



Pollution Prevention Resources and Training Opportunities in 1992





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This guide is an annual publication developed by EPA's Office of Pollution Prevention and Toxics and the Office of Environmental Engineering and Technology Demonstration, under the direction of:

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Contents

Introduction	3
1. Pollution Prevention Documents	7
Facility Planning and General Pollution Prevention Manuals	8
Industry Specific Guides, Factsheets, and Bibliographic Reports	13
2. Pollution Prevention Videos	19
3. State Pollution Prevention Programs	29
Technical Assistance, Training, and Regulatory Programs for Each State	30
4. University-Affiliated Pollution Prevention Research and Training Centers	63
5. U.S. EPA Pollution Prevention Resources	83
U.S. EPA's 33/50 Program	84
U.S. EPA Headquarters/Laboratory Pollution Prevention	86
U.S. EPA Regional Office Pollution Prevention Contacts	88
6. U.S. EPA Environmental Education Activities and Libraries	93
7. Pollution Prevention Clearinghouses and Associations	99
8. Calendar of Pollution Prevention Events	109

Introduction

"There are significant opportunities for industry to reduce or prevent pollution at the source through cost-effective changes in production, operations, and raw materials use. Such changes offer industry substantial savings in reduced raw material, pollution control, and liability costs as well as help protect the environment and reduce risks to worker health and safety."

—The Pollution Prevention Act of 1990

Purpose of this Document

This annual guide contains information about publicly sponsored pollution prevention resources and training opportunities available across the Nation. Drawing upon diverse sources, the document consolidates a wide range of information not easily accessible by the public. The goal of this publication is to provide persons interested in learning more about pollution prevention options with a single source of information on:

- Where to obtain pollution prevention training, or who might be able to share experiences about establishing a new training opportunity;
- What publications and videos are available that can help them learn more about pollution prevention;
- Whom to contact at the State and Federal levels for assistance;
- Which university centers are conducting pollution prevention research and training;
- Which Federal, State, and nonprofit organizations can provide additional pollution prevention information and technical assistance.

Additional information on the topics covered in this manual and on related subjects can be obtained by accessing the Pollution Prevention Information Clearinghouse (PPIC), which offers a wide range of free information services (see Section 7, Pollution Prevention Clearinghouses and Associations).

What Is Pollution Prevention?

Faced with the increasing costs and liabilities associated with end-of-pipe waste management practices, many waste generators are turning to pollution prevention as a cleaner, safer, and more cost-effective alternative. Pollution prevention (also known as source reduction) is defined as:

Any practice which reduces the amount of any hazardous substance, pollutant, or contaminant entering the waste stream or otherwise released to the environment (including fugitive emissions) prior to recycling, treatment, or disposal; and reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants.¹

Pollution prevention includes such techniques as toxics use reduction, raw material substitution, process or equipment modification, product redesign, training, improved inventory control, production planning and sequencing, and better management practices.

Pollution Prevention Is Our National Policy

Acknowledging the importance of pollution prevention in the national environmental strategy, Congress passed the landmark Pollution Prevention Act of 1990. This act establishes as national policy an environmental management hierarchy that sets

1. Pollution Prevention Act of 1990, 42 U.S.C. § 13101, et. seq.

pollution prevention as the option of first choice. For those wastes that are not capable of being reduced at the source, this hierarchy considers recycling to be the next best management option. A waste generator should turn to treatment or disposal to solve a waste generation problem only after source reduction and recycling have been considered.

EPA's Leadership in Preventing Pollution

The Pollution Prevention Act of 1990 reinforces EPA's continuing and aggressive effort to integrate pollution prevention into all of its programs and activities. Released in February 1991, EPA's "Pollution Prevention Strategy" provides guidance on incorporating pollution prevention into ongoing programs and emphasizes the need for continued strong regulatory and enforcement programs. The strategy includes a plan for achieving substantial voluntary reductions of targeted high risk industrial chemicals through pollution prevention. The plan, known as the 33/50 Program, is aimed at reducing 17 high risk chemicals 33 percent by the end of 1992 and at least 50 percent by the end of 1995 (see Section V: U.S. EPA Pollution Prevention Programs). The 33/50 Program is designed to maximize private sector initiatives while challenging industry to achieve ambitious prevention goals. The Agency's pollution prevention strategy also calls for the development of plans for the consumer, agricultural, energy, transportation and Federal sectors.

Through these activities EPA strives to promote pollution prevention efforts by other Federal agencies, States, local governments, industry, universities, nonprofit organizations, and the general public. The Agency's pollution prevention efforts include providing technical information transfer and exchange

mechanisms, administering grant programs, conducting research, and offering public outreach services (contact the PPIC for information about specific initiatives).

Updates to this Guide

Because of the high visibility and rapid growth of this field, many pollution prevention efforts are in a state of flux. We worked to ensure that the information in this guide was as current as possible when the document was sent to press. Given the dynamic character of the field, however, some information will have changed since it was collected. We plan to expand and update this publication annually to include additional information called to our attention in the future.

Please submit any updates or corrections concerning your training opportunities, programs, calendar events, or training materials to:

Pollution Prevention Information Clearinghouse
Science Applications International Corporation
7600-A Leesburg Pike
Falls Church, Virginia 22043

(For your convenience, an addressed form letter follows this page.)

Note: The appearance in this guide of training courses and materials other than those produced or sponsored by EPA does not constitute an endorsement of their quality by the Agency. Many of the organizations sponsoring such training opportunities have pollution prevention policies that differ significantly from those of the EPA and, thus, do not reflect the Agency's position.

Please use this space for updates or corrections to EPA's *Pollution Prevention Resources and Training Opportunities in 1992*

Name _____

Title _____

Organization _____

Address _____

Phone _____

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Please use this space to comment on the content, form, or use of this guide.

Postage

**Pollution Prevention
Information Clearinghouse**
SAIC
7600-A Leesburg Pike
Falls Church, Virginia 22043

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1

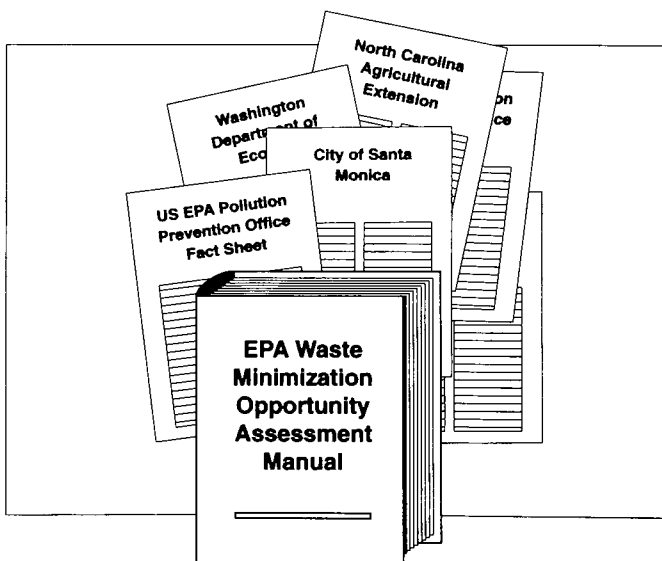
Section 1 Pollution Prevention Documents

This section describes a variety of publications that provide general and industry-specific pollution prevention information. These documents can be used by plant environmental staff, workshop instructors, or anyone interested in learning more about pollution prevention techniques.

To order documents made available through EPA's Pollution Prevention Information Clearinghouse (PPIC), call (703) 821-4800 (See Section 7, Pollution Prevention Clearinghouse and Associations).

Documents also may be ordered using a modem and a PC through the Pollution Prevention Information Exchange System (PIES). Dial 703-506-1025.

To order documents not marked as available from PPIC, contact the organization that produced the publication.



1.A Facility Planning and General Pollution Prevention Manuals

AUDIT AND REDUCTION MANUAL FOR INDUSTRIAL EMISSIONS AND WASTES

The United Nations Environment Programme (UNEP) and the United Nations Industrial Development Office (UNIDO) jointly developed this document to assist in the identification of industrial emission and waste sources. UNEP/UNIDO adapted the OWMC assessment manual to better meet the needs of a wider international audience. The manual addresses the following topics: Introduction to Waste Auditing, the Audit Procedure, Preassessment, Material Balance: Process Inputs and Outputs, and Synthesis. Additional information includes three technical case studies (beer production, leather manufacture, and printed circuit board manufacture), a resource section, and a removable quick reference audit guide. This audit manual is designed as a working document for use by factory personnel at all levels, consultants reporting to industrial clients, and government personnel reviewing existing factory operations.

UNEP and UNIDO, 1991

UNEP Industry and Environment Programme Activity Centre

39-43 Quai Andre Citroen

75739 Paris CEDEX 15 France

(33) 1 40 58 88 50

Cost: Free (available through the PPIC)

CURRICULUM FOR TOXICS USE REDUCTION PLANNERS

This curriculum is intended to serve as the basis for advanced educational programs for the training of toxics use reduction planners. A primary objective of this training is to assure that professionals can assist Massachusetts companies in complying with the state's 1989 Toxics Use Reduction Act.

Toxics Use Reduction Institute, 1991

University of Massachusetts, Lowell

1 University Avenue

Lowell, MA 01854

(508) 934-3275

Cost: Contact the Institute for cost and availability information.

INDUSTRIAL WASTE MINIMIZATION MANUAL

This manual, the third edition and revision of the award-winning *Hazardous Waste Minimization Manual*, provides information and guidance to all industrial waste generators on pollution prevention practices and suggested compliance requirements for all generators under the Resource Conservation and Recovery Act (RCRA) and other related Federal acts. The manual presents case histories of waste minimization practices that have increased profits and waste minimization ideas for the petroleum, steel, and paper & pulp industries. The manual covers the following subjects: the advantages of pollution prevention; the regulatory environment for waste reduction; pollution prevention approaches; how to conduct a waste audit; general, industry-specific, and waste-specific pollution prevention practices; and ways to finance a waste reduction program. Finally, information on sources of pollution prevention information are included, as well as appendices covering regulatory issues relevant to waste generators.

Center for Hazardous Materials Research, October 1989

University of Pittsburgh Applied Research Center

320 William Pitt Way

Pittsburgh, Pennsylvania 15238

412-826-5320 • 1 (800) 334-CHMR

Cost: \$40

INDUSTRIAL WASTE AUDIT AND REDUCTION MANUAL

The first step to effective waste reduction is a systematic audit of plant processes. *The Industrial Waste Audit and Reduction Manual* explains each step of the audit process, including determining the origin, characteristics, and volume of wastes being produced; evaluating waste disposal methods and costs; weighing the costs and benefits of different waste reduction measures; and deciding on the best, most cost-effective methods for your operation. This manual is targeted at small- and medium-sized companies and can be used by both technical and nontechnical staff. It includes example waste audit case studies from printed circuit board manufacturing, steel pickling, and detergent manufacturing companies. In addition, the publication devotes one section to sources of pollution prevention information and assistance.

Ontario Waste Management Corporation, 1989

Attention: John Richmond • 2 Bloor Street West, 11th Floor

Toronto, Ontario, Canada M4W3E2

416-923-2918

Cost: \$40

INDUSTRIAL WASTE PREVENTION

This practical guide provides step-by-step instructions for developing an effective waste minimization program. It includes forms, worksheets, and original waste prevention ideas that are relatively inexpensive and do not require major changes in your plant. The guide, designed for in-plant use for the prevention of hazardous and solid industrial waste, covers the following topics: the environmental manager's role, waste prevention planning, formation of a waste prevention committee, waste generation costs, and the development of waste prevention ideas.

*Waste Advantage, Inc., 1988
17117 West Nine Mile Road, Suite 902
Southfield, Michigan 48075
313-569-8150*

Cost: \$195 (includes access to technical assistance hotline)

INDUSTRIAL WASTE REDUCTION

This Environmental Engineering Curriculum is designed for a three-credit college course. Divided into 15 sessions of 2 hours and 40 minutes each, the course serves as an overview of waste reduction concepts and applications in Alaska and elsewhere in the U.S. It covers audits, programs, technologies, waste disposal, regulations, worker safety and health, and background on the development of waste management/reduction in the States.

*Alaska Health Project, 1991
1818 W. Northern Lights, Suite 103
Anchorage, Alaska 99517
907-276-2864*

Cost: \$30

MANAGEMENT AND MINIMIZATION OF HAZARDOUS WASTE UNDER RCRA

This manual was written as a teaching aid for workshops designed to meet the training requirements of the Resource Conservation and Recovery Act for North Carolina industries. Although its focus lies with educating generators about the Act's regulatory requirements, it promotes pollution prevention as the best means to avoid the legal and economic burdens of waste generation. The manual discusses how to plan a waste reduction program and conduct an audit, use operating practices conducive to preventing pollution, and motivate people to alter their behavior and adopt a waste reduction mentality.

*North Carolina State University, September 1989
Industrial Extension Service, College of Engineering
P.O. Box 7909, Raleigh, North Carolina 27695-7909
919-737-2303*

Cost: Contact the University for cost and availability information.

MANAGEMENT TRAINING IN POLLUTION PREVENTION AND CONTROL IN THE METAL FINISHING INDUSTRY

(See description in Section 2, Pollution Prevention Videos)

MANUAL FOR HAZARDOUS WASTE REDUCTION PLANNING AND REPORTING

This Manual was designed to assist hazardous waste generators in Rhode Island in complying with the State's waste reduction policy, and to provide information and forms necessary to assist generators in complying with the reporting requirements.

*Rhode Island Department of Environmental Management, 1991
Office of Environmental Coordination
83 Park Street
Providence, Rhode Island 02903
401-277-3434*

Cost: Contact the DEM for cost and availability information

MINNESOTA GUIDE TO POLLUTION PREVENTION PLANNING

This Guide takes the reader, step by step, through the process of pollution prevention planning. It can be used to meet the planning requirement of the Minnesota Toxic Pollution Prevention Act.

*Minnesota Office of Waste Management, 1991
1350 Energy Lane
St. Paul, MN 55108
612-649-5795*

Cost: Contact the OWM for cost and availability information

NEW YORK STATE WASTE REDUCTION GUIDANCE MANUAL

Prepared specifically for businesses located in New York, this manual provides detailed descriptions of waste reduction techniques for major waste-generating processes used by State industries. Both in-State and out-of-State businesses can use the document to learn more about waste reduction benefits, waste reduction techniques that may be applicable to their processes and waste streams, and ways to conduct a

waste reduction audit. The publication introduces the concepts necessary to undertake waste reduction, including starting and sustaining a waste reduction effort, investigating opportunities, identifying options, and performing a feasibility analysis. Appendices provide additional sources of information, worksheets, a glossary, and applicable rules and regulations.

*New York State Department of Environmental Conservation,
March 1989*

*Division of Hazardous Substances Regulation,
Bureau of Pollution Prevention
50 Wolf Road • Albany, New York 12233-7253
518-485-8400*

Cost: Free (available through the PPIC)

POLLUTION PREVENTION PAYS INSTRUCTION MANUAL

The *Pollution Prevention Pays Instruction Manual* was developed to introduce the concept of pollution prevention and cost savings to individuals entering the industrial work force. "Pollution Prevention Pays," or PPP, is a management approach that results in a change from end-of-the-pipe measures for controlling pollution to preventative measures that (1) minimize or eliminate the production of pollution and (2) result in savings to a company.

The manual concentrates on (1) current legal and environmental issues that create the need for an industrial pollution-reduction program and (2) an innovative systems approach to industrial-resource management that can reduce pollution and increase profits. The document includes activity plans, materials, and information for instructors that focus on a basic problem-solving approach to waste reduction and management. The activities emphasize elimination of pollution at its source through process modification, product reformulation, recycling, and conservation of raw materials.

Western Carolina University, North Carolina Department of Natural Resources, North Carolina Pollution Prevention Pays Program, and the Gildea Foundation, June 1988

Dr. Susan Smith

*Center for Improving Mountain Living
Bird Building*

*Western Carolina University
Cullowhee, North Carolina 28723
704-227-7492*

Cost: \$28

POLLUTION PREVENTION RESOURCE MANUAL

This manual was designed for use by industry personnel of all levels who are involved with planning or implementing a pollution prevention program. The manual provides an overview of the pollution prevention concept and describes elements that constitute such a program: the statutory and regulatory framework; incentives; how to start, track, and evaluate a waste reduction program; and how to conduct a waste assessment. The publication, which follows the Chemical Manufacturers Association Pollution Prevention Code, discusses all 14 practices of the code in detail. In addition, the manual addresses electronic reporting and provides a self-evaluation form.

*Chemical Manufacturers Association, September 1991
2501 M Street, N.W., Washington, D.C. 20037
202-887-1100*

Cost: \$50 (member), \$75 (non-member)

PROFITING FROM WASTE REDUCTION IN YOUR SMALL BUSINESS

Profiting from Waste Reduction in Your Small Business helps small business managers and their employees work together to identify and implement methods to reduce industrial wastes. The publication is designed to help managers and employees see their industrial waste as a financial resource rather than an unavoidable byproduct of their business process. This manual shows how to organize a business to promote waste reduction, review business plans for waste reduction potential, conduct a waste reduction audit, evaluate a waste reduction program, and learn specific strategies for nine common business processes. It includes a section covering waste reduction resources for small businesses.

*Alaska Health Project, 1988
1818 W. Northern Lights, Suite 103
Anchorage, Alaska 99517
907-276-2864*

Cost: Free (available through the PPIC)

TOXICS USE REDUCTION GUIDE

This guide was developed to educate Colorado industry about the benefits of reducing the generation of toxic chemicals. It advocates a waste management strategy based on pollution prevention — not end-of-pipe treatment — that can lead to economic savings,

reduced regulatory requirements, improved worker health, and protection of the environment. These claims are reinforced in a case study of Polaroid Corporation's pollution prevention successes. The *Toxics Use Reduction Guide* includes a section that explains how any company can establish its own waste reduction program, from the planning stage to implementation. A list of pollution prevention contacts is also included.

Colorado Public Interest Research Group (CoPIRG), 1989
1724 Gilpin Street, Denver, Colorado 80218
303-355-1861
Cost: \$2

WASTE MINIMIZATION: MANUFACTURERS' STRATEGIES FOR SUCCESS

The purpose of this guide is to inform both small and large manufacturers about ways to curtail waste generation and prevent the release of pollutants into the environment. The publication emphasizes the need for widespread voluntary initiatives to reduce hazardous waste generation. Answering such questions as, "What is waste minimization?" and "Why should I establish and implement a waste reduction program?" the document then explains how manufacturers can establish their own pollution prevention programs. The guide briefly describes success stories from corporate and industry-specific programs and includes appendices on assistance resources, recommended reading, and terminology. National Association of Manufacturers, 1989

1331 Pennsylvania Avenue, N.W.
Washington, D.C. 20004-1703
202-637-3000
Cost: \$19.95 (member); \$29.95 (non-member)

WASTE MINIMIZATION AND POLLUTION PREVENTION: SELF-AUDIT MANUAL FOR METAL FINISHING

This manual was designed to provide companies with a starting point for examining their facilities and finding ways to minimize hazardous waste.

Connecticut Technical Assistance Program (ConnTAP), 1991
900 Asylum Avenue
Suite 360
Hartford, Connecticut 06105-1904
203-421-0777
Cost: \$10

WASTE MINIMIZATION OPPORTUNITY ASSESSMENT MANUAL (EPA/625/7-88/003)

This manual describes EPA's recommended procedure for identifying hazardous waste pollution prevention opportunities. It was designed to promote EPA's preferred waste management strategy, which ranks source reduction and recycling first and second, respectively. The manual describes in detail how to conduct a waste assessment, from the planning/organization phase, through the assessment and feasibility analysis, to final implementation of the pollution prevention options. The manual contains numerous appendices, including worksheets, an example waste assessment, causes and sources of waste, pollution prevention techniques, lists of government-sponsored assistance programs, and discussions of economic evaluation methods. The *Waste Minimization Opportunity Assessment Manual* is targeted at both those responsible for reducing waste streams and those interested in general information about pollution prevention. This manual is suitable for use as a primary text in a training course or as part of a technical assistance outreach effort.

U.S. EPA, Office of Research and Development, July 1988
Hazardous Waste Engineering Research Laboratory
Cincinnati, Ohio 45268
Cost: Free (available through the PPIC)

WASTE MINIMIZATION TRAINING MODULES

The Alternative Technology Division of the California Department of Health Services is currently developing three pollution prevention training modules. Each module, identified below, will consist of a workbook (which includes a text and self-testing exercises) and a supporting video.

- Module 1 — Introduction to Waste Minimization for Hazardous Materials Inspectors with self-testing exercises
- Module 2 (Two Units)
 - Unit 1 — Waste Minimization Assessment Procedures for the Inspectors with self-testing exercises
 - Unit 2 — Waste Minimization Assessment Procedures for the Generator
- Module 3 — Inspector Training on Waste Minimization for the Metal Finishing Industry.

A 43-minute videotape of a slide show accompanies the three modules, providing an introduction to waste minimization and an overview of the modules.

Department of Toxic Substances Control, 1991

Attn: Robert Ludwig

Alternative Technology Division

714/744 P Street

P.O. Box 806

Sacramento, California 95512-0806

916-324-1807 or 916-322-3670

Cost: Free (available through the PPIC)

WASTE REDUCTION ASSESSMENT AND TECHNOLOGY TRANSFER (WRATT) TRAINING MANUAL (SECOND EDITION)

This manual was originally developed by the University of North Carolina at Asheville's Environmental Quality Institute, with funding provided by EPA Region IV and the Tennessee Valley Authority. A second edition has been compiled and edited by the University of Tennessee's Center for Industrial Services. The manual was designed to train retired engineers, State employees, and affiliated university personnel to design or implement a waste reduction technical assistance program, but it is also suitable for businesses and waste assessment teams. The *WRATT Training Manual* concentrates on procedures that motivate people to search, screen, and put into practice measures involving administrative, material, or technology changes that result in decreased waste generation. It includes information on waste reduction awareness and incentives, Federal safety standards, State and Federal regulations, how to establish a waste reduction program and conduct a waste assessment, and waste reduction approaches for specific industries and waste types. The manual includes an industry preassessment checklist packet and appendices including sources of pollution

prevention information, bibliographies, a directory of pollution prevention-related services, and a list of waste exchanges.

Tennessee Valley Authority, October 1989

Russell Allen

Bicentennial Volunteers, Inc.

600 Summit Hill Drive

Knoxville, Tennessee 37902

615- 632-8089

Cost: Free (available through the PPIC)

or

George Smelcer

Center for Industrial Services

University of Tennessee

266 Capitol Boulevard Building

Suite 606

Nashville, Tennessee 37219-1804

615-242-2456

WASTE REDUCTION IN YOUR BUSINESS

This manual was prepared to assist Washington State businesses in reducing the amount of hazardous waste they produce. It is intended to be a tool that business managers and their employees can use to understand the benefit of waste reduction, learn how to start a waste reduction program, conduct a waste reduction audit, evaluate waste reduction options, and know whom to call for assistance. The publication draws on both the *EPA Waste Minimization Opportunity Assessment Manual* and *Profiting from Waste Reduction in Your Small Business*.

Washington State Department of Ecology, November 1989

Publications Office

Mail Stop PV-11

Olympia, Washington 98504-8711

206-438-7472

Cost: Free (available through the PPIC)

1.B Industry-Specific Guides and Fact Sheets

■ Industry-Specific Pollution Prevention Opportunity Assessment Materials and Fact Sheets

In addition to the generic pollution prevention instruction manuals noted in the previous section, numerous industry-specific assessment materials are now available that can be used for guidance in setting up a pollution prevention program tailored to a given industry or process.

While the PPIC will be targeting information-gathering efforts for the industries identified in the recently

announced pollution prevention strategy, the clearinghouse will continue to collect assessment materials to provide guidance to as broad a number of industries as possible.

The current PPIC holdings include assessment publications specific to the industries identified below. PPIC's document development, research, and information-gathering efforts produce a continual influx of material into the clearinghouse. For this reason, the list provided should be regarded as representative rather than exhaustive. You are, therefore, encouraged to contact the clearinghouse for more information even if your industry is not represented in the list that follows. Contact information is listed in the final section of this publication. When requesting information from the clearinghouse, please be as specific as possible concerning the nature of your request in order to speed response time.

INDUSTRY/PROCESS	SIC CODE
Automotive Repair	7538
Automotive Paint	7535
Aviation Facility	4582
Boat Building and Maintenance	3732
Building and Construction	1500
Dairy Plant	2044, 2046
Dry Cleaning	7216
Electroplating	3471
Fiberglass	2221
Fur Dressing/Tanning	3111
General Medical and Surgical Hospitals	8062
Heavy Equipment Maintenance	7699
Manufacturing/Distribution Co.	3900
Metal Finishing	3471
Paint Manufacturing/Formulating	2851
Pesticide Formulating	2879
Pharmaceutical Preparations	2834
Photofinishing/Photoprocessing	7395
Poultry Processing	2016
Precious Metal Platers	3911, 3914
Printed Circuit Board Manufacturing	3672
Printing	2700
Pulp and Paper Products	2600
Research and Education Institutions	8732, 8733
Research Laboratories	7391
Seafood Processing	2091
Textile Manufacturing	2200
Vehicle Maintenance	7500
Vocational Shops	8249
Wood Treating/Preserving	2491

■ Industry-Specific Pollution Prevention Guidance Manuals

The Pollution Prevention Research Branch of EPA's Office of Research and Development is publishing a series of industry-specific pollution prevention guidance manuals. The first 13 manuals in the series have been published for the industrial categories designated in the titles provided below. Four more manuals are scheduled for publication in 1992. Industrial categories that will be addressed and the publication schedule are listed below.

The manuals supplement the EPA's generic waste reduction manual entitled, *Waste Minimization Opportunity Assessment Manual* (see Section 1, General Pollution Prevention Instruction Manuals). Both the general manual and the industry-specific guides are available free of charge from the PPIC (see Section 7, Pollution Prevention Clearinghouses and Associations).

Guidance Manuals Currently Available

<i>Guides to Pollution Prevention:</i>	<i>Automotive Refinishing Industry</i>	EPA/625/7-91/016
<i>Guides to Pollution Prevention:</i>	<i>Auto Repair Industry</i>	EPA/625/7-91/013
<i>Guides to Pollution Prevention:</i>	<i>The Commercial Printing Industry</i>	EPA/625/7-90/008
<i>Guides to Pollution Prevention:</i>	<i>The Fabricated Metal Industry</i>	EPA/625/7-90/006
<i>Guides to Pollution Prevention:</i>	<i>Fiberglass Reinforced and Composite Plastics</i>	EPA/625/7-91/014
<i>Guides to Pollution Prevention:</i>	<i>Marine Maintenance and Repair</i>	EPA/625/7-91/015
<i>Guides to Pollution Prevention:</i>	<i>The Paint Manufacturing Industry</i>	EPA/625/7-90/005
<i>Guides to Pollution Prevention:</i>	<i>The Pesticide Formulating Industry</i>	EPA/625/7-90/004
<i>Guides to Pollution Prevention:</i>	<i>Pharmaceutical Preparation</i>	EPA/625/7-91/017
<i>Guides to Pollution Prevention:</i>	<i>Photoprocessing Industry</i>	EPA/625/7-91/012
<i>Guides to Pollution Prevention:</i>	<i>The Printed Circuit Board Manufacturing Industry</i>	EPA/625/7-90/00
<i>Guides to Pollution Prevention:</i>	<i>Research and Educational Institutions</i>	EPA/625/7-90/010
<i>Guides to Pollution Prevention:</i>	<i>Selected Hospital Waste Streams</i>	EPA/625/7-90-009

Additional Guidance Manuals Scheduled for Release in 1992

<i>Mechanical Equipment Repair</i>	<i>(Due June 1992)</i>
<i>Metal Finishing</i>	<i>(Due April 1992)</i>
<i>Non-agricultural Pesticide Use</i>	<i>(Due September 1992)</i>
<i>Thermal Metal Working</i>	<i>(Due April 1992)</i>

■ Fact Sheets

The fact sheets listed below contain overviews, tips, and/or guidelines for pollution prevention. Some provide only general information or advice on how to set up programs, while others identify pollution prevention opportunities for specific industries, processes, or materials. EPA, State agencies, and local governments produced the fact sheets. In many cases, multiple sources have pub-

lished fact sheets on a particular topic. Fact sheets on the topic areas listed below are available from the Pollution Prevention Information Clearinghouse (see Section 7, Pollution Prevention Clearinghouses and Associations). These fact sheets will be accessible on-line through the Pollution Prevention Information Exchange System (PIES) later in 1992).

General/ Introductory Information

- Conservation Tips for Business
- General Guidelines
- Getting More Use Out of What We Have
- Glossary of Waste Reduction Terms
- Guides to Pollution Prevention
- Hazardous Waste Fact Sheet for Minnesota Generators
- Hazardous Waste Minimization
- How Business Organizations Can Help
- Increase Your Corporate and Product Image
- Industrial Hazardous Wastes in Minnesota
- Local Governments and Pollution Prevention
- Pollution Prevention (General)
- Pollution Prevention Fees
- Pollution Prevention Training and Education
- Pollution Prevention Through Waste Reduction
- Recent Publications
- Reduce Hazardous Waste
- Reuse Strategies for Local Government
- Source Reduction Techniques for Local Government
- U.S. EPA's Pollution Prevention Program
- Video Tapes Available from the Virginia Waste Minimization Program
- Waste Exchange: Everybody Wins!
- Waste Exchange Services
- Waste Minimization Fact Sheet
- Waste Minimization in the Workplace
- Waste Reduction Can Work For You

- Waste Reduction Overview
- Waste Reduction/ Pollution Prevention: Getting Started
- Waste Reduction Tips for All Businesses
- Waste Source Reduction
- Waste Source Reduction Checklist
- What is Pollution Prevention?
- Why Reduce Waste?

Legislative Information/ EPA and State Initiatives

- About Minnesota's "But Recycled Campaign"
- Alaska State Agency Waste Reduction and Recycling
- EPA's 2% Set Aside Pollution Prevention Projects
- EPA's "List of Lists" Projects
- EPA's Pollution Prevention Enforcement Settlement Policy
- EPA's Pollution Prevention Incentives for States
- EPA's Pollution Prevention Strategy
- Introducing the Colorado Pollution Prevention Program
- Michigan's Solid Waste Reduction Strategy
- Minnesota's Toxic Pollution Prevention Act
- New Form R Reporting Requirements
- Oregon's Toxic Use Reduction Act
- Pollution Prevention Act of 1990
- Promoting Pollution Prevention in Minnesota State Government

Setting Up A Program

- 1991 Small Business Pollution Prevention Grants
 - An Organization Strategy for Pollution Prevention
 - Considerations in Selecting a Still for On-Site Recycling
 - Colorado Technical Information Center
 - On-Site Assistance (Colorado only)
 - Pollution Prevention Grant Program Summaries and Reports
 - Procuring Recycled Products
 - Recycling Market Development Program
 - Selecting a Supplier, Hauler and Materials Broker
 - Solid Waste Management Financial Assistance Program
 - Source Reduction at Your Facility
 - Starting Your Own Waste Reduction Program
 - The Alexander Motor's Success Story
 - The Eastside Plating Success Story
 - The Tektronics Payoff
 - The Wacker Payoff
 - Waste Reduction Checklists:
 - General
 - Cleaning
 - Coating/ Painting
 - Formulating
 - Machining
 - Operating Procedures
 - Plating/ Metal Finishing
 - Waste Source Reduction: Implementing a Program
- Machine Coolants:
 - Prolonging Coolant Life
 - Waste Reduction
 - Metal Recovery:
 - Dragout Reduction
 - Ion Exchange/ Electrolytic Recovery
 - Etchant Substitution
 - Metals Recycling
 - Office Paper Waste Reduction
 - Old Paints, Inks, Residuals and Related Materials
 - Pesticides:
 - Disposal of Unused Pesticides, Tank Mixes and Rinsewater
 - In-Filled Sprayer Rinse System to Reduce Pesticide Wastes
 - Pesticide Container Disposal
 - Preventing Pesticide Pollution of Surface and Groundwater
 - Preventing Well Contamination by Pesticides
 - Protecting Mountain Springs from Pesticide Contamination
 - Reducing and Saving Money Using Integrated Pest Management
 - Plastics:
 - The Facts About Production, Use and Disposal
 - The Facts on Degradable Plastics
 - The Facts on Recycling Plastics
 - The Facts on Source Reduction
 - Printing Equipment
 - Refrigerant Reclamation Equipment/Services
 - Reverse Osmosis
 - Safety Kleen, Inc. Users
 - Shop Rags from Printers
 - Small Silver Recovery Units
 - Solvents:
 - Alternatives to CFC-113 Used in the Cleaning of Electronic Circuit Boards
 - On-Site Solvent Reclamation
 - Reducing Shingle Waste at a Manufacturing Facility
 - Reducing Solvent Emissions from Vapor Degreasers
 - Small Solvent Recovery Systems

Process/ Material Specific

- Aerosol Containers
- Aircraft Rinsewater Disposal
- Acids/ Bases
- Chemigation Practices to Prevent Groundwater Contamination
- Corrugated Cardboard Waste Reduction
- Demolition
- Empty Containers
- Gunwasher Maintenance
- Lead Acid Batteries

Solvent Loss Control
 Solvent Management: Printing Press
 Solvent Recovery: Fiber Production Plant
 Solvent Reduction in Metal Parts Cleaning
 Solvent Reuse: Technical Institute
 Trichloroethylene and Stoddard Solvent
 Reduction Alternatives

- Ultrafiltration
- Used Containers: Management
- Used Oil Recycling
- Waste Management Guidance for Oil Clean-Up
- Water and Chemical Reduction for Cooling Towers
- Waste Water Treatment Opportunities

Industry Specific

- Aerospace Industry
- Auto Body Shops
- Automotive Painting
- Automotive/ Vehicle Repair Shops
- Auto Salvage Yards
- Asbestos Handling, Transport and Disposal
- Chemical Production
- Coal Mining
- Concrete Panel Manufacturers
- Dairy Industry:
 - Cut Waste and Reduce Surcharges for Your Dairy Plant
 - Dairy CEO's: Do You Have a \$500 Million Opportunity?
 - Liquid Assets for Your Dairy Plant
 - Water and Wastewater Management in a Dairy Processing Plant
- Dry Cleaners
- Electrical Power Generators
- Electroplating Industry:
 - Dragout Management for Electroplaters
 - Plating with Trivalent Chrome Instead of Cr+6

Water Conservation Using Counter Current Rinsing
 Water Conservation: Tank Design
 Water Conservation: Rinsewater Reuse
 What Should I Do With My Electroplating Sludge?

- Fabricated Metal Manufacturers
- Fiberglass Fabricators: Volatile Emissions Reduction
- Machine Toolers
- Metal Finishers:
 - General
 - Effluent Minimization
 - Rinsewater Reduction
- Oil Refiners
- Paint Formulators
- Paper Manufacturers
- Pesticide Formulating Industry
- Photofinishers/ Photographic Processors
- Poultry Industry:
 - Poultry CEO's: You May Have a \$60 Million Opportunity?
 - Poultry Processors: You Can Reduce Waste Load and Cut Sewer Surcharges
 - Survey Shows That Poultry Processors Can Save Money By Conserving Water
 - Systems for Recycling Water in Poultry Processing
- Printed Circuit Board Manufacturers
- Printing Industry
- Radiator Service Firms
- Shrimp Processors
- Steel Manufacturers
- Textile Industry:
 - Dye Bath and Bleach Bath Reconstitution
 - Water Conservation
- Wire Milling Operations: Process Water Reduction

■ Bibliographic Reports on Pollution Prevention Options for 33/50 Program Companies

To assist companies in participating in the 33/50 Program, EPA is developing a series of bibliographic reports for many of the industries that are major releasers of the 17 targeted chemicals. Each report will:

- Summarize the types of processes within the industrial category primarily responsible for release of the chemicals of concern
- Describe general pollution prevention and recycling alternatives applicable to the industrial processes
- Provide a bibliography of documents that may provide detailed technical information on pollution prevention and recycling options for the industrial processes.

The reports also will provide education to the general public, EPA staff, and State and local government employees on pollution prevention options that may be available for various industrial processes.

Four reports are currently available:

- **Wood Manufacturing** — Covering industrial processes in Standard Industrial Classification code 25
- **Metal Fabrication** — Covering industrial processes in Standard Industrial Classification codes 34 through 38
- **Primary Metals** — Covering industrial processes in Standard Industrial Classification code 33.
- **Printing, Publishing, and Allied Industries** — Covering industrial processes in Standard Industrial Classification code 27.

Additional reports covering other industries should be available later in 1992.

Copies of these reports are available by calling EPA's Pollution Prevention Information Clearinghouse at (703) 821-4800.

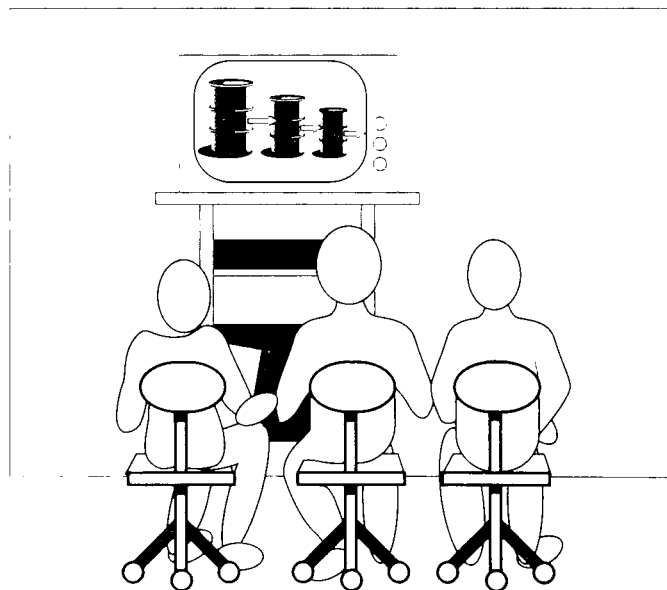
2

Section 2 Pollution Prevention Videos

The videos on this list are suitable for use as supplements to a training course or workshop or as sources of background information.

To order videos available on a free loan basis from EPA's Pollution Prevention Information Clearinghouse, call (703) 821-4800 (see Section 7, Pollution Prevention Clearinghouses and Associations).

To purchase videos, or to order videos not available from PPIC, contact the organization that produced the videos.



BEYOND BUSINESS AS USUAL: MEETING THE CHALLENGE OF HAZARDOUS WASTE

(28:30 min.)

U.S. EPA Region VIII
999 18th Street, Suite 500
Denver, Colorado 80202-2405
303-293-1603
Available through the PPIC
Cost: Free Loan

This video promotes source reduction and recycling as the best hazardous waste management options. It offers treatment as an alternative only after all pollution prevention opportunities have been realized. *Beyond Business as Usual* supports its case with success stories from industry, Federal agencies, and State and local government programs. The video stresses that successful pollution prevention requires both industrial initiatives and governmental direction. It includes a short discussion of the Federal legislative foundation for this strategy and presents the opinions of a cross section of individuals involved in hazardous waste management.

1990 CLEAN AIR ACT OVERVIEW

(20 min.)

Sylvia Gordon
WRATT Case Studies
University of Tennessee, 1991
Center for Telecommunications and Video
Suite 61, 1345 Circle Park Drive
Knoxville, Tennessee 37996-0312
615-974-1313
Cost: \$25 purchase (available only from the producer)
Free loan (available only from the PPIC)

A representative of the Halogenated Solvents Industry Alliance describes the new Clean Air Act, especially Titles 1,3,4, and 6. Pollution prevention implications are discussed.

CLEANING METAL WITH WATER

(65 min.)

Sylvia Gordon
WRATT Case Studies
University of Tennessee, 1991
Center for Telecommunications and Video
Suite 61, 1345 Circle Park Drive
Knoxville, Tennessee 37996-0312
615-974-1313
Cost: \$45 purchase (available only from the producer)

This tape is a series of case studies that look at various water-based techniques for cleaning metal parts. Carlos Bowden, Bowden Industries, described his company's alkaline cleaner, turbo washing systems. Gary Butler, Lincoln Brass Works, and Ken Warden, ABB Power Transmissions, Inc., showcase their washing operations based on water-alkaline cleaning systems. Also, Frank Hartmana and Rad Clanton describe TRW-Ross Gear Division's three different water-based cleaning systems that replaced their TCE solvent degreaser.

CLEANING UP TOXICS AT HOME

(25 min.)

and

CLEANING UP TOXICS IN BUSINESS

(25 min.)

League of Women Voters, 1990
The Video Project
5332 College Avenue, Suite 101
Oakland, California 94618
800-475-2638
Cost: Rent \$20.00 each; Series Price \$49.95
Individuals/Low Income Groups: Sale \$29.95 each
Institutions: Sale \$59.95 each; Series Price: \$99.95 (Available only from the producer)
Free loan (available only from the PPIC)

This two-part how-to series is produced by the League of Women Voters. *Cleaning Up Toxics At Home* gives simple, practical advice on how to reduce pollution from households. The tape emphasizes safe use, proper disposal, recycling, and reduction of the most common household toxics: motor oil, paints, strippers, pesticides, automotive products, and oven and drain cleaners. Highlights include discussions of community programs that collect and recycle or dispose of oil, pesticides, and paint; a demonstration of simple ways to prevent poisoning and injury from the misuse of household chemicals; and tips from professional housecleaners who use mild soaps and baking soda instead of more toxic and expensive cleaning products.

Cleaning Up Toxics In Business shows how small businesses can use a variety of innovative solutions to comply with increasingly strict environmental regulations. Businesses, from a brass bed manufacturer to a termite control service, are finding ways to stop pollution before it starts — substituting less hazardous materials or techniques. Others, such as dry cleaners, are investing in new equipment that recaptures and reuses virtually all toxic chemicals in their shops. This

is a stimulating program of special interest to business owners and their customers, as well as public policy makers, regulatory agencies, and environmental studies classes.

THE COMPETITIVE EDGE

(17:50 min.)

Ontario Waste Management Corporation, 1989

2 Bloor Street West, 11th Floor

Toronto, Ontario, Canada M4W3E2

416-923-2918

Cost: \$24 purchase (available only from the producer)

Free loan (available only from the PPIC)

The Competitive Edge is designed to acquaint employees with the industrial auditing process. The video explains the six steps of an audit in clear and simple terms. The video can be shown for general information or as a training tool to be used with OWMC's *Industrial Waste Audit and Reduction Manual* (see Section 1, Pollution Prevention Instruction Manuals).

HAZARDOUS WASTE REDUCTION: ITS YOUR BUSINESS

(8 min.)

Denise Christensen

Washington Department of Ecology, 1987

WRRLC

Mail Stop 7600

Olympia, Washington 98504-7600

206-438-7585

Cost: Free loan

HAZARDOUS WASTE REDUCTION OPTIONS FOR OREGON BUSINESS

(8:40 min)

Oregon Department of Environmental Quality, 1988

Hazardous Waste Reduction Program

811 S.W. Sixth, Portland, Oregon 97204-1390

503-229-5913

Available through the PPIC

Cost: Free Loan

This video describes how businesses can reduce or eliminate disposal costs and liability through pollution prevention. Case studies of two large companies (an electronics manufacturer and a silicon wafer manufacturer) and two small companies (a metal plater and an automotive repair shop) illustrate various pollution prevention strategies, including process

redesign, better management practices, chemical substitution, and onsite recycling. Although this video was intended for Oregon businesses, the concepts are applicable to industry in any location.

IN PARTNERSHIP WITH EARTH: THE FUTURE OF THE ENVIRONMENT

(1 hour)

U.S. EPA, Office of Pollution Prevention, 1990

401 M St., S.W. (PM-219)

Washington, D.C. 20460

202-245-3557

Available through the PPIC

Cost: Free Loan

In Partnership with Earth is a collaborative effort by industry, environmental groups, and the EPA. It describes the emerging effort to change our emphasis from pollution control to pollution prevention. The video shows how such companies as 3M, General Motors, General Electric, and McDonald's, as well as private citizens, are making this change happen. Also included on the tape is a series of public service announcements with John Denver on pollution prevention. The video includes segments on agriculture, EPA Administrator Bill Reilly, and community recycling.

LESS IS MORE: POLLUTION PREVENTION IS GOOD BUSINESS

(23:13 min.)

U.S. EPA, Office of Solid Waste, 1990

401 M Street, S.W.

Washington, D.C. 20460

202-382-4807

Available through the PPIC

Cost: Free Loan

Less Is More highlights industry success stories proving that pollution prevention is the best alternative to costly end-of-the-pipe waste management strategies, such as treatment and disposal. The success stories draw from the experiences of both large and small industries, which include electroplating, ink manufacturing, metal parts manufacturing, pesticide formulating, and polyethylene producing concerns. The video describes three needs essential to successful pollution prevention programs: top-down corporate commitment to lead the way, employee involvement, and procedures to track costs and potential liabilities. *Less Is More* demonstrates that with regard to pollution

prevention, company innovation — not regulation — is the key to cost savings, better worker health, and a cleaner environment. Preventing industrial waste generation is a “win-win” situation in which government and industry can work as partners for a safer, cleaner world.

CONN TAP AND ACTION CIRCUITS: A CASE STUDY OF WASTE MINIMIZATION

(11:40 min.)

Connecticut Technical Assistance Program (ConnTAP), 1991
900 Asylum Avenue
Suite 360
Hartford, Connecticut 06105-1904
203-241-0777
Cost: \$10 purchase (available only from the producer)
Fee loan (available only from the PPIC)

This video describes how a small to medium-sized printed circuit board manufacturing facility, with the assistance of a grant from ConnTAP, implemented a variety of source reduction methods and recovery/reuse techniques to reduce wastewater and hazardous waste generation by approximately 90 percent. The techniques used included material substitution, process equipment modification, improved rinsing efficiency, waste stream segregation, point source treatment, and metal recovery using various technologies. The video also describes ConnTAP's services.

MANAGEMENT TRAINING IN POLLUTION PREVENTION AND CONTROL IN THE METAL FINISHING INDUSTRY

Environment Canada, 1991
Canadian Water and Wastewater Association
24 Clarence Street, 3rd Floor
Ottawa, Ontario, Canada K1N 5P3
613-238-5692
Cost: \$225 purchase (available only from the producer)
Fee loan (available only from the PPIC)

This new course for the metal finishing industry has been designed to assist managers, supervisors, and foremen, as well as owners/operators of smaller facilities, in gaining a better understanding of pollution prevention and control at their plants. The materials in this course — four videotapes, a two-volume student workbook, and an Administration Guide — can be presented to a group of 15 to 20 students in approximately 18 hours.

The objectives of the program are to highlight the increasingly critical environmental and regulatory requirements for pollution control, to emphasize and explain the importance of training staff in pollution control and prevention techniques, to discuss the economics and cost benefits of pollution control and treatment techniques, to describe a means for assessing and planning for pollution prevention, and to address waste control methods and approaches to wastewater treatment in metal finishing plants.

The course is organized into eight sections:

- Part 1: *Requirements for Pollution Prevention* is designed to motivate the student and to identify the problems, economic and regulatory requirements, and management responsibilities associated with pollution prevention (home study).
- Part 2: *Regulations and Guideline Requirements* covers Canadian Federal, provincial, and municipal regulations, guidelines, and bylaws that concern the metal finishing industry (home study).
- Part 3: *Waste Generation, Pollution Prevention and Your Pocketbook* examines the economic arguments for pollution prevention and control (home study).
- Part 4: *Pollution Sources* describes the industrial processes used in the metal finishing industry, as well as the types of pollutants generated by each process (video and workbook).
- Part 5: *Planning for Pollution Control* demonstrates the procedures for a plant assessment, including mass balance, sampling, analysis, and flow measurement (video and workbook).
- Part 6: *In Plant Control for Pollution Prevention* covers waste reduction, water conservation or recycling, and in-plant modifications. Included are sections on good housekeeping, segregation, substitution, dumps and leaks, water use, factors affecting drag-out and drainage, rinsing efficiency, reclamation, regeneration, recovery, and reuse (video and workbook).
- Part 7: *Methods of Wastewater Treatment* describes conventional wastewater treatment systems (video and workbook).
- Part 8: *Evaluating Costs of Wastewater Treatment* provides costs for typical treatment processes and goes through a detailed cost analysis for a typical plant (home study).

MISSION IMPOSSIBLE: INTRODUCTION TO THE POLLUTION PREVENTION INFORMATION CLEARINGHOUSE

(48 min.)

Pollution Prevention Information Clearinghouse (PPIC), 1989
7600-A Leesburg Pike
Falls Church, Virginia 22043
703-821-4800
Available through the PPIC
Cost: Free Loan

Mission Impossible describes in detail the purpose, structure, and activities of the PPIC, a U.S. EPA clearinghouse dedicated to promoting source reduction and recycling through information exchange and technology transfer. The video includes an overview of clearinghouse components and a training session on how to access and use the Electronic Information Exchange System (for more information about the PPIC, see Section 7, Pollution Prevention Clearinghouses and Associations).

MONEY DOWN THE DRAIN

(18:10 min.)

Ontario Waste Management Corporation, 1989
2 Bloor Street West, 11th Floor
Toronto, Ontario, Canada M4W3E2
416-923-2918
Cost: \$24 purchase (available only from the producer)
Free loan (available only from the PPIC)

Businesses looking for alternatives to costly offsite treatment and disposal can benefit from the experience of other businesses. In *Money Down The Drain*, five Ontario manufacturers tell how they applied reduction, reuse, recycling, and recovery to their liquid industrial and hazardous wastes, leading to impressive cost savings. This video is suitable for in-plant use and for more general audiences with an interest in industrial waste reduction.

NEGAWATTS – A GOLDMINE OF OPPORTUNITY

(20 min.)

and

TRANSPORTATION 2000 – MOVING BEYOND AUTO AMERICA

(30 min.)

U.S. EPA Region VIII and Rocky Mountain Institute, 1991
Rocky Mountain Institute
1739 Snowmass Creek Road
Snowmass, Colorado 81654-9199
303-927-3851

Cost: Negawatts \$20 purchase (available only from the producer)
Transportation 2000 \$30 purchase (available only from the producer)
Free loan (available only from the PPIC)

These two videos are usable as general introductions to their respective environmental sectors.

Negawatts describes how corporations can join in the energy-efficiency revolution yielding economic and environmental benefits throughout the world. Aggressive energy efficiency programs are enabling many leading corporations to improve bottom-line performance while meeting customer demands for greater corporate responsibility. Energy efficient devices can generate electric savings (negawatts) to displace the output of up to 500 typical power plants. As an added benefit, these technologies prevent pollution by wringing more work out of each unit of energy. Energy efficiency also creates jobs and reduces dependence on foreign oil.

Transportation 2000 discusses different technologies for producing more efficient automobiles.

PAINT STRIPPING WITHOUT SOLVENTS

(45 min.)

Sylvia Gordon
WRATT Case Studies
University of Tennessee, 1991
Center for Telecommunications and Video
Suite 61, 1345 Circle Park Drive
Knoxville, Tennessee 37996-0312
615-974-1313

Cost: \$35 purchase (available only from the producer)
Free loan (available only from the PPIC)

This video presents alternative methods being used by the Air Force to strip paint without using solvents. Mikle Haas from the San Antonio Air Logistics Center describes the use of a bicarbonate soda (baking soda) stripping system. John Carey of Tinker Air Force Base talks about CO₂ blast paint stripping.

POLLUTION PREVENTION: THE BOTTOM LINE
(24 min.)
and
**POLLUTION PREVENTION: REDUCING WASTE
IN THE WORKPLACE**
(24 min.)

Coastal Video Communications Corporation
3083 Brickhouse Court
Virginia Beach, Virginia 23452
800-767-7703
Cost: *The Bottom Line*
\$295 purchase for business/industry (available only from the producer)
\$195 purchase for schools, municipalities, and most nonprofits (available only from the producer)
Reducing Waste in the Workplace
\$495 purchase (available only from the producer)
Free loan for both (available only from the PPIC)

This series, produced in association with the Environmental Protection Agency, leads managers, supervisors, and workers through the complexity of terms and practices associated with pollution prevention. *The Bottom Line* includes interviews with officials of major international corporations, such as Dow, DuPont, and Chevron, regarding methods of waste prevention. Many corporate examples help demonstrate waste prevention principles at work in the marketplace. The program deals with environmental legislation, cost motivation, and the identification and implementation of pollution prevention techniques. Partially funded by Citibank, the video has received the endorsement of the United Nations Environment Program. *Reducing Waste in the Workplace* deals with material handling and inventory control, equipment operation and scheduling, cleaning and maintenance, and waste collection and management.

**THE POWER TO PROTECT: THREE STORIES
ABOUT GROUNDWATER**
(30 min.)

Massachusetts Audubon Society, 1991
Education Department
South Great Road
Lincoln, Ma 01773
800-677-9453
Cost: \$25 (\$10 to rent)

This video explores the complex groundwater issues in your community and uses real-life examples to

demonstrate how your community can protect one of its most valuable resources: water. The video covers a wide range of issues from pesticide contamination and hazardous waste management to septic and wastewater treatment systems, and from the concerns of rural communities to the problems facing large towns with industrial and commercial development. In addition, the case studies provide useful and realistic techniques for managing groundwater concerns. A workbook accompanies this video which will provide step by step guidance in developing a groundwater protection plan for your community. The workbook also includes a directory and resource guide tailored to your state.

**RINSING PROCESS MODIFICATIONS FOR
METAL FINISHERS**
(30 min.)

U.S. EPA Region IX, Terrence Foecke and Peer Consultants
Release date to be announced
Attention: Ben Machol
Library
U.S. EPA Region IX
75 Hawthorne St., 13th Floor
San Francisco, CA 94105
415-744-1941
Available through the PPIC after release date
Cost: Free

The basis of this video is footage from a November 1989 workshop sponsored by Santa Clara County on waste reduction practices for metal finishers and electroplaters. Focused on small quantity generators, it summarizes the success stories of selected metal finishers.

SMART MOVES
(21:26 min.)

Chevron Corporation, 1991
Attention: Jennifer Snyder
Corporate Communications Division, Public Affairs
225 Bush Street
San Francisco, California 94104
415-894-3145
Available through the PPIC
Cost: Free Loan

This video describes Chevron's successful waste reduction program, entitled "Save Money and Reduce Toxics."

TURNING THE TIDE: KEEPING POLLUTION AT BAY

(31 min.)

New England Interstate Environmental Training Center, 1991
2 Fort Road
South Portland, Maine 04106
207-767-2539
Cost: \$25 (\$10 to rent)

The New England Office of EPA has just released this documentary program about coastal protection. This 30-minute video explores the non-point source pollution problems of Buzzards Bay, Massachusetts, and the work of individuals, and local and regional governments in restoring and protecting the water of the Bay. The program is intended to educate and motivate citizens, organizations and elected officials in all coastal areas whose day-to-day decisions impact the quality of our precious coastal resources.

THE 33/50 PROGRAM (INDUSTRIAL TOXICS PROJECT)

(7 min.)

U.S. EPA, Office of Pollution Prevention and Toxics, 1991
401 M Street, S.W.
Washington, D.C. 20460
202-260-1761
Available through the PPIC
Cost: Free loan

This video presents EPA's new 33/50 Program, formerly known as the Industrial Toxics Project. EPA Administrator William Reilly invites industry to participate in this voluntary program to reduce toxic pollutants.

3M'S POLLUTION PREVENTION PAYS PROGRAM

(9 min.)

and

CHALLENGE TO INNOVATION

(8:30 min.)

3M Corporation, 1984, 1987
Environmental Engineering and Pollution Control
Building 2-3E-OA, Box 33331
St. Paul, Minnesota 55133
612-778-4791
Available through the PPIC
Cost: Free Loan

The first video highlights the achievements and strategy of 3M's highly successful, corporate-wide pollution prevention program, which is based on source reduction and the reclamation and reuse of process waste. *Challenge to Innovation* is intended to encourage formulating chemists and other key players in 3M laboratories to eliminate or reduce waste in products.

USING SOLVENTS WISELY

(65 min.)

Sylvia Gordon
WRATT Case Studies
University of Tennessee, 1991
Center for Telecommunications and Video
Suite 62, 1345 Circle Park Drive
Knoxville, Tennessee 37996-0312
615-974-1313
Cost: \$45 purchase (available only from the producers)
Free loan (available only from the PPIC)

Three speakers discuss various ways to use solvents in an environmentally friendly manner. Jim Mertons of Dow Chemical describes how to reduce solvent emissions in degreasing operations. Bob Carter of the Waste Reduction Resource Center for the Southeast speaks on HCFCs. Lisa Thompson from the DOE facility at Oak Ridge, TN, presents a study comparing different cleaning materials, including solvents, terpenes, and ultrasonic cleaning.

WASTE MINIMIZATION TRAINING MODULES

California Department of Toxic Substances Control, 1991
Attention: Pat Lopez
Alternative Technology Division
P.O. Box 806
Sacramento, CA 95812-0806
916-322-3670 or 324-1807
Cost: \$15 purchase (available only from the producer)
Free loan (available only from the PPIC)

This video consists of three sections that correspond to two of the "Waste Minimization Training Modules" listed in Section 1, *Pollution Prevention Documents*.

Section 1 (Corresponds to Module 1) Waste Minimization: An Introduction

Provides an introduction to waste minimization and source reduction terms and strategies for regulatory inspectors and businesses.

Section 2 (Corresponds to Module III) - Waste Minimization in the Metal Finishing Industry

An overview of how to plan, arrange, and conduct a waste minimization assessment of a local business.

Section 3 (Corresponds to Module III) Waste Minimization in the Metal Finishing Industry

Provides inspectors with an excellent overview of the processes involved in metal cleansing, metal finishing and printed circuit board manufacturing, and the potential for waste minimization within each of these activities.

WASTE NOT

(35 min.)

Umbrella Films, 1988
60 Blake Road, Brookline, Massachusetts 02146
617-277-6639
Cost: \$350

In a series of company profiles, *Waste Not* examines activities and programs within industry that have been designed to reduce or eliminate the generation of hazardous waste at the source. Company spokespersons describe how reducing waste has helped them lower costs and liabilities. Profiles include small, medium, and large manufacturers of electroplated, rubber, and photographic products. Although basically nontechnical, the tape includes an overview of waste reduction methods and emphasizes the need to relate waste reduction to manufacturing in terms of processes, costs, and design.

WASTE NOT...WANT NOT

(15 min.)

U.S. EPA Region IV, 1989
345 Courtland Street, N.E.
Atlanta, Georgia 30365
404-347-7109
Available through the PPIC
Cost: Free Loan

Overconsumption, consumer preference for disposable products, and an "out of sight, out of mind" mentality among the public have led to the Nation's current municipal solid waste crisis. The U.S. generates 160 million tons of this waste each year. This amount, compounded by shrinking landfill space and the "not in my backyard" syndrome, leaves few waste management options. *Waste Not...Want Not* offers EPA's solution: a waste management hierarchy led by

source reduction and recycling. The video stresses that government, industry, and the public must work cooperatively if the national waste reduction goal of 25 percent by 1992 is to be met. Industry leadership in preventing pollution is illustrated in highlights of 3M's Pollution Prevention Pays Program.

WASTE REDUCTION ASSESSMENT OPPORTUNITIES

(32 min.)

Tennessee Valley Authority, University of Tennessee-CIS
University of North Carolina Asheville-EQI, 1989
Attention: Carroll Duggan
Waste Technology Program • 2F 71B Old City Hall Building
Knoxville, Tennessee 37902
615-632-3160
Cost: \$25

This video summarizes the multimedia waste reduction assessment procedure and its application at several Tennessee businesses. The film uses footage shot during the Waste Reduction Assessment and Technology Transfer (WRATT) course provided by the Tennessee Valley Authority and the University of Tennessee Center for Industrial Services for retired engineers and scientists during March 1989.

WASTE REDUCTION ASSESSMENT AND TECHNOLOGY TRANSFER TELECONFERENCE

(15 hours)

Sylvia Gordon
WRATT Case Studies
University of Tennessee, 1990
Center for Telecommunications and Video
Suite 61, 1345 Circle Park Drive
Knoxville, Tennessee 37996-0312
615-974-1313
Cost: Entire teleconference \$395; individual videos \$29-\$39
(purchase available only from the producer)
Free loan (available only from the PPIC)

The training materials for this teleconference were designed to give industry and State waste reduction program and regulatory personnel practical information on how to approach and implement a multimedia waste reduction program. The teleconference addresses the need to train both industrial and regulatory personnel. A portion of the teleconference addresses the national strategy for pollution prevention, strengthening State waste reduction programs and opportunities for local governments to promote

pollution prevention. Another portion of the teleconference outlines the incentives for industry to implement waste reduction plans with successful company case studies. These eight case studies detail how the companies determined waste reduction options and implemented the methods and techniques identified. Finally, the teleconference covers waste reduction assessment procedures that motivate people to search, screen, and put into practice measures that result in decreased waste generation. Different sessions of the teleconference can be used as stand-alone training courses. The teleconference's training materials are on the cutting edge of identified waste reduction needs for industry and State programs.

The following videos were developed from the teleconference as individual subjects. To order the entire teleconference or individual videotapes, please contact the University of Tennessee — Center for Telecommunications and Video.

30708 Arcata Graphics (14:16 min.)

Large Printing Operation: Better Operating and Paper Segregation Procedures/Employee Training/Ink Recycling with Mill
Presented by Joe Buba, Director of Safety and Environment, Arcata Graphics/Baird Ward, Nashville, Tennessee

30708 Circuit Sciences (7:12 min.)

Printed Circuit Board Manufacturing: Doug Campbell, President, Circuit Sciences. Rinse water reuse is demonstrated with water savings of 25 percent from repiping rinse tanks. Savings of 15 percent in raw material usage is a result of better analytical procedures for plating baths.

30708 Materials Change (8:20 min.)

Discussion by Cam Metcalf, CIS Waste Reduction Engineer, on issues relevant to raw material changes or substitutions. Good examples of successful substitutions are found in TRW and CLEO Wrap Case Studies.

30708 CLEO Wrap (25:07 min.)

Printing Operation Material Change: Solvent-Based Inks to Water-Based Inks: Walter Langford, Executive Vice President and General Manager, Cleo Wrap, Memphis, Tennessee.

30710 Metal Working Fluids (25:08 min.)

Waste Reduction Management for Metal Working Fluids Case Study: Tim Lafever, Manufacturing Supervisor, the Duriron Company, Inc., Cookeville, TN. Also included are two videotapes on proper mixing and annual cleaning programs for coolants.

30709 TRW (18:10 min.)

Tennessee Governor's Award Winner for Waste Reduction (1988), presented by Frank Hartman, Environmental Coordinator, TRW Ross Gear Division, Greenville, TN. Case study of replacing a TCE degreaser with an ultrasonic, alkaline degreasing unit.

30707 EPA/ORD (23:18 min.)

Harry Freeman, EPA, ORD, Cincinnati, OH. A description of EPA's Pollution Prevention Branch research activities.

30709 Fun Factory (29:04 min.)

Fun Factory Training Demonstration: Hands-on Training Procedure using CIS/TVA-Trained Retirees. Using a mock industrial process, this tape is designed to involve management and employees in communicating better about waste reduction.

30710 Waste Reduction Assessment Procedures (32:24 min.)

Panel Discussion: CIS Staff and CIS/TVA-Trained Retirees. Discussion of waste reduction assessment field experience pertaining to collecting data and setting up a waste reduction program.

TVA/CIS #1 Waste Reduction Plan—A Program in Place (30:00 min.)

Generators of hazardous waste can benefit from activities designed to reduce hazardous waste by implementing a systematic plan to accomplish waste reduction goals. This videotape presents incentives for reducing wastes and the elements of a waste reduction program. The new Tennessee Waste Reduction Act is discussed.

TVA/CIS #2 Waste Reduction Plan — Assessment and Employee Involvement (30:30 min.)

Employees of hazardous waste generators often have unique insights into solving waste reduction problems. To reduce wastes successfully, in-house assessment teams should be formed with all levels of employees as members. This program describes a logical sequence of events to complete a waste reduction assessment.

WHY WASTE? WASTE MINIMIZATION FOR TODAY'S BUSINESSES (28 min)

California Department of Toxic Substances Control,
1990

Attention: Kathy Barwick
Alternative Technology Division
Technology Clearinghouse Unit
P.O. Box 806

Sacramento, California 95812-0806
916-324-1807

Cost: \$15 Purchase (only available from the producer)
Free Loan (only available from the PPIC)

Why Waste? Waste Minimization for Today's Businesses defines waste minimization and illustrates waste reduction successes in several different types of businesses. Source reduction and recycling case studies illustrate the environmental and economic benefits of implementing waste minimization programs. This video will be useful for training sessions and seminars focusing on innovative ways for reducing hazardous waste.

THE 1990 WRAP AWARDS (8:36 min.)

Dow Chemical, 1990
Attn: Dan Fellner, Environmental Communications
2020 Dow Center
Midland, Michigan 48674
517-636-5765
Available through the PPIC
Cost: Free Loan

This video presents a brief overview of Dow Chemical's 1988 Waste Reduction Always Pays (WRAP) awards, which are presented to Dow divisions that demonstrate innovative pollution prevention programs. The video identifies employee initiative, team effort, and a waste reduction mentality as essential ingredients in preventing the generation of industrial wastes. The winners include divisions producing chloralkalai, styron, herbicide, chlorine, agricultural chemicals, and hydrochloric acid.

WRATT II TELECONFERENCE — SOLVENTS: THE GOOD, THE BAD, AND THE BANNED (6 hrs.)

Sylvia Gordon
WRATT Case Studies
University of Tennessee, 1991
Center for Telecommunications and Video
Suite 61, 1345 Circle Park Drive
Knoxville, Tennessee 37996-0312
615-974-1313

Cost: \$250 purchase (available only from the producer)
Free loan (available only from the PPIC)

This set of videos contains the complete WRATT teleconference broadcast on March 13, 1991. Included are presentations and case studies that examine ways to reduce solvent usage in industrial applications. Additional presentations discuss the 1990 Clean Air Act and other legal ramifications with using solvents.

WRATT III TELECONFERENCE - IN LIVING COLOR: PAINTING CHALLENGES FOR THE 90'S (5 hrs.)

Sylvia Gordon
WRATT Case Studies
University of Tennessee, 1991
Center for Telecommunications and Video
Suite 61, 1345 Circle Park Drive
Knoxville, Tennessee 37996-0312
615-974-1313

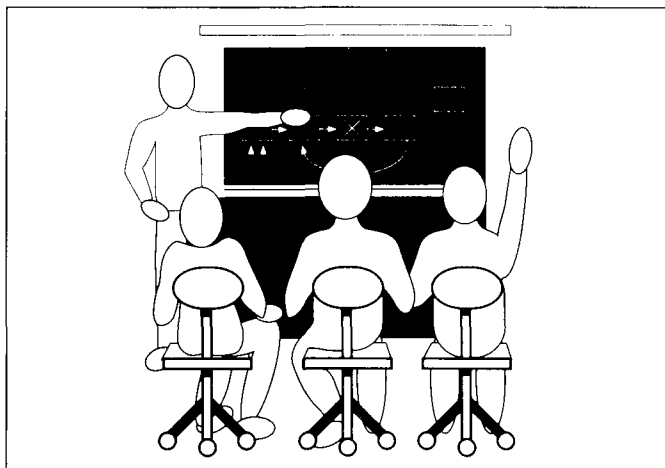
Cost: \$350 purchase (available only from the producer)
Free loan (available only from the PPIC)

This video set comprises the complete teleconference on painting techniques that reduce waste generation, with specific attention given to alternative painting technologies and material substitutions.

3

Section 3 State Pollution Prevention Programs

This section provides information on pollution prevention opportunities made available through State programs. In addition to grants, technical assistance, information transfer, awards, and many other integral components of State programs, many States offer training courses either directly or through extension services and academic centers. While publicly sponsored training courses, seminars, and workshops are held throughout the Nation each year, many are not well publicized. While this section contains information on training offered by universities and colleges under collaboration with State agencies, more extensive information on pollution prevention research and public assistance at academic centers can be found in Section 4. For further information about a particular program in this section, contact the sponsoring organization, or access the State program data base on PIES (see section 7).



ALABAMA



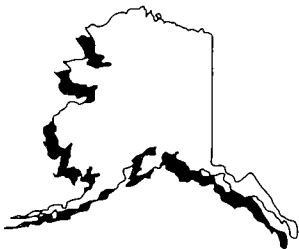
ALABAMA WASTE REDUCTION AND TECHNOLOGY TRANSFER (WRATT) PROGRAM

Key Program Elements

- Waste reduction assessments for industry conducted by retired engineers and scientists
- Speakers Bureau, run by the Waste Minimization Advisory Committee, of which the Department of Environmental Management is a member
- Waste reduction assessor training provided to three States; assisted a fourth State in total program development and implementation
- Workshops and conferences for businesses on pollution prevention; offered through the Auburn University Extension Service In cooperation with the Alabama Business Council

Contact: Daniel E. Cooper, Chief
Special Projects
Alabama Department of Environmental Management
1751 Congressman William L. Dickinson Drive
Montgomery, Alabama 36130
205-271-7939

ALASKA



POLLUTION PREVENTION OFFICE

Key Program Elements

- Waste reduction workshops and onsite assessments for local communities and community organizations and for individual businesses (many workshops are industry-specific for businesses that express an interest in the pollution prevention program)
- Municipal Pollution Prevention Roundtable, which meets quarterly and provides pollution prevention training to local governments
- Information clearinghouse, resource library, hotline, newsletter
- Waste reduction matching grants

Contact: David Wigglesworth, Chief
Pollution Prevention Office
Alaska Department of Environmental Conservation
P.O. Box O
Juneau, Alaska 99811-1800
907-465-5275

WASTE REDUCTION ASSISTANCE PROGRAM (WRAP)

Key Program Elements

- Onsite consultation audits for small quantity generators
- Assistance to small quantity generators in complying with State hazardous waste regulations
- Support of a graduate engineering student intern program
- Hotline, newsletter, publications and guides, curriculum, speakers

Contact: Kristine Benson
Alaska Health Project
1818 West Northern Lights Boulevard
Suite 103
Anchorage, Alaska 99517
907-276-2864

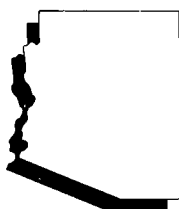
SMALL BUSINESS HAZARDOUS MATERIAL MANAGEMENT PROJECT (HMMP)

Key Program Elements

- Seminars conducted in cooperation with the Small Business Development Center
- A 12-hour Community Hazardous Materials Evaluation training program
- Published guides for small businesses and local communities on hazardous waste reduction and management

Contact: Kristine Benson
(see above)

ARIZONA



ARIZONA WASTE MINIMIZATION PROGRAM

Key Program Elements

- Data base operation
- Dissemination of waste minimization information to the public and industries
- Assistance to industry through the use of a clearinghouse
- Program monitoring through research and studies
- Sponsorship of waste minimization seminars and teleconferences in cooperation with universities

Contacts: Stephanie Wilson
Dr. J. Andy Soesilo
Arizona Waste Minimization Program
Arizona Department of Environmental Quality
2005 North Central Avenue
Phoenix, Arizona 85004
602-257-2318/6995

ARKANSAS



ARKANSAS POLLUTION PREVENTION PROGRAM

Key Program Elements

- Technical assistance to small and medium-sized businesses and institutions on pollution prevention
- Seminars on hazardous waste minimization for small quantity generators
- Locally produced film series of network quality addressing environmental concerns and pollution prevention techniques and benefits for household wastes, agricultural wastes, and wastes from 18 targeted industries

- Manufacturers' exchange (sponsored by Arkansas Industrial Development Commission)
- Participation in Industrial Materials Exchange Service (Illinois-based)

Contact: Robert J. Finn
Hazardous Waste Division
Arkansas Department of Pollution Prevention and Ecology
P.O. Box 8913
Little Rock, Arkansas 72219-8913
501-570-2861

BIOMASS RESOURCE RECOVERY PROGRAM

Key Program Elements

- Technical assistance to targeted industries
- Information clearinghouse
- Waste audits
- Manufacturers' exchange (sponsored by Arkansas Industrial Development Commission)
- Participation in Industrial Materials Exchange Service

Contact: Ed Davis
Arkansas Energy Office
One State Capital Mall
Little Rock, Arkansas 72201
501-682-7322

CALIFORNIA



DEPARTMENT OF TOXIC SUBSTANCES CONTROL

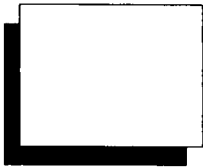
Key Program Elements

- Incinerable Waste Minimization Project involving pollution prevention in State's top generators of incinerable waste
- Waste stream-specific studies of hazardous waste to identify waste minimization opportunities
- Hazardous waste reduction grant program and industry specific audit studies
- Research development and demonstration programs to promote waste minimization, recycling, and treatment technologies for California's hazardous waste generating industries
- Evaluation of technologies for minimizing hazardous waste generation, under EPA's Waste Reduction Innovative Technology Evaluation (WRITE) project
- Hazardous Waste Technology, Research, Development, and Demonstration Program being developed to provide grants to local governments
- California Waste Exchange — Newsletter/Catalog
- Directory of Industry Recycling
- Hazardous Waste Recycling Report
- Small business loans and grants
- Technology clearinghouse and transfer, and technical reference library

Contact: Mr. Kim Wilhelm
Department of Toxic Substances Control
Alternative Technology Division
400 P Street
P.O. Box 806
Sacramento, California 95812-0806
916-324-1807

Other Contacts: Tony Eulo
Local Government Commission
909 12th Street
Suite 205
Sacramento, California 95814
916-448-1198

COLORADO



POLLUTION PREVENTION AND WASTE REDUCTION PROGRAM

Key Program Elements

- Policy development through incorporating pollution prevention into regulatory programs, such as permitting and enforcement
- Technical assistance program with information center and onsite assistance
- Sponsorship of workshops
- Information clearinghouse and technical library
- Speakers Bureau

Contact: Neil Kolwey
Colorado Department of Health
4210 East 11th Avenue
Denver, Colorado 80220
303-331-4830

Other Contacts: Michael Nemecek
Colorado Public Interest Research Group (COPIRG)
1724 Gilpin Street
Denver, Colorado 80218
303-355-1861

CONNECTICUT



CONNECTICUT TECHNICAL ASSISTANCE PROGRAM (CONNTAP)

Key Program Elements

- Technical Assistance
 - Information and referral hotline
 - Resource center
 - Site visits
- Financial Assistance
 - Matching Challenge Grant Program
 - Loans
- Research
- Sponsorship of conferences and workshops

Contact: Rita Lomasney
Connecticut Technical Assistance Program (ConnTAP)
Connecticut Hazardous Waste Management Service
900 Asylum Avenue
Suite 360
Hartford, Connecticut 06105-1904
203-241-0777

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION

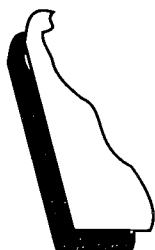
Key Program Elements

- Conferences and workshops
- Training
- Information dissemination
- Development of improved management practices for hazardous waste

Contacts: Mr. Carmine Di Battista, Director
Planning and Standards
Waste Management Bureau
Connecticut Department of Environmental Protection
165 Capitol Avenue
Hartford, Connecticut 06106
203-566-3437

Elizabeth Flores, Assistant Director
Waste Engineering and Enforcement Division
Waste Management Bureau
Connecticut Department of Environmental Protection
165 Capitol Avenue
Hartford, Connecticut 06106
203-566-8843

DELAWARE



DELAWARE POLLUTION PREVENTION PROGRAM

Key Program Elements

- Onsite technical assistance through the University of Delaware
- Industry-specific pollution prevention guides
- Waste reduction self-evaluation manual for manufacturers
- Information clearinghouse located in the Delaware Development Office
- Industry and public workshops and talks
- Pollution prevention curriculum distributed to grades K-8
- Voluntary TRI emissions reduction initiative
- Pollution Prevention Industry Roundtable
- Sponsorship of the Northeast Industrial Waste Exchange
- Development of multimedia permitting and compliance program
- Usable By-products Advisory Group
- Green Industries Initiative (financing, tax credit, and regulatory assistance program)

Contacts: Philip J. Cherry
Andrea K. Farrell
Pollution Prevention Program
Department of Natural Resources and Environmental Control
P.O. Box 1401
Kings Highway
Dover, Delaware 19903
302-739-5071/3822

Other Contacts: Herb Allen
Department of Civil Engineering
University of Delaware
Newark, Delaware 19716
302-451-8522/8449

DISTRICT OF COLUMBIA

OFFICE OF RECYCLING

Key Program Elements

- Curbside recycling
- Newsletter
- Technical assistance to haulers, commercial property owners, and city government

Contact: Hampton Cross, Acting Recycling Coordinator
Office of Recycling
D.C. Department of Public Works
65 K Street, Lower Level
Washington, D.C. 20002
202-939-7116

FLORIDA



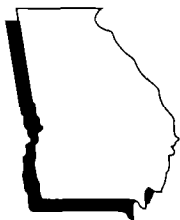
WASTE REDUCTION ASSISTANCE PROGRAM (WRAP)

Key Program Elements

- Computerized waste reduction information clearinghouse
- Onsite technical assistance
- Development of waste reduction training curricula
- Technology transfer
- Identification of research priorities
- Industry-specific workshops
- Training of local government/inspectors and retired engineers to provide waste reduction information to businesses
- Bulletin board — Florida Recyclables Marketing System

Contact: Janeth A. Campbell
Waste Reduction Assistance Program
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
904-488-0300

GEORGIA



GEORGIA MULTIMEDIA SOURCE REDUCTION AND RECYCLING PROGRAM

Key Program Elements

- Cross-media regulatory program analysis
- Training for Georgia Environmental Protection Division regulatory compliance officers and the regulated community
- Extended technical assistance

Contact: Susan Hendricks, Environmental Specialist
Environmental Protection Division
Georgia Department of Natural Resources
Floyd Tower East, Suite 1154
205 Butler Street, S.E.
Atlanta, Georgia 30334
404-656-2833

HAWAII



HAZARDOUS WASTE MINIMIZATION PROGRAM

Key Program Elements

- Educational programs targeting small and conditionally exempt small quantity generators of hazardous wastes
- Clearinghouse of information for local businesses
- Publish quarterly newsletter
- Booklet on resources for proper hazardous waste management, including local haulers and recyclers
- Workshops on hazardous waste reduction techniques and onsite audits of hazardous waste management and reduction

Contact: Jane Dewell
Waste Minimization Coordinator
State of Hawaii Department of Health
Solid and Hazardous Waste Branch
Five Waterfront Plaza, Suite 250
500 Ala Moana Boulevard
Honolulu, Hawaii 96813
808-586-4226

IDAHO



DIVISION OF ENVIRONMENTAL QUALITY

Key Program Elements

- State Training Action Plan
 - Provision of a 5-year framework for developing and implementing training and technical assistance activities associated with hazardous waste regulation
 - Compilation and distribution of information in the form of guidebooks for five specific industries
 - Presentation of workshops for specific industries
- Participation in the Pacific Northwest Hazardous Waste Advisory Council that encouraged:

Creation of the Northwest Regional Roundtable for Pollution Prevention
Development of a Pacific Northwest Memorandum of Understanding
Establishment of the Pacific Northwest Pollution Prevention Research
Center

Contacts: Joy Palmer
Katie Sewell
Division of Environmental Quality
Idaho Department of Health and Welfare
1410 North Hilton Street
Boise, Idaho 83720-9000
208-334-5879

ILLINOIS



ILLINOIS HAZARDOUS WASTE RESEARCH AND INFORMATION CENTER (HWRIC)

Key Program Elements

- Help to corporate environmental managers coordinating internal and company-wide pollution prevention plans
- Presentation of pollution prevention workshops at the request of community groups, associations, and state agencies.
- Presentation of short- and long-term pollution prevention training for the Illinois Department of Transportation
- Presentation of introductory workshops for trade groups to encourage pollution prevention and publicize information sources
- Presentation of a yearly, 1-day conference for companies in the State, including presentations by companies that have made pollution prevention planning progress (contact Mike Hayes for information); offered in cooperation with the Illinois Environmental Protection Agency, HWRIC
- Waste Reduction Advisory System (WRAS), a computerized data base of pollution prevention case studies and literature

Contact: Dr. David Thomas, Director
Illinois Hazardous Waste Research and Information Center
One East Hazelwood Drive
Champaign, Illinois 61820
217-333-8940

OFFICE OF POLLUTION PREVENTION

Key Program Elements

- Voluntary Toxic Pollution Prevention Innovation Plan Program
Support to industry's pollution prevention efforts on approval from the innovation plan, as outlined in the Toxic Pollution Prevention Act, through expediting review of permit applications and supporting variance petitions
- IEPA Pollution Prevention Internship Program
Match of engineer interns with Illinois industry on pollution prevention projects
Training and provision of technical support to the interns
Help to determine pollution prevention goals for the targeted industry

- Illinois Industrial Materials Exchange Services (IMES)
Maintenance of an information clearinghouse and a directory
Facilitation of a market for hazardous and nonhazardous materials through waste exchange information and referral
Distribution of published materials to its subscribers

Contact: Mike Hayes
Illinois Environmental Protection Agency
Office of Pollution Prevention
2200 Churchill Road
P.O. Box 19276
Springfield, Illinois 62794-9276
217-785-0533

Other Contacts: Michael Nechvatal
Solid Waste Division Manager
Illinois Environmental Protection Agency
2200 Churchill Road
P.O. Box 19276
Springfield, Illinois 62794-9276
217-785-8604

INDIANA



OFFICE OF POLLUTION PREVENTION AND TECHNICAL ASSISTANCE

Key Program Elements

- Waste exchange catalog
- Waste minimization conferences
- Workshops that introduce pollution prevention concepts for a particular industry, present successful case studies for alternative technologies, and provide references of technical experts who can help institute pollution prevention practices
- Governor's award program
- Quarterly technical bulletin
- Pollution prevention opportunity assessments
- Technology transfer
- Information clearinghouse

Contacts: Joanne Joice, Director
Charles Sullivan, Environmental Manager
Office of Pollution Prevention and Technical Assistance
Indiana Department of Environmental Management
105 South Meridian Street
P.O. Box 6015
Indianapolis, Indiana 46225
317-232-8172

INDIANA POLLUTION PREVENTION PROGRAM

Key Program Elements

- Onsite technical assistance
- General and industry-specific conferences and workshops on pollution prevention and recycling

- Information on pollution prevention and recycling
- Pollution prevention research and information for agricultural industries
- Host of the 47th Annual Indiana Waste Conference at Purdue University in May 1992

Contacts: Rick Bossingham, Coordinator
 Jeff Burbrink, Agricultural Pollution Prevention Coordinator
 Environmental Management and Education Program
 2129 Civil Engineering Building
 Purdue University
 West Lafayette, Indiana 47907-1284

IOWA



IOWA WASTE REDUCTION CENTER (IWRC)

Key Program Elements

- Onsite waste assessment consultation for small businesses
- Waste Reduction Expert Access System (WREAS)
- Waste Reduction Initiative for Iowa Counties (WRIIC)
- General and industry-specific waste reduction workshops, conferences, and training courses. This year, the workshops will be for metal finishing and vehicle maintenance
- Waste exchange program
- Grant program
- Applied research on new and emerging waste reduction and recycling techniques

Contacts: John Konefes, Director
 Kim Gunderson, Environmental Specialist
 Iowa Waste Reduction Center
 University of Northern Iowa
 Cedar Falls, Iowa 50614-0185
 319-273-2079

WASTE MANAGEMENT AUTHORITY DIVISION

Key Program Elements

- Onsite waste reduction opportunity assessments
- Information clearinghouse
- Grant program
- Development of recycling markets
- Waste reduction workshop series

Contacts: Tom Blewett, Bureau Chief
 Scott Cahail, Environmental Specialist
 Waste Management Authority Division
 Department of Natural Resources
 Wallace State Office Building
 Des Moines, Iowa 50319
 515-281-8941

KANSAS



STATE TECHNICAL ACTION PLAN (STAP)

Key Program Elements

- Educational programs on hazardous waste minimization methods
- Alternative technology research for electroplaters
- Waste minimization newsletter, publications, and videotapes

Contact: Tom Gross, Bureau Chief
State Technical Action Plan
Kansas Department of Health and Environment
Forbes Field, Building 740
Topeka, Kansas 66620
913-296-1603

KANSAS STATE UNIVERSITY RITTA PROGRAM

Key Program Elements

- Onsite technical assistance
- Quarterly newsletter
- Industry-specific waste minimization workshops
- Coordination of the Hazardous Waste Regulatory Training Conferences with the Kansas Department of Health and Environment. The conferences include waste minimization, regulatory compliance, and technology transfer components

Contact: Lani Himegarner, Program Manager
Engineering Extension Programs
133 Ward Hall
Kansas State University
Manhattan, Kansas 66506-2508
913-532-6026

KENTUCKY



KENTUCKY PARTNERS — STATE WASTE REDUCTION CENTER

Key Program Elements

- Onsite waste reduction opportunity assessments
- Waste reduction seminars and workshops
- Pollution prevention information center
- Quarterly newsletter
- Coordination of a network of industrial consultants

Contact: Joyce St. Clair, Executive Director
Kentucky Partners — State Waste Reduction Center
Ernst Hall, Room 312
University of Louisville
Louisville, Kentucky 40292
502-588-7260

LOUISIANA



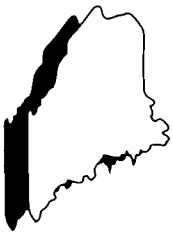
LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

Key Program Elements

- Information clearinghouse
- Grant program
- Waste reduction technology assessment of Louisiana industries
- Index of hazardous and toxic wastes
- Pollution prevention conferences and workshops

Contact: Gary Johnson, Waste Minimization Coordinator
Louisiana Department of Environmental Quality
P.O. Box 82263
Baton Rouge, Louisiana 70884-2263
504-765-0720

MAINE



BUREAU OF OIL AND HAZARDOUS MATERIALS CONTROL

Key Program Elements

- Generator training seminars
- Generator training booklet
- Small quantity generator waste directory

Contact: Scott Whittier, Director
Bureau of Oil and Hazardous Materials Control
Department of Environmental Protection
State House Station #17
Augusta, Maine 04333
207-289-2651

MARYLAND



OFFICE OF WASTE MINIMIZATION AND RECYCLING

Key Program Elements

- Information clearinghouse
- Technical assistance
- Waste audits

Contact: Harry Benson, Chief
Office of Waste Minimization and Recycling
Hazardous and Solid Waste Management Administration
Maryland Department of the Environment
2500 Broening Highway, Building 40
Baltimore, Maryland 21224
301-631-3315

MARYLAND ENVIRONMENTAL SERVICES

Key Program Elements

- Information outreach program
- Waste reduction advisory system

Contact: George G. Perdikakis, Director
Maryland Environmental Services
2020 Industrial Drive
Annapolis, Maryland 21401
301-974-7281

TECHNICAL EXTENSION SERVICE

Key Program Elements

- Technical assistance
- Waste audits
- Waste minimization workshops

Contact: Travis Walton, Director
Technical Extension Service
Engineering Research Center
University of Maryland
College Park, Maryland 20742
301-454-1941

MASSACHUSETTS



OFFICE OF TECHNICAL ASSISTANCE FOR TOXICS USE REDUCTION

Key Program Elements

- Technical and policy clearinghouse
- Governor's award
- Waste minimization workshops
- Technical assistance to toxics users
- Program expertise for jewelry platers and metal-using industries

Contacts: Barbara Kelley, Director
Richard Reibstein, Outreach Director
Massachusetts Department of Environmental Management
100 Cambridge Street
Boston, Massachusetts 02202
617-727-3260

TOXICS USE REDUCTION INSTITUTE

Key Program Elements

- Development of Toxics Use Reduction Planners Course
- Pollution prevention workshops, such as Material Substitution, Closed Loop Processes, and Toxics Use Audits
- Public education on pollution prevention and toxics use reduction
- Waste reduction research on toxic chemicals

Contact: Jack Luskin
Director of Education and Outreach
Toxics Use Reduction Institute
University of Lowell
1 University Avenue
Lowell, Massachusetts 01854
508-934-3275

MICHIGAN



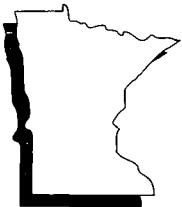
OFFICE OF WASTE REDUCTION SERVICES

Key Program Elements

- Onsite technical assistance to firms in targeted industrial sectors
- Telephone consultation and educational materials
- Waste reduction seminars and annual "Roundtable"
- Pollution prevention audit training for employees of the State government and county health departments, as well as private companies
- Waste reduction research

Contact: Larry E. Hartwig, Director
Office of Waste Reduction Services
Michigan Department of Commerce and Natural Resources
116 West Allegan Street
P.O. Box 30004
Lansing, Michigan 48909
517-335-1178

MINNESOTA



MINNESOTA POLLUTION CONTROL AGENCY (MPCA)

Key Program Elements

- Technical assistance to hazardous waste generators
- Training programs for RCRA compliance
- Waste minimization pilot project for waste solvent generation
- Waste reduction fact sheets

Contact: Eric Kilberg, Pollution Prevention Coordinator
Environmental Assessment Office
Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, Minnesota 55155
612-296-8643

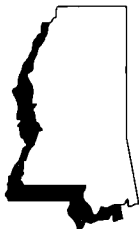
MINNESOTA TECHNICAL ASSISTANCE PROGRAM (MNTAP)

Key Program Elements

- Telephone and onsite consultations
- Student intern program
- WRITE Program — research modified rinsing techniques for metal finishing
- Information clearinghouse
- Development of education and training programs

Contact: Cindy McComas, Director
Minnesota Technical Assistance Program
Environmental Health School of Public Health
University of Minnesota
1313 5th Street, S.E., Suite 207
Minneapolis, Minnesota 55414
612-296-4646

MISSISSIPPI



MISSISSIPPI TECHNICAL ASSISTANCE PROGRAM (MISSTAP) AND MISSISSIPPI SOLID WASTE REDUCTION ASSISTANCE PROGRAM (MISSWRAP)

Key Program Elements

- Pollution prevention research
- Onsite waste assessments
- Pollution prevention conferences and workshops for industries, businesses, municipalities, and the general public
- Waste exchange data base
- Information clearinghouse

Contact: Dr. Caroline Hill
Mississippi Technical Assistance Program and
Mississippi Solid Waste Reduction Assistance
P.O. Drawer CN
Mississippi State, Mississippi 39762
601-325-8454

Thomas E. Whitten, Director
Waste Reduction/Waste Minimization Program
Mississippi Department of Environmental Quality
P.O. Box 10385
Jackson, Mississippi 39289-0385
601-961-5171

MISSOURI



WASTE MANAGEMENT PROGRAM (WMP)

Key Program Elements

- Agriculture-based information clearinghouse
- Presentation of educational/information projects focusing on agrichemical dealers
- Cosponsor with the University of Missouri of pollution prevention workshops for businesses

Contact: Becky Shannon, Pollution Prevention Coordinator
Hazardous Waste Program
Division of Environmental Quality
Missouri Department of Natural Resources
205 Jefferson Street
P.O. Box 176
Jefferson City, Missouri 65102
314-751-3176

ENVIRONMENTAL IMPROVEMENT AND ENERGY RESOURCES AUTHORITY (EIERA)

Key Program Elements

- Financing for pollution prevention projects
- Waste exchange service in cooperation with the Industrial Materials Exchange Service
- Household Hazardous Waste Project

Contacts: Steve Mahfood, Director
Tom Welch, Assistant for Planning and Project Development
Environmental Improvement and Energy Resources Authority
225 Madison Street
P.O. Box 744
Jefferson City, Missouri 65102
314-751-4919

MONTANA



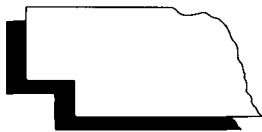
SOLID AND HAZARDOUS WASTE BUREAU

Key Program Elements

- Industry-specific pollution prevention workshops
- Solvent users assistance
- Waste audits
- Montana Industrial Waste Exchange program

Contact: Bill Potts
Solid and Hazardous Waste Bureau
Montana Department of Health and Environmental Sciences
Cogswell Building
Helena, Montana 59620
406-444-2821

NEBRASKA



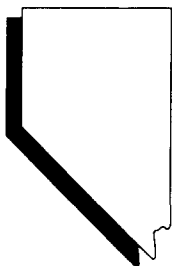
HAZARDOUS WASTE SECTION

Key Program Elements

- Waste minimization counseling
- Waste minimization/RCRA regulation workshops
- Waste exchanges
- Information clearinghouse

Contact: Teri Swarts, Waste Minimization Coordinator
Hazardous Waste Section
Nebraska Department of Environmental Control
301 Centennial Mall South
P.O. Box 98922
Lincoln, Nebraska 68509
402-471-4217

NEVADA



BUSINESS ENVIRONMENTAL PROGRAM

Key Program Elements

- Technical assistance program for small quantity generators
- Hazardous waste hotline
- Quarterly newsletter
- Coordination of seminars with the Nevada Division of Environmental Protection on hazardous waste regulations, waste management, and waste minimization; seminars offered throughout the State
- Information clearinghouse

Contact: Kevin Dick, Manager
Business Environmental Program
Nevada Small Business Development Center
University of Nevada — Reno
Reno, Nevada 89557-0100
702-784-1717

NEVADA ENERGY CONSERVATION PROGRAM

Key Program Elements

- Information clearinghouse for recycling
- Funding for recycling projects

Contact: Curtis Framel, Manager
Nevada Energy Conservation Program
Office of Community Services
Capitol Complex
201 South Fall Street
Carson City, Nevada 89710
702-885-4420

NEW HAMPSHIRE



NEW HAMPSHIRE POLLUTION PREVENTION PROGRAM

Key Program Elements

- Onsite technical assistance
- Pollution prevention information clearinghouse
- Participation in the Northeast Industrial Waste Exchange

Contact: Vincent R. Perelli
Waste Management Division
New Hampshire Department of Environmental Services
6 Hazen Street
Concord, New Hampshire 03301-6509
603-271-2902

NEW JERSEY



NEW JERSEY OFFICE OF POLLUTION PREVENTION

Key Program Elements

- Development of legislation, rules, and regulations
- Governor's award
- Preparation of industry profiles for pollution prevention trend analysis

Contact: Jean Herb, Director
Office of Pollution Prevention
New Jersey Department of Environmental Protection
CN-402
401 East State Street
Trenton, New Jersey 08625
609-777-0518

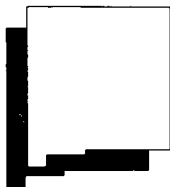
NEW JERSEY TECHNICAL ASSISTANCE PROGRAM (NJTAP)

Key Program Elements

- Technical assistance to industries
- Onsite assessments at industrial facilities
- Hazardous waste reuse program
- Northeast Industrial Waste Exchange
- Governor's award

Contact: Kevin Gashlin, Director
New Jersey Technical Assistance Program
New Jersey Institute of Technology
Hazardous Substance Management Research Center
Center for Environmental and Engineering Sciences
323 Martin Luther King Boulevard
Newark, New Jersey 07102

NEW MEXICO



MUNICIPAL WATER POLLUTION PREVENTION PROGRAM

Key Program Elements

- Technical assistance to municipal wastewater utilities to prevent surface- and ground-water pollution

Contact: Alex Puglisi, Program Manager
Municipal Water Pollution Prevention Program
Facility Operations Section, Surface Water Quality Bureau
New Mexico Environment Department
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, New Mexico 87502
505-827-2804

NEW YORK



BUREAU OF POLLUTION PREVENTION

Key Program Elements

- Waste reduction manuals
- Pollution prevention fact sheets
- Industry-specific workshops for small and medium quantity generators
- Information clearinghouse
- Annual Waste Reduction Conference
- Northeast Industrial Waste Exchange
- Public outreach programs
- Technical assistance

Contact: John Ianotti, Director
Bureau of Pollution Prevention
Division of Hazardous Substances Regulation and the
Division of Solid Waste
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7253
518-457-7276

NEW YORK STATE ENVIRONMENTAL FACILITIES CORPORATION

Key Program Elements

- Technical assistance for private industry, local government, and State agencies
- Information clearinghouse
- Industrial Finance Program

Contact: Harold Snow, Program Manager
New York State Environmental Facilities Corporation
50 Wolf Road
Albany, New York 12205
518-457-4138

ERIE COUNTY OFFICE OF POLLUTION PREVENTION (ECOPP)

Key Program Elements

- Technical assistance for small to medium sized businesses
- Onsite consultations
- Information clearinghouse
- Waste minimization workshops targeted at local government, public institutions, business, and the agricultural community
- Industry-specific small quantity hazardous waste minimization workshops

Contact: Thomas Hersey, Pollution Prevention Coordinator
Erie County Office of Pollution Prevention
Erie County Office Building
95 Franklin Street
Buffalo, New York 14202
716-858-6231

NORTH CAROLINA



POLLUTION PREVENTION PROGRAM

Key Program Elements

- Course on waste reduction auditing offered through N.C. State University's School of Engineering
- Waste reduction workshops and conferences for industry, specific clients, and the general public
- Information clearinghouse
- Multimedia onsite technical assistance for industries
- Industry-specific reports
- Matching grants
- Governor's award
- Capacity assurance plan

Contact: Gary Hunt, Director
Pollution Prevention Program
Office of Waste Reduction
North Carolina Department of Environment, Health, and Natural Resources

P.O. Box 27687
Raleigh, North Carolina 27611-7687
919-571-4100

EPA RESEARCH CENTER FOR WASTE MINIMIZATION

Key Program Elements

- Technology transfer activities, including workshops and training courses for researchers, industry, and government personnel
- Pollution prevention research

Contacts: Dr. Michael Overcash
Dr. Cliff Kaufman
Center for Waste Minimization and Management
North Carolina State University
Box 7905
Raleigh, North Carolina 27695-7905
919-515-2325

NORTH DAKOTA



No formal State program to date

Contact: Neil Knatterud
Teri Lunde
Division of Waste Management
North Dakota Department of Health and Consolidated
Laboratories
P.O. Box 5520
1200 Missouri Ave., Room 302
Bismarck, North Dakota 58502-5520
703-221-5166

OHIO



OHIO TECHNOLOGY TRANSFER ORGANIZATION (OTTO)

Key Program Elements

- Pollution prevention workshops, seminars, and technology forums in association with Ohio colleges
- Conferences on industrial solid waste reduction and recycling
- Onsite technical assistance for businesses and industries
- Information clearinghouse
- Research and development

Contacts: Jeff Shick, State Coordinator
Jackie Rudolf
Ohio Technology Transfer Organization
Ohio Department of Development
77 South High Street, 26th Floor
Columbus, Ohio 43255-0330
614-644-4286

THOMAS EDISON PROGRAM

Key Program Elements

- Pollution prevention grants for businesses, industry, and universities

Contact: Dan Berglund
Ohio's Thomas Edison Program
77 South High Street, 26th Floor
Columbus, Ohio 43215
(614) 466-3887

OHIO ENVIRONMENTAL PROTECTION AGENCY

Key Program Elements

- Review and development of pollution prevention legislation
- Activities relating to permitting and inspections
- Pollution prevention data collection and analysis
- Demonstration projects for industry
- Participation in conferences and seminars
- Outreach and information dissemination

Contacts: Roger Hannahs
Michael W. Kelley
Anthony Sasson
Pollution Prevention Section
Division of Hazardous Waste Management
Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, Ohio 43266-0149
614-644-3969

OHIO DEPARTMENT OF NATURAL RESOURCES

Key Program Elements

- Litter prevention and recycling grants to local governments and State agencies
- Technical assistance to communities and businesses
- Education/ public outreach and research

Contact: Helen L. Hurlburt
Division of Litter Prevention and Recycling
Fountain Square Court, Building F2
Columbus, Ohio 43224-1387
614-265-6333

OKLAHOMA



ENVIRONMENTAL QUALITY COUNCIL

Key Program Elements

- Government, industry, and community representatives advise the Governor on options, such as pollution prevention, for improving environmental quality

- Development of pollution prevention/ waste minimization incentives and awards programs for industry and businesses.

Contact: Ellen Bussert
Mary Jane Calvey
Environmental Health Administration 0200
1000 North East 10th St.
Oklahoma State Department of Health
Oklahoma City, Oklahoma 73117-1299

POLLUTION PREVENTION TECHNICAL ASSISTANCE PROGRAM

Key Program Elements

- Waste audits and technical assistance for industries
- Workshops on waste minimization for general audiences (future workshops will be industry specific)
- Resources center for information and case studies

Contact: Chris Varga
Hazardous Waste Management Service, 0205
Oklahoma State Department of Health
1000 Northeast 10th Street
Oklahoma City, Oklahoma 73117-1299
405-271-7047

OREGON



WASTE REDUCTION ASSISTANCE PROGRAM (WRAP)

Key Program Elements

- Workshops for hazardous waste generators and specific industries with sessions devoted to waste reduction topics, such as "Developing Waste Reduction Plans," "Conducting Waste Assessments," and "Oregon's Toxic Use Act"
- Technical assistance for hazardous waste generators and transporters, large users of SARA 313 listed chemicals, and businesses
- Waste reduction audits
- Technical resource library and clearinghouse
- RCRA program development
- Capacity assurance planning
- Publications
- Awards program
- Hotline

Contacts: Roy W. Brower, Manager
David Rozell, Pollution Prevention Specialist
Phil Berry, Pollution Prevention Specialist
Hazardous Waste Reduction and Technical Assistance Program
Hazardous and Solid Waste Division
Oregon Department of Environmental Quality
811 S.W. Sixth Avenue
Portland, Oregon 97204
503-229-6585

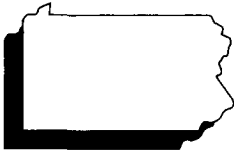
WRAP COLLABORATION WITH OREGON STATE UNIVERSITY

Key Program Elements

- Revision of engineering curriculum to incorporate waste reduction technologies
- Training courses at the community college level on pollution prevention topics, such as hazardous materials management and toxic substance use reduction and planning

Contact: Dr. Ken Williamson
Environmental Engineering Office
Civil Engineering Department
Oregon State University
Apperson 206
Corvallis, Oregon 97331-2302
503-754-2751

PENNSYLVANIA



DEPARTMENT OF ENVIRONMENTAL RESOURCES

Key Program Elements

- Grants for hazardous waste recycling equipment
- Technical assistance, outreach, and information exchange
- Annual Waste Minimization Award
- Funding for the Center for Hazardous Materials Management
- Hazardous waste facilities planning

Contacts: Keith Kerns, Chief
Greg Harder
Division of Waste Minimization and Planning
Pennsylvania Department of Environmental Resources
P.O. Box 2063
Harrisburg, Pennsylvania 17120
717-772-2724

CENTER FOR HAZARDOUS MATERIALS RESEARCH

Key Program Elements

- Pollution prevention workshops for industrial representatives, consultants, engineering students, and regulatory personnel
- Pollution prevention speakers bureau providing experts for conferences of trade associations, business groups, community organizations, and local governments
- Onsite waste audits and technical assistance
- Quarterly newsletter, industry-specific manuals and fact sheets, and other publications
- Pesticide research and education
- Regulatory information and technical assistance hotline

Contact: Roger Price
Center for Hazardous Materials Research
University of Pittsburg Applied Research Center
320 William Pitt Way
Pittsburg, Pennsylvania 15238
412-826-5320
1-800-334-CHMR

PENNSYLVANIA TECHNICAL ASSISTANCE PROGRAM (PENNTAP)

Key Program Elements

- Industry-specific workshops and seminars
- Technical assistance for industries, municipalities, and universities
- Waste audits and onsite consultations
- Pollution prevention resource library

Contact: Jack Gido, Director
PennTap
248 Calder Way, Suite 306
University Park, Pennsylvania 16801
814-865-1914

NATIONAL TECHNOLOGY APPLICATIONS CORPORATION (NETAC)

Key Program Elements

- Pollution prevention training and education for industry, government, and university representatives
- Applied pollution prevention research
- Testing and demonstrations
- Regulatory and business development
- Technology transfer

Contact: Devon Streit
NETAC
University of Pittsburg Applied Research Center
615 William Pitt Way
Pittsburg, Pennsylvania 15238
412-826-5511

RHODE ISLAND



HAZARDOUS WASTE REDUCTION PROGRAM

Key Program Elements

- Conferences and workshops that include pollution prevention topics
- Technical assistance for industries and businesses
- Onsite waste reduction assessments
- Waste reduction information clearinghouse
- Newsletter and other publications
- Environmental data analysis
- Hazardous waste technology, research, development, and demonstration grants for universities and industries
- Consultation for funding of university-based student internships
- Awards program

Contacts: Victor Bell, Chief
Office of Environmental Coordination
Rhode Island Department of Environmental Management
83 Park Street
Providence, Rhode Island 02903-1037
401-277-3434

Richard Enander, Principal Environmental Scientist
Eugene Pepper, Senior Environmental Planner
Hazardous Waste Reduction Section
Office of Environmental Coordination
Rhode Island Department of Environmental Management
83 Park Street
Providence, Rhode Island 02903
401-277-3434

SOUTH CAROLINA



HAZARDOUS WASTE MANAGEMENT RESEARCH FUND

Key Program Elements

- Sponsor of workshops and seminars on waste minimization offered by the continuing engineering education office at Clemson University
- Workshop topics for 1992 that include waste reduction for vehicle/auto service shops, textile manufacturers, metal fabricators, machine shops, painting and coating shops, and solvent users and the development of site-specific waste reduction programs
- Sponsor of waste minimization research and development
- Awards program

Contact: Eric Snider, Ph.D., P.E., Director
Continuing Engineering Education
Clemson University
P.O. Drawer 1607
Clemson, SC 29633
803-656-3308

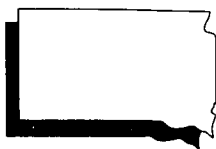
CENTER FOR WASTE MINIMIZATION

Key Program Elements

- Waste minimization seminars for business and industry representatives
- Technical assistance primarily for small and medium sized companies
- Telephone and onsite waste reduction assessments
- Information clearinghouse including expert referral services
- Research fund

Contact: Jeffrey DeBossonet, Manager
Center for Waste Minimization
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201
802-734-4715

SOUTH DAKOTA



WASTE MANAGEMENT PROGRAM

Key Program Elements

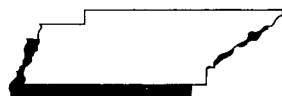
- Workshops and seminars on various waste management topics
- Technical assistance primarily focused on source reduction
- Onsite technical assistance and waste audits for industries and businesses
- Data base of small quantity generator case histories
- Awards program

Contacts:

Vonnie Kallmeyn
Office of Waste Management
Division of Environmental Regulations
South Dakota Department of Environment and Natural
Resources
319 S. Coteau
c/o 500 E. Capitol Ave
Pierre, South Dakota 57501
605-773-3153

Steve Pirner, Division Director
Division of Environmental Regulations
South Dakota Department of Environment and Natural
Resources
Joe Foss Building
523 E. Capitol Ave
Pierre, South Dakota 57501-3181
605-773-3153

TENNESSEE



DEPARTMENT OF HEALTH AND ENVIRONMENT

Key Program Elements

- Pollution prevention workshops, seminars, and conferences
- Technical assistance for industries, small communities, and government agencies
- Free, confidential, onsite waste reduction audits
- Research grants for waste reduction technology development
- Information clearinghouse
- Challenge grants for hazardous waste generators
- Award program

Contact:

James Ault
Bureau of Environment
Tennessee Department of Health and Environment
150 9th Avenue, North
Nashville, Tennessee 37219-3657
615-742-6547

WASTE REDUCTION ASSESSMENT AND TECHNOLOGY TRANSFER TRAINING PROGRAM (WRATT)

Key Program Elements

- Waste reduction assessment training program offered by the University of Tennessee Center for Industrial Services; includes industry-specific workshops, as well as workshops for State and Federal agency staff
- Future national teleconferences on waste reduction opportunities in solvent usage, electroplating, and industrial painting and on used-oil and solid waste issues
- Videos of previous teleconferences
- Interactive video training modules
- Comprehensive training manuals
- Onsite waste reduction assessments by full-time field engineers and retired engineers

Contacts: George Smelcer, Director
Waste Reduction Assistance Program (Suite 606)
Cam Metcalf (Suite 401)
Center for Industrial Services
University of Tennessee
226 Capitol Boulevard Building
Nashville, Tennessee 37219-1804
615-242-2456

Carroll Dugan, Section Manager
Waste Reduction and Management Section
Tennessee Valley Authority
Mail Code HB 2G-C
311 Broad Street
Chattanooga, Tennessee 37406
615-751-4574

Steve Hillenbrand
Tennessee Valley Authority
Mail Code OCH 2B-K
602 West Summit Hill Drive
Knoxville, Tennessee 37902

TEXAS



TEXAS WATER COMMISSION

Key Program Elements

- Training for the regulated community on the requirements of RCRA and State hazardous and solid waste legislation and rules
- Compliance assistance through bulletins, manuals, seminars, and an annual hazardous waste trade fair and conference
- Pollution prevention training emphasizing waste minimization plan preparation, goal setting, waste stream identification (onsite audits), options analysis, waste accounting, and implementation

- Resource Exchange Network for Eliminating Waste
- Information clearinghouse of treatment and recovery methods for hazardous and solid waste

Contacts: Priscilla Seymour, Ph.D.
Richard Craig
Robert C. Steckly
Office of Pollution Prevention and Conservation
Waste Minimization Unit
Texas Water Commission
P.O. Box 13087, Capitol Station
Austin, Texas 78711-3087
512-463-7761

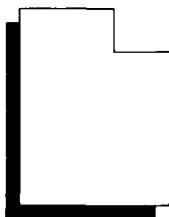
CENTER FOR HAZARDOUS AND TOXIC WASTE STUDIES

Key Program Elements

- Incorporation of pollution prevention concepts into existing engineering courses at Texas Tech University
- Several graduate and undergraduate courses that address waste minimization topics, such as chemical process modifications for the petroleum, petrochemical, and chemical industries, as well as feedstock alternatives
- Research and development
- Onsite waste audits

Contact: John R. Bradford, Director
Center for Hazardous and Toxic Waste Studies
Texas Tech University
P.O. Box 4679
Lubbock, Texas 79409-3121
806-742-1413

UTAH



DEPARTMENT OF ENVIRONMENTAL QUALITY

Key Program Elements

- Establishing an ongoing training program, including workshops and presentations, for business, industry, and the general public
- Working with local trade associations to develop training opportunities for these groups
- Developing fact sheets and an online information clearinghouse
- Technical assistance

Contacts: Rusty Lundberg, Chief
Sonja Wallace, Pollution Prevention Coordinator
Planning and Program Section
Division of Solid and Hazardous Waste Management
Department of Environmental Quality
288 North 1460 West Street
Salt Lake City, Utah 84114-4880
801-538-6170

Other Contacts: JoAnn S. Lighty
Department of Chemical Engineering
3290 MEB
University of Utah
Salt Lake City, Utah 84112
801-581-5763

Nancy Fox
Utah State University
UMC 8318
Safety Office
Logan, Utah 84322-8315
801-750-2752

VERMONT



WASTE MINIMIZATION PROGRAM

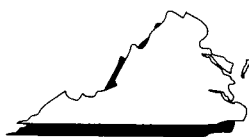
Key Program Elements

- Conferences and industry-specific workshops and seminars that address pollution prevention topics
- Presentations at public forums intended to assist the private sector in developing and implementing pollution prevention strategies
- Review of toxic use and hazardous waste reduction plans submitted by industry
- Onsite technical assistance and waste reduction audits
- Information clearinghouse
- Quarterly newsletter and other publications

Contacts: Gary Gulka
Hazardous Waste Management Section
Vermont Agency of Natural Resources
103 South Main Street
Waterbury, Vermont 05676
802-244-8702

Paul Maskowitz, Chief
Recycling and Resource Conservation Section
Vermont Department of Environmental Conservation
103 South Main Street
Waterbury, Vermont 05676
802-244-7831

VIRGINIA



WASTE MINIMIZATION PROGRAM

Key Program Elements

- Outreach programs targeted at specific industries, local and State government, institutions, laboratories, and other generators of solid and hazardous wastes
- Workshops for 1992 that will address the ship repair, furniture manufacturing, and printing industries, as well as urban pesticide use issues
- Source reduction conference

- Technical assistance and onsite waste reduction audits
- Hazardous waste information hotline
- Information clearinghouse
- Governor's Award

Contact: Sharon Kenneally-Baxter, Director
Waste Minimization Program
Virginia Department of Waste Management
Monroe Building, 11th Floor
101 N. 14th Street
Richmond, Virginia 23219
804-371-8716

UNIVERSITY CENTER FOR ENVIRONMENTAL AND HAZARDOUS MATERIALS STUDIES

Key Program Elements

- Interdisciplinary research on environmental topics, including pollution prevention
- Technical assistance

Contact: Virginia Polytechnic Institute and State University
Blacksburg, Virginia 24061-0113
703-231-7508

WASHINGTON



WASTE REDUCTION, RECYCLING AND LITTER CONTROL PROGRAM

Key Program Elements

- Public education, including workshops and seminars for industries and communities
- Technical assistance for business, industry, and local government
- Toxic substance use and waste generation reduction, planning, and assistance
- Information clearinghouse/ Information coordination among State agencies
- Grants for small quantity generators and local governments

Contacts: Stan Springer
Joy St. Germain
Peggy Morgan
Waste Reduction, Recycling and Litter Control Program
Washington Department of Ecology
Mail Stop PV-11
Olympia, Washington 98504-8711
206-438-7541

WEST VIRGINIA



POLLUTION PREVENTION AND OPEN DUMP PROGRAM (PPOD)

Key Program Elements

- Administration of the solid waste reclamation and environmental response fund
- Monitoring of hazardous waste generation
- Integrated education and technical assistance for industries and State employees designed to promote waste reduction

Contact: Michael Dorsey, Assistant Chief
Compliance Monitoring and Enforcement Section
Waste Management Section
West Virginia Division of Natural Resources
1356 Hansford Street
Charleston, West Virginia 25301
304-348-5989

GENERATOR ASSISTANCE PROGRAM

Key Program Elements

- Industry-specific outreach and education
- Onsite technical assistance for generators of hazardous waste
- Waste reduction computer modeling
- Capacity assurance planning
- Annual reports
- Joint program with the National Institute for Chemical Studies to provide technical assistance and education to a hierarchy of generators in the Kanawha Valley

Contacts: Randy Huffman
Dale Moncer
Generator Assistance Program
Waste Management Section
West Virginia Division of Natural Resources
1356 Hansford Street
Charleston, West Virginia 25301
304-348-4000

WISCONSIN



HAZARDOUS POLLUTION PREVENTION AUDIT GRANT PROGRAM

Key Program Elements

- Onsite waste reduction assessments and audits
- Grants to provide financial assistance for waste reduction/ process modifications

Contact: Phil Albert
Wisconsin Department of Development
123 West Washington Avenue
P.O. Box 7979
Madison, Wisconsin 53707
608-266-3075

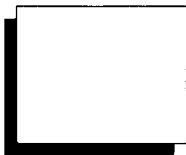
DEPARTMENT OF NATURAL RESOURCES

Key Program Elements

- Workshops for State agency personnel on pollution prevention
- Waste reduction course and seminars for specific businesses, industries, and process users
- Hazardous Waste Minimization Technical Assistance Program
- Site-specific waste audits
- Regulatory compliance assistance
- Information clearinghouse
- Newsletters, brochures, and fact sheets
- Waste reduction and recycling demonstration grants to industry
- Awards program

Contacts: Lynn Persson, Hazardous Waste Reduction and Recycling Coordinator
Kate Cooper, Assistance Recycling Coordinator
Bureau of Solid and Hazardous Waste Management
Wisconsin Department of Natural Resources
P.O. Box 7921 (SW/3)
Madison, Wisconsin 53707-7921
608-267-3763

WYOMING



DEPARTMENT OF ENVIRONMENTAL QUALITY

Key Program Elements

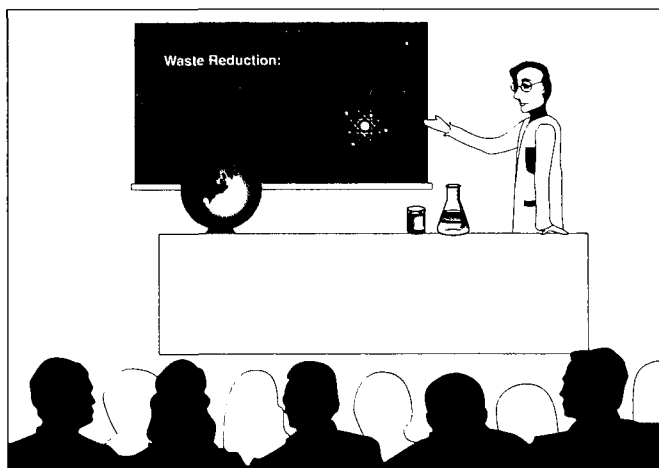
- Integration of pollution prevention concepts into all relevant agency programs
- Resource center/ information clearinghouse
- Waste audits upon request for businesses
- Waste exchange

Contact: David Finley, Manager
Solid Waste Management Program
Wyoming Department of Environmental Quality
122 West 25th Street
Herschler Building
Cheyenne, Wyoming 82002
307-777-7752

4

Section 4 University-Affiliated Pollution Prevention/ Research and Training Centers

This section lists organizations involved in source reduction and recycling research or training associated with U.S. universities. These university centers are often funded by EPA or State agencies, but they operate as independent entities.



ALABAMA

University of Alabama

Environmental Institute for Waste Management Studies (EI WMS)

Activities include policy research, technology transfer, and basic research. Their Hazardous Material & Management and Resource Recovery (HAMMARR) program provides regulatory information, waste exchange and technical assistance for waste minimization, and workshops for small quantity generators and local businesses. Many of the 1992 workshops will focus specifically on the metal casings industry. The University's College of Continuing Education also offers courses on pollution prevention.

Contact: Dr. Robert Griffin, Director
Hazardous Materials Management and Resource
Recovery Program (HAMMARR)
University of Alabama
275 Mineral Industries Building
Box 870203
Tuscaloosa, Alabama 35487-0203
205-348-8403

Gulf Coast Hazardous Substance Research Center (GCHSRC)

The University of Alabama is a member of the GCHSRC, which is located at Lamar University in Beaumont, Texas (see the listing under Texas).

CALIFORNIA

University of California

Environmental Hazards Management Program

The University of California at Berkeley, Davis, Irvine, Los Angeles, Santa Cruz, Riverside, Santa Barbara, and San Diego offers post-graduate continuing education courses on toxic materials that devote some time to pollution prevention issues. Many of the courses give certificates in hazardous material management and air quality management. Some locations offer environmental auditing and other related topics.

Contact: Jon Kindschy, Statewide Coordinator
Environmental Hazards Management Program
University of California Extension
Riverside, California 92521-0112
714-787-5804

University of California at Los Angeles

Center for Waste Reduction Technologies

The center conducts industry-supported research into waste reduction technology.

Contact: Dr. David Allen
University of California, Los Angeles
Los Angeles, California 90024
213-206-0300

COLORADO

Colorado State University

Waste Minimization Assessment Center (WMAC)

WMAC is managed through the University City Science Center of Philadelphia. The center conducts detailed waste minimization assessments at small- to medium-sized manufacturing companies, training workshops for the Department of Health personnel, and training for EPA Region VIII RCRA inspectors. The center is also performing solvent use reduction audits at two manufacturing plants and will develop technical information on solvent use practices for small- to medium-sized manufacturing plants. In addition, the Center conducts training workshops for Department of Health personnel to develop technical expertise in pollution prevention. Contact Region VIII for information on these workshops.

Contacts: Dr. Harry Edwards, Director
Waste Minimization Assessment Center
Mechanical Engineering Department
Colorado State University
Fort Collins, Colorado 80523
303-491-5317

Marie Zanowich, Project Officer
U.S. EPA Region VIII
999 18th Street, Suite 500
Denver, Colorado 80202-2505
303-294-1065

CONNECTICUT

Waterbury State Technical College

Industrial Environmental Management (IEM)

Waterbury State Technical College offers a waste minimization course as part of its Industrial Environmental Management certificate level and associate degree level programs. Other courses include environmental regulations, safe handling of hazardous wastes, and environmental control processes.

Contact: Cynthia Donaldson, Chairperson
Industrial Environmental Management
Waterbury State Technical College
750 Chase Parkway
Waterbury, Connecticut 06708-3089
203-596-8703/575-8089

**DISTRICT OF
COLUMBIA**

Howard University

The Great Lakes and Mid-Atlantic Hazardous Substance Research Center

The center is funded by EPA and focuses on the unique problems of EPA Regions III and V. Research is conducted on hazardous substances and related environmental problems. Among other projects, the center is

developing materials for a hazardous waste workshop and videotapes on waste minimization information and training. The University of Michigan and Michigan State University are also members of the center.

Contact: Dr. James H. Johnson, Jr., Assistant Director
The Great Lakes and Mid-Atlantic Hazardous
Substance Research Center
Department of Civil Engineering
Howard University
Washington, D.C. 20059
202-806-6570

FLORIDA

Florida Institute of Technology

Research Center for Waste Utilization

The center offers classroom training in waste utilization at the undergraduate and graduate levels. In addition, the center is involved in research in the areas of municipal solid waste (MSW), industrial solid waste, and pollution prevention. Specific studies include heavy metal sources in the MSW stream, uses of ash from waste-to-energy plants, biological toxicity of ash residues, and degradable plastics characteristics after disposal.

Contact: Edwin Korzun, Executive Director
Research Center for Waste Utilization
Department of Marine and Environmental
Sciences
Florida Institute of Technology
150 West University Boulevard
Melbourne, Florida 32901-6988
305-768-8000

University of Central Florida

Gulf Coast Hazardous Substance Research Center (GCHSRC)

The University of Central Florida is a member of the GCHSRC, which is located at Lamar University in Beaumont, Texas (see the listing under Texas).

University of Florida

Center for Training, Research, and Education for Environmental Occupations

The center's activities include developing a statewide training action plan for business, government, and the public; providing RCRA hazardous waste regulation training; developing a university-level waste reduction curriculum; sponsoring a 2-day symposium; and developing a training program for three specific industries.

Contact: Dr. James O. Bryant, Jr., Director
Center for Training, Research, and Education for
Environmental Occupations
Division of Continuing Education
University of Florida
3900 S.W. 63rd Boulevard
Gainesville, Florida 32608-3848
904-392-9570

Florida Center for Solid & Hazardous Waste Management

The Center coordinates the State's solid and hazardous waste research efforts, including management practices for waste reduction, reuse, recycling, and improved conventional disposal methods.

Contact: Dr. James O. Bryant, Jr.
Florida Center for Solid and Hazardous Waste
Management
University of Florida
3900 S.W. 63rd Boulevard
Gainesville, Florida 32608-3848
904-392-9570

GEORGIA

Georgia Institute of Technology (Georgia Tech)

Environmental Science and Technology Laboratory

The institute provides continuing education workshops on a wide variety of waste reduction and pollution prevention topics, including hazardous waste reduction planning requirements. As part of a U.S. EPA grant with the Georgia Hazardous Waste Management Authority, the institute is offering workshops to help industry write proposals for grants implementing new waste minimization technologies. Within the Hazardous Materials Group of the Laboratory are the Hazardous Waste Technical Assistance Program (HWTAP) and the Pollution Prevention Program. These programs provide technical assistance to Georgia industry to encourage voluntary waste reduction and minimization, as well as compliance with hazardous waste regulations. Activities include onsite assistance, telephone consultations, information dissemination, multimedia information releases, short courses, and annual seminars. The Pollution Prevention Program is funded by EPA grants, while HWTAP is paid for through general funds.

Contact: Carol Foley
Georgia Tech Research Institute
Environmental Science and Technology
Laboratory
Atlanta, Georgia 30332
404-894-3806

ILLINOIS

Illinois Institute of Technology

Industry Waste Elimination Research Center (IWERC)

The center's research priorities include recycling or reusing industrial byproducts and developing manufacturing processes that avoid generating wastes or pollutants. In conjunction with the Department of Environmental Engineering, graduate programs are offered with an option in hazardous waste management.

Contact: Dr. Kenneth E. Noll, Director
Industrial Waste Elimination Research Center
Pritzker Department of Environmental
Engineering
IIT Center
Chicago, Illinois 60616
312-567-3536

University of Illinois

Hazardous Waste Research & Information Center (HWRIC)

The center combines research, education, and technical assistance in a multidisciplinary approach to manage and reduce hazardous waste. HWRIC collects and shares information through its library/clearinghouse and a computerized Waste Reduction Advisory System (see description in Section 7, Pollution Prevention Clearinghouses and Associations).

Contact: Dr. David Thomas, Director
Hazardous Waste Research and Information
Center
One East Hazelwood Drive
Champaign, Illinois 61820
217-333-8940

INDIANA

Purdue University

Pollution Prevention Program

The Pollution Prevention Program provides outreach and technical assistance efforts to industry (including onsite assessments conducted by graduate students) on pollution prevention opportunities. Purdue University and the Indiana Department of Environmental Management sponsor both general and specific workshops on pollution prevention and recycling. The Pollution Prevention Program will also host the 47th Annual Industrial Waste Conference during May 11-13, 1992.

Contact: Rick Bossingham, Coordinator
Pollution Prevention Program
Purdue University
2129 Civil Engineering Building
West Lafayette, Indiana 47907-1284
317-494-5038

IOWA

University of Northern Iowa

Iowa Waste Reduction Center

This technical assistance center provides onsite reviews of waste management practices, technical information on waste reduction and recycling, workshops, and a waste exchange program.

Contact: Kim Gunderson
Environmental Specialist
Iowa Waste Reduction Center
University of Northern Iowa
Cedar Falls, Iowa 50614-0185
319-273-2079

KANSAS

Kansas State University

Hazardous Substance Research Center (HSRC)

This EPA-funded center provides research and technology transfer services for pollution prevention and other waste management techniques. HSRC programs include outreach to industry, assistance to government, videos, radio programs, written materials, data bases, and workshops on pollution prevention and hazardous waste remediation. One pollution prevention focus of this center is on soils and mining waste.

Contact: Dr. Larry E. Erickson, Director
Hazardous Substance Research Center
Durland Hall, Room 105
Kansas State University
Manhattan, Kansas 66506-5102
913-532-5584

University of Kansas

Center for Environmental Education and Training

In cooperation with the Kansas Department of Health and Environment, the center offers Hazardous Waste Regulatory Training Conferences. Conference topics include waste minimization, regulatory compliance, and technology transfer components.

Contact: Lani Heimgardner
Center for Environmental Education and Training
Division of Continuing Education
University of Kansas
6330 College Boulevard
Overland Park, Kansas 66211
913-491-0810

KENTUCKY

University of Louisville

Kentucky PARTNERS — State Waste Reduction Center

This center conducts general and industry-specific seminars and workshops on environmental regulations and pollution prevention methods. Another

service is free, non-regulatory pollution prevention services for all Kentucky industries and business. In addition, Kentucky PARTNERS publishes a newsletter and performs onsite assessments.

Contact: Joyce St. Clair
Executive Director
Kentucky PARTNERS State Waste Reduction
Center
Ernst Hall, Room 312
University of Louisville
Louisville, Kentucky 40292
502-588-7260

Waste Minimization Assessment Center

WMAC is managed through the University City Science Center in Philadelphia. The center conducts quantitative, on-site, waste minimization assessments for small to medium sized generators located within a 150 mile radius of Louisville. In addition, the center incorporates risk reduction and pollution prevention into the undergraduate and graduate engineering curricula. Two such courses will be offered in 1992, one entitled *Industrial Waste Management* and the other, *Waste Reduction and Treatment*. Professionals are encouraged to participate in these courses. Engineering students also conduct waste minimization projects at manufacturing plants.

Contact: Marvin Fleischman, Director
Waste Minimization Assessment Center
Department of Chemical Engineering
University of Louisville
Louisville, Kentucky 40292
502-588-6357

LOUISIANA

Louisiana State University (Shreveport)

Hazardous Waste Research Center (HWRC)

Categories of research conducted by faculty and students include incineration and combustion, alternative methods of treatment and destruction, and transport of leachate and wastes from pits and spills.

Contact: David Constant, Director
Hazardous Waste Research Center
3418 CEBA Building
Louisiana State University
Baton Rouge, Louisiana 70803
504-388-6770

Louisiana State University (LSU)

Gulf Coast Hazardous Substance Research Center (GCHSRC)

LSU is a member of the GCHSRC, which is located at Lamar University in Beaumont, Texas (see the listing under Texas).

MASSACHUSETTS

Massachusetts Institute of Technology (MIT)

Center for Technology, Policy and Industrial Development

Along with the Center, the Technology, Business and the Environment Group conducts research and offers workshops in pollution prevention. Pollution prevention concepts are also included in some undergraduate and graduate courses.

Contact: John Ehrenfeld
Technology, Business and the Environment
Group
Center for Technology, Policy and Industrial
Development
E40-241
Massachusetts Institute of Technology
Cambridge, Massachusetts 02139
617-253-7753

Tufts University

Tufts Environmental Literacy Institute (TELI)

The Institute is conducting a demonstration project, Tufts CLEAN to analyze the energy and materials flow at the university. Funded by EPA's Office of Pollution Prevention, this project involves students in audit design, data collection and analysis, implementation, and evaluation.

Contact: Dr. Anthony Cortese
Dean of Environmental Programs
Tufts University
Office of Environmental Programs
474 Boston Avenue, Curtis Hall
Medford, Massachusetts 02155
617-627-3452

The Center for Environmental Management

The purpose of this center is to develop a multidisciplinary approach to environmental problems through health effects research, technology research, policy analysis, education and training programs and information transfer. Pollution prevention is emphasized throughout center programs.

Contact: Dr. William R. Moomaw
Director of Research & Policy Development
Tufts University
Center for Environmental Management
474 Boston Avenue, Curtis Hall
Medford, MA 02155
617-381-3486

University of Lowell

Toxics Use Reduction Institute

This research facility is dedicated solely to helping industries reduce the quantity of toxic chemicals they use and the amount of toxic waste they generate. The institute offers various workshops in the area of pollution prevention, such as Material Substitution, Closed Loop Processes, and Toxics Use Audits.

Contact: Jack Luskin
Director of Education and Outreach
Toxics Use Reduction Institute
University of Lowell
1 University Avenue
Lowell, Massachusetts 01852
508-934-3275

MICHIGAN

Grand Valley State University

Waste Reduction and Management Program (WRMP)

The WRMP is a university-based pollution prevention program that conducts research and provides technical assistance to Michigan industry. "Design for Recycling: Solving Tomorrow's Problems Today," a 1-year waste reduction research and demonstration project, is funded by the Padnos Foundation and the Michigan Department of Natural Resources as part of the Quality of Life Bond Program. The overall objective of the project is to reduce the future generation of solid waste by infusing undergraduate engineering curricula with the concept of design for the entire product lifecycle. This project includes the following activities: identifying and prioritizing 10 products that have the greatest potential for design change to promote recycling; and developing a series of seminars to focus Michigan manufacturers, engineers, and engineering faculty on "cutting edge" design approaches; developing engineering curricular materials to assist faculty in developing student awareness and skill in designing products with end-stage product management in mind.

Contact: Dr. Paul Johnson, Associate Professor
Grand Valley State University
School of Engineering
301 W. Fulton, Room 617
Grand Rapids, Michigan 49504
616-771-6750

Michigan Technological University

Environmental Engineering Center for Water and Waste Management

The center is linked to the university's environmental engineering program, which integrates pollution prevention into undergraduate and graduate courses. Among other activities, the center provides an internship program through which students work in industry applying waste reduction concepts. The program is sponsored by EPA and the Michigan Department of Natural Resources.

Contact: Neil Hutzler, Director
Environmental Engineering Center
Michigan Technological University
1400 Townsend Drive
Houghton, Michigan 49931
906-487-2098

University of Michigan

EPA Pollution Prevention Center for Curriculum Development and Dissemination

The purpose of this center is to develop pollution prevention curriculum modules for undergraduate and graduate courses in engineering business and science (see description in Section 6, U.S. EPA's Environmental Education Activities).

Contact: Dr. Gregory A. Keoleian, Manager
School of Natural Resources
University of Michigan
Dana Building
430 E. University
Ann Arbor, Michigan 48109-1115
313-764-1412

The Great Lakes and Mid-Atlantic Hazardous Substance Research Center (GLMA-HSRC)

A cooperative research consortium comprising the University of Michigan, Michigan State University, and Howard University, this center supports hazardous substance training, technology transfer, and research.

Contact: Dr. Walter Weber
Director
Hazardous Substance Research Center
University of Michigan
Suite 181 Engineering 1-A
Ann Arbor, Michigan 48109-2125
313-763-2274

MINNESOTA

University of Minnesota

Minnesota Technical Assistance Program

Using EPA's Toxic Release Inventory (TRI), the program provides technical transfer, workshops, and fact sheets encouraging decreased use of TRI chemicals through use of alternatives and waste minimization.

Contact: David Simmons
Public Relations Representative
Minnesota Technical Assistance Program
1315 5th St., S.E., Suite 207
University of Minnesota
Minneapolis, Minnesota 55414
612-627-4646

MISSISSIPPI

Mississippi State University

Mississippi Technical Assistance Program and Mississippi Solid Waste Reduction Assistance Program

These programs work cooperatively to provide pollution prevention research, onsite waste assessments, workshops, conferences, employee and student education materials, a waste exchange, technology data bases, and a monthly newsletter.

Contact: Dr. Don Hill, Dr. Caroline Hill,
or Dr. June Carpenter
Mississippi Technical Assistance Program and
Mississippi Solid Waste Reduction Assistance
Program
P.O. Drawer CN
Mississippi State, Mississippi 39762
601-325-8454

Mississippi State University

Gulf Coast Hazardous Substance Research Center (GCHSRC)

MSU is a member of the GCHSRC, which is located at Lamar University in Beaumont, Texas (see the listing under Texas).

NEVADA

University of Nevada at Reno

Nevada Small Business Development Center

The Nevada Small Business Development Center, in cooperation with the Nevada Division of Environmental Protection, offers free pollution prevention services to industry and businesses, including seminars, workshops, onsite evaluations, fact sheets, and a newsletter. The center also maintains a Hazardous Waste Information Line, assisting businesses with regulations, alternative product use, and pollution prevention.

Contact: Kevin Dick, Manager
Business Environmental Program
Nevada Small Business Development Center
University of Nevada - Reno
Reno, Nevada 89557-0100
702-784-1717

NEW JERSEY

New Jersey Institute of Technology

Hazardous Substance Management Research Center

Areas of research include incineration, biological/chemical treatment, physical treatment, site assessment remediation, health effects assessment, and public policy/education.

Contact: Dr. Kevin Gashlin
Advanced Technology Center Building
323 Martin Luther King Boulevard
University Heights
Newark, New Jersey 07102
201-596-5864

NEW MEXICO

New Mexico State University

Waste-Management Education and Research Consortium (WERC)

WERC is a waste management education and research consortium established by New Mexico State University (NMSU) under a U.S. Department of Energy grant in 1990. Consortium members include NMSU, the University of New Mexico, the New Mexico Institute of Mining and Technology, the Navajo Community College, the Los Alamos National Laboratories, and the Sandia National Laboratories. The mission of WERC is to expand the Nation's capability to address the issues related to management of all types of waste (hazardous, solid, and radioactive). WERC activities involve all waste management options, including pollution prevention. Some of the major programs undertaken by WERC are the following:

- Education and curricula development in waste management by the consortium universities (graduate, undergraduate, and associate degrees with concentrations in environmental management)
- A professional development teleconference series for industry and government
- Research programs that provide training to faculty and students.

Contact: John S. Townsend, Assistant Director
WERC
New Mexico State University
Box 30001
Department 3805
Las Cruces, New Mexico 88003-0001
505-646-2038

NEW YORK

Clarkson University

Hazardous Waste and Toxic Substance Research and Management Center

This center coordinates and mobilizes funding for multi-disciplinary research at Clarkson University. Projects currently being conducted include a wide range of basic research, applied engineering, and technology development topics. Many of these projects address waste minimization and pollution prevention either directly or indirectly.

Contact: Thomas L. Theis, Director
Hazardous Waste and Toxic Substance Research
and Management Center
Rowley Laboratories
Clarkson University
Potsdam, New York 13699
315-268-6542

Cornell University

Waste Management Institute

The institute coordinates interdisciplinary research on waste reduction and management options for hazardous, agricultural, solid, industrial, and sludge wastes. Numerous fact sheets and publications are made available on topics ranging from source reduction opportunities for shoppers to waste minimization opportunity assessment for communities and businesses.

Contact: Richard Schuler, Director
Waste Management Institute
313 Hollister Hall
Cornell University
Ithaca, New York 14853
607-255-8674

NORTH CAROLINA North Carolina State University

EPA Research Center for Waste Minimization and Management

U.S. EPA is sponsoring a major university-based research center that focuses specifically on the challenge to minimize and manage hazardous substances. Located at North Carolina State University, the center involves Texas A&M University and the University of North Carolina at Chapel Hill. The mission of the center is to develop practical means for industry to eliminate the use and generation of hazardous substances, treat those wastes that cannot be eliminated, and provide secure containment for treatment residues. The major research focus at the center will be the elimination or reduction in discharge of hazardous substances to all environmental media. A strong commitment also will be made to technology transfer and training.

Contacts: Dr. Michael Overcash
Dr. Cliff Kaufman
Center for Waste Minimization and
Management
North Carolina State University
Box 7905
Raleigh, North Carolina 27695-2325
919-515-2325

University of North Carolina - Chapel Hill

EPA Research Center for Waste Minimization and Management

The University of North Carolina at Chapel Hill is a member of the U.S. EPA Research Center located at North Carolina State University in Raleigh, North Carolina (see the listing under "North Carolina State University".)

Contact: Dr. William H. Glaze
Department of Environmental Science
& Engineering
University of North Carolina - Chapel Hill
Chapel Hill, North Carolina 27514
919-966-1024

OHIO

University of Cincinnati

American Institute for Pollution Prevention (AIPP)

The AIPP is located at the University of Cincinnati (see description in Section 7, Pollution Prevention Clearinghouses and Associations).

Contact: Jean Boddosi, Director
American Institute for Pollution Prevention
(AIPP)
Office of the University Dean for Research
University of Cincinnati
Cincinnati, Ohio 45221
513-556-4532

University of Findlay

RCRA Generator Training Program

Workshops introduce U.S. EPA's Pollution Prevention Program for personnel at industries and commercial businesses that generate hazardous waste. Training courses assist generators in developing waste minimization strategies such as source reduction with the goal of eliminating waste generation. Workshop programs are also available at George Washington University, the University of Notre Dame, and the University of Wisconsin, Milwaukee.

Contact: George Kleevic
Workshop Instructor
RCRA Generator Training Program
P.O. Box 538
St. Clairsville, Ohio 43950
614-695-5036

PENNSYLVANIA

University of Pittsburgh

Center for Hazardous Materials Research (CHMR)

The center conducts applied research, health and safety training, education, and international technology transfer projects involving hazardous and solid

wastes. It also provides technical assistance, onsite assessments, and fact sheets and manuals on pollution prevention for industries in Pennsylvania.

Contact: Dr. Edgar Berkey
Center for Hazardous Materials Research
University of Pittsburgh Trust
Applied Research Center
320 William Pitt Way
Pittsburgh, Pennsylvania 15238
412-826-5320

RHODE ISLAND

University of Rhode Island

Chemical Engineering Department

Advanced students and their professors develop and evaluate pollution prevention engineering solutions for Rhode Island firms. These firms are referred by the Rhode Island Department of Environmental Management's voluntary pollution prevention technical assistance program.

Contact: Prof. Stanley M. Barnett, Chairman
Chemical Engineering Department
Crawford Hall
University of Rhode Island
Kingston, Rhode Island 02881
(401) 792-2443

SOUTH CAROLINA

University of South Carolina

Hazardous Waste Management Research Fund

The fund sponsors research and educational programs in the area of hazardous waste reduction. Research priorities include technology transfer, assessment training, site remediation, recycling and reuse strategies, and policy issues. Topics to be covered in the educational programs include vehicle/auto service shops, textiles, metal fabrication and machine shops, painting and coating, solvent use reduction, and developing a site specific waste reduction program. The fund has also established educational programs at Clemson University in Clemson, South Carolina.

Contact: Doug Dobson, Executive Director
Institute of Public Affairs
University of South Carolina
Gambrell Hall, 4th Floor
Columbia, South Carolina 29208
803-777-8157

TENNESSEE

University of Tennessee

Center for Industrial Services (CIS)

The center sponsors an extensive waste reduction assessment training program that includes indepth waste reduction assessment courses. This training program was originally developed to instruct retired industrial

engineers and managers, who became a highly skilled waste reduction assessment team. A key program for the center has been waste reduction assessments by full-time field engineers and retired engineers.

Contact: Cam Metcalf
Center for Industrial Services
University of Tennessee
226 Capitol Boulevard Building
Suite 606
Nashville, Tennessee 37219
615-242-2456

Waste Minimization Assessment Center

Managed by the University City Science Center in Philadelphia, WMAC is staffed by engineering students and faculty who have considerable expertise with process operations in manufacturing plants and who also have the skills needed to minimize waste generation. These staff members perform quantitative waste minimization assessments for small to medium sized generators.

Contact: Dr. Richard J. Jendrucko, Director
Department of Engineering
Science and Mechanics
University of Tennessee
310 Perkins Hall
Knoxville, TN 37996-2030
615-974-7682

TEXAS

Texas A & M University

EPA Research Center for Waste Minimization and Management

Texas A & M University is a member of the U.S. EPA Research Center located at North Carolina State University in Raleigh, North Carolina (see the listing under North Carolina).

Contact: Dr. Kirk Brown
Department of Soil and Crop Science
Texas A & M University
College Station, Texas 77843
409-845-5251

Gulf Coast Hazardous Substance Research Center (GCHSRC)

Texas A & M is a member of the GCHSRC, which is located at Lamar University in Beaumont, Texas (see the listing under "Lamar University").

Texas Tech University

Center for Environmental Technologies

The center coordinates conferences, short courses, and lectures that address environmental concerns, pollution prevention, pollution controls, and Federal, State, and local regulations. Conferences and short courses are

offered for State and municipal audiences, professional and civic groups, and industry. The center is also conducting at least 15 different research projects involving pollution prevention in such areas as storm water discharge, ground-water monitoring, and pesticides.

Contact: Dr. John R. Bradford
Center for Environmental Technologies
Texas Tech University
P.O. Box 43121
Lubbock, Texas 79409-3121
806-742-1413

Lamar University

Gulf Coast Hazardous Substance Research Center (GCHSRC)

The GCHSRC is a research consortium of eight universities, with its center located at Lamar University. Its purpose is to conduct research to aid in more effective hazardous substance response and waste management. The center's efforts are concentrated in the areas of waste minimization and alternative technology development. The center receives funding from the U.S. EPA and the State of Texas, with a majority of those funds being pledged to pollution prevention for the petrochemical and microelectronic industries. At this time, the center has some 60 projects in progress in a joint Federal, State, and industry effort at Texas Universities, and at research centers outside the State. The other members of the consortium are Louisiana State University, Mississippi State University, University of Alabama, University of Central Florida, University of Houston, University of Texas — Austin, and Texas A & M.

Contact: Dr. William Cawley
Gulf Coast Hazardous Substance Research
Center
Lamar University
P.O. Box 10613
Beaumont, Texas 77710
409-880-8707

University of Houston

Gulf Coast Hazardous Substance Research Center (GCHSRC)

The University of Houston is a member of the GCHSRC, which is located at Lamar University in Beaumont, Texas (see the listing under Lamar University).

University of Texas — Arlington

Environmental Institute for Technology Transfer (EITT)

EITT was established to facilitate research, technical assistance, and the dissemination of environmental knowledge to assist business and industry in finding cost-effective and environmentally acceptable solutions to

compliance problems. In addition to offering training courses that address pollution prevention, the institute provides a forum for industry and regulators to address common concerns through workshops, seminars, and conferences.

Contacts: Dr. Gerald I. Nehman, Director
Dr. Victorio Argento, Associate Director
Environmental Institute for Technology Transfer
University of Texas at Arlington
Box 19050
Arlington, Texas 76019
817-273-2300

University of Texas — Austin

Gulf Coast Hazardous Substance Research Center (GCHSRC)

The University of Texas — Austin is a member of the GCHSRC, which is located at Lamar University in Beaumont, Texas (see the listing under Lamar University).

WISCONSIN

University of Wisconsin — Madison

Engineering Professional Development Program

The College of Engineering offers intensive, short courses on waste minimization, environmental compliance, industrial environmental engineering, and pollution prevention from the design aspect.

Contact: Pat Eagan
Engineering Professional Development Program
College of Engineering
University of Wisconsin at Madison
432 North Lake Street
Madison, Wisconsin 53706
608-263-7429

Solid and Hazardous Waste Education Center

In cooperation with the Wisconsin Department of Natural Resources, the Extension Office offers workshops in solid waste reduction, recycling, composting, as well as general and industry-specific (electroplating and metal finishing, auto repair, local government, and schools) workshops on waste minimization and pollution prevention. The center also works directly with industry and government to provide technical assistance.

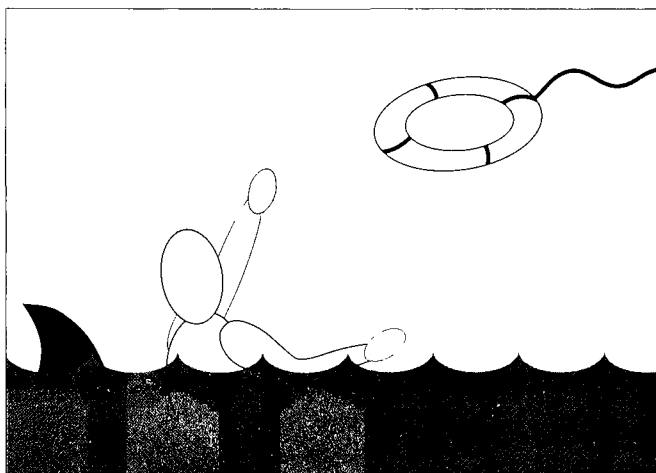
Contacts: David Liebel
Wayne Pferdehirt
Solid and Hazardous Waste Education Center
University of Wisconsin - Extension
529 Lowell Hall
610 Langdon Street
Madison, Wisconsin 53703
608-265-2360

5

Section 5 U.S. EPA Pollution Prevention Resources

This section contains information about sources of pollution prevention assistance and information at both the State and Federal levels.

- U.S. EPA's 33/50 Program
- U.S. EPA Headquarters/Laboratory Contacts/Program Summaries
- U.S. EPA Regional Office Contacts and 33/50 Program Contacts



EPA's 33/50 Program

Announced early in 1991, EPA's 33/50 Program is a voluntary pollution prevention initiative seeking to achieve real reductions in pollution in a relatively short period.

Under this program, EPA has identified 17 high priority toxic chemicals. EPA's Administrator has set a goal of reducing the total amount of these chemicals released into the environment and transferred offsite by 33 percent at the end of 1992 and by 50 percent at the end of 1995.

EPA is seeking reductions primarily through pollution prevention practices going beyond regulatory requirements. EPA also will be encouraging industry to develop a preventive approach seeking continuous environmental improvement even beyond these reductions and these chemicals.

Expected Results

Success in the program will be measured by nationwide reductions, rather than results at each company or facility. This approach provides flexibility and allows participating companies to develop reduction strategies that are the most cost-effective for their facilities.

In numeric terms, the goal is to reduce the amount of releases and off-site transfers from the 1.4 billion pounds reported in 1988 to 700 million pounds by 1995. EPA's Toxic Release Inventory (TRI) will be used to track these reductions using 1988 data as a baseline.

Selection of Chemicals

Each of the 17 chemicals was selected from TRI based on a number of factors, including high production volume, high releases and offsite transfers of the chemical relative to total production, opportunities for pollution prevention, and potential for causing detrimental health and environmental effects.

Implementation

EPA is contacting companies to provide them with information on the 33/50 Program and to solicit their participation. Companies are being asked to identify and implement cost-effective pollution prevention practices related to the 17 chemicals and to develop written commitments stating their reduction goals and how they plan to achieve them. Access to these written commitment statements will be made available at a public docket at EPA Headquarters.

Relationship to Other Programs

The 33/50 Program is part of EPA's overall Pollution Prevention Strategy and the first of the Agency's new pollution prevention initiatives. It is also a major component of the Office of Pollution Prevention and Toxics' Existing Chemicals Revitalization Program.

All of the 33/50 Program chemicals are regulated under one or more existing environmental statutes, and the 33/50 Program is intended to complement, not replace, ongoing EPA programs. All 17 targeted chemicals will be subject to the Maximum Achievable Control Technology (MACT) standards of the new Clean Air Act (CAA). EPA believes that the incentive for early reductions offered by the MACT provisions will further the progress of the 33/50 Program.

For More Information

For copies of a brochure on the 33/50 Program or other information, fax your request to the TSCA Assistance Service at 202-554-5603. Or call the TSCA Hotline at 202-554-1404 from 8:30 a.m. to 4:00 p.m. EST. Also, computer users may access the 33/50 mini-exchange in PIES (see Section 7 on PIES).

The 17 Target Chemicals

- | | |
|--|---|
| ■ Benzene | ■ Methyl Isobutyl Ketone |
| ■ Cadmium and Cadmium Compounds | ■ Methylene Chloride (Dichloromethane) |
| ■ Carbon Tetrachloride | ■ Nickel and Nickel Compounds |
| ■ Chloroform (Trichloromethane) | ■ Tetrachloroethylene (Perchloroethylene) |
| ■ Chromium and Chromium Compounds | ■ Toulene |
| ■ Cyanide Compounds and Hydrogen Cyanide | ■ 1,1,1-Trichloroethane (Methyl Chloroform) |
| ■ Lead and Lead Compounds | ■ Trichloroethylene |
| ■ Mercury and Mercury Compounds | ■ Xylene (all xylenes) |
| ■ Methyl Ethyl Ketone | |

U.S. EPA Headquarters/ Laboratory Pollution Prevention Contacts

The U.S. EPA offices identified below are involved in various pollution prevention issues. A brief description of each office's pollution prevention program is provided. For further information regarding particular programs or functions, contact the appropriate office.

EPA OFFICES

Pollution Prevention Division
Office of Pollution Prevention and Toxics
U.S. EPA
401 M Street, S.W. (PM-219)
Washington, D.C. 20460
202-260-3557

This office was established in 1988 to help integrate a multimedia pollution prevention ethic both inside and outside EPA. Its primary role is to support pollution prevention efforts by EPA's program offices, EPA Regions, States and local governments, industry, and the public.

Special Projects Office (33/50 Program)
Office of Pollution Prevention and Toxics
U.S. EPA
401 M Street, S.W.
Washington, D.C. 20460
202-260-1763

This office directs the 33/50 Program. The program is EPA's voluntary pollution prevention initiative to reduce national pollution releases and offsite transfers of 17 toxic chemicals by 33 percent by the end of 1992 and by 50 percent by the end of 1995. Since the program's beginning in February 1991, 6,000 companies who have reported releases of the targeted chemicals have been notified and asked to participate in the program. EPA is using the Toxic Release Inventory (TRI) data for 1988 as a baseline.

Office of Research and Development
U.S. EPA
401 M Street, S.W. (PM-681)
Washington, D.C. 20460
202-260-5747

This office has prime responsibility for EPA's pollution prevention research. In 1987, ORD initiated the Waste Minimization Research program that primarily addressed ways to minimize hazardous wastes. In 1989, ORD began to build a multi-media research program. The plan for expanding this program, described in the *Pollution Prevention Research Plan: Report to Congress*, focused on six functional areas of pollution prevention research: 1) product research; 2) process research; 3) recycling/reuse research; 4) social science research; 5) anticipatory research; and 6) technology transfer.

Over the past four years (FY 88-92) pollution prevention research has grown in all six functional areas and has expanded to air, water, pesticides, and toxic substances. Applied research to reduce hazardous/industrial wastes has continued to be a priority, and has focused primarily on "process" research related to different industry sectors. Product research, social science research and technical assistance have been growth areas. The Pollution Prevention Information Clearinghouse was established to transfer data and research results to clients in government, industry and the general public.

Pollution prevention research over the next five years will target: 1) high risk environmental problems for which pollution prevention offers a cost-effective solution for reducing the risks (such as indoor air pollution and ozone depleting substances), and 2) cross-cutting research that can be applied to multiple problems, such as measurement, modeling, and life cycle analysis.

**Pollution Prevention Research Branch
Risk Reduction Engineering Laboratory
Office of Research and Development
U.S. EPA
26 West Martin Luther King Drive
Cincinnati, Ohio 45268
513-569-7215**

EPA's Pollution Prevention Research Branch encourages the development and adoption of processing technologies and products in the U.S. that will reduce the generation of pollutants. The branch is involved in studies, research, and demonstration projects, including the Innovative Clean Technologies Project, the Clean Products Program, the Assessments Program, Waste Reduction Evaluation at Federal Sites (WREAFS), and support for the 33/50 Program.

**Waste Minimization Branch
Office of Solid Waste
U.S. EPA
401 M Street, S.W. (05321-W)
Washington, D.C. 20460
703-678-8402**

This Branch has recently completed a multiyear action plan for waste minimization; the purpose of this plan is to incorporate waste minimization throughout the RCRA program. The RCRA program will then be integrated into EPA's pollution prevention program under the Office of Toxic Substances.

**U.S. EPA Air and Energy Engineering Research
Laboratory
Office of Research and Development
Research Triangle Park, North Carolina 27711
704-629-2821**

The mission of the Air and Energy Engineering Research Laboratory (AEERL) is to research, develop and demonstrate methods and technologies for controlling air pollution from stationary sources.

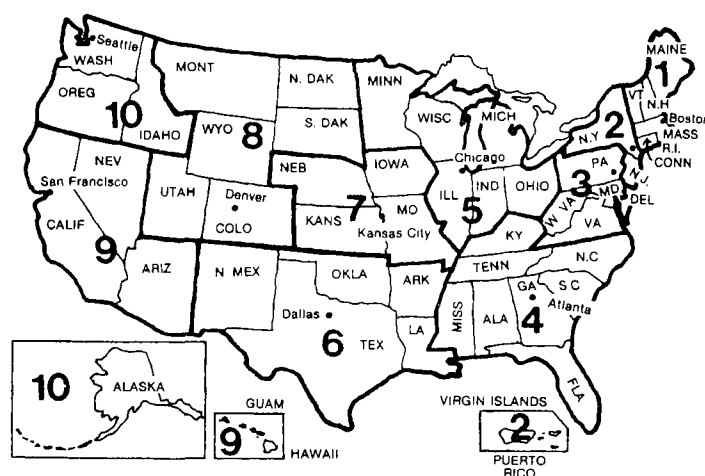
AEERL creates and improves air pollution control equipment, seeks means of preventing or reducing pollution through changes in industrial processes, develops predictive models and emissions estimation methodologies, identifies and assesses the importance of air pollution sources, and conducts fundamental research to define the mechanisms by which processes, equipment, and fuel combustion produce air pollution. AEERL has eight main research areas: acid rain; air toxics; hazardous waste; indoor air/radon; municipal waste combustion; ozone non-attainment; stratospheric ozone; and global climate change. Under stratospheric ozone, AEERL is evaluating alternatives to ozone depleting substances in the refrigeration and fire extinguishing industries.

POLLUTION PREVENTION HOTLINES

**RCRA/Superfund Hotline
1-800-424-9346**

**Asbestos and Small Business Ombudsman Hotline
U.S. EPA
401 M Street, S.W. (A-149 C)
Washington, D.C. 20460
1-800-368-5888**

The individuals identified below are the official contacts for pollution prevention matters concerning the EPA Regional Office initiatives and the 33/50 Program. Summaries of each Region's pollution prevention activities can be found in the Pollution Prevention Information Exchange System (described in section 7).



Mark Mahoney, and
Abby Swaine, Managers
Pollution Prevention Program
U.S. EPA Region I (PAS)
John F. Kennedy Federal Building
Boston, Massachusetts 02203
Mahoney: Phone: 617-565-1155
 FTS: 835-1155
 FAX: 617-565-3346
Swaine: Phone: 617-565-4523
 FTS: 835-4523
 FAX: 617-565-3346

Marv Rosenstein
33/50 Program
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Phone: 617-565-3273
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REGION IV

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Office of Policy and Management
U.S. EPA Region IV
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Atlanta, Georgia 30365
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FTS: 257-7109
FAX: 404-347-1043

REGION II

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Policy and Program Integration Branch
Office of Policy Aid Management
U.S. EPA Region II
26 Federal Plaza
New York, New York 10278
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FTS: 264-1925
FAX: 212-264-9695

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Atlanta, Georgia 30365
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FTS: 257-1033
Fax: 404-347-1681

Barbara Metzger
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Director, Environmental Services Division
U.S. EPA Region II (MS: 100)
2890 Woodbridge Avenue, Building 10
Edison, New Jersey 08837-3679
Phone: 908-340-6754
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Fax: 908-342-4381

REGION V

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Policy and Management Division
U.S. EPA Region V
77 West Jackson Blvd.
Chicago, Illinois 60604-3590
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FTS: 353-2000
FAX: 312-886-5374

REGION III

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FAX: 212-597-7906

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Fax: 312-886-2591

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33/50 Program
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Philadelphia, Pennsylvania 19107
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Fax: 215-597-7906

REGION VI

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1445 Ross Avenue (6M-P)
Dallas, Texas 75270
Phone: 214-655-6525
FTS: 255-6525
FAX: 214-655-2146

Lewis Robertson
33/50 Program
U.S. EPA Region VI (MS: 6T-P)
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202
Phone: 214-655-7235
FTS: 255-7235
Fax: 214-655-2164

REGION VII

Alan Wehmeyer, Deputy Director
Waste Management Division
U.S. EPA Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101
Phone: 913-551-7336
FTS: 276-7336
FAX: 913-551-7063

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U.S. EPA Region VII (MS: ARIX)
726 Minnesota Avenue
Kansas City, Kansas 66101
Phone: 913-551-7020
FTS: 276-7020
Fax: 913-551-706

REGION VIII

Don Patton, Chief
Sharon Childs, Program Analyst
Policy Office
U.S. EPA Region VIII
999 18th Street, Suite 500
Denver, Colorado 80202-2405
Patton: Phone: 303-293-1456
FTS: 330-1456
FAX: 303-293-1198

Childs: Phone: 303-293-1454
FTS: 330-1454
FAX: 303-293-1198

Laura Lonowski
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Toxic Release Inventory Program
U.S. EPA Region VIII (MS: 8AT-TS)
999 18th Street, Suite 500
Denver, Colorado 80202-2405
Phone: 303-293/1735
FTS: 330-1735
Fax: 303-293-1229

REGION IX

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Alisa Greene, Program Coordinator
Pollution Prevention Program
U.S. EPA Region IX
75 Hawthorne Street (H-1-B)
San Francisco, California 94105
Baskir: Phone: 415-744-2189
FTS: 484-2189
FAX: 415-744-1796
Greene: Phone: 415-744-2190
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FAX: 415-744-1796

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San Francisco, California 84105
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Fax: 415-744-1073

REGION X

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1200 Sixth Avenue (MD-142)
Seattle, Washington 98101
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FTS: 339-4072
FAX: 206-553-4957

Claire Rowlett, Environmental Protection Specialist
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Hazardous Waste Policy Division
U.S. EPA Region X
1200 Sixth Avenue (HW-113)
Seattle, Washington 98101
Phone: 206-553-1099
FTS: 399-1099

Gil Haselberger
33/50 Program
Chief, Toxic Substances Section
U.S. EPA Region X (MS: AT-083)
1200 6th Avenue
Seattle, Washington 98101
Phone: 206-442-1094
FTS: 399-1094
Fax: 206-442-0110

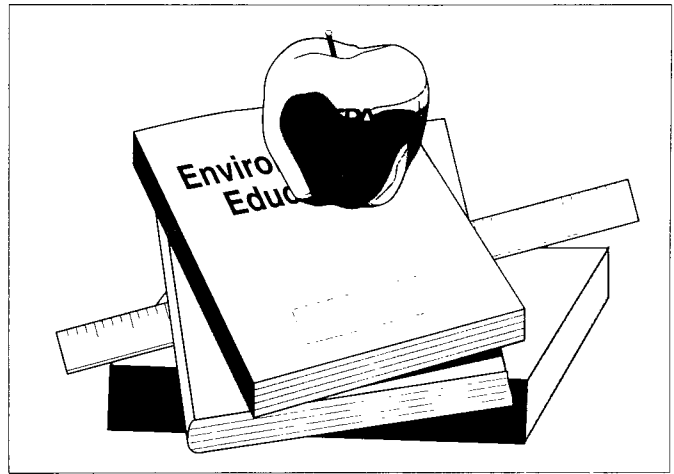
Note: Contact information for U.S. EPA libraries can be found in Section 6, EPA's Environmental Education Activities and Libraries.

6

Section 6

EPA's Environmental Education Activities and Libraries

The U.S. EPA is promoting environmental education — including pollution prevention topics — through various offices and projects. This section describes these educational efforts.



***U.S. EPA's Office
of Environmental
Education***

The Agency has established an Office of Environmental Education as authorized by the recently enacted National Environmental Education Act of 1990. The office's mandate is to foster an enhanced environmental ethic in society by improving the environmental literacy of our youth and increasing the public's awareness of environmental problems. The Office will provide national leadership in these areas, and will build upon the ongoing work of public, nonprofit, and private sector groups already pursuing these goals. Agency environmental education programs will emphasize four specific themes: wise use of natural resources, prevention of environmental problems, the importance of environmentally sensitive personal behavior, and the need for additional action at the community level to address environmental problems.

The Office's focus will be primarily on the K-12 levels, and the program will be multimedia in its approach. Although grant and fellowship programs are being planned by the Office, no funding is authorized for these programs until FY 92.

Office of Environmental Education
U.S. EPA
401 M St., SW (A-107)
Washington, D.C. 20460

202-260-4484

***EPA Pollution
Prevention Center
for Curriculum
Development and
Dissemination***

The University of Michigan has been awarded funding for a national pollution prevention education center. This center will develop pollution prevention curriculum modules for undergraduate and graduate engineering, business, and natural resources classes, and for broad distribution to other universities nationwide.

The center plans to conduct outreach efforts through short summer courses, offer pollution prevention internships for students at business and industrial facilities, and provide information and education for university faculty through departmental and interdepartmental seminars. The University has committed to support the center for 3 years with substantial supplemental funding. The award of this project, worth more than \$300,000, grows out of an EPA "2% Set-Aside" project initiated by EPA's Office of Toxic Substances.

Dr. Gregory A. Keoleian
School of Natural Resources
University of Michigan
Dana Building
430 E. University
Ann Arbor, Michigan 48109-1115

313-764-1412

***National Pollution
Prevention
Environmental
Education Project***

The U.S. EPA, working in partnership with State and local governments, industry, educational institutions, textbook publishers, and other entities, is embarking on a project that would ultimately produce pollution prevention education materials for students and teachers. This project will contribute to the establishment of an environmental ethic and work toward improved environmental quality. The

materials to be produced will concentrate on kindergarten through grade 12, or a specific segment of this broad group, and will emphasize that preventing pollution at the source is preferable to managing pollutants after they are produced.

A short-term goal is to provide our country's youth with an appreciation and an understanding of the potential benefits of pollution prevention, including conservation and recycling. The ultimate goal of the project is to instill in our future leaders, an ethic for more integrated environmental decisionmaking, pollution prevention, and protection of human health and the environment.

This program is directed by an Agency-wide group, the National Pollution Prevention Environmental Education Task Force. This task force comprises membership from all EPA Regions, the Office of the Administrator, and the Office of Pollution Prevention.

The actual form of the materials to be produced will be determined with the assistance of an Advisory Board to the task force. The task force will also encourage the private production of complementing pollution prevention education materials, e.g., videos, films, computer software, teaching aids, textbooks, etc. Special emphasis and consideration will be given to the environmental education needs of urban and rural youths.

The National Pollution Prevention Environmental Education Task Force is co-chaired by:

Douglas Cooper
Office of Federal Activities
U.S. EPA
401 M St. SW
Washington, D.C.

202-260-5052

and

Rowena Micheals
Director of Public Affairs
U.S. EPA Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101

913-236-2803

Educational Curriculum Information in the PPIC

Bibliographic Data Base of Educational Curriculum Material

As the first project of the National Pollution Prevention Environmental Education Project, the Office of Pollution Prevention has developed an annotated bibliographic data base of educational curriculum material. This purpose of this project is to

identify the gaps in pollution prevention education materials and to avoid duplicative efforts. This bibliography contains approximately 2,500 references to pollution prevention, including recycling, resource recovery, source reduction, energy and water conservation, and composting. The data base is accessible to the public on the PIES and includes, as available, the following information: date of publication, a brief abstract, cost, and information on how to obtain the publication.

PIES Literature Search Data Base

The PPIC Repository includes a collection of educational materials covering a range of source reduction and recycling issues. The target audience for most of these materials is students in kindergarten through grade 12. These documents are abstracted and currently available on the PIES' literature search data base. The collection will continue to expand as new instructional materials are developed. To obtain these abstracts, access the PIES and type "open 1" at the Main Menu prompt. Select the data base number 6 — "General Publications Abstracts" — and search on the keywords "educational" or "curriculum." If a more focused search is desired, combine these keywords with more descriptive keywords (for example, "educational+recycling"). Note: these abstracts will eventually be combined with the bibliographic data base mentioned above.

The PPIC is also collecting curriculum materials for undergraduate and graduate engineering courses that address pollution prevention. The documents will also be accessible through the literature search data base. If you have any materials you wish to include on this system, please contact the PPIC (see "Other Pollution Prevention Resources").

U.S. EPA Libraries

EPA libraries are excellent sources of pollution prevention information. Many have extensive collections dedicated to this specific topic.

EPA Headquarters Library

Louis Ramponi, Librarian
Library
U.S. EPA
401 M Street, S.W. (PM 211A)
Washington, D.C. 20460
202-260-5921 FTS: 260-5921

EPA Laboratory Library

Stephena Harmony, Librarian
Andrew W. Briedenbach Environmental Research
Center Library
Risk Reduction Environmental Laboratory
U.S. EPA
26 W. Martin Luther King Drive
Cincinnati, Ohio 45268
513-569-7707 FTS: 684-7707

EPA Regional Libraries

Peg Nelson, Librarian
U.S. EPA Region I
John F. Kennedy Federal Building
1 Congress Street
Boston, Massachusetts 02203
617-565-3300 FTS: 835-3300

Eveline Goodman, Librarian
U.S. EPA Region II
26 Federal Plaza
New York, New York 10278
212-264-2881 FTS: 264-2881

Diane M. McCreary, Librarian
U.S. EPA Region III
841 Chestnut Building (3PM 52)
Philadelphia, Pennsylvania 19107
215-597-0580 FTS: 597-0580

Priscilla Pride, Librarian
U.S. EPA Region IV
345 Courtland Street, NE
Atlanta, Georgia 30365-2401
404-347-4216 FTS: 257-4216

Ms. Lou W. Tilley, Librarian
U.S. EPA Region V
12th Floor, 77 West Jackson Blvd.
Chicago, Illinois 60604
312-353-2022 FTS: 353-2022

Linda McGlothlen, Librarian
U.S. EPA Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733
214-655-6444 FTS: 255-6444

Barbara MacKinnon, Librarian
U.S. EPA Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101
913-551-7358 FTS: 276-7358

Barbara Wagner, Librarian
U.S. EPA Region VIII
999 18th Street, Suite 500
Denver, Colorado 80202-2405
303-293-1444 FTS: 330-1444

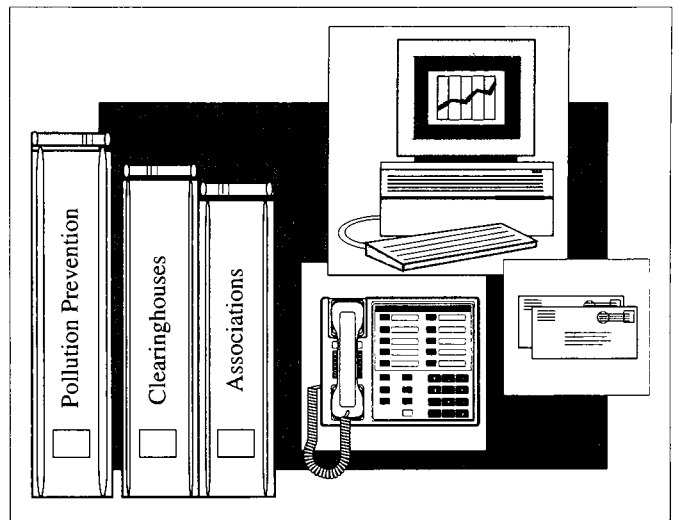
Linda Sunnen, Librarian
U.S. EPA Region IX
75 Hawthorne Street, 13th Floor
San Francisco, California 94105
415-744-1518 FTS: 484-1518

Julienne Sears, Librarian
U.S. EPA Region X
1200 Sixth Avenue
Seattle, Washington 98101
206-553-1289/1259 FTS: 399-1289/1259

7

Section 7 Pollution Prevention Clearinghouses and Associations

This section contains pollution prevention resources not covered in the previous sections.



Pollution
Prevention
Information
Clearinghouse

The Pollution Prevention Information Clearinghouse (PPIC) is dedicated to reducing or eliminating industrial pollutants through technology transfer, education, and public awareness. The Clearinghouse contains technical, policy, programmatic, legislative, and financial information concerning source reduction and recycling efforts in the United States and abroad. It is a free, nonregulatory service of the U.S. EPA and is accessible by personal computer, telephone hotline, or mail.

PPIC Structure

The Clearinghouse comprises four information exchange mechanisms:

Repository: A hard copy reference library containing the most current pollution prevention information. Case studies, fact sheets, programmatic and legislative information, and training materials are included in the Repository.

Pollution Prevention Information Exchange System (PIES): A 24-hour electronic network consisting of message centers, technical data bases, issue-specific "mini-exchanges," and a calendar of events devoted exclusively to pollution prevention. The system enables the user to access the Repository, a document ordering service, and PPIC technical staff.

Hotlines: Toll free telephone services to answer or refer questions and provide links to the PIES for users without access to a personal computer.

Outreach Efforts: Workshops and information packets containing industry-specific materials on pollution prevention opportunities.

Accessing the PPIC

Users Without a Personal Computer and a Modem

The PPIC uses two EPA hotlines and its own technical support service to answer or refer pollution prevention questions:

Hotline

RCRA/Superfund Hotline:	800-424-9346
Small Business Ombudsman (SBO) Hotline:	800-368-5888 703-557-1938 (in Virginia)
PPIC Technical Support Office:	703-821-4800 Phone 703-821-4775 Fax

Mail

Pollution Prevention Information Clearinghouse
c/o SAIC
7600-A Leesburg Pike
Falls Church, Virginia 22043

Regular Phone Line

Users With a Personal Computer and a Modem

Anyone can access the PIES using either an IBM PC (or compatible), Apple, or a dumb terminal equipped with a modem (1200 or 2400 baud), and appropriate communications software (e.g., Crosstalk™). Set your communication software to 8 data bits, no parity, and 1 stop bit; call (703) 506-1025.

Example:

Using Crosstalk™, type in the bold characters at the "Command?" prompt:

```
NAME    PIES
NUmber  703-506-1025
MOde    Call
DAta    8
PArity  N
STop    1
GO
```

Note: You may have to prefix the number with "8" or "9" to access an outside line, or "1" for long distance calls, as appropriate to your installation. A toll-free 800 number has been established for authorized Federal, State, and local government users — contact the PPIC Technical Support Office (listed above) to learn whether you qualify.

Upon first calling the PIES, you must answer some brief questions, and then select and enter a password (you must remember your password for subsequent calls to the system).

SprintNetSM

SprintNetSM is a private data network service. If you already subscribe to this service, dial your local SprintNetSM access number. At the @ prompt, type: c 202561311 (your SprintNetSM account number)(your personal SprintNetSM password to access the PIES). If you would like to receive information about how to subscribe to SprintNetSM, contact the PPIC. Note: SprintNetSM is not affiliated with the U.S. EPA or the PPIC.

Other U.S. Data Services

If you have access to one of the U.S. private data services that has a gateway to SprintNetSM, you can connect to the PIES. These data systems are BitNet, Western Union, SNET, Bell Atlantic, Bell South, Ameritech, NYNEX, Pacific Bell, Southwestern Bell, U.S. West, and Cincinnati Bell. Follow the local access procedures established by your data network to connect to another network. At their prompt, type: 311020256131 to access the PIES.

Overseas Data Service Provider

If you are a user outside North America, you must access a data service in your country that has a gateway to SprintNetSM (contact the PPIC for a complete list of participating networks). Follow the local access procedures established by your data network to connect to another network. At their prompt, type: 311020256131 to access the PIES.

PIES User Guide

A PIES User Guide is available and may be obtained free of charge by (1) leaving a message on the system addressed to "PPIC Staff," (2) writing to the above address, or (3) calling one of the PPIC hotlines.

The International Cleaner Production Information Clearinghouse

The International Cleaner Production Information Clearinghouse (ICPIC) is the PPIC's sister clearinghouse operated by the United Nations Environment Programme's (UNEP). The ICPIC provides information to the international community on all aspects of low- and non-waste technologies and methods. Patterned after the PPIC, the ICPIC has similar functions and components, including an electronic information exchange system that is indirectly accessible to PIES users through nightly exchanges of messages on the PIES Main Menu message center. For more information about the ICPIC, contact the PPIC (see above) or the ICPIC at the address below.

Accessing the ICPIC

Mail

The Director
Industry and Environment Program Activity Center
United Nations Environment Programme
39-43 quai André Citroën
75739 Paris CEDEX 15
France

Phone/Fax

Telephone: 33-1-40-58-88-50

ICPIC Computer Network

Fax: 33-1-40-58-88-74
33-1-40-58-88-78

OzonAction

OzonAction was newly established by UNEP in 1992 under the Interim Multilateral Ozone Fund (IMOF) of the Montreal Protocol Agreements. OzonAction relays technical and programmatic information on alternatives to all ozone depleting substances identified by the IMOF. OzonAction contains information on five industry sectors: solvents, coatings and adhesives; halons; aerosols and sterilants; refrigeration; and foams. Later this year OzonAction will contain the OZONET data bases on solvent substitutes, compiled by the Industry Cooperative for Ozone Layer Protection (ICOLP). For more information on OzonAction, contact the director, UNEP Industry and Environment Office listed above.

American Institute for Pollution Prevention (AIPP)

The AIPP was founded jointly by U.S. EPA and the University of Cincinnati in 1989 to assist EPA in promoting the widespread and expeditious adoption of pollution prevention concepts. The institute accomplishes this mission through developing informational and educational materials; participating in waste reduction demonstration projects; conducting economic, programmatic, and technological analyses; and assisting government, universities, and industry in identifying and resolving various pollution prevention issues. The institute consists of a group of 25 volunteer experts selected by their professional societies, agencies, and trade associa-

tions. These experts participate in four councils that undertake various tasks: Economics Council, Education Council, Implementation Council, and Technology Council.

Thomas R. Hauser, Ph.D., Executive Director
American Institute for Pollution Prevention
Department of Civil and Environmental Engineering
University of Cincinnati
Cincinnati, Ohio 45221-0071
Phone: 513-556-3693

Center for Waste Reduction Technologies (CWRT)

The CWRT was established in 1989 by the American Institute of Chemical Engineers, to support industry efforts in meeting the challenges of waste reduction through a partnership between industry, academia, and government. CWRT serves as a focal point for research, education and information exchange on the innovative waste reduction technologies needed for the next generation of clean, economically competitive manufacturing facilities.

Targeting Research

CWRT is building an integrated research program based on the identification of target waste streams and the development of a hierarchy of technological solutions to effect their solution or elimination. CWRT's Research Advisory Committee solicits university proposals covering both experimental research and process design methodology. Requests-for-proposals, currently under development, center around two major areas: total water reuse, and dilute VOC emissions recovery.

Transferring Technology and Enhancing Education

CWRT is committed to transferring technology and related information to the user community through practical "how-to" publications, international conferences, continuing education courses, and links with organizations having related interests. CWRT's Technology Transfer Committee works to identify and prioritize candidate projects, including best management practices in several technology areas, standardized economic evaluation of technology, and current practices in specific areas of waste reduction. CWRT is also developing course materials for undergraduate and graduate engineering curricula and student internship programs, as well as continuing education courses for practicing engineers.

Center for Waste Reduction Technologies
American Institute of Chemical Engineers
345 East 47th Street
New York, New York 10017
Phone: 212-705-7407
Fax: 212-752-3297

Florida Recycling Marketing System (FRMS)

The FRMS, developed through an Innovative Recycling Grant from the Florida Department of Environmental Regulation, is a computerized marketing system for recycled/recyclable materials. This no-cost system includes the following options:

- Directories of recyclers, processors, end users, recycling equipment, and manufacturers of products with recycled content
- Forums divided into specific recyclable categories where any question, comment, or information about that material may be answered, discussed, or made available
- Downloadable files related to recycling
- Announcements concerning conferences, meetings, workshops, etc.
- Advertisements for materials wanted or available.

The bulletin board is accessible 24-hours a day by any PC equipped with a modem. To connect, set your communications software to 8 data bits, no parity, 1 stop bit, and dial 1-800-348-1239. The system operates up to 2400 baud.

Dr. Paul Still
Florida Recycling Marketing System
Florida Center for Solid and Hazardous Waste Management
3900 S.W. 63rd Boulevard
Gainesville, Florida 32608
Phone: 904-392-6264 X811
Fax: 904-392-6910 FAX

Hazardous Waste Research and Information Center (HWRIC)

The HWRIC is a Division of the Illinois Department of Energy and Natural Resources (ENR). HWRIC combines research, education, and technical assistance in a multidisciplinary approach to manage and reduce hazardous waste in Illinois. HWRIC collects and shares this information through its library/clearinghouse and several computerized waste management tools.

Library/Clearinghouse

The HWRIC has collected a broad collection of pollution prevention information, including books, journal articles, reports, and pamphlets on various topics. Books and reports are compiled into a quarterly waste reduction bibliography, copies of which are available upon request. The library/clearinghouse includes all of the studies cited and the North Carolina Pollution Prevention bibliography, as well as a number of publications cited in a laboratory waste reduction bibliography. Print and online indexes to all of the collections are available on site. HWRIC can distribute single copies of HWRIC-sponsored reports, in addition to pamphlets, at no charge. Lists of both types of materials are available upon request. Books and articles are

not lent directly outside of the Center, but HWRIC does participate in interlibrary loans.

Waste Reduction Advisory System (WRAS)

The WRAS is a user-friendly computerized waste management tool developed by the HWRIC, the U.S. EPA, and other State waste management programs. It provides waste generators with a wide range of options for reducing and recycling industrial waste. The WRAS has two parts: the Waste Reduction Audit Checklist (WRAC) and the WRIB. The WRAC gives individualized waste reduction assistance via a series of questions presented in the audit checklist. It is designed to assess a facility's current waste reduction activities and then identify potential waste reduction techniques for each waste generating process and job operation. The WRIB provides users with more than 300 literature abstracts and case studies on current waste reduction technologies. Currently, the WRAS case study data base is being merged with the PIES data base (see the description of the PPIC in this section).

A fully executable WRAS program, complete with a User's Guide, costs \$95. To access this program, a user needs a fully IBM compatible PC with at least 640 K of memory, a hard disk, and DOS version 2.1 or greater.

Alisa Wickliff
Hazardous Waste Research and Information Center
One East Hazlewood Drive
Champaign, Illinois 61820
Phone: 217-244-8905
Fax: 217-333-8944

The National Roundtable of State Pollution Prevention Programs (Roundtable)

The Roundtable is a group of pollution prevention programs at the State and local level in both the public and academic sectors. Typically, member programs are engaged in a broad range of activities, including multi-audience training and primary to post-secondary pollution prevention education, supported by a variety of State and Federal funding sources. The Roundtable is coordinated through biannual conferences as well as ongoing activities. Conferences serve in part as opportunities for updates on member programs' progress, including their training efforts. From the conferences spring work groups designed to identify needs and develop positions on issues. For example, a Training Work Group monitors training and brainstorms new pollution prevention training opportunities, audiences, and approaches.

The Roundtable is funded through a U.S. EPA grant administered by WRITAR (see below).

Terry Foeke or Al Innes
National Roundtable of State Pollution Prevention Programs
c/o WRITAR
1313 5th Street, S.E.
Minneapolis, Minnesota 55414
Phone: 612-379-5995
Fax: 612-379-5996

Northeast Multimedia Pollution Prevention Program (NEMPP)

The NEMPP was established in 1989 to enhance the capabilities of State environmental officials in New England, New Jersey, and New York in implementing effective source reduction programs. The effort involves three components: establishing a clearinghouse of information on pollution prevention, including technical data, reports, case studies, and a list of pollution prevention experts; conducting training sessions for State officials and industry representatives on source reduction and recycling policies, strategies, and technologies; and researching source reduction strategies for the major toxic metals in incinerator emissions and ash. The clearinghouse provides pollution prevention information to the public, industry representatives, and State officials and identifies upcoming pollution prevention meetings and conferences.

Terri Goldberg, Program Manager
Northeast Multimedia Pollution Prevention/Northeast Waste Management Officials' Association
85 Merrimac Street
Boston, Massachusetts 02114
Phone: 617-367-8558
Fax: 617-742-9162

Pacific Northwest Pollution Prevention Research Center

The Pacific Northwest Pollution Prevention Research Center is a non-profit public-private partnership dedicated to the goal of furthering pollution prevention in the Pacific Northwest. The Center is being built on the support of industry, environmental and civic organizations, Federal and state governments, and academia.

The Center will:

- Identify where pollution prevention research gaps exist;
- Set priorities for research;
 - Support, sponsor, and conduct research;
- Communicate research results;
- Foster ways to evaluate the effectiveness of the research;
- Disseminate and educate the public on the progress the Pacific Northwest is making in pollution prevention.

Madeline Grulich, Director
Pacific Northwest Pollution Prevention Research Center
411 University Street, Suite 1252
Seattle, Washington 98101
Phone: 206-223-1151
Fax: 206-467-0212

Solid Waste Information Clearinghouse (SWICH)

SWICH is an information clearinghouse operated by the Solid Waste Association of North America (SWANA) and funded by SWANA, U.S. EPA's Office of Solid Waste, and the Association of Solid Waste Management Professionals. SWICH covers a wide range of solid waste issues, including:

- Source Reduction
- Recycling
- Composting
- Planning
- Education and Planning
- Public Participation
- Legislation and Regulation
- Waste Combustion
- Collection
- Transfer
- Disposal
- Landfill Gas
- Special Wastes.

SWICH components include an electronic bulletin board, a library, and a hotline. Services include document ordering and onsite library access.

The bulletin board is accessible 24 hours a day by any PC equipped with a modem. To connect, set your communications software to 8 data bits, no parity, 1 stop bit, and dial 301-585-0204. The system operates at either 1200 or 2400 baud.

Lori Swain, Manager
Solid Waste Information Clearinghouse
Solid Waste Association of North America
P.O. Box 7219
Silver Spring, Maryland 20910
Phone: 800-677-9424
Fax: 301-585-0297

**Waste
Reduction
Institute for
Training and
Applications
Research, Inc.
(WRITAR)**

WRITAR is a private, independent, nonprofit organization designed to identify waste reduction problems, help find their solutions, and facilitate the dissemination of this information to a variety of public and private organizations. The institute is also the current administrator of the U.S. EPA grant to the National Roundtable of State Pollution Prevention Programs (see above). WRITAR has an extensive background in designing and delivering persuasive pollution prevention training to Federal, State, and local regulators, inspectors, and administrative staffers, as well as to corporate and public audiences. This existing activity is supplemented by a 1991 grant from the U.S. EPA Office of Pollution Prevention to support pollution prevention training for the States through U.S. EPA Regional staff. WRITAR also conducts industry-specific training (primarily in metal finishing) for more narrowly defined audiences.

Terry Foecke or Al Innes
Waste Reduction Institute for Training and Applications Research
1313 5th Street, S.E.
Minneapolis, Minnesota 55414-4502
Phone: 612-379-5995
Fax: 619-379-5996

**Waste
Reduction
Resource
Center for the
Southeast
(WRRRC)**

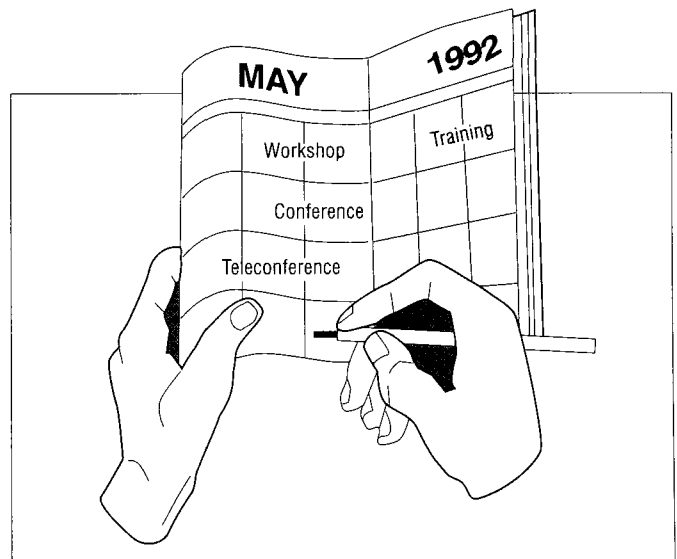
The WRRRC was established in 1988 to provide multimedia waste reduction support for the eight States of U.S. EPA Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee). The center has a collection of technical waste reduction information from the national level, from Federal government agencies, from all 50 States, and from numerous private sources. WRRRC serves as a clearinghouse that will give answers and information to people from Region IV who request it, identify upcoming conferences and meetings, identify new publications, and provide technical staff support to prepare reports on industry-specific waste reduction questions. A key element of the center is the capacity to assign trained engineers to respond to questions regarding specific waste reduction problems. The center also provides support for onsite waste reduction assessments and training for regulatory agency and industrial personnel.

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8

Section 8 Calendar of Pollution Prevention Events

The information in this calendar was taken from the Pollution Prevention Information Exchange System (PIES), a component of EPA's Pollution Prevention Information Clearinghouse (see Section 7, Pollution Prevention Clearinghouses and Associations). It is current as of January 1992. For the most up-to-date listing of events with detailed descriptions, check the PIES.



Calendar of Events

Title	Sponsor	Date/Location	Phone
EcoSite Trade Show	The Ministry of the Environment and the Prevention of Major Technological and Natural Risks, The Ministry of Industry and Regional Development, and the Ministry of Research and Technology	1/7/92 to 1/9/92 CNIT, Paris-la Defense, France	33-1-48-58-50
EcoSite International Forum	The Ministry of the Environment and the Prevention of Major Technological and Natural Risks, The Ministry of Industry and Regional Development, and the Ministry of Research and Technology	1/7/92 to 1/9/92 CNIT, Paris-la Defense, France	
Pollution Prevention Workshop	The Environmental and Hazardous Materials Management Programs, The University of Findlay	1/16/92 to 1/17/92 Findlay, Ohio	(419) 424-4647 (800) 521-1292
Bioremediation Engineering: Principles, Applications, and Case Studies	General Physics Corporation	1/22/92 to 1/24/92 San Diego, California	(301) 290-2300
Pollution Prevention — Making It Happen!	American Institute of Chemical Engineers, National Science Foundation, Battelle Pacific Northwest Laboratory, Research Triangle Institute, U.S. EPA, U.S. Department of Energy	1/26/92 to 1/31/92 Santa Barbara, California	(919) 541-7308
Waste-to-Energy Conference	GRCD/ASWANA	1/28/92 to 1/30/92 Minneapolis, Minnesota	(301) 585-2898
R&D '92: National R&D Conference on the Control of Hazardous Materials	Hazardous Materials Control Research Institute (HMCRI)	2/4/92 to 2/6/92 San Francisco, California	(301) 982-9500
33/50 Program Regional Workshop	U.S. EPA Office of Research and Development	2/6/92 Atlanta, Georgia	(513) 252-1222
The Environmental Technology Expo: Conference and Exposition	Cahners Exposition Group	2/24/92 to 2/26/92 Chicago, Illinois	(708) 390-2479
First International Conference on Environment	Environment Protection Council	2/24/92 to 2/26/92 Manama, Bahrain	(33 1) 40-58-88-50
The Asia-Pacific Cleaner Production Conference; Cleaner Production: How to Make It Work For You	United Nations Environment Programme Industry and Environment Office Conference in association with: Environment Protection Authority, Victoria Department of the Arts, Sport, the Environment, Tourism and Territories Australian and New Zealand Environment and Conservation Council	2/24/92 to 2/28/92 Melbourne, Australia	61 3 628 5097

Calendar of Events

Title	Sponsor	Date/Location	Phone
Third Annual Recycling Conference — Evolving Issues and Developing Trends	The Center for Earth Resource Management Applications	2/26/92 to 2/28/92 San Diego, California	(703) 750-1158
HMC-South '92	HMCRI	2/26/92 to 2/28/92 New Orleans, LA	(301) 982-9500
3rd Annual International Recycling Symposium	GRCD/ASWANA	2/27/92 to 2/29/92 Mesa, Arizona	(301) 585-2898
Pollution Prevention Workshop	The University of Findlay	2/27/92 to 2/28/92 Findlay, Ohio	(419) 424-4647
I-MAX: Integrated Waste Management for the 90's	Resource Recovery Report	2/27/92 to 2/29/92 West Palm Beach, Florida	(703) 347-4500 (800) 627-8913
Workshop on the Implementation of the Montreal Protocol for the Protection of the Ozone Layer	United Nations Environment Program Industry and Environment Office	March 1992 Caracas, Venezuela	(33 1) 40-58-88-50
Meeting of Senior Advisers to ECE Governments of Environmental and Water Problems	ECE	3/2/92 to 3/6/92 Geneva, Switzerland	(33 1) 40-58-88-50
IV Preparatory Committee for the United Nations Conference on Environment and Development (UNCED)	UNCED Secretariat	3/2/92 to 4/3/92 New York, New York	(33 1) 40-58-88-50
BioCycle West Coast Conference	BioCycle Magazine	3/2/92 to 3/4/92 San Francisco, California	(215) 967-4135
1992 Public Interest — Environmental Law Conference	Law Air Water Environmental Research Group, USA	3/12/92 to 3/15/92 Eugene, Oregon	(33 1) 40-58-88-50
Globe '92: Global Opportunities for Business and The Environment		3/16/92 to 3/20/92 Vancouver, British Columbia, Canada	(604) 666-8020
Designing and Implementing a Recycling Program	APWA Education Foundation	3/16/92 to 3/17/92 Ft. Lauderdale, Florida	(312) 667-2200, ext. 534
Materials and Energy from Refuse 4	European Federation of Chemical Engineering	3/18/92 to 3/20/92 Oostende, Belgium	00-32-3-216-0096
Pollution Prevention/Waste Minimization Videoconference Series — Program 1: Overview — Why Minimize Waste?	Waste-management Education and Research Consortium (WERC)	March 18, 1992 Video	(800) 292-7051
Designing and Implementing a Recycling Program	APWA Education Foundation	3/19/92 to 3/20/92 Portland, Oregon	(312) 667-2200, ext. 534
Ozone Protection for the 90s, A South East Asia and South Pacific Workshop	Australia Department of Arts, Sport, the Environment, Tourism and Territories	3/21/92 to 3/25/92 Canberra, Australia	(06) 274 11 11
16th International Ryder Conference on Beverage Packaging	Ryder Associates	3/23/92 to 3/25/92 Atlanta, Georgia	(201) 887-2178

Calendar of Events

Title	Sponsor	Date/Location	Phone
Annual Conference of the Associated Recyclers of Wisconsin	Associated Recyclers of Wisconsin	3/24/92 to 3/25/92 Green Bay, Wisconsin	(414) 679-2132
15th Annual Landfill Gas Symposium	GRCD/SWANA	3/24/92 to 3/26/92 Arlington, Virginia	(301) 585-2898
Solvent Recycle, Recovery and Reuse	The Center for Professional Advancement	3/24/92 to 3/26/92 East Brunswick, New Jersey	(908) 613-4535
Pollution Prevention Workshop	The University of Findlay	3/24/92 to 3/26/92 Findlay, Ohio	(419) 424-4647
HAZMACON	Association of Bay Area Governments	3/31/92 to 4/2/92 Long Beach, California	(415) 464-7951
Next Generation Technologies for Efficient Energy End Uses and Fuel Switching	International Energy Agency; Bundesministerium Fur Forschung Und Technologie	4/7/92 to 4/9/92	33-1-48-58-50
Pollution Prevention/Waste Minimization Videoconference Series — Program 2: Where Do We Start Waste Minimization?	Waste-management Education and Research Consortium (WERC)	April 8, 1992 Video	(800) 292-7051
33/50 Program Regional Workshop	U.S. EPA Office of Research and Development	April 9, 1992 Edison, New Jersey	(513) 252-1222
ARA Tire Conference & Trade Show	American Retreaders' Association, Inc. (ARA)	4/9/92 to 4/11/92 Louisville, Kentucky	(800) 426-8835 (502) 968-8900
1992 Federal Environmental Restoration Conference & Exhibition	Hazardous Materials Control Research Institute (HMCRI)	4/15/92 to 4/17/92 Vienna, Virginia	(301) 982-9500
2nd Annual Conference on RD/RA in the Superfund Program	U.S. EPA Hazardous Site Control Division (OS-220W)	4/21/92 to 4/23/92 Chicago, Illinois	(703) 308-8393
Innovative Technologies of Cleaning the Environment: Air, Water, and Soil	International School for Innovative Technology for Cleaning the Environment (ISITCE)	4/22/92 to 4/29/92 Erice, Sicily	(415) 423-8875
1992 Spring Meeting of the Materials Research Society	Materials Research Society	4/27/92 to 5/1/92 San Francisco, California	(215) 861-3431 (708) 972-5021 (505) 844-7937
Pollution Prevention/Waste Minimization Videoconference Series — Program 3: How Does Recycling/Reuse/Reclamation Make Economic Sense?	Waste-management Education and Research Consortium (WERC)	April 29, 1992 Video	(800) 292-7051
Wasteexpo '92	National Solid Waste Management Association	5/5/92 to 5/8/92 New Orleans, Louisiana	(202) 659-4613
ASME National Waste Processing Conference	American Society of Mechanical Engineers	5/7/92 to 5/10/92 Miami, Florida	(202) 705-7722

Calendar of Events

Title	Sponsor	Date/Location	Phone
Pollution Prevention Workshop	The University of Findlay	5/7/92 to 5/8/92 Findlay, Ohio	(419) 424-4647 (800) 521-1292
International Symposium on Pollution Prevention: Comparative Risk Analysis and Priority Setting	U.S. Environmental Protection Agency United States of America Ministry of Housing, Physical Planning, and Environment The Netherlands	5/10/92 to 5/15/92 Denver, Colorado	(703) 734-3198
International Conference on the Recycling of Metals	The Materials Information Society	5/13/92 to 5/15/92 Dusseldorf, Germany	(216) 338-4634
22nd Annual BioCycle National Conference	<i>BioCycle Magazine</i>	5/13/92 to 5/15/92 St. Louis, Missouri	(215) 967-4135
International Conference of B.I.R. — The International Federation of the Reclamation and Recycling Industries		5/18/92 to 5/21/92 Paris, France	02-217-82-51
Pollution Prevention/Waste Minimization Videoconference Series - Program 4: Are the Right Product/Process Designs Being Addressed?	Waste-management Education and Research Consortium	May 20, 1992 Video	(800) 292-7051
International Composting Research Symposium	Ohio State University U.S. EPA	5/27/92 to 5/29/92 Columbus, Ohio	(614) 292-8571
In Our Hands: Earth Summit	United Nations Conference on Environment and Development	6/1/92 to 6/12/92 Rio de Janeiro, Brazil	33-1-48-58-50
BioWaste '92	ISWA and IAWPRC	6/1/92 to 6/4/92 Herning, Denmark	45 33 15 65 65
World Recycling Conference and Expo	Conference Management Corporation	6/2/92 to 6/4/92 Rosemont, Illinois	(203) 852-0500
TechTrans Centre '92	Exhibition Centre Herning/ Dakofa	6/2/92 to 6/4/92 Herning, Denmark	45 97 12 60 00
Second United States Conference on Municipal Solid Waste Management	U.S. EPA Municipal and Industrial Solid Waste Division	6/3/92 to 6/5/92 Arlington, Virginia	(301) 585-2898 (202) 260-6263
Pollution Prevention/Waste Minimization Videoconference Series — Program 5: Solvents and Organic Chemicals	Waste-management Education and Research Consortium (WERC)	June 10, 1992 Video	(800) 292-7051
Eco World '92: Ecology, Economics, Engineering	American Society of Mechanical Engineers	6/14/92 to 6/17/92 Washington, DC	(212) 705-7148
6th International Solid Waste Congress and Exhibition	International Solid Waste Association	6/14/92 to 6/19/92 Madrid, Spain	
85th Annual Meeting of the Air and Waste Management Association	Air and Waste Management Association	6/22/92 to 6/26/92 Kansas City, Missouri	(412) 232-3444

Calendar of Events

Title	Sponsor	Date/Location	Phone
1992 National Solid Waste Forum	Association of State and Territorial Solid Waste Management Officials (ASTSWMO)	7/20/92 to 7/22/92 Portland, Oregon	(202) 624-5828
30th International Solid Waste Exposition	GRCD	8/3/92 to 8/6/92 Tampa, Florida	(800) 456-4723
9th World Clean Air Congress & Exhibition	Air and Waste Management Association (AWMA), United States and Canada	8/30/92 to 9/4/92 Montreal, Province of Quebec, Canada	
Pollution Prevention/Waste Minimization Videoconference Series — Program 6: How to Implement Minimization in Metals, Plating, and Electrical Interconnects	Waste-management Education and Research Consortium	September 9, 1992 Video	(800) 292-7051
Pollution Prevention/Waste Minimization Videoconference Series — Program 7: How to Minimize "End of Life" Problems	Waste-management Education and Research Consortium	September 30, 1992 Video	(800) 292-7051
International Conference of B.I.R. — The International Federation of the Reclamation and Recycling Industries	The International Federation of the Reclamation and Recycling Industries	10/19/92 to 10/21/92 Copenhagen, Denmark	02-217-82-51
Pollution Prevention/Waste Minimization Videoconference Series - Program 8: Wrap-Up	Waste-management Education and Research Consortium	October 21, 1992 Video	(800) 292-7051
International Conference of B.I.R. — The International Federation of the Reclamation and Recycling Industries	The International Federation of the Reclamation and Recycling Industries	10/25/92 to 10/27/92 Geneva, Switzerland	32-02-514-21-80
5th Ryder Conference on Plastics and Packaging for Food and Beverages	Ryder Associates	10/26/92 to 10/28/92 Dusseldorf, Germany	(201) 887-2178
First International Trade Exhibition and Congress on Recycling		1/20/93 to 1/25/93 Geneva, Switzerland	022-789-1111
HAZMACON	Association of Bay Area Governments	4/6/93 to 4/8/93 San Jose, California	(415) 464-7951
International Conference of B.I.R. — The International Federation of the Reclamation and Recycling Industries		5/24/93 to 5/27/93 Washington, D.C.	02-217-82-51
Wasteexpo '93	National Solid Waste Management Association	6/14/93 to 6/18/93 Chicago, Illinois	(202) 659-4613
86th Annual Meeting of the Air and Waste Management Association	Air and Waste Management Association	6/20/93 to 6/25/93 Denver, Colorado	(412) 232-3444
31st International Solid Waste Exposition	GRCD	8/2/93 to 8/5/93 San Jose, California	(800)-456-4723

Calendar of Events

Title	Sponsor	Date/Location	Phone
Global Forum on Environmental and Development Education (to discuss Agenda 21)	Indian Environmental Society	9/24/93 to 9/28/93 New Delhi, India	(33 1) 40-58-88-50
Wasteexpo '94	National Solid Waste Management Association	5/3/94 to 5/6/94 Dallas, Texas	(202) 659-4613
87th Meeting and Exhibition of the Air and Waste Management Association	Air and Waste Management Association	6/19/94 to 6/24/94 Cincinnati, Ohio	(412) 232-3444
32nd International Solid Waste Exposition	GRCDA	7/31/94 to 8/3/94 San Antonio, Texas	(800) 456-4723
National Solid Waste Management Association		4/24/95 to 4/28/95 Chicago, Illinois	(202) 659-4613