the City's "Backyard Composting Program" is now the "Natural Soil Building" program and focuses on compost's role in building soil and using less pesticides and water. Similarly, what was the "Compost Hotline" is now the "Natural Lawn and Garden Hotline" and focuses more on pesticide reduction and integrated pest management.

The City's Chip and Mulch Tour, now in its second year, will most likely be discontinued after this summer. According to Carl Woestwin, the program, while requested by the City's Solid Waste Advisory Committee, will probably prove to be "wildly cost-prohibitive". Carl says they're lucky if ½ a ton of woody material is chipped per site visit, and it costs the City about \$300 per visit.

Northwest Natural Yard Days will be continued at least one more year, despite a decrease in mulching mower sales in 2002 compared to 2001. The steering committee is considering going to an exclusively retail sales format for 2003 and stopping the special sales event altogether.

The truckload sales for home compost bins will be continued at least one more year and will then be evaluated. Both Gerty Coville (King County) and Carl Woestwin (Seattle) expressed the belief that Internet sales may be more efficient and cost-effective, but are unsure if they provide enough of an educational opportunity.

3. Have you encountered any major or continuing obstacles to effectively implementing waste prevention programs/practices?

In 2000 the City of Seattle signed a new contract for collection and composting of residential yard debris. Previously, the contractor was paid a per-ton fee, so costs were 100% based on tonnage, and every ton of yard waste not put out at the curb saved the City about \$80. Under the new contract, the contractor's reimbursement is based on a formula that includes fixed costs and adjustments for population, CPI, and tonnage. This means that only about 15% of the contractor payments are based on tonnage. According to Carl Woestwin, this makes it harder to justify home composting programs as the avoided disposal cost is not as high.

Both the City and County struggle with the need to educate compost bin recipients vs. the cost of conducting this education. For example, in its 2002 bin events, County staff surveyed people as they received their bin(s). One of the questions was: "Would you say your are . . . a) expert at making compost; b) comfortable at making compost; c) know just a little; or d) don't know anything." The non-weighted average of responses at two sales events were: 4% "expert", 36% "comfortable", 46% "know a little", and 13% "don't know anything", which suggests a significant need to educate bin users.

Sales of home compost bins and mulching mowers were both down in 2002 compared to 2001. Staff at both agencies will be watching 2003 data to see if this is a continuing trend or just a dip due to a downturn in the economy.

In an article in the May 1998 issue of *BioCycle*, Carl noted the following barriers to implementation: “While backyard composting always will be attractive to some residents, it is very involved and people who do it largely tend to be gardeners. On the other hand, grasscycling could simply become a part of our regional ethic adopted by a wider populace much like recycling . . . however, there are some barriers. First, not enough mulch mowers are on sale locally and so not many people have the equipment to do it properly. Secondly, people are afraid that the look of their lawns will suffer if they grasscycle . . . Third, there is a lack of information about mulch mowing techniques in general regarding cutting heights, fertilization, watering and so on. Fourth, there is a large misperception that mulch mowing will cause thatch, which has no validity . . . A fifth small barrier is the periodic need for more frequent mowing or double mowing of the lawn, especially during rapid spring growth.”

4. Is there anything you would like to do differently in your program?

The Northwest Natural Yard Days program included workshops and education at selected retail stores. However, the King County Local Hazardous Waste Management Program (LHWMP), which is housed in a separate County Department (Health Department), conducts separate Integrated Pest Management workshops at some of these same stores. Next year, the County’s Solid Waste Division wants to better coordinate outreach activities with the LHWMP.

As noted above, both Seattle and King County are considering eliminating truckload sales of home compost bins in favor of Internet sales. They are also considering dropping the special sales event for Northwest Natural Yard Days in favor of exclusively relying on retail sales.

In the same *BioCycle* article mentioned above, Carl made an interesting observation about the unrealized potential of grasscycling: “When the amount of (grass) trimmings observed was verified, we realized that perhaps we had started in the wrong place in terms of diversion potential. If we were to do it again, we probably would start with grasscycling because this is an area where the gains are enormous and the complexity of the activity is actually very minor. With just minor alterations of current behaviors, people can get a great deal of material out of the waste stream. For Seattle’s waste stream alone, we could be diverting about 1,900 more tons of yard trimmings in a normal year if only 8,500 more people (10% of the 85,000 who subscribe to curbside collection of yardwaste) just left their mowing material on the lawn. In a wet year it would be closer to 2,350 tons . . .”

Documentation

Please send copies of handouts, posters, promotional materials, budget information, program descriptions, program evaluations, copies of grant proposals, case studies, other.

Hard copies were provided of the following:

- “Ecologically Sound Lawn Care for the Pacific Northwest: Findings from the Scientific Literature and Recommendations from Turf Professionals” (City of Seattle, 1999).
- “2002 Compost Bin Sale: Preliminary Survey Results, Auburn and Kirkland” (King County, 2002).
- “Final Report: Telephone Survey Results for Seattle Backyard Composting Project” (1995).
- Booklet: “Natural Lawn Care for Western Washington”.
- Booklet: “How to Choose a Landscape Company”.

- Series of five booklets in “The Natural Lawn & Garden” series: “Natural Pest, Weed & Disease Control”, “Composting at Home”, “Growing Healthy Soil”, “Choosing the Right Plants for a Beautiful, Trouble-Free Garden”, and “Smart Watering” (all 2002).
- “Telephone Survey Results for Seattle Backyard Composting Project” (1995).

Electronic copies are available of:

- City of Seattle “2000 Home Organics Waste Management Survey” (94 pages, pdf file).
- City of Seattle “1995 Home Organics Waste Management Survey” (37 pages, pdf file).
- King County “Guide to Yard Waste Compost Bins” (4 pages, pdf file).
- King County “Residential Waste Reduction and Recycling Survey”, year 2000 (65 pages, pdf file). (Includes questions regarding participation in on-site composting and grasscycling.)
- “1995 Grasscycling Trials of Cordless Electric Mulching Lawn Mowers” (Seattle, 1995).

Carl recommended obtaining a copy of the Master Composter Soil Builders training notebook from Seattle Tilth at (206) 633-0451.

Several other reports from Seattle and King County are already in Harding ESE’s collection (and copies will be made available for Alameda County Waste Management Authority if desired), including:

- “Seattle Solid Waste Utility Grasscycling Survey” (1997).
- “1995 Grasscycling Trials of Cordless Electric Mulching Lawn Mowers” (Seattle, 1995).
- “Program Evaluation for Seattle Food Waste Composting Pilot” (1993).

Other Programs

Are there other waste prevention (and reuse) programs that you are particularly impressed with? If so, why? Please provide us with a name and contact information if available.

Carl says that the City’s “Chip and Mulch Tour” is based on a longer-running program sponsored by the City of Olympia. He isn’t sure if the program is still active there.

In 1999, the Northwest Waste Prevention Coalition (described under a separate profile: see “King County Program Overview”) developed a document summarizing lawn waste prevention projects in more than 15 communities in Washington, Oregon, Idaho, and British Columbia. An electronic copy of these profiles, while slightly out of date, was provided.

Other Documentation

Are there other reports, documents, websites, videos, etc. on the topic of waste prevention (and reuse) that you think are particularly valuable? Do you know where we can obtain copies of these resources? (We do have a duplications/purchasing budget for resources that can be used to reimburse duplication and shipping of such resources.)

Carl recommends a training guide for master composter programs, prepared for the U.S. Composting Council by Howard Sten, a local resident who also consults to the City (206 463-6523).

Other Comments/Notes

Additional details are available from interviewed staff regarding program specifics, if needed.

PROGRAM PROFILE
CITY OF SEATTLE – “USE IT AGAIN, SEATTLE!” EVENTS AND PROMOTION
(SEE ALSO “CITY OF SEATTLE PROGRAM OVERVIEW”)

Date of Interview: July 30, 2002 (Tom Gannon) and August 16, 2002 (Thor Peterson)

Name of Interviewer: David Allaway

Interview Contact Information

Name/Title of interview contact: Tom Gannon, Planning and Development Specialist (events)

Phone number/e-mail: (206) 684-8565; tom.gannon@ci.seattle.wa.us

Organization name and location: Seattle Public Utilities, Community Services Division

Name/Title of interview contact: Thor Peterson (directory)

Phone number/e-mail: (206) 615-0731; thor.peterson@ci.seattle.wa.us

Organization name and location: Seattle Public Utilities, Community Services Division

Websites: <http://www.cityofseattle.net/util/useitagain/search.asp> and
<http://www.cityofseattle.net/util/useitagain/events.htm>

Background Program Information

- 1. Please briefly describe your program(s) and its goals. Is the program internal to your operations, or does it target a population (such as members of your trade association, residents in your community, etc.)?**

“Use It Again, Seattle!” is the name of a long-term effort to promote and facilitate reuse among City of Seattle residents. This program focuses on reuse as opposed to recycling. It has two discrete elements: the “Use It Again, Seattle!” directory (contact: Thor Peterson) and the “Use It Again, Seattle!” events (contact: Tom Gannon).

The “Use It Again, Seattle!” directory is an on-line directory of Seattle businesses that rent and repair goods, as well as stores that sell and auction used goods. Also included are places where households can donate reusable items they no longer want. Approximately 335 businesses or other reuse services are currently listed. Households can search the directory not only by type of business (rental shop, consignment shop, used goods, etc.) but also by type of product (selecting from 42 categories ranging from “bicycles” and “carpets and rugs” to “musical instruments” and “office equipment”). The web page also has information about “ideas for reuse” as well as “when not to reuse”. “Ideas for reuse” include several pages with information on garage sales, flea markets, on-line auctions, and how to “shop smart”, “be creative”, “share”, “maintain”, and “exchange”.

The “Use It Again, Seattle!” events are a series of neighborhood-based, one-day events where households can drop-off and/or pick-up reusable items. In 2002, the City has sponsored nine of these events. The City does not provide any of the reusable items. All items are provided (dropped off) by households, and approximately 75% to 80% of these items are removed by other households. Approximately 300 to 350 people attend the average event, and of these, Tom estimates that 1/3 are there just to get rid of items, 1/3 are there just to acquire items, and the other 1/3 do both. All items are given away for free; there is no re-sale element. If an item is wanted by more than one person, City staff “auction” it off using random numbers. The City only allows certain types of items to be dropped off, and does not allow items that are broken, textiles or clothing, tires, automotive parts, refrigerators, satellite dishes, hazardous items, or non-reusable recyclables or garbage (full “rules” are provided at the end of this profile). A portable generator is provided to provide electricity to test the reusability and quality of electronic items. The events are promoted using targeted mailings to neighborhood residents and a combination of paid and free media in neighborhood/community newspapers.

2. How long has the program been in operation? Is it still in operation?

The directory was first published, in printed form, in the early 1990s. After several updates, the City decided not to continue printing the directory and switched to an Internet-based format in 1999.

The reuse events have only existed, in their current form, for two years. However, they are an outgrowth of various “neighborhood cleanup” programs. Using a federal grant, the City in 1992 had pilot-tested a service in lower-income neighborhoods where households could set out unlimited amounts of garbage for pick-up on a designated day. This service proved to be very popular and was expanded Citywide until some residents began mis-using it (for example, charging \$20 to let people from outside of the City use their front yards as dumping grounds the night before the collection event). After five years, the City discontinued the free collection service and instead provided households with passes allowing them to dispose of up to 1,000 pounds for free at one of the City’s two transfer stations or a series of temporary neighborhood “drop sites” during a two-week period. This program also grew in popularity; exceeding budgets and causing the City to eventually discontinue the neighborhood drop sites. As participation in transfer station service grew to 30% of all households in the City, the transfer stations also became overwhelmed with the traffic and the City chose to pilot test three neighborhood-based reuse events in 2001. The program was expanded to nine events in 2002. In 2003, the City plans to sponsor five or six events but make them larger than the events in 2002. Coupons are still sent out providing free access to the transfer stations, however.

3. What parties are involved with program implementation? (City/county/state, haulers, partnerships with other organizations, technical assistance providers, other contractors).

City staff (Seattle Public Utilities), Seattle Conservation Corps, contracted mail-house and community newspapers.

4. What are the roles of parties involved with implementation?

City staff maintains and promotes the directory and organizes and staffs the events. The events are staffed by a combination of SPU staff and employees of the Seattle Conservation Corps, who is under contract to SPU. The Conservation Corps employees are primarily people undergoing rehabilitation, and help with the labor-intensive tasks of loading, unloading, and clean-up. SPU staff work on traffic control, explaining the rules, talking with visitors, running the generator, testing electrical equipment, surveying participants, and generally “policing” the event. SPU develops the promotional materials; a contracted mail-house addresses and mails direct mail pieces. Community newspapers provide some free media.

Measuring Program Success

1. How do you evaluate the effectiveness of your program?

The directory is evaluated based on number of visitors to the website. There is no other formal evaluation of the directory, although Thor would like to see more evaluation. Evaluation of the events is planned for September (additional details will be available at that time).

2. What data do you evaluate, or find useful to evaluating your program’s effectiveness?

For the directory, the only data readily available is web traffic.

Data for the events include rough estimates of volumes of materials exchanged at events and program cost. Tom estimates that at least 140 cubic yards of material has been taken home for reuse at each event so far this year. On average, another 40 cubic yards of metals are recycled, and another 40 cubic yards of mixed materials are disposed.

Other data collected at the events include: total number of people attending, total number of people dropping off items, total number of people taking away items, and approximate number of items on average each person brings and takes away. The City does not estimate the value of items exchanged.

3. Are you measuring or estimating waste prevention diversion impacts in tons? If so, what is your measurement protocol?

No. However, one of the reasons that the City is sponsoring the events is that the estimated “recycling rate” for residential self-haulers (to the City’s transfer station) is only 18%, which is significantly below other sectors (residential curbside, for example) as well as the City’s goal of 60% recycling.

4. How do you quantitatively measure program effectiveness? (Please be specific, i.e. cost per ton diverted, # of businesses contacted, other).

Please see #1 and #2, above.

5. Are the programs meeting their objectives? Why? Why not?

The main objective of the events, according to Tom, is “to promote the ethic of reuse and provide a simple neighborhood-based mechanism that folks can take advantage of. We have no numerical goals other than to keep the ratio of volume of garbage left at the end of the day to volume of taken items at an approximated level of 1:3 or better. Other objectives include a reduction in illegal dumping and effective marketing of the service.” The events help residents get rid of bulky items that may be otherwise difficult to dispose of (short of taking them to a transfer station). So to the extent that this helps with neighborhood clean-ups, encourages reuse, and provides a service to residents, the events are meeting their objectives. The events also generate “a tremendous amount of goodwill”. Promotion and marketing is viewed as the biggest challenge due to the costs of direct mail and advertisements.

The on-line directory does not have any formal objectives.

Overall

1. What do you consider to be particularly successful or valuable about this program? (And is it valuable to your organization, your clients, you personally, or whom else?)

The events generate a tremendous amount of goodwill and help residents get rid of bulky items that cannot be collected curbside. Some of the materials exchanged are very valuable (including one good-as-new complete Ethan Allen dining room set).

Thor feels that the “search” feature on the on-line directory is especially valuable because it makes the site more user-friendly.

The neighborhood events have dramatically increased use of the web reuse directory. In fact, as local media was promoting the events, visitation to the “Use it Again, Seattle!” directory shot up and it became the second-most visited site in the entire Seattle Public Utilities system, after the home page.

2. Are there any upcoming changes or improvements in your program? (Funding increases/decreases, service provider changes, regulatory changes, change in program focus, etc.)

SPU plans to host five or six larger events next year. Tom would prefer to offer more events year round, and once the program is “rolling along and word of mouth plays a part in promotions”, hopes to be able to increase the number and frequency of events. A reuse feature will be built into the City’s new transfer station (projected to be built by 2006, if siting difficulties can be overcome). This will either be a “pick and sort” feature where reusables are separated after they are dropped off, or something similar to King County’s new service (see King County overview profile) where users can separate reusable items as they are dumping everything else.

The contents of the on-line directory have not been verified for three years, and Thor feels it is time to do this again. However, he isn’t sure who will take on this task. He had updated the directory and put it on-line as an intern. Since that time he has moved into a “green building” job and has been maintaining the directory by default, since nobody else has been tasked with it, although it is really outside the scope of his current job description.

3. Have you encountered any major or continuing obstacles to effectively implementing waste prevention programs/practices?

At the initial reuse events, they had problems with residents that were “too eager” to scavenge items as they were being dropped off. Staff have found ways to control this “vulture mentality” by providing a secure area for people to unload and load items, separate from the “browsing area” that is open to the general public.

The biggest challenge with the on-line directory has been the lack of promotion budget and strategy. Thor also speculates that since the printed version is no longer produced, and not everyone has easy access to the Internet, the directory may not be accessible to everyone who could benefit from it.

4. Is there anything you would like to do differently in your program?

Thor would like the directory to include category-specific commentary, such as information about lead-based paint and asbestos with the “building materials” listings and information about how to recycle your old appliances, and energy efficiency information, with the “appliances” listings. Thor would also like to see better coordination with King County, perhaps even expanding the directory to include reuse and repair businesses outside of Seattle. Many of the calls he receives from households on the directory are from people who don’t live in Seattle, and he also knows that Seattle residents may be interested in reuse opportunities in the neighboring cities. Finally, he would like to see the directory promoted. He specifically mentioned promoting it through the use of a card attached to monitors at public library computers.

Documentation

Please send copies of handouts, posters, promotional materials, budget information, program descriptions, program evaluations, copies of grant proposals, case studies, other.

Sound Resources conducted a study for SPU in 1996 that estimated that \$1.1 million of reusable items were being disposed of at City transfer stations by residential self-haulers. (We are trying to find a copy of this report; we asked several people at SPU and they don't know where it is.)

An internal evaluation report of the 2002 events should be available from Tom Gannon in September or October 2002.

The “Use it Again, Seattle!” pages of Seattle Public Utilities website link to several other sites with reports on the following:

- “Recycling Clothing Using Your Sewing Skills”, by the Ohio State University Extension Program (<http://ohioline.osu.edu/hyg-fact/5000/5504.html>)
- “Recycling Clothing With No Sewing Skills Needed” (includes estimated values of various types of used clothes for IRS donation purposes), also by the Ohio State University Extension Program (<http://ohioline.osu.edu/hyg-fact/5000/5505.html>)
- “Internet Auctions: A Guide for Buyers and Sellers”, a fact-sheet prepared by the Federal Trade Commission that explains how Internet auctions work and how to avoid on-line fraud (<http://www.ftc.gov/bcp/online/pubs/online/auctions.htm>)

Also included are references to several printed documents, including:

- *"Building with Junk...and other Great Stuff!"* by Jim Broadstreet (Port Townsend, WA: Loompanics Unlimited)
- *"Choose to Reuse"* by Nikki and David Goldbeck (Woodstock, NY: Ceres Press 1995)
- **A Guide to Planning a Neighborhood Garage Sale Day** is available through Seattle Public Utilities (call 206 684-7666 to request a copy).

Other Programs

Are there other waste prevention (and reuse) programs that you are particularly impressed with? If so, why? Please provide us with a name and contact information if available.

None; however, the City of Vancouver (Washington) conducted their first-ever “Use It Again” event in September 2002. Their program was modeled after Seattle's.

Other Documentation

Are there other reports, documents, websites, videos, etc. on the topic of waste prevention (and reuse) that you think are particularly valuable? Do you know where we can obtain copies of these resources? (We do have a duplications/purchasing budget for resources that can be used to reimburse duplication and shipping of such resources.)

N/A

Other Comments/Notes

“Use It Again, Seattle!” Event Rules

Event eligibility: Seattle residents are invited to participate in the events. Items are intended for free reuse, not for resale or personal profit. Please take only what you need for your own use. If you are interested in re-selling these items, please come back at the end of the day to see what is left.

We accept:

- Household items, except textiles and refrigerators
- Gardening and landscaping tools
- Furniture
- Baby items
- Electronics
- Barbeques
- Vanities, doors and other building materials in good working condition
- Sporting and exercise equipment
- Hobbyist supplies
- Toys
- Artwork
- Almost anything that is in good condition and can be given away!

All items must be in good working condition. Because space is limited, Reuse It staff reserve the right to reject items that are in poor condition. We appreciate your understanding and cooperation.

We do not accept:

- Items that are broken or in poor condition
- Clothing or textiles - donate to your favorite charity
- Yard waste
- Recyclables like metals, wood or cardboard
- Garbage. There is no waste service available.
- Hazardous waste, including motor oil, pesticides, fertilizers, drain cleaners, etc. Household hazardous waste must be taken to one of the City’s household hazardous waste collection sites for disposal.
- Tires or automotive parts
- Satellite dishes
- Refrigerators

Many of these items are accepted at the [Recycling and Disposal Stations](#).

APPENDIX F

Bibliography

BIBLIOGRAPHY
Waste Prevention Survey Library Project

Web Address	Type of Resource (document, video,)	Title	Authors	Date	Description
	Brochures	"How To Water Your Garden", "Sustainable Plants for Santa Barbara County", several flyers on grass cycling and composting	Water Resources Division, County of Santa Barbara, Public Works Department		Brochures and flyers on sustainable landscaping and water conservation
	3 videos	"Why Should I Bother: Waste Prevention in the Workplace", "Better Than Recycling: Waste Prevention in the Office", and "Better Than Recycling: Waste Prevention in Manufacturing and Distribution"	Oregon State University Extension Program	2001	3 short videos (10 - 15 minutes each). The first is designed as an introduction to the benefits of cutting waste. Emphasis is on motivating company executives, managers and employees to take action to save money and resources. Second and third focus on waste prevention opportunities in offices and manufacturing/distribution environments, including several case studies.
http://www.cce.ufl.edu/	Conference Proceedings	"Deconstruction as an Essential Component of Sustainable Construction"	Center for Construction and Environment, University of Florida, Charles J. Kilbert	Apr-01	Proceedings of the CIB World Building Congress, Wellington, New Zealand. Presentation about deconstruction.
http://www.cce.ufl.edu/	Conference Proceedings	"Design for Deconstruction"	Center for Construction and Environment, University of Florida, Charles J. Kilbert	Jun-99	Proceedings of the Florida Pollution Prevention Conference, Jacksonville, Florida. Presentation about designing buildings for deconstruction.
	Report	1994 Grasscycling Trials at the Center for Urban Horticulture, and related grasscycling research and promotion	City of Seattle Public Utilities, by Cascadia Consulting Group	1994	Comparative trials of residential-type mulching mowers were conducted. Equipment tested included three universal blades to retrofit conventional law mowers for mulching, three new state-of-the-art mulching mowers, and a push-mower. Results indicated that the best new mulching mowers, and push-mowers, can mulch mow (grasscycle) year around in the Pacific Northwest, but that conventional mowers, with or without retrofit blades, only cut and disperse clippings well when grass is fairly dry and no more than 1.25" of blade length is removed per mowing.
	Report	1994/95 Residential Waste Stream Composition Study	City of Seattle Public Utilities, by Cascadia Consulting Group	1995	Residential waste composition study. Includes a discussion of waste prevention indicators.
	Report	1995 Grasscycling Trials of Cordless Electric Mulching Lawn Mowers	City of Seattle Solid Waste Utility, by Cascadia Consulting Group	1995	Continuation of research described in 1994 report. Comparative trails of residential-type mulching mowers.
	Published document	1995 Home Organics Waste Management Survey	City of Seattle, by Cascadia Consulting Group, Pacific Rim Resources and Elway Research	1996	Evaluates Seattle residents' attitudes, awareness, and behaviors regarding organics waste management practices, including home composting and grasscycling.
	Report	1995 Waste Stream Analysis Study	Green Solutions, for Clark County (WA)	1997	Report of a waste composition study; unusual in that it includes several pages of discussion regarding the composition of "reusable products and materials" found in the disposed waste stream.
	PDF file	2000 Home Organics Waste Management Survey	City of Seattle, by Cascadia Consulting Group and F B K Research	2000	A continuation of research first conducted in 1995 to evaluate Seattle residents' current attitudes, awareness, and behaviors regarding organics waste management practices, including home composting and grasscycling.
na	RTF file	2001 application for 2% recovery credits for waste prevention, reuse, and home composting.	Metro (Portland, OR)	2002	Describes activities by Metro (regional government of the Portland, Oregon metropolitan area) and area local governments to prevent waste, encourage reuse, and increase home composting.
	Website	2001 Vermont Clean State Council Governor's Challenge to Reduce Paper	Vermont Agency of Natural Resources Department of Environmental Conservation	2001	A challenge designed to substantially reduce the amount of paper used within the Vermont State Offices. The website includes the information about the challenge including how to participate, incentives, and the evaluation protocol.
	Loose paper	2002 Compost Bin Sale: Preliminary Survey Results, Auburn and Kirkland	King County	2002	Preliminary results of surveys conducted at home compost bin distribution events.
http://www3.niu.edu/recycling/resource/things53.html	Website	53 Simple Things Universities and Colleges Can Do to Reduce Waste	Resource Integration Systems, for the Los Angeles Integrated Solid Waste Management Office	1991	Guidebook with 53 suggestions on how universities and colleges can reduce solid waste. "Reduce/Reuse" section has 16 specific suggestions, each supplemented with case studies from at least one college or university. Other sections address recycling, organic wastes, promotion and education, and campus involvement.
	Publication	A Guide to Deconstruction	U.S. Department of Housing and Urban Development, by NAHB Research Center	2000	An overview of deconstruction with a focus on community development opportunities. Includes deconstruction project profiles and case studies.
	CD ROM	A Collection of Solid Waste Resources on CD-ROM	U.S. EPA	2001	In December, 2001, OSW's Communications Information and Resources Management Division released its October 2001 Edition of "A Collection of Solid Waste Resources" CD ROM. This latest edition contains about a dozen additional publications developed over the past year. This edition also contains games and activities for kids. The CD can be used on any IBM compatible computer with Windows 3.x or higher.
http://www.cce.cornell.edu/publications	Article	A Comparison of Methods for Evaluating "Environmental Choice" Packaging	Cornell Waste Management Institute	1995	Article from the Journal of Environmental Systems in which four methods of ranking packaging choices are compared.
http://hort.ufl.edu/fyn/hand.htm	website	A Guide to Environmentally Friendly Landscaping: Florida Yards and Neighborhoods Handbook	University of Florida, Institute of Food & Agricultural Services		A handbook for residents on the Florida Yards & Neighborhoods Program. It provides concepts, tools and techniques for creating a "Florida Yard" that uses plants suited for the climate, conditions, and wildlife.
	Brochure?	A Guide to Planning a Neighborhood Garage Sale Day	City of Seattle Public Utilities	unknown	unknown; referenced on a Seattle reuse web page
	Published report	A Preliminary Examination of Developing Benchmarks for Materials Consumption at Small- and Medium-Sized Businesses, Schools, and Public Agencies	Harding ESE, for Oregon DEQ	2000	Short discussion paper that explores the idea of developing "benchmarks" of material usage that could be used to assess the relative resource efficiency of different non-residential organizations.
	PDF file	A Report on the Feasibility of Deconstruction	U.S. Department of Housing and Urban Development	2001	A Study of the Feasibility of Deconstruction provides a brief, but cogent, analysis of the feasibility of deconstruction. This report is based on a study of four urban communities and lessons from other local deconstruction initiatives.
http://www.epa.gov/glnpo/greenacres/bookit/	website	A Source Book on Natural Landscaping for Public Officials	EPA and the Northeastern Illinois Planning Commission	1997	The source book will: Explain the basic principles and benefits of natural landscaping; Demonstrate the feasibility of using natural landscaping successfully in the region; Provide information regarding the ways that local officials as community leaders can encourage the use of natural landscaping; Identify ways to avoid pitfalls that could result in poorly implemented natural landscaping or cause problems for local government; Describe tools and techniques; and Provide direction to other sources of information and expertise.

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Web Address	Type of Resource (document, video, etc.)	Title	Authors	Date	Description
http://www.environmentaldefense.org/alliance	PDF File	Achieving Preferred Packaging	Alliance for Environmental Innovation	1998	Focuses on the results of the UPS-Alliance Partnership
http://www.coe.ufl.edu/	Manual	Advanced Construction and Demolition Waste Management for Florida Builders.	Vleck, Rudi E., University of Florida	2001	Manual detailing advanced construction and demolition waste management practices.
www.toolbase.org	Publication and PDF file	Advanced Framing Techniques: Optimum Value Engineering (OVE)	Toolbase Services: The Home Building Industries Technical Information Resource		Describes Optimum Value Engineering (OVE), which refers to framing techniques that reduce the amount of lumber used to build a home while maintaining the structural integrity of the building.
	Memo	Agency Paper-less Office Campaign Report	U.S. EPA	1996	Final report of the U.S. EPA's in-house Paper-less Office Campaign. The campaign ran for two years and produced a 25 percent reduction in the Agency's photocopying.
	Publication	An Ounce of Prevention: Strategies for Cutting Packaging Waste	Californians Against Waste Foundation, by the Buy Recycled Campaign	1994	A source reduction guide for procurement programs, including sample waste audit forms and checklists, and a resource list.
	Report (html)	Annual Evaluation Report for 2001 - King County Internal Waste Prevention, Recycling Collection and Buying Recycled Products Programs	King County	2002	Report of in-house King County WasteWise waste prevention, recycling, and recycled product procurement program. Goals and accomplishments to date.
	Articles and Reports	Articles and Reports on Variable Rates: Volume and Weight-Based Systems	Lisa Skumatz, Ph.D.	1998	An update on the status of variable rates program adoption, key problems, and program impacts, based on articles published around the United States as well as survey data compiled by S.E.R.A.
	Published document	Backyard Composter Utilization Study	Regional Municipality of Waterloo, Waste Management Division, Engineering Department	2000	Results of visits to 842 homes and 254 door-to-door surveys conducted to assess the current and future potential level of participation in Waterloo Region's residential composter distribution program. The study also examined the difference in participation based on how the compost bin was distributed.
	Report	Backyard Composting in New York City: A Comprehensive Program Evaluation	New York City Department of Sanitation	1999	Description of New York City's home composting program, program evaluation methodologies in other communities, a New York City's evaluation methodology and results, which included a waste composition study, market research (survey), and cost-benefit analysis.
	PDF File	Backyard Conservation: Bringing Conservation From the Countryside to Your Backyard	USDA Natural Resources Conservation Service		Backyard Conservation Booklet - this 28-page color booklet brings conservation from the countryside to your backyard. The booklet highlights 10 conservation practices that you can use in your own backyard.
	Published report	Benefits and Requirements of Adopting a "Model Agency" Approach to In-House Resource Efficiency	Harding Lawson Associates, for Oregon DEQ	1998	Study examining the potential benefits to the Oregon DEQ of adopting a "Model Agency" approach to more efficiently use natural resources in to DEQ operations. Includes benefits of resource efficiency, summary results of an employee survey, indicator measurements, estimates of potential savings, list of opportunities, and recommendations.
	Website	Beyond Waste Prevention	CIWMB (California Integrated Waste Management Board)	Varies	A website about doing more than recycling, grasscycling, composting and other typical waste prevention practices. The website offers about 10 links for information, resources and tools for determining your ecological footprint, living more simply, and alternatives to consumerism, for example.
	Publication	Building a Deconstruction Company: A Training Manual for Facilitators and Entrepreneurs.	Institute for Local Self-Reliance	2001	Provides a resource for anyone interested in starting a deconstruction company. Manual includes information about set-up, funding, planning, deconstruction, and material resale.
	PDF File	Building a Market-based System of Farm Composting of Commercial Food Waste in Western Massachusetts	Center for Ecological Technology	2000	Report detailing the results of on-farm composting operations project that ran from Fall 1996 to Spring of 2000. The purpose of the project was to help create a market-based infrastructure for commercial food and other organic waste. To date over 70 business locations diverted over 22,000 tons of organic waste to 7 farms using 6 haulers
	Case Study	Building Deconstruction for Reuse and Recycling: The Presidio of San Francisco, Buildings #901 and #283, Spring 1996	Philip Kreitner, Pavitra Crimmel, Kevin Drew, Aimee Vincent	1996	Case study report of deconstruction of two buildings at the Presidio.
	PDF file	Building for the Future	U.S. EPA	2002	WasteWise Update that describes construction and demolition debris waste reduction strategies. Introduces new WasteWise Building Challenge that as launched in 2002
	Publication and PDF file	Building for the Future: Strategies to Reduce Construction and Demolition Waste in Municipal Projects	INFORM, Inc.	1998	In cities around the country, construction and demolition (C&D) debris--the waste produced in the course of constructing, renovating, and demolishing buildings--accounts for 10 percent to as much as 30 percent of the total municipal waste stream. This report describes strategies that have been used around the country to reduce this waste during the design, construction, and demolition phases of municipal building projects.
	PDF file	Building Supplier Partnerships	U.S. EPA	1998	WasteWise Update on how to work with building suppliers to reduce waste.
	Unpublished document	Business Waste Prevention Initiative - Second Draft	Oregon DEQ	2001	An internal, unpublished document that describes Oregon DEQ's plans to conduct a waste prevention project focusing on packaging waste prevention by businesses
	Website	Business Waste Reduction	CIWMB (California Integrated Waste Management Board)	Varies	A website about waste as a symptom of an inefficient and costly process in business. Web pages include CalMAX, Electronic Discards, Posters & Signs, Recycled Product Directly, Reuse, the Waste Prevention Info Exchange, and WRAP.
	Report	Business Waste Reduction Study 1998	Dotten & Associates, for Metro (Portland, OR)	1998	Results of executive interviews and focus groups regarding business waste prevention and recycling. Focus is on recycling and waste prevention practices and barriers, and response to approaches to increase recycling and waste prevention. Includes recommendations for communications and outreach strategies.
	Fact Sheet and PDF file	Businesses and Source Reduction	National Recycling Coalition Source Reduction Forum	1999	What a company can do and business success stories.
http://www.moea.state.mn.us	Website	Businesses Assistance: Preventing Waste and Saving Money	Minnesota Office of Environmental Assistance		Website that lists waste prevention strategies for business. It includes steps to start a source reduction program, popular ways for businesses to reduce waste, a source reduction checklist, and several of the publication listed above.
	Article and PDF File	Carpet Take-Back: EPR American-Style	INFORM, Inc.	Autumn 2000, Volume 10, Number 1	Article in -- Environmental Quality Management -- about carpet take back
http://www.nrc-recycle.org/councils/SRF/foru/mpublications.htm	Publication	Case Studies in Source Reduced and Reusable Transport Packaging	National Recycling Coalition Source Reduction Forum	1997	Reports on nine companies that have saved money, reduced materials, and conserved natural resources by reducing their transport packaging. See accompanying Transport Packaging Savings - educational kit.
	Website	Citigroup and the Alliance for Environmental Innovation Project Summary	Alliance for Environmental Innovation	2002	Project summary for the Alliance and Citigroup joint effort to reduce the environmental impact of copy paper use.

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Web Address	Type of Resource (document, video, etc.)	Title	Authors	Date	Description
	Report	City of Los Angeles Non-Profit Thrift Store and Garage Sale Diversion Study	UCLA Extension, for the City of Los Angeles	1991	Study quantifies and characterizes the amount and type of material being diverted through thrift stores and garage sales. Also identifies methods which would increase diversion and recommends activities to increase diversion.
	Report	City of Seattle Solid Waste Utility; Materials Reuse Survey and Study	City of Seattle Solid Waste Utility, by Sound Resource Management	1996	Report estimates that \$1.1 million per year worth of reusable items are disposed of at Seattle's Transfer Stations in residential self-haul loads.
	Website	CIWMB Publications	CIWMB (California Integrated Waste Management Board)	Current	A searchable database of more than 500 publications produced by the CIWMB, most of which are available electronically. Categories relevant to waste prevention include Waste Prevention/Reduction (about 96 titles), Business Waste Reduction (about 72 titles), Organics (about 93 titles), and Construction/Demolition (about 36 titles).
	Website and PDF files	Climate Change and Waste Reduction Program/Peer Match	National Recycling Coalition Source Reduction Forum	2002	This program helps promote the integration of waste reduction activities into state and local Climate Change Action Plans (CCAPs) and Goals by demonstrating the connection between climate change and waste. Transcripts for Climate Change Discussions are available on the website.
http://www.cce.cornell.edu/publications	Publication and PDF file	Co-Composter Model	Cornell Waste Management Institute	2002	Cornell's Department of Biological and Environmental Engineering and Waste Management Institute have developed Co-Composter, an Excel spreadsheet model for the planning of co-composting systems for mixtures of dairy manure and other organic wastes. Co-Composter provides mass and volume balances, area estimations, and a cost analysis of alternate composting systems based on inputs entered on the user.
	Publication and PDF file	Comparative Analysis of Composting Options for Industrial Park Tenants	Triangle J Council of Governments	2002	Report detailing the analysis and comparison of several options for handling food waste from a 2000-employee facility located in an industrial park. The goal was to determine whether it would be more economical or environmentally beneficial for such a facility to compost its food waste within the industrial park or send it to a landfill or composting facility outside the industrial park.
	Report	Comparative Energy and Environmental Impacts for Soft Drink Delivery Systems	Franklin Associates, for NAPCOR	1989	Estimates of comparative energy consumption and environmental emissions associated with nine soft drink containers, including refillable bottles.
	PDF File	Compost Survey	Greater Vancouver Regional District	2002	A limited amount of compost surveys on approaches to Centralized Organics Management in Canadian Municipalities
http://www.cce.cornell.edu/publications	Publication and Video	Compost... because a rind is a terrible thing to waste! Food Scrap Composting for Businesses and Institutions.	Cornell Waste Management Institute	1996	Food Scrap Composting for Businesses and Institutions. A manual and two videos designed to help implementation of source separation of food scraps and composting either on-site or elsewhere. They provide detailed guidance for institutions such as universities, hospitals, prisons, and adult homes; and for businesses like grocery stores or restaurants. The 65 page manual includes "how to" information and worksheets as well as descriptions of the experiences and cost savings realized in 9 case studies. A 30-minute video shows how source separation and composting are done at different businesses and institutions. The 7-minute video briefly covers the benefits of food scrap composting and can help educate decision-makers in businesses and institutions
http://www.cce.cornell.edu/publications	Publication and PDF file	Composting Challenges and Solutions in New York State, Upstate Roundtables	Cornell Waste Management Institute	1999	In conjunction with the NYS Association of Reduction, Reuse & Recycling (NYSAR3) and Cornell Cooperative Extension, the Cornell Waste Management Institute convened four regional Roundtables on food scrap composting in upstate New York.
http://www.cce.cornell.edu/publications	Website	Composting in Schools: World Wide Web Site	Cornell Waste Management Institute	Current	This Web site explains how to make compost either indoors or outside, and it gives detailed information on the science of the composting process. It also includes articles about weird and unusual composting, frequently asked questions, a composting quiz, and bulletin boards for posting messages to other teachers or students.
http://www.ken-dallhunt.com	Publication	Composting in the Classroom: Scientific Inquiry for High School Students	Cornell Waste Management Institute	1998	A manual for teachers interested in using composting as a topic for scientific inquiry by high school students. Includes example research topics, guidelines for directing student research, and instructions for a wide variety of techniques related to compost science.
http://www.cce.cornell.edu/publications	Publication	Composting to Reduce the Waste Stream: A Guide to Small Scale Food and Yard Waste Composting	Cornell Waste Management Institute	1991	This publication addresses small-scale composting of yard, garden, and vegetative food waste. Intended for home composters or those involved in educational programs to promote home composting, it includes plans for constructing nine different types of compost bins.
http://www.cce.cornell.edu/publications	Publication	Composting: Wastes to Resources	Cornell Waste Management Institute	1996	A guide for those who want to educate youth about composting. The packet includes an instructional guide, two posters, and eleven designs for compost systems.
	Website	Construction and Demolition Debris Recycling	CIWMB (California Integrated Waste Management Board)	Varies	A website about minimizing the disposal of construction- and demolition-generated materials. Web pages include Publications, C&D Recyclers, Recycled Building Products, Sustainable Building, and other C&D Links.
http://www.owendell.com	Website	County Landscape and Design	Owen E.Dell, owner of County Landscape & Design, Santa Barbara.		The website promotes County Landscape & Design and provides information on sustainable landscaping through classes, workshops and articles. There are several articles available on the website including "Understanding the Basics", "Sustainable Landscaping Standards and Practices", "The Urban Wastestream", and "Towards a Sustainable Landscape". A newsletter called "Green Side Up" is also available on the website.
	Publication	Creating Incentives and Overcoming Obstacles to Source Reduction and Reuse	National Recycling Coalition Source Reduction Forum		Brief report containing examples of the barriers to source reduction and reuse that communities and businesses face and strategies they can use to put source reduction into practice.
	PDF file	Cutting Costs and Preventing Waste in NYC Office Buildings and Institutions: Three Case Studies	New York City Department of Sanitation	1995	Case studies of how HBO, Columbia University, and Kinney Shoe Company collectively save \$728,000/year from waste prevention, reducing waste volumes an average of 11%. Examples are provided in the areas of office paper reduction, repair/reuse of office equipment, housekeeping and food services, printing waste (print shop), shipping and receiving.
	PDF file	Cutting the Waste Stream in Half: Record-Setters Show How (Report)	U.S. EPA	1999	Report features 18 communities with record-setting residential or MSW reduction levels. Report examines policies and strategies to reach reduction levels.
	Article and PDF File	Deconstructing Stanton, Nail by Nail	Barbara Ruben, appeared in the Washington Post, Saturday, June 15, 2002; Page H01	2002	Article describing the deconstruction of the Stanton Dwellings a 348-unit public housing project in Southeast Washington D.C.
	Publication and PDF file	Deconstruction: Salvaging Yesterday's Building Materials for Tomorrow's Sustainable Communities	Institute for Local Self-Reliance	1999	Report provides information to understand and advocate for deconstruction
http://www.infominc.org/p	Publication	Delivering the Goods: Benefits of Reusable Shipping Containers	INFORM, Inc. by David Saphire	1994	Discussion of reusable shipping containers, including economic benefits, obstacles, and options that promote reuse. Includes several detailed case studies from manufacturing, food service, and groceries.

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Web Address	Type of Resource (document, video, etc.)	Title	Authors	Date	Description
	Published document and available electronically	Design for the Environment (DfE) Toolkit	Minnesota Office of Environmental Assistance	1998	This Design for the Environment (DfE) toolkit gives helps companies incorporate environmental attributes early into product design to reduce materials use and waste, improve design, and reduce future liabilities
	Published report	Development of a Standard Methodology for Conducting Materials Efficiency Assessments at Small- and Medium-Sized Businesses, Schools, and Public Agencies	Harding ESE, for Oregon DEQ	2000	Report presents a "standard approach" to identifying materials efficiency (waste prevention) opportunities in non-residential settings.
	Publication	Directory of Transport Packaging Manufacturers	National Recycling Coalition Source Reduction Forum		Contains listings of manufacturers that produce source reduced and reusable transport packaging including bags, bins, totes, containers, drums, pallets, slip sheets and wraps. Highlights the source reduced and reusable features of each listing.
	Report	Disposal Cost Fee Study: Final Report	Tellus Institute, for the CIWMB	1991	Detailed analysis of advance disposal fees and applicability to California. Includes a survey of other state legislation, methodology for identifying goods and materials with potential for environmental degradation (including valuation of environmental costs), assessing the full cost of waste management, analysis of alternative fee systems, and recommended design for a disposal fee system.
	PDF file	Donating Surplus Food to the Needy	U.S. EPA	1996	Describes different types of programs and donor responsibilities and provides success stories of WasteWise partners with donation programs.
	PDF file	Donation Programs—Turning Trash into Treasure	U.S. EPA	1997	WasteWise Update on donation programs includes case studies.
	PDF file	Don't Throw Away That Food: Strategies for Record-Setting Waste	U.S. EPA and Institute for Local Self-Reliance	1999	Success stories on food waste reduction. Includes case studies of commercial and institutional food diversion programs, including both on-site composting and collection for centralized composting. Also includes fact sheets.
	Report	Ecologically Sound Lawn Care for the Pacific Northwest: Findings from the Scientific Literature and Recommendations from Turf Professionals	City of Seattle Public Utilities, by David McDonald	1999	Review of scientific literature and interviews with turf grass professionals results in recommended practices to change conventional practices that use large amounts of synthetic chemicals, generate solid and hazardous waste, and use large amounts of irrigation water. Recommended practices include: realistic expectations for appearance, proper site selection and soil preparation, using site-adapted grasses, mowing higher, leaving clippings, correcting soil deficiencies, moderate use of natural or slow-release fertilizers, irrigating deeply but infrequently, renovation, and integrated pest management.
http://www.mn.state.mn.us/ea	Website	Efficient Transport Packaging Options	Minnesota Office of Environmental Assistance		Website that lists options for efficient transport packaging. It includes information on options for recycling, reusing, and eliminating old corrugated containers, wooden pallets, steps to implement programs for source reduction and reusable packaging, and publications listed above.
www.nrdc.org	Report	Efficient Wood Use in Residential Construction: A Practical Guide to Saving Wood, Money, and Forests	Natural Resources Defense Council	1998	Very detailed discussion of methods to reduce wood use in residential construction. Chapters include "component systems", "stressed-skin insulating-core panels", "optimum value engineering", "certified and reclaimed wood", "job-site waste reduction", and "detailing for durability".
	PDF file	Electronics Reuse and Recycling	U.S. EPA	2000	WasteWise Update on electronics reuse and recycling. Describes the problems with electronics, options for reuse and recycling, and how to improve future acquisitions.
http://www.newdream.org	Newsletter	Enough!	Center for a New American Dream		The Center for a New American Dream's quarterly report on consumption, quality of life and the environment
http://www.mn.state.mn.us/ea	Website	Environmental Clearinghouse	Minnesota Office of Environmental Assistance	1988	Clearinghouse for information on waste and other environmental issues. It is a central location where citizen can find reports, articles, videos, fact sheets, and newsletters. Materials are available free of charge.
	PDF file	Environmental Fact Sheet: Source Reduction of Municipal Solid Waste	U.S. EPA	1999	Fact sheet on source reduction of municipal solid waste
	PDF file	Environmentally Preferable Purchasing	U.S. EPA	2001	WasteWise Update on Environmentally Preferred Purchasing program, what it is, how to implement one, sample policy, and how to assess the program.
	PDF file	Environmentally Preferable Purchasing Course Manual	SAIC (Science Application International Corporation) for the NYC Dept of Sanitation	2001	The manual suggests strategies for optimizing purchasing decisions in terms of environmental performance, produce performance and cost the New York City Agencies
http://www.nap.edu	Publication	Environmentally Significant Consumption: Research Directions	Commission on Behavior and Social Sciences and Education	1997	This book demonstrates that the relationship of consumption to the environment needs careful analysis by environmental and social scientists and conveys some of the excitement of treating the issue scientifically. It poses the key empirical questions: Which kinds of consumption are environmentally significant? Which actors are responsible for that consumption? What forces cause or explain environmentally significant consumption? How can it be changed?
	Article and PDF File	EPR: What Does It Mean? Where Is It Headed?	INFORM, Inc.	October 1998, Volume 8, Number 4	Article in -- P2: Pollution Prevention Review -- about extended producer responsibility
	Published report	Evaluation of the Yamhill County Grocery "Shrink" Reduction Program, October 1998 - September 2000	Harding ESE, for Oregon DEQ	2000	Evaluation of a pilot project to work with grocery stores to reduce the amount of spoiled, unsold food through improved forecasting and purchasing practices.
	Article and PDF File	Extended Producer Responsibility	INFORM, Inc.	1998	Article in -- Environmental Manager : Environmental Solutions That Make Good Business Sense -- about extended producer responsibility; August 1998, Volume 10, Number 1
	Publication and PDF file	Extended Producer Responsibility: A Materials Policy for the 21st Century	INFORM, Inc.	2000	Addresses materials use and its environmental impacts worldwide; EPR policies and programs in the United States; e-commerce and its potential environmental impacts and implications for EPR; and the corporation's role in implementing EPR and related policies.
http://www.epa.gov/wastewise/pubs/wwupda10.pdf	Publication and PDF file	Extended Product Responsibility	U.S. EPA	1998	WasteWise Update on product stewardship. Describes what it is and provides case studies.
http://www.cce.cornell.edu/publications	Video	Farm-Based Composting: Manure & More	Cornell Waste Management Institute	2001	A video that highlights 14 farm operations and 6 different composting technologies from low to high tech. Compost specific equipment, rent/lease technologies from low to high tech. Compost specific equipment, rent/lease equipment and high tech compost operations are also featured.
	Report	Final Report of the Source Reduction Task Force	CONEG (Coalition of Northeastern Governors) Policy Research Center and CONEG Source Reduction Task Force	1989	Findings and recommendations for several long term actions to address source reduction. Also includes two short term actions - developing a detailed plan for coordination among the states, industry and non-profit organizations and developing preferred packaging guidelines.

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Web Address	Type of Resource (document, video, etc.)	Title	Authors	Date	Description
	Published report	Follow-Up (1998) Survey of Residents in Cannon Beach, Oregon, Regarding Resource Efficiency Awareness, Attitudes, and Behaviors	Harding Lawson Associates, for Oregon DEQ	1999	Survey of awareness, attitudes, and behaviors regarding waste prevention and resource conservation. Administered to residents in a small coastal community after two years of community resource conservation education.
	Published report	Follow-Up Surveys of Businesses in Cannon Beach, Oregon	Harding Lawson Associates, for Oregon DEQ	1999	Survey of awareness, attitudes, and behaviors regarding waste prevention and resource conservation. Administered to 30 businesses in a small coastal community after two years of community resource conservation education.
	Report	Food Donation Initiatives Assessment and Food Recovery Infrastructure Evaluation Revised Final Report	Metro (Portland, OR)	2002	Report on the first three years of edible food recovery efforts. Includes evaluation of edible food recovery infrastructure grants and outreach/education/promotion.
x	Booklets (3)	Food Donation Resource Guide (one each of Multnomah, Clackamas, and Washington County)	Metro (Portland, OR)	2001	Booklets listing organizations that accept edible food donations in each of the three counties.
	Report	Food Donation: A Restaurateur's Guide	American Restaurant Association	1997	Guide to help restaurants donate edible food.
	PDF file	Form for C&D solid waste management plan to comply with the Town of Chapel Hill's development ordinance	Orange County Solid Waste Management, Chapel Hill		The Town of Chapel Hill's development ordinance requires all development applications to provide a detailed solid waste management plan, including a recycling plan and a plan for management of construction debris. These forms detail the plan and must be completed to fulfil this requirement.
	Publication	Germany, Garbage, and the Green Dot: Challenging the Throwaway Society	INFORM, Inc.	1994	Analyzes the concept of extended manufacturer responsibility as a means to reduce product and packaging waste, through the lens of the German experience.
	PDF file	Getting an "A" at Lunch: Smart Strategies to Reduce Waste in Campus Dining	INFORM, Inc.	1998	Describes simple steps to prevent the millions of pounds of food and food-related waste generated each day at colleges and universities. Provides case studies of campuses around the country where using products more efficiently, using them longer, and using them over and over again has reduced purchasing and operational costs while helping the environment. Some methods include prep waste, unserved food, plate waste, cups and mugs, napkins, transport packaging, and other packaging.
	Publication	Getting at the Source: Strategies for Reducing Municipal Solid Waste	World Wildlife Fund and The Conservation Foundation, final report of the Strategies for Source Reduction Committee	1991	Report of 19-member committee to describe source reduction, evaluate source reduction opportunities, and select strategies to encourage source reduction.
	PDF file	Going Paperless with Technology	U.S. EPA	1996	WasteWise Update on ways to reduce paper use through technology.
	Report	Grasscycling Survey	City of Seattle Solid Waste Utility, by Elway Research, Inc.	1997	An investigation of methods to increase residents' use of alternative yard waste disposal methods.
	Published handbook	Green Office Guide	City of Portland	2001	A handbook with suggestions for how offices can reduce environmental impacts. Includes several pages on paper waste prevention.
	PDF File	Greening the Government: A Guide to Implementing Executive Order 13101	Office of the Federal Environmental Executive	2001	Guidebook to help federal employees implement Executive Order 13101 "Federal Acquisition, Recycling, and Waste Prevention". Replaces EO 12873
	PDF file	Greening the Internet: Ten Ways E-Commerce Could Affect the Environment	INFORM, Inc.	Autumn 1999, Volume 9, Number 1	Article in -- Environmental Quality Management -- about e-commerce and its environmental impact.
	Printed guidebook	Handbook for Grocery Waste Reduction	Metro (Portland, OR)	1998	Handbook on waste reduction (prevention + recycling) opportunities in grocery stores.
http://www.newdream.org	Website	Headlines	Center for a New American Dream	Current	Headlines from web and print media. List of articles about the environment and consumption. Articles are available on-line
	Published document	Home Composting in Alameda County Progress Report and Recommendations	Alameda County Waste Management Authority & Source Reduction and Recycling Board	1997	Outlines the key elements of the Home Composting program over its entire six year history, evaluates the success of the program elements, and makes recommendations for the future.
	Published document	Household Compost Survey	Gilmore Research Group	1998	An evaluation of the effectiveness of Metro's past efforts in Household Composting based on results from 500 telephone interviews.
	Published document	Household Compost Survey	Gilmore Research Group	2001	An evaluation of the effectiveness of Metro's efforts in Household Composting
	Booklet	How to Choose a Landscape Company	King County, Local Hazardous Waste Management Program	unknown	Short booklet that describes what to look for in an environmentally better landscaping design, installation, and/or maintenance company.
	Self-mailer	How to Reduce Junk Mail kit	King County		Small self-mailing kit that includes information on how households can reduce unwanted mail
	Conference Report and PDF File	ILSR/CIMS Deconstruction Conference Report: Focus on Social, Technical, and Business Impacts	Institute for Local Self-Reliance	2002	Report that describes the results of the conference, which outlined state-of-the-art deconstruction techniques and technologies. The conference also provided a forum to establish working relationships among community groups, small businesses, and government development agencies. It includes a list of speakers and topics.
http://www.cce.ufl.edu/	Publication and PDF file	Implementing Deconstruction in Florida: Materials Reuse Issues, Disassembly Techniques, Economics and Policy	Center for Construction and Environment, University of Florida, Charles J. Kilbert	2000	This report investigates the feasibility of replacing demolition and disposal of building materials with deconstruction and reuse. The report contains information from an extensive review of case studies from international and domestic regions.
http://www.newdream.org/bulletin/	Website	In Balance	Center for a New American Dream	2002	The Center for a New American Dream's monthly bulletin on consumption news and resources. Each issue of is filled with news about individuals and institutions creating a sustainable future, plus lots of useful resources.
	PDF file	Innovative Uses of Compost: Bioremediation and Pollution Prevention	U.S. EPA	1997	Fact sheet discusses the use of compost for bioremediation and pollution prevention
	PDF file	Innovative Uses of Compost: Bioremediation and Pollution Prevention - Explosives	U.S. EPA	1999	This fact sheet discusses the use of the composting process to remediate soils contaminated with explosives.
	PDF file	Innovative Uses of Compost: Disease Control For Plants and Animals	U.S. EPA	1997	Fact sheet discusses the use of compost for disease control for plant and animals
	PDF file	Innovative Uses of Compost: Erosion Control, Turf Remediation, and Landscaping	U.S. EPA	1997	Fact sheet discusses the use of compost for erosion control and turf remediation
	PDF file	Innovative Uses of Compost: Reforestation, Wetlands Restoration, and Habitat Revitalization	U.S. EPA	1997	Fact sheet discusses the use of compost for reforestation, wetlands restoration, and habitat revitalization
	Fact Sheet	Integrating Source Reduction and Recycling	National Recycling Coalition Source Reduction Forum	1999	NA

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Web Address	Type of Resource (document, video, website, etc.)	Title	Authors	Date	Description
	Published handbook	It Makes Business Cents to Prevent Waste: A Business Guide to Waste Prevention	New York City Department of Sanitation	1994	Suggestions for how businesses can reduce waste, supplemented with a variety of case studies from businesses in New York City.
http://www.newdream.org	Website	Junk Mail	Center for a New American Dream	Current	Web site describing the Center's programs for Junk Mail reduction. Includes steps to reduce junk mail, results of Center's junk mail campaigns, and the "Hall of Shame" for the worst example of junk mail.
	Report and PDF file	King County Comprehensive Solid Waste Management Plan	King County	2001	Comprehensive solid waste management plan. Contains some information on County waste prevention programs.
	PDF File	King County Environmental Purchasing 2001 Annual Report	King County, Environmental Purchasing Program	2002	Report profiling the activities and accomplishments of King County's Environmental Purchasing Program.
	website	King County Green Business Newsletter (formerly Recycling Works Newsletter)	King County	1999 - 2002	Newsletters sent to businesses. Include articles and stories about waste prevention opportunities and case studies of businesses. Not all content is related to waste prevention.
	Published document	King County Solid Waste Division: Residential Waste Reduction and Recycling Survey	King County, Solid Waste Division	2000	A survey of 605 respondents were asked questions on: Government Partnerships, Other Recycling Methods, Yard Waste, Community Programs and Events, Motivations to Recycle and Internet Usage.
	Report and PDF file	King County Solid Waste Division: Residential Waste Reduction and Recycling Survey	King County, by GMA Research Corporation	2000	Report of residential survey. Includes questions regarding grasscycling, home composting, donations, and waste prevention purchasing.
http://www.metrokc.gov/procurer/green/bulindex.htm#9	Website	King County: Environmental Purchasing Bulletins	King County, Environmental Purchasing Program	2002	Documents address variety of purchasing opportunities, including dry cleaning air filters, sign refurbishing, and use of remanufactured motors in County buses.
	PDF File	Landscaping for Less in the Landfill	Diane Relf, Extension Specialist, Environmental Horticulture, Virginia Tech	2001	Booklet and PDF File that provides tips to plan landscapes to produce less yard waste and compost.
http://www.environmentaldefense.org/alliance	PDF File	Leading By Example How Businesses are Expanding the Market for Environmentally Preferable Paper	Alliance for Environmental Innovation	1999	A number of leading companies have made innovative changes in their use of paper that reduce the environmental impacts of paper manufacture and disposal and support their business objectives. In this report, we briefly describe how five companies are expanding the market for environmentally preferable paper.
	Publication and PDF file	Leasing: A Step Toward Environmental Responsibility	INFORM, Inc.	2000	This report examines the practice of leasing products, rather than selling them, as a strategy for increasing resource productivity, particularly by preventing waste generation and encouraging a closed-loop pattern of materials use through reuse, remanufacturing, and recycling.
	Published document	Less Garbage Overnight: A Waste Prevention Guide for the Lodging Industry	INFORM, Inc. by John P. Winter and Sharene L. Azimi	1996	Handbook on waste prevention opportunities in hotels. Sections on guest rooms, laundry, housekeeping, food and beverage service, offices, conference facilities, maintenance, landscaping, remodeling and construction, and purchasing. Includes numerous case studies.
	PDF file	Life-Span Costing Analysis Case Studies	SAIC for the New York City Department of Sanitation	2000	Detailed cost-benefit analyses of ten products with waste prevention attributes. Products were selected because of their use by City departments. Products include: HVAC air filters, alkaline batteries, antifreeze, envelopes, air dryers/paper towels, motor oil, photocopiers, replacement slats for park benches, sorbents, and toilet tissue.
	PDF file	Local Initiative Leveraging Producer Responsibility	Institute for Local Self-Reliance	2000	Describes local initiatives to spur producer responsibility. Efforts in L.A., Minnesota, and the Pacific NW are included.
	Published handbook	Make Waste an Unwelcome Guest: the NYC Guide to Hotel Waste Prevention	New York City Department of Sanitation	1995	Guidebook with suggestions on how hotels can prevent waste, supplemented with case studies from hotels in New York City.
	Publication	Making Less Garbage on Campus: A Hands-On Guide	INFORM, Inc. by David Saphire	1995	Handbook on waste prevention opportunities at colleges and universities. Targets paper waste, landscaping, food services, food-related waste, packaging waste, reuse, and product life extension. Includes case studies of campuses that have learned to prevent waste in a variety of innovative ways. Includes checklists for action.
	Published document	Making Less Garbage: A Planning Guide for Communities	INFORM, Inc. by Bette Fishbein and Caroline Gelb	1992	The original manual showing how the best way to avoid the problems of garbage is to avoid producing it. Documents dozens of programs that are working in businesses, institutions, and government to cut waste. Discussion of source reduction, including examples of: policies, goals and measurement; government (in-house) source reduction, jails, hospitals, schools, business assistance, home composting, grasscycling, grants, pilot programs, awards, reuse programs, business source reduction, education programs, economic incentives and disincentives, regulatory measures, and reducing toxic materials in solid waste.
http://www.nrc-recycle.org/councils/SRF/forumpublications.htm	Publication	Making Source Reduction and Reuse Work in Your Community - A Manual for Local Governments	National Recycling Coalition Source Reduction Forum	1998	Lessons learned, case studies, a chart of local government source reduction and reuse programs, and a source reduction and reuse program questionnaire.
http://www.nrc-recycle.org/councils/SRF/forumpublications.htm	Pamphlet	Making Source Reduction and Reuse Work in Your Community - A Manual for Local Governments - Executive Summary	National Recycling Coalition Source Reduction Forum	1998	Executive Summary for complete manual "Making Source Reduction and Reuse Work in Your Community - A Manual for Local Governments".
	PDF file	Managing Food Scraps as Animal Feed	U.S. EPA	1996	Provides information on how to begin using food scraps for animal feed, issues to consider, and success stories of WasteWise partners who implemented this waste reduction strategy.
www.toolbase.org	PDF file	Manual of Lumber and Plywood Saving Techniques	Toolbase Services: The Home Building Industries Technical Information Resource		This 1971 manual addresses floors, exterior walls, interior partitions, ceilings, roofs, and trim. Many of the cost savings ideas remain practical today.
	Published document	Manual On Generally Accepted Principles (GAP) For Calculating Municipal Solid Waste System Flow	Corporations Supporting Recycling	2001	Development of a methodology for measurement of residential waste diversion in Canada.
http://www.cce.cornell.edu/publications	Publication	Master Composter Program Implementation Guide and Master Composter Resource Manual	Cornell Waste Management Institute	1998	This two part manual provides the resources needed to create and implement a Master Composter program. Part 1, the "Master Composter Program Implementation Guide," is designed for staff developing and implementing a Master Composter Program within a community. It covers recruiting volunteers, responsibilities, and presents examples for community outreach and education programs. Part 2, "Master Composter Resource Manual," is aimed at the Master Composter volunteer. This section describes the Master Composter Program, teaches the science of composting, illustrates methods for composting at home, including vermicomposting, and contains educational and outreach activities that can be conducted by Master Composters.
	Unpublished document	Measuring Backyard Composting	City of Seattle Public Utilities, by Jennifer Bagby	1998	An evaluation yard waste composted in the Seattle area utilizing various local studies conducted between 1990 and 1997.

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Web Address	Type of Resource (document, video,)	Title	Authors	Date	Description
	Published document	Measuring Source Reduction: Pay As You Throw/Variable Rates As An Example	Lisa Skumatz, Ph.D.	2000	Waste reduction is measured by two approaches: based on using data from one point in time and based on data collected over a series of years. Variable rates programs were used to demonstrate measurement approaches such as "Cross Section Estimations", "Time Series Method" and cost-effectiveness.
	Report	Measuring Waste Prevention in New York City	SAIC and Tellus Institute for the New York City Department of Sanitation	2000	Conceptual framework for measuring waste prevention, and evaluations (strategies and results) for 14 City-sponsored waste prevention initiatives (including waste exchanges, a variety of education programs, business waste assessments, in-house program, and home composting).
http://www.metro.dst.or.us/re/rwp/measure_waste.html	Website	Measuring Waste Prevention: A Review of Methods and Sources	Metro, by Robin Chung, intern	2000	Examination of methods to estimate the tonnage resulting from waste prevention. Includes discussion of barriers, international review, and a variety of measurement approaches. Includes case studies, bibliography.
	Report	Metro's Thrift Recycling Credit Program	Metro (Portland, OR)	1999	Manual to assist the accounting and management staff at local thrift organizations in tracking, measuring and reporting recycling materials, and applying for recycling credits under Metro's Thrift Recycling Credit Program.
	PDF file	Mind Over Matter: Recasting the Role of Materials in Our Lives (Worldwatch Paper 144)	Worldwatch Institute, by Gary Gardner and Payal Sampat	1998	Discussion of the "massive flows" of materials in today's economy, shortcomings of incremental efficiency gains, national policies to encourage more efficient materials use, and methods to reduce material use.
	Guidebook	Minnesota Waste Wise Guidebook	Minnesota Chamber of Commerce, Minnesota Office of Environmental Assistance		Resource guidebook for WasteWise participants. Includes part of the "Source Reduction Now" manual, as well as resource information on communications, packaging, materials exchange, and other information.
http://www.moea.state.mn.us	Website	Minnesota's Consumer Handbook to Reduce Waste	Minnesota Office of Environmental Assistance	1998	The handbook explains the issues of waste, and offering ideas that individuals can put into practice every day.
x	Loose papers	Model Business Case Study (5)	Metro (Portland, OR)	unknown	1-page case studies of Portland-area businesses donating edible food
	Published document	Model Variable Rate Legislation: Elements, Options, and Consideration for State-Level Legislation in Solid Waste	Lisa Skumatz, Ph.D.	2001	Describes legislative language used around the U.S. to promote the use of variable rate systems and evaluates the positive/negative aspects of the legislation.
	Report	Model Waste Prevention Education Program for Businesses and Schools	Harding Lawson Associates	1994	Report of waste prevention pilot projects at two businesses (a hospital and a high-tech office) and four schools. Describes project methodology including promotional activities. Appendix includes report on food choices in schools and case studies from a high school and the two businesses.
	Book	More Fun, Less Stuff: Starter Kit	Center for a New American Dream	2001	A Starter Kit for the general public. It contains "Nine Actions" for consuming wisely, practical tips for having fun without having to buy anything, and other resources to consume less material.
http://www.newdream.org	Video	More Fun, Less Stuff: The Challenges and Rewards of a New American Dream	Center for a New American Dream		More Fun, Less Stuff: The Challenges and Rewards of a New American Dream is an entertaining, informative look at the hidden costs of the "more is better" definition of the American dream. Hosted by actor Danny Glover, this thirty-minute film features inspiring profiles of individuals, companies and organizations that are changing the way they consume to improve quality of life, protect the environment and promote social justice.
	PDF file	Moving Toward Sustainability	U.S. EPA	2000	WasteWise Update on sustainability. Describes sustainable design and manufactures, design for the environment strategies, and provides case studies on several manufacturers
	PDF file	Municipal Solid Waste Source Reduction: A Snapshot of State Initiatives	U.S. EPA	1998	Review of state initiatives for source reduction
	Fact Sheet and PDF file	Myths and Realities of Source Reduction	National Recycling Coalition Source Reduction Forum	1999	Listing of information about source reduction in myth/reality format.
	Address book	Names & Addresses (King County waste reduction address book)	King County	unknown	Address book with information on reduction and recycling opportunities; sent to all new home owners in the County (except Seattle).
	PDF file	National Source Reduction Characterization Report for Municipal Solid Waste in the United States	U.S. EPA Office of Solid Waste	1999	Methodology of estimating the amount of waste prevention occurring nationwide; includes statistical analysis of waste generation and use of consumer purchases as a variable. Includes many case studies of municipal, county, and business waste prevention efforts.
	Published document	National Source Reduction Characterization Report for Municipal Solid Waste in the United States	U.S. EPA Office of Solid Waste	1999	Methodology of estimating the amount of waste prevention occurring nationwide; includes statistical analysis of waste generation and use of consumer purchases as a variable. Includes many case studies of municipal, county, and business waste prevention efforts.
	Published document	Nationwide Diversion Rate Study: Quantitative Effects of Program Choices on Recycling and Green Waste Diversion: Beyond Case Studies	Lisa Skumatz, Ph.D.	1996	A detailed publication regarding the data collected on more than 500 communities of varying demographics, including project activities, review of program and community data, analysis and interpretation of impact results, disaggregating overall community diversion rates, key factors related to recycling effectiveness, yard/green waste program diversion factors and implications, conclusions and next steps.
	Booklet	Natural Gardening: A Guide to Alternatives to Pesticides	Oregon DEQ and Metro	2002	Overview of natural gardening techniques and profiles of beneficial and harmful insects (as well as prevention, physical control, biological control, and least-toxic chemical control options for each)
	Booklet	Natural Lawn Care for Western Washington	City of Seattle Public Utilities and others	unknown	Short booklet with reasons for changing lawn care practices and six steps to natural lawn care (mowing practices, fertilizer practices, watering, lawn renovation, avoiding some herbicides and pesticides, and alternatives to lawns).
http://www.cce.cornell.edu/publications	Video and fact sheet	Natural Rendering: Composting Livestock Mortality & Butcher Waste	Cornell Waste Management Institute	2002	This new 20-minute video (see brochure) describes mortality and butcher residual composting featuring eight operations. A 16-page fact sheet complementing the video is also available.
http://www.seattletilth.org	Notebook	Natural Soil Building Resource Manual	Seattle Tilth		Austin is MC coordinator - (206) 633-0097; Training notebook for Master Composter Soil Builders.
	web site	New York City Agency Waste Prevention Case Studies	New York City Department of Sanitation	2001	Case studies highlighting how New York City agencies have prevented waste and saved money.
http://www.cce.cornell.edu/publications	Publication and PDF file	New York City Materials Exchange Roundtable	Cornell Waste Management Institute	1997	A Summary of the November 14, 1997 Materials Exchange Roundtable
	PDF file	New York City WasteLe\$S Summary Report	SAIC for the New York City Department of Sanitation	2000	Description of the City's business outreach/technical assistance program. Detailed discussion and evaluation of outreach/recruitment methods, results with clients, work products (including newsletters, video, Web pages and seminars), program evaluation, and "lessons learned".
	PDF file	New York CitySen\$e Project Summary	SAIC for the New York City Department of Sanitation	2000	Description of the City's in-house waste prevention effort. Agency descriptions, waste prevention recommendations, and success stories for several agencies, and City-wide recommendations. Appendix provides potential methodologies for measuring the effect of several City-wide waste prevention activities, including office paper reduction, pallet reuse, oil filter reduction, electronic employee telephone directory, and furniture relinquishment.

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Web Address	Type of Resource (document, video, website, etc.)	Title	Authors	Date	Description
http://www.mn.state.mn.us	Website	No-Waste Holiday Ideas	Minnesota Office of Environmental Assistance		A list of ideas from many sources to help reduce the amount of waste generated during the holiday season. It also has links to other websites for more information.
www.cetonline.org	Publication	Nursery Pot Reuse: a Guidebook for Nurseries, Farms and Garden Centers	Center for Ecological Technology	1998	Guidebook for nurseries to reuse pots.
	PDF file	NYC Recycles: More Than a Decade of Outreach Activities by the NYC Department of Sanitation, FY 1986-1999	New York City Department of Sanitation	1999	Summary and evaluation of 13-years of waste prevention and recycling educational activities. Includes results of several surveys.
	web site	NYCWasteLe\$S Business Case Studies Waste Prevention and Recycling Success Stories	NYCWasteLe\$S Business		Waste prevention and recycling case studies provide data and analysis from the successes realized by NYCWasteLe\$S Business partners. Case studies developed for other businesses and organizations across the country who have also implemented waste prevention and recycling programs, also serve as models.
http://www.mn.state.mn.us http://www.cce.cornell.edu/publications	Published document and available electronically	Office Paper Reduction Targeted Grant Round Request For Proposal and Funding Guidance	Minnesota Office of Environmental Assistance	2000	Request for proposal for funds available to businesses and organizations in Minnesota that will implement programs to reduce the amount of office paper waste they generate. Eligible projects will involve elements that will reduce the overall amount of paper that is being used and/or disposed of by the organization.
	Publication	On-Farm Composting Handbook	Cornell Waste Management Institute	1992	This handbook presents a thorough overview of farm-scale composting and explains how to produce, use, and market compost.
	Published report	Oregon Resource Efficiency Program: Evaluation of Resource Efficiency Programs in Cannon Beach, Corvallis and Milwaukie, July 1996 - June 1998	Harding Lawson Associates, for Oregon DEQ	1998	A very thorough evaluation of the elements of community-based "resource efficiency" programs (technical assistance to small- and medium-sized businesses in the areas of energy, water, and materials conservation).
http://www.organiclandscape.org/	Website	Organic Landscape Alliance	Organic Landscape Alliance (OLA).	1998	The website contains factsheets about organic landscaping, promotes events, and lists organic service providers and related links and other resources. The fact sheets include "Organic Lawn Care", "Assessing Your Lawn", "Grasses", "Fertilizers", "Grubs Organic Control", "Groundcovers", and "How to Talk to Others."
	PDF file	Organic Materials Management Strategies	U.S. EPA	1999	Review of organic material management strategies.
	Report	Organic Waste Diversion Study: Phase II Summary of Findings May 2001	Metro (Portland, OR)	2001	This report focuses on information on food safety standards, health codes, expiration dates, zero-donation policies, and strategies and recovery capacity of local food rescue programs.
	Report	Organic Waste Diversion Study: Summary of Findings October 2000	Metro (Portland, OR)	2000	More than 90 businesses were visited and their methods of handling food (and generating food waste) were observed. The study aims to examine the feasibility of separation of organic waste by each business for donation of edible food and/or separation and collection for processing.
	Website	Organics Outlook	CIWMB (California Integrated Waste Management Board)	Current	A website with information on compost, mulch, grasscycling, and other topics relating to the management and use of organic resources. Web pages include Compost and Mulch Industry, Farming, Commercial Landscaping, Home Gardening, Purchasing Compost & Mulch, Events, External Links, and Publications. The website also offers information and resources on special topics. Currently, Food Scrap Management is one topic featured.
	PDF file	Packaging Restrictions Research: Targeting Packaging for Reduction, Reuse, Recycling, and Recycled Content	SAIC for the New York City Department of Sanitation	2000	Summary, evaluation, case studies, and analysis of applicability to New York City of four policy tools: advance disposal fees, beverage container deposits, expanded manufacturer's responsibility, and minimum content standards.
http://www.cce.cornell.edu/publications	Publication and PDF file	Packaging Waste, Whose Responsibility is it Anyway?	Cornell Waste Management Institute	1998	A Summary of the November 6, 1998 Roundtable held in New York City.
http://www.environmentaldefense.org/alliance	PDF File	Preferred Packaging	Alliance for Environmental Innovation	1997	Focuses on the packaging practices of the overnight shipping industry and recommends directions for improvement.
http://www.newdream.org	Website	Procurement Strategies	Center for a New American Dream	Current	This Web site will help interested parties track the growing interest in environmentally preferable purchasing. It will also make it easier to identify and buy "environmentally friendly" products and services. The site provides general information about environmentally preferable purchasing and specific information about how state and local governments can reduce the environmental impacts of their purchasing decisions.
	Report	Procurement Strategies of Federal Agencies and Jurisdictions Beyond New York City for Waste Prevention and Recycled Products	SAIC for the New York City Department of Sanitation	2000	Tables of procurement practices at six federal agencies and eight governments (federal, state, and local) as they relate to waste prevention and recycled content materials. Includes discussion of implementation barriers, educational programs, and reporting and enforcement mechanisms.
	Published document and available electronically	Product Stewardship Background and Proposal	Minnesota Office of Environmental Assistance	1999	Factsheet that explains the product stewardship policy developed to promote a new approach to conserving resources, reducing waste and increasing recycling.
	PDF file	Product Stewardship in British Columbia	Institute for Local Self-Reliance	2000	Examines product stewardship programs and policies in place in British Columbia, Canada.
	Publication	Profits from Corporate Sustainability	The Future 500 and Manning Selvage & Lee, Corporate Accountability Program	2000	Management and measurement manual.
	Report	Program Evaluation for Seattle Food Waste Composting Pilot	City of Seattle Solid Waste Utility, by Cunningham Environmental Consulting and C2S2 Group	1993	A report on data gathered from 250 households weighing their food waste on a daily basis over an six-month time period and reporting the weights to the City on a monthly basis.
	Unpublished document	Promotion plan for materials exchanges (unpublished, internal resource)	Oregon DEQ	2001	An internal, unpublished document that describes Oregon DEQ's plans to promote the use of materials exchanges to Oregon manufacturing firms.
	Report	Public Policy Barriers Study: Actions for State Policy Makers, Volume 1, Final Report	CONEG (Coalition of Northeastern Governors) Policy Research Center and CONEG Source Reduction Task Force	1996	Results of research to highlight successes and identify potential barriers to source reduction efforts. Includes conclusions and recommendations for action.
	Publication	Purchasing Strategies to Prevent Waste and Save Money	National Recycling Coalition Source Reduction Forum and Inform, Inc.	1999	Descriptions of opportunities to incorporate source reduction into procurement activities; case studies of business source reduction procurement.
http://www.ci.la.ca.us/SAN/srord/ecopies.htm	website	Put it to Good Re-Use LA!	City of Los Angeles	1997	A directory of donation opportunities for Los Angeles Businesses and Residents.