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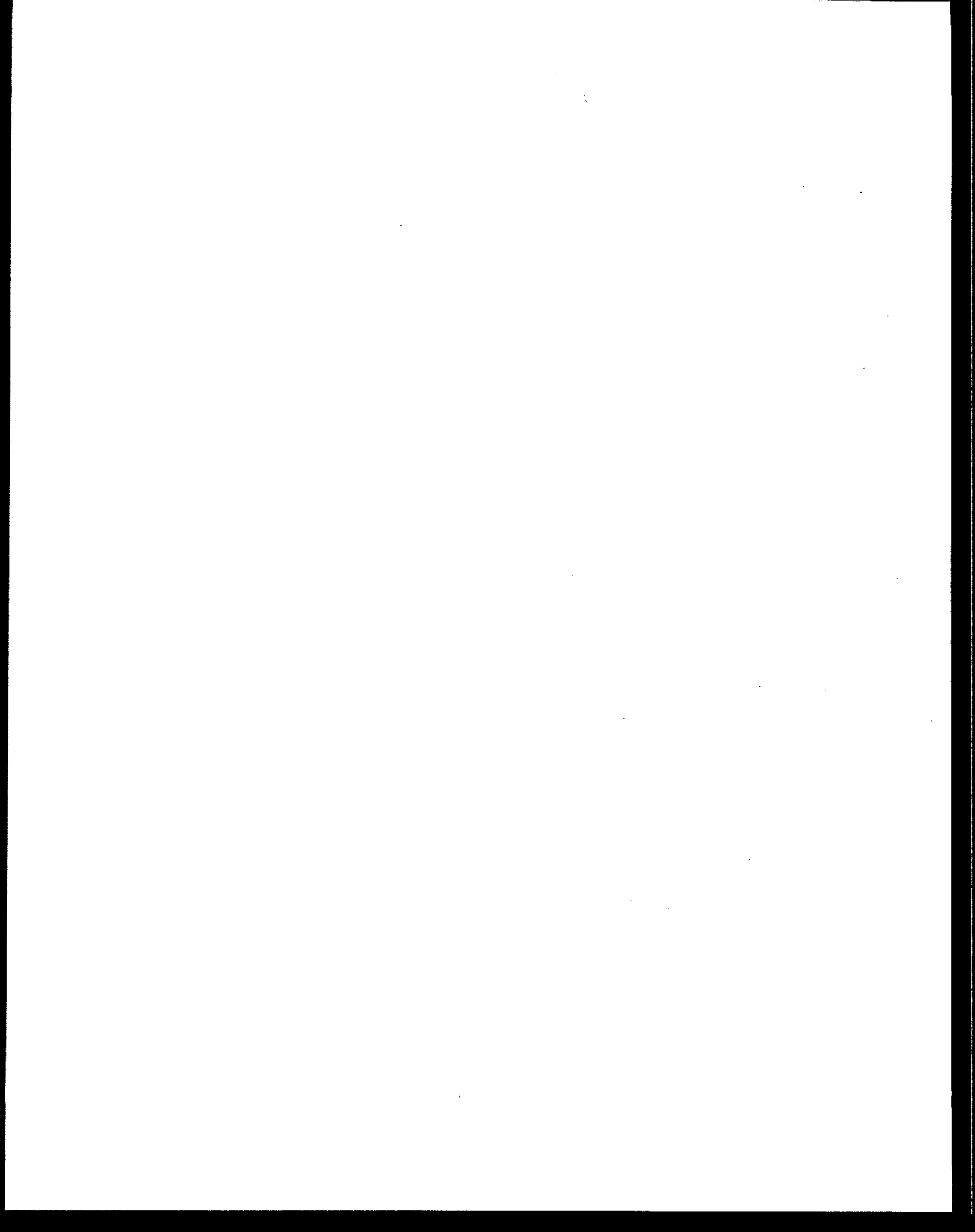
Pollution Prevention Directory



**Developed under the direction of Beth Anderson
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
Washington, DC 20460
September 1994**

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INTRODUCTION

Pollution prevention makes economic sense. We'll save money on raw materials, we'll have less waste to dispose of, and we'll protect American citizens and our own environment.

CAROL M. BROWNER, EPA ADMINISTRATOR

Purpose of This Document

This directory contains information about publicly sponsored pollution prevention sources available across the United States. The goal of this publication is to provide persons interested in learning more about pollution prevention options with a directory of information on federal, state, and local resources. Entries include:

- ▷ Sources for pollution prevention information for the public in each state
- ▷ Resources and technical assistance programs for small- and medium-sized businesses
- ▷ University centers that are conducting pollution prevention research and training
- ▷ Selected federal agencies involved in pollution prevention
- ▷ Additional resources available in the pollution prevention field.

Given the evolving and expanding nature of pollution prevention resources, this directory represents only a portion of the resources available. Additional and up-to-date information on the topics covered in this directory and on related subjects can be obtained by contacting the clearinghouses, hotlines, and directories listed in Chapter 4.

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 law establishes as national policy an environmental management hierarchy that sets 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.

Further impetus towards national adoption of pollution prevention goals came in April 1994 when President Clinton announced, in his Earth Day address, the promul-

gation of a number of executive orders that place federal agencies in the forefront of pollution prevention activities. These executive orders require the government to set prevention-related goals — for the acquisition process, emission reductions, and solid waste prevention and recycling. They also bring the federal government under the rubric of the environmental “right-to-know” provisions that have made the United States a leader in environmental progress worldwide.

What Is Pollution Prevention?

Pollution prevention aims both to conserve our finite natural resources and to prevent waste and harmful substances from contaminating our environment. While enormous progress has been made in a short while, pollution prevention remains a wide-open field with opportunities for significant action on the part of every sector of society. 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 in the Pollution Prevention Act of 1990 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.

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.

EPA's Role in Pollution Prevention

The Pollution Prevention Act of 1990 reinforced EPA's continuing and aggressive effort to integrate pollution prevention into all of its programs and activities. EPA's 1991 *Pollution Prevention Strategy* provided guidance on incorporating pollution prevention into ongoing programs

and included a plan for a voluntary industry program to reduce toxic chemicals, later known as the 33/50 Program (see Chapter 1 for more details). Subsequent EPA-initiated voluntary programs, including Green Lights, Energy Star, etc. have formed the basis for innovative partnerships in pollution prevention with a wide range of organizations in all sectors of society, including other federal agencies, states, local governments, industry, universities, nonprofit organizations, and the general public. In the last few years, virtually every program and support office at EPA has begun to incorporate pollution prevention ideas into its services. This extends to regulation writing, technical information transfer and exchange, administering grant programs, conducting research, and public outreach services.

EPA's innovative new approach to environmental protection launched in 1994, the Common Sense Initiative, takes pollution prevention as its guiding principle in dealing in a comprehensive manner with the environmental impacts of specific industries. The Common Sense Initiative replaces the pollutant-by-pollutant approach of the past with an industry-by-industry approach for the future. For the first time in the history of EPA, teams of Agency representatives, joined by representatives of national and grassroots environmental organizations, industry leaders, state environmental commissions, local government, labor unions,

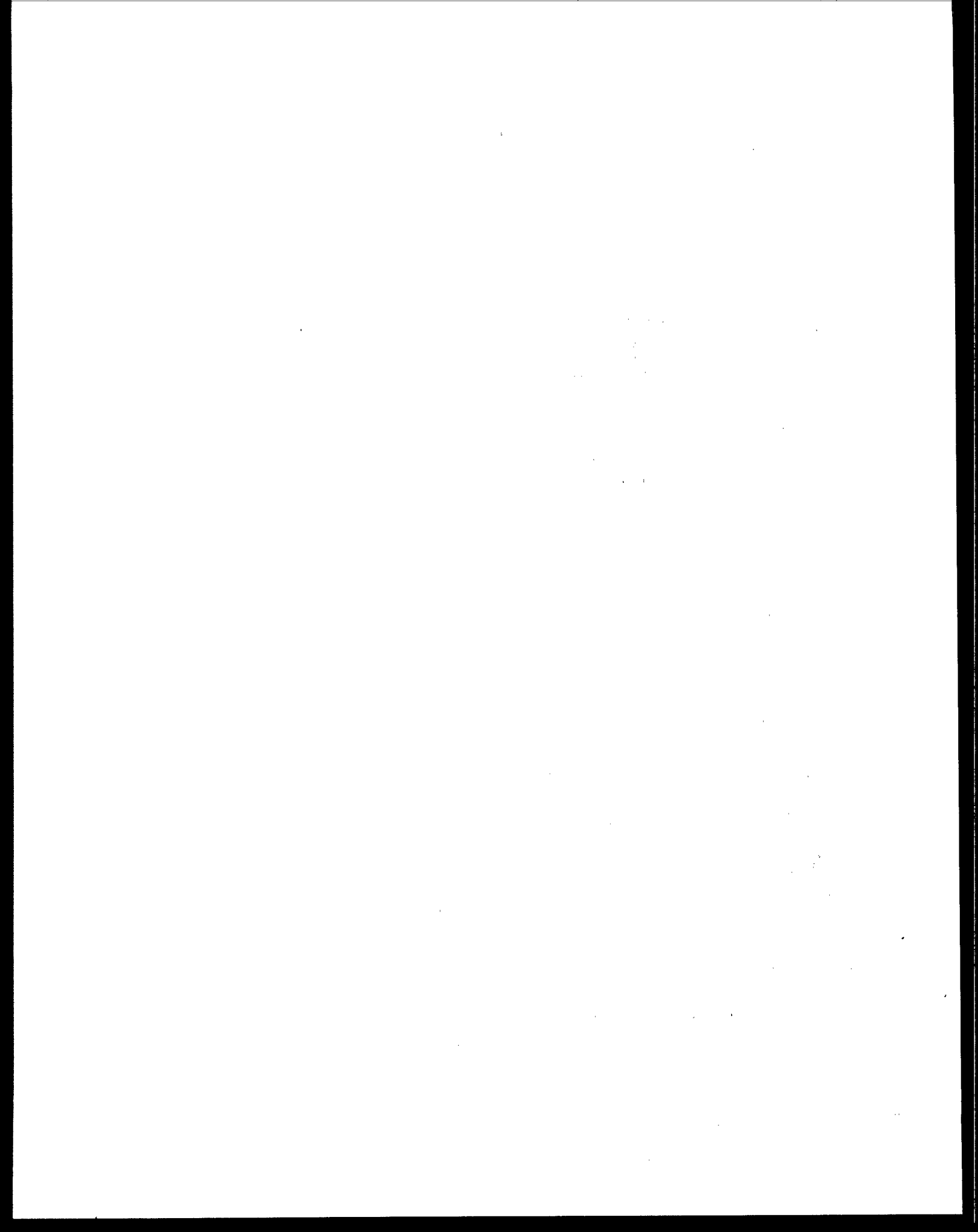
environmental justice groups, and other organizations, will conduct a comprehensive review of every major rule and regulation that apply to each of the industries under examination, with the aim of achieving environmental protection through pollution prevention, using fewer resources and saving money in the process.

Updates to This Directory

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 directory 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. Please submit corrections to:

Pollution Prevention Division
U.S. EPA (7409)
401 M Street SW
Washington, D.C. 20460

For your convenience, a reproducible self-addressed form follows this page.



Postage

POLLUTION PREVENTION DIVISION

U.S. Environmental Protection Agency
401 M Street, SW (7409)
Washington, DC 20460

fold along line

Organization: _____

Reference page # in Directory: _____

Contact Name: _____

Contact Telephone #: _____

Comments or Changes: _____

THE
JOURNAL
OF
THE
ROYAL ANTHROPOLOGICAL INSTITUTE
OF GREAT BRITAIN AND IRELAND
VOLUME 100 PART 1 2000

CHAPTER 1: U.S. EPA POLLUTION PREVENTION PROGRAMS

This chapter contains
information about EPA
pollution prevention
assistance programs
and contacts.

- I. Voluntary Programs
- II. Grant Programs
- III. Regulatory Programs
and Support
- IV. EPA Regional Initiatives
and Contacts

I. VOLUNTARY PROGRAMS

Building Air Quality Alliance

The Building Air Quality Alliance is a voluntary partnership program to help building owners and managers improve indoor air quality. With membership from EPA and key leaders in the indoor air quality (IAQ) field, including environmental and public health advocacy groups, trade associations, government organizations, and coalitions of IAQ industry groups, the Alliance educates people about the importance of IAQ to health, comfort, and productivity, and helps implement actions to improve IAQ. Such measures include developing a ventilation system maintenance schedule, controlling pollutants such as pesticides and tobacco smoke, and making good indoor air principles part of standard operating procedures by incorporating them into leases, financial policies, and standards.

Research shows that people spend about 90% of their time indoors, and that the air within homes and buildings can be more seriously polluted than outdoor air in even the largest and most industrialized cities. EPA comparative risk studies have consistently ranked indoor air pollution, including secondhand smoke, radon, organic compounds, and biological pollutants, among the top four environmental threats to public health. The Building Air Quality Alliance is intended to catalyze action on this important public health concern. A participants' manual will be available by Fall 1994 which will outline the program and enlist the first Building Partners.

For more information, contact:

Julie Rosenberg
Indoor Air Division
U.S. EPA (6607J)
401 M Street SW
Washington, DC 20460
Tel: (202) 233-9154
Fax: (202) 233-9555

Climate Change Action Plan

See Chapter 3, DOE.

ClimateWise

See Chapter 3, DOE.

Design for the Environment

Businesses operating in the 1990s face a variety of competing demands—keeping costs low and quality high, staying competitive in a global marketplace, and meeting consumer preferences for more environmental benign products. Established in October 1992, EPA's Design for the Environment (DfE) is a down-to-earth strategy for organizing and managing these challenging demands. It aims at helping businesses incorporate environmental considerations, especially risk reduction, into the design and redesign of products, processes, and technical and management systems. Businesses design for the environment by:

- ▷ Implementing pollution prevention, energy efficiency, and other resource conservation measures
- ▷ Producing and using less toxic and nontoxic materials
- ▷ Making products that can be refurbished, disassembled, and recycled
- ▷ Keeping careful track of the environmental costs associated with each product or process

Through the DfE program, EPA is creating voluntary partnerships with industry, professional organizations, state and local governments, other federal agencies, and the public. EPA's efforts are directed at giving businesses the information needed to design for the environment and at helping businesses use this information to make environmentally informed choices. Within each business, the DfE program works to make sure that the information reaches the people who make the choices—from buyers to industrial design engineers.

EPA is developing several analytical tools for businesses to use in evaluating their processes and products. Cleaner technology substitutes assessments help companies compare different technologies or products, with an eye toward selecting the most environmentally friendly alternatives. The assessments look at not only the environmental impacts but also the cost and performance profiles of each alternative. The DfE program is developing a generic assessment with a guidance manual to help companies perform their own assessments. EPA is also developing a standardized method for comprehensively evaluating the environmental effects of a product, process, or activity throughout all stages of its life, from raw materials extraction and production through final disposal. The following are current projects.

Accounting and Capital Budgeting. EPA is working with the private sector to develop new and modified accounting tools that will incorporate environmental costs and benefits into managerial accounting and capital budgeting practices, thus allowing businesses to more fully understand their environmental costs. The project also involves curriculum development and research activities.

Green Chemistry — Benign by Design. Many of the traditional ways of synthesizing new high-volume industrial chemicals use toxic feedstocks or catalysts, or they create hazardous and toxic by-products. In cooperation with the National Science Foundation, EPA is encouraging university research into alternative methods for producing chemicals that minimize or eliminate hazardous substances.

Curriculum Development. EPA has established a National Pollution Prevention Center at the University of Michigan, which is developing curricula in multiple disciplines (for example, business, engineering, accounting, and marketing). The curricula incorporate pollution prevention, life-cycle analysis, and DfE principles, rather than traditional end-of-pipe pollution control techniques.

Risk Management/Insurance. EPA has entered into a cooperative effort with the American Institute of Chartered Property Casualty Underwriters, an independent nonprofit organization offering educational programs and professional certification for the property and liability insurance industry. EPA is helping to incorporate pollution prevention into the curriculum for the institute's certification program for associates in risk management. EPA hopes to facilitate pollution prevention principles becoming a part of the insurance underwriting and risk management decision-making process.

Financing. An important constraint on the adoption of new pollution prevention technologies is the availability of financing. The financial community tends to associate environmental investment more with liability than with opportunity. Also, companies and financial institutions generally have not known how to estimate the returns on pollution prevention investments. EPA will conduct outreach to businesses and the financial community to find ways to address these problems.

Dry Cleaning Project. EPA is working with the dry cleaning industry and environmental organizations to reduce exposure to perchloroethylene, which is a chemical solvent used by most dry cleaners that poses potential health and

environmental concerns. EPA will examine alternative technologies, solvents, and control methods as part of a cleaner technology substitutes assessment. Then, EPA plans to publish a technical summary of alternative solvents and processes and an information document on cost-effective, environmentally safer choices identified through the project. An important part of the project will be finding ways to provide small dry cleaners with both technical assistance and incentives to implement pollution prevention measures.

Printing Project. This project is aimed at developing pollution prevention information specific to small- and medium-sized printers. Six different methods of printing are in use today, and each employs a different set of chemical and technological alternatives. Industry representatives identified several priority environmental concerns for lithographic, screen printing, and flexographic printing methods. Committees with EPA and industry membership are developing cleaner technology substitutes assessments as well as outreach strategies and information products to communicate the results of the project to printers. The committees are also identifying incentives that will encourage printers to use the information developed.

Cleaning Products. EPA and the General Services Administration are collaborating on a long-term project to promote the use of environmentally preferred cleaning products in Government-owned buildings. This effort will mean developing standards for cleaning products, performing integrated risk assessments, and evaluating product performance. The project coincides with a federal Executive Order mandating that government agencies use environmentally preferred cleaners.

The DfE program is also considering starting a number of new projects under the Environmental Technology Initiative. Industries being considered include computers, aerospace, and metal finishing. EPA is interested in exploring future projects with other partners.

For more information, contact:
Pollution Prevention Information Clearinghouse
U.S. EPA (3404)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-1023
Fax: (202) 260-0178

Energy Star Buildings

The comprehensive Energy Star Buildings program addresses heating, cooling, and air handling in commercial buildings. EPA has formed voluntary new partnerships with the private sector in these industries to encourage the use of energy-efficient equipment that saves money for building owners and reduces energy-related air pollution. The program recommends a five-stage implementation program, beginning with Green Lights (see below). EPA will be working with a group of 20 to 30 buildings over the next few years to demonstrate the energy savings and profits obtainable through the program. EPA will provide technical resources to assist participants, including a Building Upgrade Manual, software to calculate savings, a database of financing programs, case studies, generic specifications, and other information and guidance.

For more information, contact:
Green Lights/Energy Star Programs
U.S. EPA (6202-J)
401 M Street SW
Washington, DC 20460
Tel: (202) 775-6650
Fax: (202) 775-6680

Energy Star Computers

EPA has signed partnership agreements with manufacturers who sell 70 percent of all desktop computers and 90 percent of all laser printers sold in the United States to introduce energy-efficient computer equipment to the marketplace. The Energy Star Computers program will cut nearly \$2 billion from ratepayers' annual electricity bills by the year 2000 - saving enough electricity to power Maine, New Hampshire, and Vermont for an entire year. Computer manufacturers are introducing desktop computers, monitors, or printers that can automatically power-down to save energy when they are not being used. This "sleep" feature could cut a product's annual electricity use by about 50 percent. Computer equipment is the fastest growing electricity load in the commercial sector.

In his Earth Day address in 1993, President Clinton announced that the federal government—the largest buyer of computers in the world—is committed to purchasing only computers and printers that meet EPA Energy Star guidelines for energy efficiency. This is projected to save the government \$40 million per year in terms of reduced electricity use. Customers can recognize the new, more efficient systems because they will be identified by the EPA Energy Star™ logo.

For more information, contact:

Linda Latham
Energy Star Computers
U.S. EPA (6202-J)
401 M Street SW
Washington, DC 20460
Tel: (202) 233-9114
Fax: (202) 233-9578

Environmental Leadership Program

EPA's Environmental Leadership Program was announced in January 1993. The program encourages companies or facilities to adopt a Corporate Statement of Principles and participate in a Model Facility Program by demonstrating a CEO-level commitment to pollution prevention that goes beyond mere compliance with regulations. In June 1994, EPA issued a request for proposals for pilot projects which will explore ways that EPA and states can encourage facilities to develop innovative auditing and compliance programs and reduce the risk of non-compliance through pollution prevention.

EPA plans to select three to five pilot projects from the pool of proposals to be received. Facilities must describe their existing or proposed comprehensive, multimedia pollution prevention program, and that program is integrated into their overall operations. Facilities must also propose measures that will track the compliance improvements and pollution prevention results that will accrue from their participation in a pilot project. Criteria for evaluating the proposals include: pollution prevention potential, compliance history, environmental management/auditing programs, disclosure of audit results, "setting an example," performance measures, and employee and community involvement. The voluntary pilot projects are expected to encourage industry to take greater responsibility for self-monitoring while offering national recognition for outstanding environmental management practices.

For more information, contact:

Mike Schiavo
Pollution Prevention Policy Staff
U.S. EPA (1102)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-2824
Fax: (202) 260-8511

Green Lights Program

EPA's Green Lights Program was officially launched on January 16, 1991. The goal of the program is to prevent pollution by encouraging major U.S. institutions — businesses, governments, and other organizations — to use energy-efficient lighting. Because lighting consumes about 25 percent of total electricity used nationwide and because more than half the electricity used for lighting is wasted, the Green Lights Program offers a substantial opportunity to prevent pollution, and to do so at a profit. Lighting upgrades reduce electric bills and maintenance costs and increase lighting quality; typically, investments in energy-efficient lighting yield 20-30 percent rates of return per year.

EPA promotes energy-efficient lighting by asking major institutions to sign a memorandum of understanding (MOU) with the Agency; in this MOU, the signatory commits to install energy-efficient lighting in 90 percent of its space nationwide over a 5-year period, but only where it is profitable and where lighting quality is maintained or improved. EPA, in turn, offers program participants a number of technical support services to assist them in upgrading their buildings. A computerized decision support system developed by EPA provides Green Lights corporations and governments a rapid way to survey the lighting systems in their facilities, assess retrofit options, and select the best energy-efficient lighting upgrades.

EPA has also established a national lighting product information program in conjunction with utilities and other organizations. This program provides brand name information so that purchasers will be able to choose products with confidence. In addition, it allows for innovative products to be qualified rapidly, removing a significant barrier for new technologies.

As part of the support program, EPA helps Partners identify financing resources for energy-efficient lighting. Green Lights Partners receive a computerized directory of financing and incentive programs offered by electric utilities, lighting management companies, banks, and financing companies. The database is updated and distributed on a regular basis. EPA also has developed Green Lights Ally programs for lighting manufacturers, service providers, and utilities to promote the environmental, economic, and quality benefits of energy-efficient lighting. Allies commit to the same level of retrofits as Green Lights Partners, and assist in developing the technical support programs.

By mid-1994, over 1,350 participants in Green Lights had committed to upgrade a total of 4 billion square feet of facility space — more than three times the total office space of New York, Los Angeles, and Chicago combined.

For more information, contact a Green Lights Coordinator in EPA's Regional Offices (listed at the end of this chapter) or contact:

Manager, Green Lights
U.S. EPA (6202-J)
401 M Street SW
Washington, DC 20460
Tel: (202) 775-6650
Fax: (202) 775-6680
Fax: (202) 233-9659 (24 hours a day)

Mobility Partners

Mobility Partners is a joint project of the Surface Transportation Policy Project and EPA's Office of Policy Analysis, aimed at helping business leaders and citizens exchange ideas for meeting the challenges of transportation planning and clean air quality. The program will develop case studies, technical reports, a referral line, and a quarterly newsletter. Organizations developing innovative transportation plans with pollution prevention goals will be recognized with an award.

For more information, contact:

Will Schroeder
Office of Policy Analysis
U.S. EPA (2120)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-1126
Fax: (202) 260-0512

Natural Gas STAR

Natural Gas STAR is a voluntary government/industry partnership launched in March 1993 that encourages natural gas distribution and transmission companies to adopt practices and technologies that can reduce emissions of methane, a potent greenhouse gas. Benefits of the program include reduced emissions of methane (the major component of natural gas), improved energy efficiency, and cost savings for industry participants. The transmission/distribution program has been endorsed by the American Gas Association and the Gas Research Institute. As of mid-1994, the program includes 31 partners representing over

half of transmission company pipeline by mileage. First-year methane emissions reductions of 1.3 million Mcf were reported by current partners for 1993. A Natural Gas STAR program for natural gas producers will be launched in Fall 1994.

For more information, contact:

Andrea Clark Osborne
Global Change Division
U.S. EPA (6202J)
401 M Street SW
Washington, DC 20460
Tel: (202) 233-9044
Fax: (202) 233-9569

33/50 Program

Launched in 1991, EPA's 33/50 Program is a voluntary pollution prevention initiative seeking to achieve substantial reductions in pollution in a relatively short time period. It is designed to maximize private sector initiatives while challenging industry to achieve ambitious prevention goals. Under this program, EPA identified 17 high-priority toxic chemicals and set a voluntary goal for participating firms to reduce 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.

The 17 chemicals are: benzene, cadmium and cadmium compounds, carbon tetrachloride, chloroform (trichloromethane), chromium and chromium compounds, cyanide and cyanide compounds, lead and lead compounds, mercury and mercury compounds, methyl ethyl ketone, methyl isobutyl ketone, methylene chloride (dichloromethane), nickel and nickel compounds, tetrachloroethylene (perchloroethylene), toluene, 1,1,1-trichloroethane (methyl chloroform), trichloroethylene, and xylene (all xylenes). The chemicals were selected based on a number of factors, including high-production volume as reported to the Toxics Release Inventory, high releases and off-site transfers of the chemical relative to total production, opportunities for pollution prevention, and potential for causing detrimental health and environmental effects.

EPA is seeking reductions primarily through source reduction, and is encouraging industry to seek continuous environmental improvement even beyond these reductions and these 17 chemicals. The goals are measured against a

baseline year of 1988. Releases and transfers of the 17 high-priority chemicals totalled almost 1.5 billion pounds in 1988. The 33/50 Program hopes to cut that amount in half by 1995, eliminating almost 750 million pounds of pollution. TRI data from the 1991 reporting year revealed that emissions of program chemicals declined by 34 percent between 1988 and 1991, surpassing the 1992 interim 33 percent national reduction goal a full year ahead of schedule. More than 1,200 companies have voluntarily participated in the program, with over 60% participation from the nation's "Top 600" largest firms.

The 33/50 Program faces an ambitious agenda in the coming years with efforts to expand company participation. Industry trade associations are being asked to assist EPA in convincing smaller companies to participate. An independent evaluation of the 33/50 Program has been initiated to assess the program's success.

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 Chapter 4, Databases).

For more information, see the list of regional 33/50 Program contacts at the end of this chapter. For company case studies & current information, contact:

Dave Sarokin
Office of Pollution Prevention and Toxics
U.S. EPA (7408)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-6907
Tel: (202) 260-6396 (Sarokin)
Fax: (202) 260-2219

WasteWi\$e Program

This program represents EPA's partnerships with businesses to promote reductions in municipal solid waste. WasteWi\$e companies save money and improve the environment by committing to reduce solid waste in three ways: preventing waste at the source, collecting materials for recycling, and increasing the recycled content in the products they buy or manufacture. The primary audience is large businesses, but all companies, trade groups, and nonprofit organizations are also welcome.

For more information, contact:

Lynda Wynn
Office of Solid Waste
U.S. EPA (5306)
401 M Street SW
Washington, DC 20460
Tel: (800) 372-9473 or 1-800-EPAWISE
Fax: (202) 260-4196

Water Alliance for Voluntary Efficiency (WAVE)

This voluntary partnership promotes water efficiency in commercial businesses and institutions through the use of low flow bathroom fixtures, water-efficient laundry and kitchen equipment, efficient cooling water maintenance, and water-efficient landscaping and irrigation. Water efficiency benefits the environment by maintaining instream flows, reducing water pollution, and reducing energy use associated with water heating, pumping, and treatment. WAVE is initially targeting the lodging industry. Through the WAVE supporter program, utilities, municipalities, equipment manufacturers, water service companies, and others can share information about their products and services with WAVE partners. WAVE partners can use a water analysis software program for tracking and optimizing hotel water use, developed by the Metropolitan Water District of Southern California. The software estimates and allocates hotel water use, tracks historical water use and expense, compares current water use to prior and target uses, and evaluates the economics of measures to improve water efficiency.

For more information, contact:

John E. Flowers
U.S. EPA (4202)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-7288
Fax: (202) 260-1827

II. GRANT PROGRAMS

Agriculture in Concert with the Environment (ACE)

EPA and the Department of Agriculture (USDA) have joined together to undertake a grant program called Agriculture in Concert with the Environment (ACE). The primary purpose of the grant program is to promote the adoption of sustainable agriculture practices and reduce

the use of highly toxic herbicides and other pesticides. Establishing a harmonious relationship between agriculture and the environment offers the opportunity for multiple gains on all sides—for farm owners, farm workers, consumers, and communities as a whole.

ACE grants are distributed from a joint pool by EPA's Office of Pollution Prevention and the USDA Cooperative State Research Service (CSRS). Host institutions in four regions of the country (northeast, south, north central, and west) manage the evaluation, project selection, and distribution of funds for their regions.

ACE is jointly administered by USDA and EPA through the USDA Sustainable Agriculture Research and Education Program (SAREP). Evaluation panels in each of the four regions include representatives from government, academic and other research institutions, the farming industry, the environmental community, and other private or public organizations.

For more information, contact:

Harry Wells
Office of Pollution Prevention and Toxics
U.S. EPA (7409)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-4472
Fax: (202) 260-0178

Dan Kugler
USDA SAREP
342 Aerospace Building
14th Street and Independence Avenue
Washington, DC 20250
Tel: (202) 401-4640
Fax: (202) 401-5179

Environmental Technology Initiative

This program was outlined by President Clinton in February 1993 as a means of accelerating environmental protection, strengthening America's industrial base, and increasing exports of U.S. technologies and expertise. The federal government intends to serve a catalytic role in promoting the development of new technologies across a range of industrial sectors, including semiconductors, transportation, environmental management, information technology, cleaner industrial technologies that prevent pollution, defense conversion, and others. EPA's Innovative Technology Council is the primary

source for implementing ETI at EPA. EPA has published an FY94 Program Plan as well as a draft Technology Innovation Strategy. A number of solicitations under ETI are planned, including commercialization of private sector projects under the Small Business Innovative Research program (see Chapter 3, DOE), a competitive solicitation from the non-profit sector, and an EPA solicitation for federal, state, and tribal agencies.

Electronic information on ETI solicitations may be obtained from several sources, including:

EPA Environmental Technology Hotline:

(202) 260-2686

U.S. Department of Commerce Economic Bulletin Board

User Hotline: (202) 482-1986 (8:30 a.m.-4:30 p.m. EST)

Modem Access: (202) 482-3870 (300, 1200, 2400 BPS)

Internet Access: telnet to ebb.stat-usa.gov

Filename: Solicit.ETI

For more information, contact:

Fred Lindsey

Innovative Technology Council

U.S. EPA (8301)

401 M Street SW

Washington, DC 20460

Tel: (202) 260-2600

Fax: (202) 260-3861

Media Program State Grants

Over the past several years, EPA has been attempting to integrate pollution prevention approaches into a variety of state grant programs administered by the Agency's media programs. A guidance document, *Pollution Prevention Media Grant Guidance*, explains how \$500 million in existing EPA state grant funds are to be tailored to encourage prevention. The effort has several goals:

- ▷ Support state pollution prevention activities by ensuring flexibility in grant requirements;
- ▷ Promote pollution prevention in federally funded state programs;
- ▷ Share information on successful programs and identify statutory or other barriers to pollution prevention; and
- ▷ Build self-sustaining pollution prevention programs.

EPA is committed to continued integration of pollution prevention into program activities using media grants. Administrator Browner has issued a memorandum to Associate Administrators and Regional Administrators requesting their full support for this Agency goal. In upcoming grant cycles, EPA will continue to document and publish media grant success stories that demonstrate progress in the integration of pollution prevention in media grants.

For more information, contact:

Tom McCully, Pollution Prevention Policy Staff

Lena Hann, Pollution Prevention Division

U.S. EPA

401 M Street SW

Washington, DC 20460

Tel: (202) 260-2237 (Hann)

Tel: (202) 260-8617 (McCully)

Fax: (202) 260-8511

National Industrial Competitiveness through Efficiency: Energy, Environment and Economics (NICE³)

A joint project of the U.S. Department of Energy (DOE) and EPA's Office of Pollution Prevention and Toxics since 1991, the goal of the NICE³ grant program is to improve industrial energy efficiency, reduce costs, and lower emissions to the environment. Proposals are solicited for projects that:

- ▷ Demonstrate successful industrial applications of less polluting, energy-efficient technologies in conjunction with innovative waste minimization techniques;
- ▷ Encourage accelerated industrial replication of energy-conserving and pollution prevention technologies;
- ▷ Coordinate the activities of institutions responsible for energy, the environment, and competitiveness at the federal, regional, state, and local levels;
- ▷ Identify and implement efficiency improvements in material inputs, processes, and waste streams;
- ▷ Develop strategies to overcome barriers that inhibit energy efficiency and waste minimization techniques in business and industry; and
- ▷ Enhance industrial competitiveness through the introduction and dissemination of cost-effective waste minimization and energy-efficient processes, equipment, and practices.

Awardees design, test, demonstrate, and assess the feasibility of new processes and/or equipment with the potential to increase energy efficiency, reduce pollution and improve process economics. After the initial grant funding period, the awardee is expected to continue financing the project. Proposals are submitted as industry-state partnerships with assistance from a state energy or pollution prevention office; the partnership cost-shares at least 50 percent of the total project cost. Proposals are evaluated based on concept description, innovation, cost efficiency, applicant capabilities, energy savings, waste savings, competitiveness, commercialization/marketing plan, and job savings/growth.

For more information, contact:

Alan Schroeder
Office of Industrial Technology
U.S. DOE (EE-222)
1000 Independence Avenue SW
Washington, DC 20585
Tel: (202) 586-1641
Fax: (202) 586-7114

Eric Haas or Bill Ives
1617 Cole Blvd. Bldg. #17
Golden, Colorado 80401
Tel: (303) 275-4728 (Haas)
Tel: (303) 275-4755 (Ives)
Fax: (303) 275-4788

Pollution Prevention Incentives for States (PPIS)

The centerpiece of EPA's ongoing pollution prevention grant activities is the Pollution Prevention Incentives for States (PPIS) grant program. PPIS is intended to build and support state pollution prevention capabilities and to test, at the state level, innovative pollution prevention approaches and methodologies. A primary goal is to fund the institutionalization of multimedia pollution prevention as an environmental management priority, establishing prevention goals, developing strategies to meet those goals, and integrating the pollution prevention ethic into state or regional institutions. In addition, PPIS grants fund other pollution prevention activities, such as providing direct technical assistance to businesses, collecting and analyzing data, conducting outreach, developing measures to determine progress in pollution prevention, and identifying regulatory and nonregulatory barriers and incentives to pollution prevention. A third area of funding is demonstration projects that test and evaluate innovative pollution prevention approaches and methodologies.

Eligible applicants are states and federally recognized tribes. Awards are made through the EPA Regional Offices. Organizations selected for an award must support 50 percent of the total cost of the project. Criteria for selection include: meeting the definition of pollution prevention as defined by the Pollution Prevention Act; identification of multimedia opportunities and impacts; targeting of areas for significant risk reduction; leveraging and integration of other pollution prevention efforts in the state; identification of measures of success; and inclusion of a plan for dissemination of project results. Regional pollution prevention offices may develop additional guidance and criteria.

For more information, contact the pollution prevention coordinator in an EPA Regional Office (see listing at end of this chapter) or contact:

Lena Hann
Office of Pollution Prevention and Toxics
U.S. EPA (7409)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-2237
Fax: (202) 260-0178

III. REGULATORY PROGRAMS & SUPPORT

AIR POLLUTION & ENERGY

Air Pollution Training Branch

This branch, located in the Office of Air Quality Planning and Standards (see below) in Research Triangle Park, North Carolina, has a 13-module classroom course, *Principles and Practice of Air Pollution Control*; a 1-hour module, given on the third day of the course, introduces students (usually state and local air pollution control agency personnel) to the concept of pollution prevention. This module is part of Course #452 and is not available as a separate document.

For more information, contact:

Martha Strobel
Office of Air Quality Planning and Standards
U.S. EPA (MD-17)
Research Triangle Park, NC 27711
Tel: (919) 541-4000
Fax: (919) 541-4609

Energy Efficiency and Renewable Energy Program

This program seeks to promote efficiency and renewable energy as ways to prevent pollution and to meet Clean Air Act goals. To better position energy-efficient technologies and renewable energy as cost-effective energy resources, the program concentrates efforts in three areas:

- ▷ **Clean Air Act Initiatives.** The program promotes the use of sustainable technologies as cost-effective compliance strategies for electric utilities. This includes the Conservation and Renewable Energy Reserve of SO₂ emission allowances to reward new initiatives in efficiency and renewable energy.
- ▷ **Regulatory Reform.** The program works with state regulators to remove regulatory barriers that disadvantage energy efficiency and renewable energy.
- ▷ **Pollution Prevention Marketing and Research.** The program communicates the benefits of efficiency and renewable energy through outreach efforts and publications.

The audience for this program includes electric utilities, regulatory commissions, state energy offices, energy service companies, renewable energy manufacturers, consultants, and nonprofit organizations.

For more information, contact:
Energy Efficiency and Renewable Energy Program
U.S. EPA (6204 J)
401 M Street SW
Washington, DC 20460
Tel: (202) 233-9260
Fax: (202) 233-9584

Indoor Air Quality Information Clearinghouse

See Chapter 4, Databases.

National Air Toxics Information Clearinghouse (NATICH)

See Chapter 4, Clearinghouses.

Office of Air Quality Planning and Standards (OAQPS)

OAQPS has the major responsibility of implementing the Clean Air Act, which mandates the attainment and maintenance of ambient air standards and a reduction in air pollu-

tion emissions. OAQPS works with state and local agencies to implement air quality management programs to reduce ambient pollutant concentrations of smog, toxic air pollutants, carbon monoxide, lead, particulate matter, sulfur dioxide, and nitrogen dioxide. OAQPS develops and implements air emission standards for stationary sources, develops strategies and regulations to improve urban air quality and reduce air pollutant emissions, and directs a comprehensive national program that provides data, technical support, and guidance to EPA Regional Offices, state and local agencies, nongovernment sectors, and the general public on all aspects of air quality management.

Two major pollution prevention activities within OAQPS are the Source Reduction Review Program (see below) and the flexible permit project. The objective of the flexible permit project is to develop model permits that will allow additional operating flexibility to sources with significant batch processing requirements, but in return will require a pollution prevention plan with a commitment to implementing pollution prevention projects to reduce source emissions by specific amounts. OAQPS also operates the Technology Transfer Network Bulletin Board Systems (see Chapter 4 for more details).

For more information, contact:
Joseph Padgett
Office of Air Quality Planning and Standards
U.S. EPA (MD-10)
Research Triangle Park, NC 27711
Tel: (919) 541-5589

SNAP Program/Stratospheric Ozone

Under Executive Order 12843 signed in April 1993, federal agencies must begin immediately to minimize the procurement of the most potent (Class I) ozone-depleting substances and maximize the use of safe alternatives. Federal agencies are directed to revise procurement practices to modify specifications and contracts that require the use of ozone-depleting substances and to substitute non-ozone-depleting substances to the extent economically practicable.

To assist in finding substitutes for ozone-depleters, EPA has developed the Significant New Alternatives Policy (SNAP) program. Under the program, EPA evaluates and approves (or denies) applications for the use of substitute chemicals and technologies to replace ozone depleters in specific uses.

The Stratospheric Ozone Information Hotline provides information to, and answers questions from, the public and regulated communities on EPA's program to protect the stratospheric ozone layer. Publications are available on the Montreal Protocol, Title VI of the Clean Air Act, EPA regulations, specific end-use sectors (for example, firefighting solvents, foams, and refrigerants), and the SNAP Program.

For more information, contact:

Elizabeth Agle
Stratospheric Protection Division
U.S. EPA (6205-J)
401 M Street SW
Washington, DC 20460
Tel: (202) 233-9577 or (800) 296-1996 (hotline)
Fax: (202) 783-1066

EDUCATION

Environmental Education Division

The purpose of the Environmental Education Division is to advance and support national and international environmental education efforts to develop an environmentally conscious and responsible public and to inspire a sense of personal responsibility for the care of the environment. The division has the following five goals:

- ▷ To stimulate communication, innovation, and partnerships
- ▷ To educate and motivate youth (particularly in grades K-12) to protect and preserve our environment
- ▷ To promote the pursuit of environmental careers
- ▷ To develop an environmentally conscious and responsible public
- ▷ To reach across international boundaries

For more information, contact:

EED/OCEPA
U.S. EPA (1707)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-4965
Fax: (202) 260-0790

ENFORCEMENT

Federal Facilities Enforcement Office

The Federal Facilities Enforcement Office is EPA's primary link to environmental programs at other federal agencies. It oversees and coordinates the interactions relating to planning, pollution prevention, compliance assistance, site remediation, and enforcement. The office's pollution prevention responsibilities include: assisting and tracking the program of federal organizations; compliance with Executive Order 12856, "Pollution Prevention and Right-to-Know in the Government;" integrating pollution prevention into all government activities; and helping organizations develop a "beyond environmental compliance" work ethic.

Recent activities include operating the pollution prevention electronic bulletin board systems, conducting the environmental compliance and pollution prevention opportunity assessment of the White House, training federal personnel, completing pollution prevention opportunity profiles for federal facilities targeted in the Agency's multimedia enforcement inspections, coordinating EPA's role in the Chesapeake Bay Tidewater Interagency Prevention Program, and managing the Federal Government Environmental Challenge Program (recognition of facility and individual excellence in environmental and pollution prevention activities). Current and ongoing activities include developing guidance documents on federal facility pollution prevention strategies, planning, environmental auditing, and incorporating pollution prevention in the settlement of enforcement cases.

For more information, contact:

Louis Paley
Federal Facilities Enforcement Office
U.S. EPA (2261)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-8790
Fax: (202) 260-9437

Supplemental Environmental Projects

EPA's enforcement policy strongly encourages Agency negotiators to try to incorporate pollution prevention conditions in single and multi-media enforcement settlements when feasible. The policy is applicable to both civil and criminal enforcement settlements involving private entities, federal facilities, and municipalities. Undertaking

pollution prevention measures can help a facility reduce or eliminate the root causes of violations of federal environmental standards and thereby increase the prospects for continuous compliance in the future. An EPA report, *Pollution Prevention Through Compliance and Enforcement*, highlights 66 cases involving settlements with environmental benefits. The report is available through the TSCA Assistance Hotline, 202-554-1404.

Pollution prevention projects can be included in an enforcement settlement either to correct an existing violation (i.e., injunctive relief) or as a "supplemental environmental project." When conducting settlement negotiations, EPA will consider whether it is appropriate (e.g., technically and economically feasible) to correct the violation(s) through implementation of source reduction or recycling activities. Respondents are not granted additional time to correct a violation in exchange for conduct of a supplemental environmental project. In assessing penalties, EPA generally considers both the gravity of the violation and the economic benefits that the facility has reaped by its noncompliance. The willingness of a respondent to correct the violation via a pollution prevention project can be one of the factors used to adjust the "gravity" component of the penalty.

For more information, contact:

Peter Rosenberg
U.S. EPA
401 M Street SW
Washington, DC 20460
Tel: (202) 260-8869
Fax: (202) 260-7553

FINANCING

Environmental Financing Information Network

See Chapter 4, Databases.

POLLUTION PREVENTION

Common Sense Initiative

This major initiative launched in 1994 represents a new approach for comprehensive environmental protection undertaken by EPA. Beginning with six selected industries, EPA will create pollution control and prevention strategies on an industry-by-industry basis, rather than on the more traditional pollutant-by-pollutant basis or statutory focus.

The first six industries chosen for the pilot phase of the

Initiative are: auto manufacturing, computers and electronics, iron and steel, metal finishing and plating, petroleum refining, and printing. The chosen industries are among the nation's largest, employing almost 4 million Americans and representing close to 15 percent of gross domestic product (GDP). Representing a cross-section of American business, the industries include both small and large businesses, high technology and traditional manufacturing, and a wide range of regulatory issues. As a group, the six industries spent over \$8.2 billion in 1992 on compliance with environmental laws, and released 395 million pounds of toxic pollutants into the environment.

For each industry, EPA will assemble a team of senior Agency staff, coupled with representatives of industry leaders, environmental organizations, state and local governments, labor unions, and other groups. Each team will develop a blueprint based on the following six principles: (1) a comprehensive review of every EPA rule applicable to the industry; (2) pollution prevention as a guiding principle; (3) easier reporting procedures and wider public access to environmental information; (4) strong enforcement; (5) an improved permitting process; and (6) encouragement of new technology and innovation.

For more information, contact:

Steve Harper
Office of Air and Radiation
U.S. EPA (6103)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-8953
Fax: (202) 260-9766

Pollution Prevention Division

The Pollution Division (PPD) within EPA's Office of Pollution Prevention and Toxics was established in 1988 to help integrate a multimedia pollution prevention ethic both within and outside EPA. Its primary role is to support pollution prevention efforts by EPA's program offices, EPA Regions, state and local governments, industry, and the public.

PPD staff are involved with, or assist EPA offices in, a wide variety of ongoing projects, including the Source Reduction Review Project, the Common Sense Initiative, Design for the Environment, and incorporating pollution prevention into EPA's media program guidance and grants. Aiming to build a national network of prevention programs, PPD administered and now tracks the Pollution Preven-

tion Incentives for States grants, and oversees the Pollution Prevention Information Clearinghouse. PPD works in concert with other federal agencies, including the Departments of Agriculture and Energy and the General Services Administration to promote prevention within the federal government and in federal acquisition processes. PPD also maintains an active interest in environmental labeling issues, the development of guidance for environmentally preferable products, measuring prevention progress, and life-cycle assessments. PPD publishes a nationally-distributed bimonthly newsletter, *Pollution Prevention News*, and sponsors an annual pollution prevention conference.

For more information, contact:

Pollution Prevention Division
Office of Pollution Prevention and Toxics
U.S. EPA (7409)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-3557

Pollution Prevention Information Clearinghouse (PPIC)

See Chapter 4, Clearinghouses.

Pollution Prevention Information Exchange System (PIES)

See Chapter 4, Databases.

Pollution Prevention Policy Staff

The Pollution Prevention Policy Staff, part of the Office of the Administrator, was established in the 1991 Appropriations Act to help guide, mediate, and direct pollution prevention activities throughout EPA. The policy staff prepares and distributes reports and brochures on EPA's pollution prevention activities and monitors Agency-wide pollution prevention initiatives.

For more information, contact:

Pollution Prevention Policy Staff
Office of the Administrator
U.S. EPA (1102)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-8621
Fax: (202) 260-8511

Source Reduction Review Project

The Source Reduction Review Project is an EPA initiative to integrate pollution prevention considerations into the regulatory development process. The goal of the SRRP is to foster the use of source reduction measures as the primary means of achieving compliance. Initially, the project aims to ensure that source reduction measures and multimedia issues are considered during the development of air, water, and hazardous waste standards affecting 17 industrial categories. EPA has focused its review on a key list of regulations mandated by statute under the Clean Air Act, Clean Water Act or Resource Conservation and Recovery Act (RCRA). This project does not develop any new regulations; instead, the SRRP process will be applied to standards already scheduled for development, such as air toxics standards (often referred to as MACT standards), effluent guidelines for water, and RCRA listing determinations. Proposed regulations for the first SRRP project — pulp and paper — were issued in March 1994.

For more information, contact:

Jim Craig
Office of Pollution Prevention & Toxics
U.S. EPA (7409)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-4168

LIBRARIES

EPA libraries are excellent sources of pollution prevention information. In particular, the EPA Headquarters Library and the Region 9 Library have extensive collections dedicated to this topic. Librarians are listed in the EPA Regional Contacts listing at the end of this chapter.

EPA Headquarters Library

The EPA Headquarters Library provides information support services to EPA staff. It maintains a varied collection on environmental resources to accomplish this, including CD-ROMs, an online catalog (OLS), and other program-specific services. The library provides services to the general public and develops several publications, including newsletters and brochures. Library hours are 10:00 a.m. to 2:00 p.m., Monday through Friday. (See PPIC in Chapter 4, under Clearinghouses.)

For more information, contact:

Barbara MacKinnon, Librarian
Headquarters Library
U.S. EPA (3404)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-5921/5922
Fax: (202) 260-5153
E-mail: library.hq@epamail.epa.gov

EPA Laboratories Library

The following listing is the main library for all EPA laboratories throughout the country.

For more information, contact:

Joanne Goode, Librarian
Andrew W. Briedenbach Environmental Research
Center Laboratory
Risk Reduction Environmental Laboratory
U.S. EPA
26 Martin Luther King Drive
Cincinnati, Ohio 45268
Tel: (513) 569-7703

**Office of Pollution Prevention
and Toxics Library**

The OPPT library provides services to the staff of various EPA programs under the Toxic Substances Control Act (TSCA) and the Emergency Planning and Community Right-to-Know Act (EPCRA), including Toxic Release Inventory (TRI) information. Referral services and limited reference services are available to the general public. Various OPPT fact sheets and reference guides to TRI, pollution prevention, and TSCA information resources are available through the library. Its hours are 8:00 a.m. to 4:30 p.m., Monday through Friday.

For more information, contact:

OPPT Library
U.S. EPA (NEB606)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-3944
Fax: (202) 260-4659
E-mail: library.tsca@epamail.epa.gov

Public Information Center

This center is the primary access point for EPA-generated information. It functions as a distribution center for general environmental information and provides a referral service for technical inquiries. A list of available documents can be obtained by calling the center. Hours of operation are Monday through Friday, 8:00 a.m. to 5:30 p.m. by telephone, or 9:00 a.m. to 4:30 p.m. for visitors.

For more information, contact:

Public Information Center
U.S. EPA (3404)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-7751
Fax: (202) 260-6257

RESEARCH AND DEVELOPMENT

EPA's Office of Research and Development (ORD) operates numerous offices with pollution prevention projects and activities. Several are highlighted below.

**Air and Energy Engineering
Research Laboratory**

The mission of the Air and Energy Engineering Research Laboratory is to research, develop, and demonstrate methods and technologies for and reducing air pollution from stationary and area sources. The laboratory's pollution prevention research program focuses on reducing organic emissions from industrial and commercial operations, evaluation the properties and performance of substitutes for substances that deplete the stratospheric ozone layer, and evaluating and demonstrating approaches to prevent emissions of greenhouse gases. Targeted research activities include scoping studies to characterize industry and process emissions, technology assessments to evaluate the technical and economic feasibility of pollution prevention alternatives, cooperative technology demonstrations with industrial partners, and information transfer through publications, national conferences, clearinghouses, technology centers, and other means. A part of the laboratory's research supports EPA's efforts to integrate pollution prevention into new regulations.

For more information, contact:

AEERL/ORD

U.S. EPA

Research Triangle Park, NC 27711

Tel: (919) 541-2821

Fax: (919) 541-5227

Center for Environmental Research Information

This center is the focal point for the exchange of scientific and technical environmental information produced by EPA. It supports the activities of EPA's Office of Research and Development, its laboratories, and associated programs nationwide. The center publishes brochures, capsule and summary reports, handbooks, newsletters, project reports, and manuals. Services are provided to EPA employees, federal, state, and local agencies, businesses, and the public.

For more information, contact:

Dorothy Williams

U.S. EPA/CERI

26 West Martin Luther King Drive

Cincinnati, OH 45268

Tel: (513) 569-7562

Fax: (513) 569-7566

Office of Environmental Engineering and Technology Demonstration (OEETD)

OEETD has responsibility for EPA's multimedia pollution prevention research program, which includes three major categories of research activities: (1) the development and validation of innovative methods and tools; (2) the design, development, and evaluation of innovative technologies and processes; and (3) the provision of technical assistance and innovative outreach. OEETD is also actively involved in interagency pollution prevention research with the Departments of Energy, Defense, NIST and the Small Business Administration.

For more information, contact:

Gregory Ondich or Dr. Margaret Chu

OEEDT/ORD

U.S. EPA

401 M Street SW

Washington, DC 20460

Tel: (202) 260-5747/5740

Fax: (202) 260-3861

ORD Electronic Bulletin Board System

See Chapter 4, Databases.

Risk Reduction Engineering Laboratory/ Pollution Prevention Research Branch

The Pollution Prevention Research Branch supports projects and provides technical assistance to encourage the development and adoption of technologies, products, and pollution prevention techniques to reduce environmental pollution. Current Branch programs include:

- ▷ Cleaner Production Technologies
- ▷ Tools to Support Pollution Prevention
- ▷ Cleaner Products Program
- ▷ Pollution Prevention Assessments
- ▷ Cooperative Pollution Prevention Projects with Other Federal Agencies

In all of these programs, the Branch supports extramural studies, research, and demonstrations to further the program goals and objectives.

For more information, contact:

Harry Freeman

Chief, Pollution Prevention Research Branch

U.S. EPA, RREL

26 West Martin Luther King Drive

Cincinnati, Ohio 45268

Tel: (513) 569-7215

Fax: (513) 569-7111

SMALL BUSINESS

Asbestos & Small Business Ombudsman Hotline

The Clean Air Act Amendments of 1990 place new federal controls on small sources of air pollution that ultimately may affect hundreds of thousands of small American businesses. Section 507 requires all state governments and EPA to establish a small business technical and environmental compliance assistance program to help small businesses contend with several new air pollution responsibilities. While each state has been granted the flexibility to tailor its program to meet the needs of industries within the state, there are three mandatory components: a state ombudsman, a small business assistance program, and a state compliance advisory panel. Because programs may vary state to state, individuals should contact their local program for specific details.

For more information, contact:

Karen V. Brown
Asbestos and Small Business Ombudsman
U.S. EPA (1230 C)
401 M Street SW
Washington, DC 20460
Tel: (800) 368-5888
Tel: (703) 305-5938 (Brown)
Fax: (703) 305-6462

**Office of Air/Federal Small
Business Assistance Program**

EPA has established a Federal Small Business Assistance Program, under the Control Technology Center of the Office of Air Quality Planning and Standards, to provide state programs with several forms of guidance and assistance. EPA operates a Small Business Technical Assistance Center, which includes a quick response center, coordination with other EPA centers and with federal and state efforts. The program also has an information exchange network including an electronic bulletin board and an annual technical assistance conference.

For more information, contact:

Deb Elmore, Federal SBAP Coordinator
OAQPS Federal Small Business Assistance Program
U.S. EPA
Research Triangle Park, NC 27711
Tel: (919) 541-5437
Fax: (919) 541-0242

RCRA: SOLID & HAZARDOUS WASTE

RCRA/UST, Superfund, and EPCRA Hotline

This hotline's primary function is to provide assistance to the public, the regulated community, and other interested parties in understanding EPA's regulations pursuant to RCRA, underground storage tanks, CERCLA, EPCRA, and pollution prevention/waste minimization. In addition to providing regulatory support, the hotline provides information on RCRA, underground storage tank, CERCLA, EPCRA, and pollution prevention/waste minimization documents. Services are provided to federal agencies, local agencies, the private sector, citizens, attorneys, consultants, and the regulated community.

For more information, contact:

Tracie Gross
RCRA/UST, Superfund, and EPCRA Hotline
Crystal Square 2, Suite 1200A
1725 Jefferson Davis Highway
Arlington, Virginia 22202-4163
Tel: (800) 535-0202
Tel: (703) 412-3345 (Gross)
Fax: (703) 412-3333

Waste Minimization Branch

This branch has recently completed a draft multiyear action plan for waste minimization. The *RCRA Waste Minimization National Plan* is intended to serve as the foundation of EPA's Office of Solid Waste to prioritize waste minimization efforts and will set national goals for waste reduction. In setting priorities, EPA will focus initially on industrial processes that generate combustible wastes that contain toxic metals and/or halogens.

The Waste Minimization Branch is also active in a number of other areas. The branch has sponsored four pilot projects on measurement of source reduction and recycling, and is working with several states to evaluate current data sources. The branch is also studying the role of waste exchanges in finding markets for wastes, and is involved with the OECD Waste Minimization Workshop co-sponsored by the United States, Canada, and Mexico.

For more information, contact:

Donna Perla
Office of Solid Waste
U.S. EPA (5302W)
401 M Street SW
Washington, DC 20460
Tel: (703) 308-8402
Fax: (703) 308-8433

TOXIC SUBSTANCES

Toxics Release Inventory (TRI)

The Toxics Release Inventory (TRI) is a database of toxic chemicals maintained by EPA under the mandate of Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA). TRI reporting requirements cover all manufacturing facilities in the United States classified by SIC codes 20 through 39 with 10 or more employees that manufacture, process, or otherwise use, one or more of over 300 listed chemicals above certain threshold amounts. Facilities must report annually, on or before July 1, to EPA and state governments; the information is compiled and made available to the public.

Facilities are required to report on releases of toxic chemicals into the air, water, and land. In addition, they must report on offsite transfers (that is, transfers of wastes for treatment or disposal at a separate facility). TRI thus permits the tracking of chemical releases at specific facilities on a multi-media basis. Beginning with data submitted in 1992, TRI reports contain detailed source reduction and recycling information as mandated by the Pollution Prevention Act. Because of its mandatory reporting requirement and the law's provision that the public has the "right to know" the information being reported, TRI has quickly become one of the most powerful tools in this country for tracking pollution and prevention activities from industrial sources. TRI is already being used widely by industry, the states, and environmental groups as a scorecard for prevention efforts on a local, statewide, regional, and national basis. Many companies have already undertaken substantial voluntary public commitments to reduce the release of TRI chemicals.

EPA has recently begun expanding the coverage of TRI reporting. In January 1994, EPA proposed adding 313 chemical substances to the list of reportable chemicals. EPA is also moving forward to expand the industries subject to TRI reporting to include energy production, materials extraction, materials distribution, waste management, and transportation. As of August 1993, federal facilities are required to comply with TRI reporting requirements under Executive Order 12856 ("Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements").

For additional help or information, each state has an EPCRA contact, and each EPA Regional Office has a designated TRI coordinator. For information about regional and state contacts, call the EPA TRI User Support at (202)

260-1531. To purchase TRI on CD-ROM, microfiche diskette, magnetic tape, reports, and directories, contact any of the following:

Government Printing Office
710 North Capitol Street, N.W.
Washington, DC 20401
Tel: (202) 783-3238
Fax: (202) 512-1530

National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, Virginia 22161
(800) 553-NTIS

For online access to the TRI, contact:
National Library of Medicine
Specialized Information Services
8600 Rockville Pike
Bethesda, Maryland 20894
(301) 496-6531

For more information, contact:
Sam Sassnet
Office of Pollution Prevention and Toxics
U.S. EPA
401 M Street SW
Washington, DC 20460
Tel: (202) 260-1512
Fax: (202) 260-2219

Toxic Substances Control Act (TSCA) Assistance Information Service

This hotline answers questions on a variety of TSCA-related programs, including the 33/50 Program. The service also distributes documents a variety of subjects related to TSCA and TSCA programs, including a quarterly newsletter, *Chemicals-in-Progress Bulletin*. Hours are Monday through Friday, 8:30 a.m. to 5:00 p.m. EST.

For more information, contact:
TSCA Assistance Information Service
U.S. EPA (Room EB-005)
401 M Street SW (7408)
Washington, DC 20460
Tel: (202) 554-1404
Fax: (202) 554-5603

WATER

Industrial Pollution Prevention Project

Known as IP3, this is an EPA-wide project to determine how best to incorporate and promote industrial pollution prevention within EPA's regulatory process, specifically in the development of water effluent guidelines. The project is producing findings and results through seven studies, four demonstration projects, and two outreach efforts. IP3's various products are intended for those parties interested in or concerned about environmental regulation and industrial pollution prevention.

For more information, contact:

Jim Lund, Director
Industrial Pollution Prevention Project (IP3)
Office of Water
U.S. EPA (4301)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-7811
Fax: (202) 260-5394

Office of Water Resource Center

See Chapter 4.

Office of Wetlands, Oceans and Watersheds

This office addresses nonpoint source pollution, the restoration and protection of wetlands, lakes, rivers, and coastal and marine environments, and the coordination of surface water monitoring and water quality assessment activities. The targeted audience includes federal, state, and local governments, private organizations, academic groups, private citizens, businesses, and farmers and agricultural groups.

For more information, contact:

Office of Wetlands, Oceans and Watersheds
NCEPI
11029 Kenwood Road, Building 5
Cincinnati, Ohio 45242
Tel: (513) 891-6561
(513) 891-6685

IV. EPA REGIONAL INITIATIVES AND CONTACTS

EPA's 10 Regional Offices develop and implement regional pollution prevention projects and initiatives, as well as coordinating nationally-based policies and projects at the regional level. The Regional Offices also evaluate applicants for Pollution Prevention Incentives for States grants and administer the program. This section presents a few examples of Regional Office initiatives, followed by a listing of EPA Regional Office contacts.

"Pit Stops" — EPA Regions 1 and 2

EPA Regions 1 and 2 are cooperating on a technical assistance project for the automotive repair and service industry known as the Pit Stops Pollution Prevention Project. The project has awarded several grants to states to train retired engineers for site visits, and to design an environmentally conscious curriculum for vocational technical schools.

Baltimore Urban Environmental Initiative — EPA Region 3

The Baltimore Urban Environmental Initiative is an inter-agency activity of EPA Region 3, the City of Baltimore, and the Maryland Department of the Environment. The Initiative is designed to identify and rank areas of disproportionate risk in Baltimore City for purposes of implementing pollution prevention, risk reduction, public awareness, and other environmental activities to minimize these risks. An interagency team identified areas of concern, including lead, hazardous materials incidents, fish consumption/toxics in the harbor, air toxics, ground-level ozone, radon, and indoor air quality.

MERIT Partnership — EPA Region 9

The MERIT Partnership ("Mutual Efforts to Reduce Industrial Toxics") between industry and EPA Region 9 is designed to reduce the level of emissions in southwest Los Angeles County by fostering and implementing voluntary pollution prevention projects. Participants are eligible for expedited processing of permit applications, and can receive compliance assistance from other partnership companies.

EPA REGIONAL CONTACTS

Contacts are listed below in each EPA Regional Office for general pollution prevention assistance, the 33/50 program and TRI, Green Lights, and librarians.

	Name	Telephone	Fax
U.S. EPA Region 1			
John F. Kennedy Federal Building 1 Congress Street Boston, Massachusetts 02203			
Pollution Prevention	Abby Swaine	(617) 565-4523	(617) 565-3346
Pollution Prevention	Mark Mahoney	(617) 565-1155	(617) 565-3346
33/50 and TRI	Dwight Peavey	(617) 565-3230	(617) 565-4939
Green Lights	Norman Willard	(617) 565-3243	(617) 565-4939
Librarian	Peg Nelson	(617) 565-3300	(617) 565-9067
U.S. EPA Region 2			
26 Federal Plaza, Room 900 New York, New York 10278			
Pollution Prevention	Janet Sapadin	(212) 264-1925	(212) 264-9695
33/50	Nora Lopez	(908) 906-6890	(908) 321-6788
Green Lights	Ed Linky	(212) 264-2517	(212) 264-6155
Librarian	Eveline Goodman	(212) 264-2881	(212) 264-5433
U.S. EPA Region 3			
841 Chestnut Building Philadelphia, Pennsylvania 19107			
Pollution Prevention	Jeff Burke	(215) 597-8327	(215) 597-7906/1850
Pollution Prevention	Cathy Libertz	(215) 597-0765	(215) 597-7906
RCRA	Albert Montague	(215) 597-1613	(215) 597-7906
33/50	William Reilly	(215) 597-9302	(215) 349-2011
Green Lights	Ellen Jacobs	(215) 597-0717	(215) 597-7906
Green Lights	George Ferreri	(410) 267-5733	(215) 597-7906
Librarian	Diane M. McCreary	(215) 597-0580	(215) 597-7906
U.S. EPA Region 4			
345 Courtland Street, N.E. Atlanta, Georgia 30365			
Pollution Prevention	Ernesto Perez	(404) 347-7109	(404) 347-1043
33/50	Beverly Mosely	(404) 347-1033	(404) 347-1681
Green Lights	Danny Orlando	(404) 347-2864	(404) 347-2130
Librarian	Priscilla Pride	(404) 347-4216	(404) 347-4486
U.S. EPA Region 5			
77 West Jackson Boulevard Chicago, Illinois 60604-3590			
Pollution Prevention	Shirley Mitchell	(312) 886-9750	(312) 353-4135
33/50	Abeer Hashem	(312) 886-1331	(312) 353-4342
Green Lights	LeeAnn Naue	(312) 886-9383	(312) 886-0617
Librarian	Penny Boyle	(312) 353-2022	(312) 353-1155

POLLUTION PREVENTION DIRECTORY
.....**U.S. EPA Region 6**

1445 Ross Avenue, Suite 1200
Dallas, Texas 75270

Pollution Prevention
33/50
Green Lights
Librarian

Name**Telephone****Fax**

Robert Lawrence
Lewis Robertson
Carrie Ellison
Phyl Barris

(214) 665-6580
(214) 665-7582
(214) 665-7546
(214) 665-6424

(214) 665-2146
(214) 665-2164
(214) 665-2164
(214) 665-2146

U.S. EPA Region 7

726 Minnesota Avenue
Kansas City, Kansas 66101

Pollution Prevention
33/50 and Green Lights
Library

Steve Wurtz
Carl M. Walter
Janice Hood

(913) 551-7050
(913) 551-7600
(913) 551-7358

(913) 551-7063
(913) 551-7065
(913) 551-7467

U.S. EPA Region 8

999 18th Street, Suite 500
Denver, Colorado 80202-2405

Pollution Prevention
33/50 & TRI
Green Lights
Librarian

Sharon Riegel
Kerry Whitford
Mark Komp
Patricia Craven

(303) 293-1471
(303) 294-7684
(303) 293-0956
(303) 294-7616

(303) 293-1198
(303) 293-1229
(303) 293-0988/1229
(303) 293-0943

U.S. EPA Region 9

75 Hawthorne Street (H-1-B)
San Francisco, California 94105

P2/Waste Minimization
P2/Water
33/50 & TRI
Green Lights
Librarian

Bill Wilson
Eileen Sheehan
Helen Burke
Mike Stenburg
Karen Sundheim

(415) 744-2192
(415) 744-2190
(415) 744-1069
(415) 744-1102
(415) 744-1508

(415) 744-1796
(415) 744-1796
(415) 744-1073
(415) 744-1073
(415) 744-1474

U.S. EPA Region 10

1200 Sixth Avenue (MD-142)
Seattle, Washington 98101

Pollution Prevention
33/50
Green Lights
Librarian

Carolyn Gangmark
Jayne Carlin
Ron Radke
Fern Honoré

(206) 399-4072
(206) 553-4762
(206) 553-2148
(206) 553-1289

(206) 553-4957
(206) 553-8338
(206) 553-6647
(206) 553-8509

CHAPTER 2: STATE PROGRAMS

This section provides information on pollution prevention services offered by state agencies, universities, and other organizations. A wide range of grants, technical assistance, information transfer, research, training and award programs are available. In addition, resource centers, technical assistance programs, and business development services for small and medium-sized businesses are listed under each state. Many of these programs provide valuable sources of pollution prevention and waste reduction information.

I. State by State Listings

ALABAMA

Alabama Waste Reduction and Technology Transfer (WRATT) Program

The WRATT Program offers free, voluntary, nonregulatory, confidential waste reduction assessments for public and private entities in Alabama. Retired engineers and scientists conduct these assessments. As part of this program, the Waste Minimization Advisory Committee (of which the Alabama Department of Environmental Management is a member) runs a speakers bureau.

In terms of educational assistance, the WRATT Program provides waste reduction assessor training to five states and program development/implementation assistance to one state. Contact has been established by 12 other states for similar training and assistance. Also, through the Auburn University Extension Service, in conjunction with the Alabama Business Council, the program offers workshops and conferences on pollution prevention for businesses.

For more information, contact:

Daniel E. Cooper
Chief, Special Projects
Alabama Department of Environmental Management
1751 Cong. W.L. Dickinson Drive
Montgomery, Alabama 36130
Tel: (205) 260-2779

Environmental Institute for Waste Management Studies

Activities provided by this institute cover policy research, technology transfer, and basic research. The Hazardous Materials 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. The university's College of Continuing Education also offers courses on pollution prevention.

For more information, contact:

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

ALASKA

Alaska Health Project's Waste Reduction Assistance Program

This program provides hazardous material evaluations, essentially a combined health, safety, and waste reduction approach to improve workplace and community environmental health. The program also manages a small business library, which offers a variety of resources on waste reduction, occupational safety, and environmental health. Nonregulatory assistance is provided to small businesses and communities for improving hazardous materials and solid waste management. Finally, the program organizes in-house training and public workshops on pollution prevention, based on the needs and capabilities of a business or community.

For more information, contact:

Bill Ashton
Alaska Health Project
1818 W. Northern Lights Boulevard, Suite 103
Anchorage, Alaska 99517
Tel: (907) 276-2864
Tel: (800) 478-2864 (within Alaska)
Fax: (907) 279-3089

Department of Environmental Conservation's Pollution Prevention Office

This state office provides nonregulatory technical assistance to communities and business, including telephone assistance, onsite consultation, pollution prevention planning, and training. The office issues matching grants to assist businesses and communities in implementing pollution prevention projects and recognizes exemplary waste reduction and recycling activities by issuing the Commissioner's Annual Pollution Prevention Award.

The office also develops and publishes technical resource material, including fact sheets, the *Pollution Prevention Resource Guide*, and the *Pollution Prevention Bulletin* (an 8-page quarterly newsletter). Other activities include pollution prevention conferences, a technical information resource library, and assistance with the implementation of the Green Star program for small business and other voluntary pollution prevention partnerships.

For more information, contact:

David Wigglesworth
Chief, Pollution Prevention Office
Alaska Department of Environmental Conservation
3601 C Street, Suite 1334
Anchorage, Alaska 99503
Tel: (907) 563-6529
Fax: (907) 562-4026

For more information, contact:

Sandra Eberhardt
Manager, Pollution Prevention Unit
Arizona Department of Environmental Quality
3033 North Central Avenue
Phoenix, Arizona 85012
Tel: (602) 207-4210

Small Business Hazardous Material Management Project

This project, also offered by the Alaska Health Project, conducts seminars in cooperation with the Small Business Development Center, as well as a 12-hour community hazardous materials evaluation training program. This project also has published guides, for small businesses and local communities, on hazardous waste reduction and management. For more information, contact the Alaska Health Project.

Business Development and Trade Division

Under the Department of Commerce, this division creates employment opportunities, provides industrial and commercial location assistance, aids in the development of emerging agricultural projects, and promotes state-manufactured goods and services to international markets.

For more information, contact:

William Marshall
Business Development and Trade Division
Arizona Department of Commerce
1700 West Washington, 4th Floor
Phoenix, Arizona 85007
Tel: (602) 255-5371

ARIZONA

Arizona Department of Commerce

The department designs and implements innovative policies in cooperation with the private sector and coordinates state agency resources to maximize the state's economic development efforts.

For more information, contact:

Arizona Department of Commerce
1700 West Washington, 4th Floor
Phoenix, Arizona 85007
Tel: (602) 255-5371

Arizona Waste Minimization Program

This program consists of a database operation, the dissemination of waste minimization information to the public and industries, assistance to industry through the use of a clearinghouse, onsite technical assistance, curriculum development, demonstration grants, pollution prevention awards, a pollution prevention newsletter, sponsorship of waste minimization seminars and teleconferences in cooperation with universities and industries, and a speakers bureau.

ARKANSAS

Arkansas Department of Pollution Control and Ecology

This department provides technical pollution prevention assistance, under the Arkansas Pollution Prevention Program, to small- and medium-sized businesses and institutions. It offers a manufacturers' exchange (sponsored by the Arkansas Industrial Development Commission) and participates in the Illinois-based Industrial Materials Exchange Service.

The department also has an electronic bulletin board system that serves as an information clearinghouse for state hazardous waste and pollution prevention programs. The Environment Arkansas! bulletin board system is available at (501) 570-2868 between the hours of 4:30 p.m. and 8:00 a.m. Monday through Friday and on a 24-hour basis during weekends and holidays. It is capable of data connections and transfer from 300 to 14,400 bits per second. Service during other hours may be coordinated as needed by calling the voice support line at (501) 570-2862.

For more information, contact:

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

Arkansas Industrial Development Commission

The commission conducts pollution prevention audits and provides technical assistance to all classes of manufacturers for all classes of waste. It serves as the Green Lights partner for Arkansas governmental agencies. The Voluntary Industrial Pollution Prevention Program targets 17 toxics for voluntary reduction by industry. The Industrial Energy Conservation Program provides energy audits and technical assistance to manufacturers and government buildings as a free service and provides recommendations for cutting and conserving energy (contact Cherry Duckett, Energy Division, (501) 682-1370). The ScrapMatch Program proactively matches industrial waste generators with secondary material markets and provides technical assistance with marketing.

For more information, contact:

Alford Drinkwater
Assistant Director of Established Industries
Arkansas Industrial Development Commission
One State Capitol Mall
Little Rock, Arkansas 72201
Tel: (501) 682-7325
Fax: (501) 682-7341

Biomass Resource Recovery Program

This program provides technical assistance to targeted industries, offers an information clearinghouse, conducts waste audits, has a manufacturers' exchange (sponsored by the Arkansas Industrial Development Commission), and participates in the Industrial Materials Exchange Service.

For more information, contact:

Ed Davis
Arkansas Energy Office
One State Capitol Mall
Little Rock, Arkansas 72201
Tel: (501) 682-7322

**Small Business Technical Assistance Centers/
Arkansas Science and Technology Authority**

The Authority was established to encourage the development and expansion of advanced science and technology.

For more information, contact:

Dr. John Ahlen
Arkansas Science and Technology Authority
100 Main Street, Suite 450
Little Rock, Arkansas 72201
Tel: (501) 371-3554

Business Development Services

This organization's field offices assist in training, business management, and other management help.

For more information, contact:

Paul McGinnis
Business Development Services
Technology Center at Little Rock
Library Building, 5th Floor
100 South Main, Suite 401
Little Rock, Arkansas 72201
Tel: (501) 371-5381

Business Information Clearinghouse

This clearinghouse provides information on all programs operated by the Arkansas Industrial Development Commission, including energy assistance, and on programs operated by all universities, colleges, and regional development agencies, such as research grants, technology transfer, and training.

For more information, contact:

Business Information Clearinghouse
One State Capitol Mall
Little Rock, Arkansas 72201
Tel: (501) 682-3358

Center for Technology Transfer

This productivity center offers a statewide service to businesses by providing problem-solving technical help from both the University of Arkansas at Fayetteville and private firms. The center also offers technical assistance to industry in the state with field engineers throughout Arkansas.

For more information, contact:

W.H. Rader
Center for Technology Transfer
College of Engineering
Engineering Research Center, Room 49
University of Arkansas at Fayetteville
Fayetteville, Arkansas 72701
Tel: (501) 575-3747

East Arkansas Business Incubator System

This program provides facilities in which young, innovative, technology-based businesses can lease office, laboratory, or manufacturing space during their early years and have access to technical and management counsel.

For more information, contact:

Guy Enchelmayer
East Arkansas Business Incubator System, Inc.
5501 Krueger Drive
Jonesboro, Arkansas 72301
Tel: (501) 935-8365

CALIFORNIA

**California Department
of Toxic Substances Control**

The department conducts waste-stream-specific and industry-specific studies of hazardous waste to identify waste minimization opportunities, as well as industry-specific audit studies. It also implements the Hazardous Waste Reduction Grant Program, which provides grants for the research and development of hazardous waste reduction, recycling, and treatment technologies and, under specified conditions, provides grants to cities, counties, and private organizations for the commercial demonstration of these technologies. The department provides technical support to local government pollution prevention programs through participation in discussions of pollution prevention policies, dissemination of new publications, and technical presentations, and it administers grants to these local government programs. A variety of research, development, and demonstration programs promote waste minimization, recycling, and treatment technologies for California's hazardous-waste-generating industries.

The recent implementation of the Hazardous Waste Source Reduction and Management Review Act has led to

the department beginning a facility source reduction planning program. The department also administers grants to California counties to develop small business assistance programs, including developing hazardous waste collection programs for small-quantity generators and providing pollution prevention assistance.

The department implements a Technology Clearinghouse and technology transfer outreach programs (see Chapter 4). The department also participates in the Paint Recycling Task Force, which is dedicated to creating a positive and convenient environment for manufacturers and consumers to safely recycle paints and works to introduce new markets for recycled paint. In conjunction with this task force, Cal Poly San Luis Obispo is conducting a study of recycled paints. Finally, the department integrates facility compliance assistance inspections with pollution prevention inspections through consultative seminars.

For more information, contact:

Kim Wilhelm
Office of Pollution Prevention and
Technology Development
Department of Toxic Substances Control
400 P Street
P.O. Box 806
Sacramento, California 95812-0806
Tel: (916) 322-3670

**California Manufacturing Technology Center,
Hawthorne, CA**

See Chapter 3.

Environmental Hazards Management Program

The University of California at Berkeley, Davis, Irvine, Los Angeles, Santa Cruz, Riverside, Santa Barbara, and San Diego offers postgraduate continuing education courses on toxic materials that touch on pollution prevention issues. Many of these courses give certifications in hazardous material management and air quality management. Some locations offer environmental auditing and other related topics.

For more information, contact:

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

Pollution Prevention Education and Research Center

Established in 1991, the center was formed by four University of California faculty members from the fields of public health and toxicology, chemical engineering, urban planning, and public policy. The center's mission is to conserve resources and reduce or eliminate the use of toxic substances through an interdisciplinary program of education, research, and outreach. Multidisciplinary classes are offered to foster communication among students in science, engineering, and policy. Research projects have examined ways to redesign production processes to eliminate toxics; collaborative research and education efforts have led to the publication of several books as well as numerous journal articles and other studies.

For more information, contact:

Dr. David Allen
Department of Chemical Engineering
Linda Ashman Hicks, Associate Director
Pollution Prevention Education & Research Center
UCLA, Boelter Hall, Room 7440
Los Angeles, CA 90024
Tel: (310) 206-2098
Fax: (310) 206-3906

COLORADO

Colorado Pollution Prevention Partnership

This partnership is a nonprofit, voluntary alliance of government, business, and public interest groups organized to develop and promote pollution prevention and waste minimization in Colorado industries. In the partnership's initial successful effort, industry members implemented a program of voluntary goals for solvent reduction. Recently, it commissioned "A Survey of the Pollution Prevention Habits and Needs of Colorado's Small- and Medium-Sized Businesses."

For more information, contact:

Paul Ferraro
Secretary, Pollution Prevention Partnership
1099 18th Street, Suite 2100
Denver, Colorado 80202
Tel: (303) 294-1200
Fax: (303) 294-1234

Colorado Pollution Prevention Unit

This unit handles policy development through incorporating pollution prevention into regulatory programs, such as permitting and enforcement. Multimedia members of a Total Quality Management Team identify and address opportunities for and obstacles to pollution prevention. The unit also has a technical assistance program (with an information center and onsite assistance), an information clearinghouse, a technical library, and outreach to help build pollution prevention capacity in local governments and tribes. It sponsors workshops and develops and distributes industry-specific fact sheets. Finally, the unit implements the Colorado Pollution Prevention Act of 1992, which includes the coordination of the governor-appointed Pollution Prevention Advisory Board and the administration of a Pollution Prevention Fee and Grants Program.

For more information, contact:

Parry W. Burnap
Program Manager, Pollution Prevention Unit
Colorado Department of Health—PPU/B2B
4300 Cherry Creek Drive South
Denver, Colorado 80220-1530
Tel: (303) 692-3009
Fax: (303) 782-4969

Chris Wiant
Chairman, Pollution Prevention Advisory Board
Tri County Health Department
7000 East Belleview Avenue, Suite 301
Englewood, Colorado 80111

Waste Minimization Assessment Center

Located at Colorado State University, this center was established in July 1988 to assist small- and medium-sized manufacturing firms in reducing emissions of hazardous wastes. With support from EPA, the Colorado Department of Health, and the Pollution Prevention Partnership, the center has performed approximately 48 pollution prevention assessments. It also conducts training workshops for Colorado Department of Health and EPA personnel.

For more information, contact:

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

CONNECTICUT

Connecticut Department of Environmental Protection

The department provides technical assistance to target industrial and commercial generators of hazardous waste. It also conducts conferences and workshops.

For more information, contact:

Mary Sherwin
Bureau of Waste Management
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, Connecticut 06106-5127
Tel: (203) 566-8476

Connecticut Technical Assistance Program

This program offers technical assistance through a resource center (telephone assistance) and onsite visits, financial assistance through the Matching Challenge Grant Program and loans, and a quarterly newsletter. It also sponsors conferences and workshops.

For more information, contact:

Rita Lomasney
Connecticut Technical Assistance Program
Connecticut Hazardous Waste Management Service
50 Columbus Boulevard, 4th Floor
Hartford, Connecticut 06106
Tel: (203) 241-0777

Pollution Prevention Research and Development Center

This EPA-funded research center supports state government and industry in reducing toxic emissions by encouraging existing and startup companies to provide the services and equipment necessary for pollution prevention technologies and by creating new jobs to meet the demands of this industry. The center's goal is to work with industry to develop pollution prevention technology and manufacturing base in the region.

For more information, contact:

Dr. George Hoag
Director, Pollution Prevention
Research and Development Center
Environmental Research Institute
Longley Building, Route 44, U-210
University of Connecticut
Storrs, Connecticut 06269-3210
Tel: (203) 486-4015
Fax: (203) 486-2269

DELAWARE

Delaware Pollution Prevention Program

This program provides technical assistance through the University of Delaware. It offers industry-specific pollution prevention guides, a waste reduction self-evaluation manual for manufacturers, and an information clearinghouse located in the Delaware Development Office. The program sponsors industry and public workshops and talks, the Pollution Prevention Industry Roundtable, and the Northeast Industrial Waste Exchange. It distributes a pollution prevention curriculum to grades K through 8. Other programs offered are the voluntary TRI emissions reduction initiative, multimedia permitting and compliance program development, the Usable By-products Advisory Group, and the Green Industries Initiative (which includes a financing, tax credit, and regulatory assistance program).

For more information, contact:

Philip J. Cherry or Andrea K. Farrell
Pollution Prevention Program
Department of Natural Resources
and Environmental Control
P.O. Box 1041
Kings Highway
Dover, Delaware 19903
Tel: (302) 739-5071/3822

Herb Allen
Department of Civil Engineering
University of Delaware
Newark, Delaware 19716
Tel: (302) 451-8522/8449

DISTRICT OF COLUMBIA

Environmental Regulation Administration

This is the principal office to contact concerning pollution prevention in the D.C. area.

For more information, contact:

Nick Kauffman
Environmental Regulation Administration
Department of Consumer and Regulatory Affairs
2100 Martin Luther King, Jr. Avenue SE, Suite 203
Washington, DC 20020
Tel: (202) 404-1167
Fax: (202) 404-1143

Office of Recycling

This office provides technical assistance to haulers, commercial property owners, and city government, as well as curbside recycling. It also issues a newsletter.

For more information, contact:

Evelyn Shields
Recycling Coordinator
Department of Public Works
65 K Street NE
Washington, DC 20002
Tel: (202) 727-5887
Fax: (202) 727-5872

Kenneth Laden
Environmental Policy Division
Department of Public Works
2000 14th Street NW
Washington, DC 20009
Tel: (202) 939-8115
Fax: (202) 939-7185

George Nichols
Department of Environmental Programs
Council of Governments
777 North Capitol Street NE, Suite 300
Washington, DC 20002-4201
Tel: (202) 962-3355
Fax: (202) 962-3201

Great Lakes and Mid-Atlantic Hazardous Substance Research Center

This center, which is funded by EPA, focuses on the unique problems of EPA Regions 3 and 4. 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. Along with Howard University in D.C., the University of Michigan and Michigan State University are members of the center. See also under Michigan.

For more information, contact:

Dr. James H. Johnson, Jr.
Assistant Director
Department of Civil Engineering
Howard University
Washington, DC 20059
Tel: (202) 806-6570

National Pollution Prevention Roundtable

This roundtable represents pollution prevention programs at the state and local levels in both the public and academic sectors. Member programs engage in a broad range of activities, including multi-audience training and primary to postsecondary pollution prevention education, supported by a variety of state and federal funding sources. The roundtable holds biannual conferences that serve as opportunities for updates on member programs' progress, including training efforts. The roundtable is funded in part through EPA grants.

For more information, contact:

Natalie Roy
National Pollution Prevention Roundtable
218 D Street SE
Washington, DC 20003
Tel: (202) 543-7272
Fax: (202) 543-3844

FLORIDA

Broward County Pollution Prevention Program

The Pollution Prevention Program for Broward County, Florida is a free nonregulatory service to Broward businesses. Its goals include (1) creating a county-wide pollution prevention program; (2) making recommendations for changes to existing regulations; (3) providing businesses with technical support programs on waste reduction, product substitution, modifying processes, and recycling; (4) providing educational programs, such as community workshops, environmental education and pollution prevention, technical bulletins and brochures, video presentations, and a newsletter; and (5) providing economic incentives for voluntary participation pollution prevention programs.

For more information, contact:

Kay Gervasi
Manager, Pollution Prevention Program
Division of Pollution Prevention &
Remediation Programs
Department of Natural Resource Protection
218 S.W. 1st Avenue
Fort Lauderdale, Florida 33301
Tel: (305) 519-1260
Fax: (305) 765-4804

Dade County Pollution Prevention Program

This program has developed a local government demonstration project using Federal and state funds. Dade County's Environmental Resources Management has established this multimedia nonregulatory program, whose elements include workshops, onsite technical assistance, development of educational materials, a quarterly newsletter, and a library.

For more information, contact:

Lori Cunniff
Dade County Environmental Resources Management
Pollution Prevention Program
33 S.W. 2nd Avenue
Miami, Florida 33130-1540
Tel: (305) 372-6828
Fax: (305) 372-6729

Florida Recycling Marketing System

This system, developed through an Innovative Recycling Grant from the Florida Department of Environmental Regulation, is a computerized marketing system for recycled/recyclable materials operated by the Florida Center for Solid and Hazardous Waste Management at the University of Florida. The system includes:

- ▷ Directories of recyclers, processors, end users, recycling equipment, and manufacturers of products with recycled content composting and waste reduction
- ▷ Forums divided into specific recyclable categories where any question, comment, or information about that material may be answered, discussed, or made available
- ▷ Downloadable files relating to recycling, composting, and waste reduction
- ▷ Announcements concerning conferences, meetings, and workshops
- ▷ Lists of materials wanted or available through the Southern Waste and Information Exchange (SW/X).

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

For more information, contact:

Dr. Paul Still
Florida Recycling Marketing System
2207-D N.W. 13th Street
Gainesville, Florida 32609
Tel: (904) 392-0365
Fax: (904) 846-0183

Pollution Prevention Regulatory Incentives Program

As recommended by the Florida Pollution Prevention Council, this program is designed to remove regulatory barriers to preventing pollution, provide information on incentives to pollution prevention, offer a "pollution prevention choice" in enforcement actions, and develop education systems to provide pollution prevention and control training opportunities.

For more information, contact:

Janeth A. Campbell
Pollution Prevention
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Tel: (904) 488-0300
Fax: (904) 921-9229

Research Center for Waste Utilization

This 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, industrial solid waste, and pollution prevention. Specific studies include heavy metal sources in the municipal solid waste stream, uses of ash from waste-to-energy plants, biological toxicity of ash residues, and degradable plastics characteristics after disposal.

For more information, 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
Tel: (305) 768-8000

University of Florida

► **Center for Training, Research,
and Education for Environmental Occupations**

This 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.

► **Center for Solid and Hazardous Waste Management**

This center coordinates Florida's solid and hazardous waste research efforts, including management practices for waste reduction, reuse, recycling, and improved conventional disposal methods.

For more information, contact:

John Schert, Director
University of Florida
3900 S.W. 63rd Boulevard
Gainesville, Florida 32608-3848
Tel: (904) 392-9570

Waste Reduction Assistance Program

This program provides confidential and nonregulatory multimedia help to reduce emissions to air, water, and land, as well as onsite pollution prevention technical assistance. It has a computerized Waste Reduction Information Clearinghouse. The program offers technology transfer, environmental education, and industry-specific workshops, and trains local government inspectors and retired engineers to provide waste reduction information to businesses.

For more information, contact:

John Scarboro
Waste Reduction Assistance Program
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Tel: (904) 488-0300

GEORGIA

**Georgia Tech Research Institute/
Environmental Science & Technology Laboratory**

The Georgia Tech Research 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 an 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 Institute's Environmental Science and Technology Laboratory are the Hazardous Waste Technical Assistance Program 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 the Hazardous Waste Technical Assistance Program is paid for through general funds.

For more information on the institute, the laboratory, and the two programs, contact:
 Carol Foley
 Georgia Tech Research Institute
 Environmental Science and Technology Laboratory
 Atlanta, Georgia 30332
 Tel: (404) 894-3806

Georgia Multimedia Source Reduction and Recycling Program

This program offers a multimedia pollution prevention information resource package; workshops and seminars for the general public, industry groups, and professional and environmental organizations; and telephone consultations with the public, industry, and city, county, and state government officials. The program is developing a vehicle to further integrate pollution prevention into regulatory activities.

For more information, contact:
 G. Robert Kerr or Bob Donaghue
 Pollution Prevention Assistance Division
 Georgia Department of Natural Resources
 7 Martin Luther King, Jr. Drive, S.W., Suite 450
 Atlanta, Georgia 30334
 Tel: (404) 651-5120

HAWAII

Hawaii Department of Business, Economic Development and Tourism

This agency encompasses programs addressing ocean protection and energy conservation. Ocean programs address damage to reefs from pollution, as well as boating and ocean resources research. Energy conservation programs include the state's Green Lights effort, an electric vehicle pilot, and synthetic fuels research.

For more information, contact:
 Hawaii Department of Business,
 Economic Development and Tourism
 P.O. Box 2359
 Honolulu, Hawaii 96804
 Tel: (808) 586-2423

Hazardous Waste Minimization Program

This program provides resources and education on hazardous waste minimization and proper management of wastes. Workshops, onsite assessments, and cooperative education programs are targeted toward small- and large-quantity generators of hazardous wastes. A quarterly newsletter and industry bulletins feature waste minimization and pollution prevention techniques. The program also offers a directory of resources for proper hazardous waste management, including local haulers and recyclers and agency contacts. A library provides information on pollution prevention and waste minimization programs and technical guidance.

For more information, contact:
 Jane Dewell
 Waste Minimization Coordinator
 Solid and Hazardous Waste Branch
 Hawaii Department of Health
 5 Waterfront Plaza, Suite 250
 500 Ala Moana Boulevard
 Honolulu, Hawaii 96813
 Tel: (808) 586-4373

Office of Solid Waste Management Pollution Prevention Programs

This office houses HIMEX, the Hawaii Materials Exchange, which is a computer database that lists materials wanted and available. The exchange, established in conjunction with the Maui Recycling Group, will grow to include representatives in each county. The Pollution Prevention Workgroup consists of decision makers and members of regulatory agencies; it facilitates information exchange among pollution prevention programs at both state and county levels.

One pilot project is a dropoff program for recreational boaters' waste at a harbor on the island of Hawaii. An educational pamphlet and evening informational meetings introduce harbor users to the dropoff and provide waste minimization tips. Following an evaluation, the pilot program will be expanded to other harbors in the state.

For more information, contact:
 John Harder, Coordinator
 Office of Solid Waste Management
 Hawaii Department of Health
 5 Waterfront Plaza, Suite 250
 500 Ala Moana Boulevard
 Honolulu, Hawaii 96813
 Tel: (808) 586-4227

Pollution Prevention Program

The Pollution Prevention Program began in January 1994, to expand on the success of the Hazardous Waste Minimization Program at the Hawaii Department of Health. This program will work on all media—air, hazardous waste, and water—to apply pollution prevention alternatives. A prominent feature of the program is its emphasis on the importance of making decision from an ecosystem point of view to avoid the transfer of pollution across media. The program is primarily directed at the staff at the Department of Health to encourage them to incorporate pollution prevention into their daily work. To this end, the program includes forming a strategic plan for the department, conducting pollution prevention training, serving as an information clearinghouse, and helping the staff in a variety of ways. Besides working within the department, the program will work with numerous state and local agencies, businesses, nonprofit organizations, and the university system to encourage their adoption of pollution prevention projects.

For more information, contact:

Sara Lynette Russell
Pollution Prevention Coordinator
Hawaii Department of Health
Environmental Planning Office
5 Waterfront Plaza, Suite 250
500 Ala Moana Boulevard
Honolulu, Hawaii 96813
Tel: (808) 586-4339

IDAHO

Division of Environmental Quality's Prevention and Certification Bureau

This bureau promotes pollution prevention through education and technical assistance, distributes pollution prevention information, maintains a library of pollution prevention and recycling technical assistance documents, develops partnerships for the promotion of pollution prevention, organizes pollution prevention workshops, and provides speakers on the subject.

For more information, contact:

Katie Sewell
Division of Environmental Quality
Prevention and Certification Bureau
1410 N. Hilton Street
Boise, Idaho 83706
Tel: (208) 334-5860
Fax: (208) 334-0576

ILLINOIS

Department of Commerce & Community Affairs

► Program Development Division

The functions of this division include developing new programs, delivering technical assistance in demonstration programs, and writing new publications for communities.

► Small Business Development Centers

This program provides small businesses with access to management and consulting resources. In particular, these centers deliver and broker services, such as technical assistance, training, and counseling. The centers also serve to improve access for businesses to management assistance provided by technical experts in education, government, and the private sector. Currently, 16 regional small business centers exist throughout the state, with office locations at 53 different sites.

► Small Business Energy Assistance Program

This program is designed to help small firms contain or reduce energy costs. Assistance includes free energy audits.

In the Chicago area, contact:

State of Illinois Center
100 West Randolph Street
Suite 3-400
Chicago, Illinois 60601
Tel: (312) 917-3133

Outside the Chicago area, contact the following for more information:

Program Development Division
Illinois Department of Commerce and Community Affairs
620 East Adams Street
Springfield, Illinois 62701
Tel: (217) 785-6130

Illinois EPA Office of Pollution Prevention

This office has several important programs. Partners in Pollution Prevention, launched in 1991 to promote industry-agency cooperation, has evolved into a sounding board for new pollution prevention ideas, such as streamlining the permit process to encourage pollution prevention projects. Partner companies receive expedited permits, priority intern placements, onsite mutual assistance, and a liaison to Illinois Environmental Protection Agency programs. Partners in Pollution Prevention has grown in numbers and matured in its usefulness for incorporating pollution prevention into regulatory and production processes. "Leading By Example" expands the original partnership to include:

- ▷ Onsite Mutual Assistance and Two-Way Hotline—Industry learns more about regulations, the agency learns more about industrial processes, and compliance and pollution prevention are better defined and easier to achieve.
- ▷ Graduate Internships—Well-trained engineering and chemistry graduate students are provided to Illinois industries for short-term pollution prevention projects. The agency provides salary and pollution prevention training for the students.
- ▷ Industrial Process Workshops—Process-specific training for agency personnel with industry expertise encourages better pollution prevention incorporation into permits, inspections, and enforcement actions.
- ▷ Referrals—The Office of Pollution Prevention refers companies to other state agencies when technical or economic assistance is needed.

The office strongly encourages Partners in Pollution Prevention companies to communicate openly with their communities to encourage discussion and lift any perceived "veil of secrecy" citizens may suspect.

The office's pollution prevention conferences bring together industry, government, and environment to share successes and ideas. Local workshops and presentations are held on request to inform communities and companies of pollution prevention programs and techniques. The office also provides pollution prevention information to the agency's Small Business Assistance Program in a format tailored to the needs of small businesses that clarifies regulations and pollution prevention opportunities. The office compares SARA 313 (TRI Form R) pollution prevention

data with RCRA waste minimization data to assess the progress of pollution prevention efforts in Illinois and determine where pollution prevention projects would be successful. When pollution prevention methods are not feasible, the Industrial Materials Exchange Service program encourages the reuse of recoverable industrial materials to turn disposal costs into savings and provide less expensive raw materials to companies. Listings in the bimonthly exchange service directory are free, and facility "walkthrough" service is available to assist in identifying recyclable materials.

For more information, contact:

Michael J. Hayes, Manager
Keri Luly, Unit Manager
Office of Pollution Prevention (#34)
Illinois Environmental Protection Agency
2200 Churchill Road
P.O. Box 19276
Springfield, Illinois 62794-9276
Tel: (217) 782-8700

Illinois Hazardous Waste Research and Information Center (HWRIC)

This center is a division of the Illinois Department of Energy and Natural Resources. It combines research, education, and technical assistance in a multidisciplinary approach to manage and reduce industrial waste in Illinois. The center collects and shares this information through its library/clearinghouse and several computerized waste management tools.

► Library/Clearinghouse

The center has collected a broad range of pollution prevention information, including books, journal articles, reports, and pamphlets on various topics. Books and reports are compiled into a waste reduction bibliography, copies of which are available upon request. Print and online indexes to all the collections are available onsite. Copies of center-sponsored reports and pamphlets are available. There is a charge for most reports. Lists of both types of materials are also available upon request. Library books and articles are not lent directly outside the center, but the library does participate in interlibrary loans.

► Waste Reduction Advisory System

This system is a user-friendly computerized waste management tool developed by the center, EPA, and other state waste management programs. It provides waste generators

with a wide range of options for reducing and recycling industrial waste. The system has two parts: the Waste Reduction Audit Checklist and the Waste Reduction Information Bibliography. The checklist is an individualized pollution prevention assessment tool via a series of questions. 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 bibliography provides users with more than 300 literature abstracts and case studies on current waste reduction technologies.

Currently, the Waste Reduction Advisory System case study database is being merged with the PIES database (see the PIES listing in chapter 4). A fully executable system program, complete with a user's guide, costs \$95. To access this program, a user needs a fully IBM-compatible PC with at least 640K of memory, a hard disk, and DOS version 2.1 or later versions.

► Other Center Features

HWRIC also provides onsite pollution prevention assistance, including program development. It sponsors pilot projects to develop and demonstrate pollution prevention technologies onsite and in the center's pilot laboratory (specialized equipment for testing aqueous solvents, reduction of other cleaning wastes, and electroplating rinse waters). The center develops pollution prevention curricula for educational institutions, provides recognition through the annual Governor's Pollution Prevention Awards, and conducts pollution prevention workshops and seminars for trade associations, community groups, and industry.

For more information, contact:

Dr. David Thomas, Director

Dr. Gary Miller, Assistant Director

Hazardous Waste Research and Information Center

One East Hazelwood Drive

Champaign, Illinois 61820

Tel: (217) 333-8940 or 244-8905

Fax: (217) 333-8944

Lake Michigan Federation

This federation is a nonprofit, citizen-based organization whose mission is to restore and maintain the quality of the Great Lakes. Since 1970, the federation has empowered citizens throughout the Great Lakes Basin with the knowledge and skills necessary to effectively promote change within their communities. The federation works to promote pollu-

tion prevention strategies at home and in the workplace, stewardship of Lake Michigan's shoreline, environmental education in the community and schools, and cooperative remediation efforts at the local, state, and federal levels.

The federation has created what it terms "the cadillac" of household pollution prevention campaigns, with a multimedia program of videos, television public service announcements, slide show, K-12 curriculum, brochures, and even a recipe book for alternative cleaners. Each component of the program is designed to be adapted or replicated by other communities.

For more information, contact:

Lake Michigan Federation

59 E. Van Buren, #2215

Chicago, Illinois 60605

Tel: (312) 939-0838

Fax: (312) 939-2708

Manufacturing Productivity Center

This center provides information on new manufacturing techniques and has a listing of technology centers that provide manufacturing assistance. It also encourages interaction among companies. The center helps all businesses, inside and outside Illinois.

For more information, contact:

Manufacturing Productivity Center

IIT Research Institute

10 West 35th Street

Chicago, Illinois 60616

Tel: (312) 567-4800

INDIANA

Business and Industrial Development Center

This center serves as a "switchboard" for business and industry communication with Purdue University. The center provides technical information by matching needs with a faculty or private sector consultant.

For more information, contact:

Business and Industrial Development Center

Purdue University

Engineering Administration Building

West Lafayette, Indiana 47907

Tel: (800) 821-8261

Business Ombudsman Office

This office helps businesses comply with government regulations and work through the permitting process. It also helps businesses perform corrective actions and better understand applicable regulatory requirements.

For more information, contact:
 Business Ombudsman Office
 Division of Business Expansion
 Indiana Department of Commerce
 One North Capitol, Suite 700
 Indianapolis, Indiana 46204
 Tel: (317) 232-7304
 Tel: (800) 824-2474 (in Indiana)

Center for Environmental and Regulatory Information Systems (CERIS)

This center, a nonprofit research information resource under Purdue University, develops and operates databases to provide environmental, regulatory, and other relevant information to the world agricultural community. It currently has four components:

- ▷ The National Pesticide Information Retrieval System provides information by subscription on registered pesticides and on the health and safety effects of a wide spectrum of hazardous chemicals.
- ▷ CERIS-NET is the carrier component of CERIS. It is an electronic mail, news, and file transfer service that provides communication support for the CERIS user community. Through connections to worldwide networks, users can communicate directly with computing facilities around the globe, with access to daily *Federal Register* notices, other EPA and USDA notices, various news groups, and numerous pesticide newsletters and publications.
- ▷ The National Agricultural Pest Information System is a pest survey database and the national repository of survey data collected by the Cooperative Agricultural Pest Survey Program through the USDA Animal and Plant Health Inspection Service, universities, and state regulatory agencies.
- ▷ The EXport CERtification Project (EXCERPT) is a database of the regulations governing the exportation of agricultural products produced in the United States to more than 150 different countries.

For more information, contact:
 Center for Environmental and
 Regulatory Information Systems
 Purdue University
 1231 Cumberland Avenue, Suite A
 West Lafayette, Indiana 47906-1317
 Tel: (317) 494-6616
 Fax: (317) 494-9727

Center for Neighborhood Technology

This center has set up a program of technical assistance for job-shop proprietors who need help complying with environmental regulations. The center provides assistance on pollution prevention, energy efficiency, waste reduction, and material substitution. A magazine, *Neighborhood Works*, is published bimonthly.

For more information, contact:
 Scott Bernstein
 Center for Neighborhood Technology
 2125 North Avenue
 Chicago, Illinois 60647
 Tel: (312) 278-4800

Indiana Pollution Prevention Institute

This recently developed, state-sponsored, 20-person institute will provide pollution prevention training and technical assistance to Indiana businesses. It will also conduct research and development of pollution prevention programs and technologies.

For more information, contact:
 Lynn A. Corson, Ph.D.
 Executive Director
 Indiana Pollution Prevention Institute
 1291 Cumbrelnaid Avenue, Suite C
 West Lafayette, Indiana 47906-1385
 Tel: (317) 494-5036

Indiana Office of Pollution Prevention and Technical Assistance

This office, in addition to the other programs it operates, carries out pollution prevention and technology transfer services. It produces a materials exchange catalog and has a governor's award program.

For more information, contact:

Tom Neltner, Assistant Commissioner
Charles Sullivan, Environmental Manager
Office of Pollution Prevention and Technical Assistance
Indiana Department of Environmental Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
Tel: (317) 232-8172
Tel: (800) 451-6027 (in Indiana)

Technical Assistance Program

This program uses Purdue University's resources to provide direct, free technical assistance to businesses, with the intent of raising a company's technology level. The program also provides implementation support.

For more information, contact:

Technical Assistance Program
Purdue University
West Lafayette, Indiana 47907
Tel: (317) 494-6258

IOWA

Center for Industrial Research and Service

This center provides manufacturers and processors with direct management and technical assistance. It also assists inventors through the Innovation Program and minority businesses through its Minority Business Development Assistance Program. The Iowa Technology Transfer Program is responsible for providing information on advanced technologies to potential users.

For more information, contact:

Center for Industrial Research and Service
Iowa State University of Science and Technology
205 Engineering Annex
Ames, Iowa 50011
Tel: (515) 294-3420

Financing Rural Economic Development

The purpose of this program is to increase business development and employment opportunities in rural Iowa. The program provides technical assistance, training, and financial assistance.

For more information, contact:

Financing Rural Economic Development
Department of Economic Development
200 East Grand Avenue
Des Moines, Iowa 50309
Tel: (515) 281-2746

Iowa High Technology Council

This council gives grants to researchers at educational institutions for research related to business needs.

For more information, contact:

Iowa High Technology Council
Department of Economic Development
200 East Grand Avenue
Des Moines, Iowa 50309
Tel: (515) 281-3036

Iowa Waste Reduction Center

This center, in addition to its other services, provides onsite waste assessment consultation for small businesses and conducts applied research on new and emerging waste reduction and recycling technologies. Its programs include the Waste Reduction Expert Access System, and it conducts general and industry-specific waste reduction workshops.

For more information, contact:

John Konefes, Director
Kim Gunderson, Environmental Specialist
Iowa Waste Reduction Center
University of Northern Iowa
Cedar Falls, Iowa 50614-0185
Tel: (319) 273-2079
Fax: (319) 273-6494

Waste Management Authority Division

This division provides onsite waste reduction opportunity assessments, administers a grant program, develops recycling markets, and conducts a waste reduction workshops series.

For more information, contact:

Larry Gibson or Scott Cahail
Waste Management Authority Division
Department of Natural Resources
Wallace State Office Building
Des Moines, Iowa 50319
Tel: (515) 281-8941

KANSAS

Business and Technology Institute

This institute provides one-stop managerial, financial, and technical assistance to new and expanding businesses in southeast Kansas, Missouri, Oklahoma, and Arkansas.

For more information, contact:

Business and Technology Institute
Pittsburg State University
Pittsburg, Kansas 66762
Tel: (316) 235-4920

Center for Environmental Education and Training

In cooperation with the Kansas Department of Health and Environment, this center offers technical assistance and industry-specific waste minimization workshops, and organizes hazardous waste regulatory training conferences. Conference topics include waste minimization, regulatory compliance, and technology transfer.

For more information, contact:

Dennis Murphy, Director
Center for Environmental Education and Training
Division of Continuing Education
University of Kansas
12600 Quivira Road
P.O. Box 25936
Overland Park, Kansas 66225-5936
Tel: (913) 897-8500

Center for Productivity Enhancement

This center provides technology transfer, primarily in the areas of computer-integrated manufacturing systems and related technologies, and advanced composite materials.

For more information, contact:

Dr. Richard Graham
Center for Productivity Enhancement
Wichita State University
Engineering, Room 203
Wichita, Kansas 67208-1595
Tel: (316) 689-3525

Engineering Extension

The extension links industry and the College of Engineering at Kansas State University to promote technology transfer within Kansas.

For more information, contact:

Michelle Feenstra
Engineering Extension
Ward Hall, Room 133
Kansas State University
Manhattan, Kansas 66506
Tel: (913) 532-6026

Hazardous Substance Research Center

This center provides research and technology transfer services for pollution prevention and other waste management techniques. One pollution prevention focus of this center is on soils and mining waste.

For more information, contact:

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

Mid-America Manufacturing Technology Center, Overland Park, KS

See Chapter 3.

Small Business Development Center

This center provides a full range of small business management assistance, concentrating on business plans and financial packaging.

For more information, contact:

Cynthia Friend
Small Business Development Center
Clinton Hall, Room 021, Box 148
Wichita State University
Wichita, Kansas 67208
Tel: (316) 689-3193

State Technical Action Plan

The Department of Health and Environment offers this plan, which includes educational programs on hazardous waste minimization methods, alternative technology research for electroplaters, a waste minimization newsletter, other publications, and videotapes.

For more information, contact:

Theresa Hodges
Pollution Prevention Director
Kansas Department of Health and Environment
Forbes Field, Building 740
Topeka, Kansas 66620
Tel: (913) 296-6603

KENTUCKY

Kentucky Partners— State Waste Reduction Center

The center offers onsite opportunity assessments, waste reduction seminars and workshops, and a quarterly newsletter. It houses a pollution prevention information center and coordinates a network of industrial consultants.

For more information, contact:

Joyce St. Clair
Executive Director
Kentucky Partners—State Waste Reduction Center
Ernst Hall, Room 312
University of Louisville
Louisville, Kentucky 40292
Tel: (502) 852-7260

Waste Minimization Assessment Center

This center is managed through the University City Science Center in Philadelphia. It conducts quantitative, onsite 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. Professionals are encouraged to participate in these courses. Engineering students also conduct waste minimization projects at manufacturing plants.

For more information, contact:

Marvin Fleischman, Director
Waste Minimization Assessment Center
Department of Chemical Engineering
University of Louisville
Louisville, Kentucky 40292
Tel: (502) 852-6357

LOUISIANA

Center for Energy and Environmental Studies

This center supports studies on pollution prevention treatment technologies, and socioeconomic policy research.

For more information, contact:

Dr. Robert L. Ford, Director
Center for Energy and Environmental Studies
Southern University at Baton Rouge
Cottage #8, P.O. Box 9764
Baton Rouge, Louisiana 70813
Tel: (504) 771-4723
Fax: (504) 771-4722

Hazardous Waste Research Center

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.

For more information, contact:

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

Institute for Recyclable Material

This institute conducts research and technology transfer programs in the recycling of municipal solid waste and industrial byproduct materials. These programs encompass technical, economic, environmental, legal, and regulatory considerations.

For more information, contact:

Dr. Roger K. Seals
Institute for Recyclable Material
College of Engineering
1419 Center for Engineering and Business Administration
Louisiana State University
Baton Rouge, Louisiana 70803
Tel: (504) 388-8650
Fax: (504) 388-4945

Louisiana Cooperative Extension Service

This service focuses on pollution prevention and waste minimization in the agricultural arena.

For more information, contact:

Bill Branch
Environmental Education
Louisiana Cooperative Extension Service
P.O. Box 25100
Baton Rouge, Louisiana 70894
Tel: (504) 388-6998

Louisiana Department of Environmental Quality

The department sponsors the Louisiana Technical Assistance Program (see below), an environmental leadership program that currently offers an information clearinghouse and technical assistance and will have technology assessment capabilities. The department also initiated the Small Business Assistance Program (see below under "Small Business Technical Assistance Centers") in response to Section 507 of the Clean Air Act Amendments of 1990 to provide technical assistance to small businesses. Other activities include grant programs for pollution prevention, an index of hazardous and TRI toxic wastes, and pollution prevention workshops and conferences.

For more information, contact:

Gary Johnson
Pollution Prevention Coordinator
Louisiana Department of Environmental Quality
P.O. Box 82263
Baton Rouge, Louisiana 70884-2263
Tel: (504) 765-0720
Fax: (504) 765-0722

Louisiana Technical Assistance Program

Sponsored by the Louisiana Department of Environmental Quality and housed in the University of New Orleans Urban Waste Management and Research Center, this nonregulatory program is designed to promote pollution prevention activities in small- and medium-sized businesses and industries by providing information and technical assistance. The program involves the Louisiana small business development centers, which are located at the universities throughout the state.

For more information, contact:

Dr. A.T. Knecht
Louisiana Technical Assistance Program
College of Engineering
University of New Orleans
New Orleans, Louisiana 70148
Tel: (504) 286-6305
Fax: (504) 286-5586

Small Business Technical Assistance Centers

The Louisiana Department of Environmental Quality, in addition to its other programs, carries out waste minimization assessments of Louisiana industries and offers pollution prevention conferences and workshops. Details of individual programs around the state are listed below.

For more general information, contact:

Gary Johnson
Pollution Prevention Coordinator
Louisiana Department of Environmental Quality
P.O. Box 82263
Baton Rouge, Louisiana 70884-2263
Tel: (504) 765-0720
Fax: (504) 765-0722

► Louisiana Small Business Development Center

This center coordinates the management and technical assistance needs of small businesses.

For more information, contact:

Dr. John Baker
Louisiana Small Business Development Center
College of Business Administration
Northeast Louisiana University
Monroe, Louisiana 71209
Tel: (318) 342-2464

► New Orleans Economic Development Center

Drawing from the business school, this center provides technical and management assistance, primarily to small- and medium-sized businesses in the New Orleans area.

For more information, contact:

Dr. Ivan Miestchovich
Economic Development Center
College of Business Administration
University of New Orleans
New Orleans, Louisiana 70122
Tel: (504) 286-6663

► Small Business Assistance Program

The Louisiana Small Business Assistance Program, created under Title V of the Clean Air Act Amendments of 1990, provides information and technical assistance to small businesses regulated by the state's Air Quality Division for the first time.

For more information, contact:

Vic Tomkins
Air Quality Division
Louisiana Department of Environmental Quality
P.O. Box 82135
Baton Rouge, Louisiana 70884-2135
Tel: (800) 259-2890

► Xavier Economic Development Center

This center provides assistance for businesses in conceptualizing, planning, and initiating or changing operations.

For more information, contact:

Economic Development Center
Xavier University
7325 Palmetto Street
New Orleans, Louisiana 70125

Transcontinental Materials Exchange

The materials exchange provides business and industry with an opportunity to minimize wastes and conserve raw materials by assigning a value to manufacturing byproducts. The exchange publishes a catalog of wastes available or wanted and actively coordinates material exchanges.

For more information, contact:

Rita Czek
Transcontinental Materials Exchange
College of Engineering
1419 Center for Engineering and Business Administration
Louisiana State University
Baton Rouge, Louisiana 70803
Tel: (504) 388-4594
Fax: (504) 388-4945

Urban Waste Management and Research Center

This center has established research, education, and outreach programs that employ an integrated, multimedia waste management approach to pollution prevention and waste minimization. The center operates the Louisiana Technical Assistance Program of the Louisiana Department of Environmental Quality to promote pollution prevention programs in small- and medium-sized businesses.

For more information, contact:

Dr. Kenneth McManis, P.E.
Urban Waste Management and Research Center
Engineering Building
University of New Orleans
New Orleans, Louisiana 70148
Tel: (504) 286-6071
Fax: (504) 286-5586

MAINE

Chemicals in the Environment Information Center

This center provides courses, conferences, presentations, and brochures emphasizing pollution prevention to students, educators, businesses, and the public. Courses are "Issues in the Environment" (students), "Pollution Prevention—Changing Ourselves and Changing Society" (Honors students), and "Pollution Prevention Through Understanding and Managing the Chemicals in Our Lives" (teachers). Work is carried out in cooperation with state agencies, the Cooperative Extension, and the Maine Waste and Toxics Use Reduction Committee.

For more information, contact:

Dr. Marquita K. Hill
Director
Chemicals in the Environment Information Center
University of Maine
105 Jenness Hall
Orono, Maine 04469-5737
Tel: (207) 581-2301

Department of Environmental Protection

The department implements Maine's Toxics Use Reduction Law and offers total quality environmental management projects and onsite assistance to facilities. It sponsors the Small Business Technical Assistance Program (under the Clean Air Act Amendments of 1990) and is involved in joint projects with state trade associations. The department also publishes a quarterly newsletter and provides training.

For more information, contact:

Ronald Dyer
Department of Environmental Protection
State House, Station 17
Augusta, Maine 04333-0017
Tel: (207) 287-4152

Maine Waste Management Agency

The agency conducts onsite waste reduction audits and has a model business/community program.

For more information, contact:

Gayle Briggs
Maine Waste Management Agency
State House, Station 154
Augusta, Maine 04333-0154
Tel: (207) 287-5300

MARYLAND

Department of the Environment

The department offers an information clearinghouse, technical assistance, and waste audits.

For more information, contact:

Mitch McCalmon
Pollution Prevention Coordinator
Maryland Department of the Environment
2500 Broening Highway
Baltimore, Maryland 21224
Tel: (410) 631-3936
Fax: (410) 631-4122

Maryland Environmental Services

This state organization houses an information outreach program and a waste reduction advisory system.

For more information, contact:

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

Solid Waste Association of North America (SWANA)

To help increase the availability of information in the field of municipal solid waste management, the U.S. Department of Energy's National Renewable Energy Laboratory funded the Solid Waste Assistance Program (SWAP) and the Peer Match Program. Operated and managed by the Solid Waste Association of North America (SWANA), both programs are geared to provide technical assistance. SWAP is a technical information hotline designed to collect and distribute materials and provide assistance to government

agencies, professional associations, industry, citizen groups, and other interested parties on all aspects of solid waste management. The Peer Match Program aids state and local governments by connecting knowledgeable municipal solid waste professionals with communities in need of municipal solid waste assistance. The program will coordinate the "match" and can pay for up to one-half the associated travel expenses, with the requesting organization covering the other half.

For more information, contact:

Solid Waste Association of North America
P.O. Box 7219
Silver Spring, Maryland 20910
Tel: (800) 677-9424 (SWAP)
Tel: (301) 585-2898 (SWANA)
Fax: (301) 589-7068

Technology Extension Service

This service assists in problem identification, support, and solution development. The service also helps identify other sources of assistance, including university research.

For more information, contact:

W. Travis Walton
Technology Extension Service
Engineering Research Center
University of Maryland
College Park, Maryland 20742-3261
Tel: (301) 454-7941

MASSACHUSETTS

Business Information Line

Sprint Line is a direct, toll-free hotline to the Department of Commerce's headquarters in Boston. This hotline was created to help provide businesses with quick answers on a variety of topics pertaining to business and the state government, including compliance with environmental and other regulations.

For more information, contact:

Robert Higgins
Business Information Line
Massachusetts Office of Business Development
100 Cambridge Street
Boston, Massachusetts 02202
Tel: (617) 727-3207
Tel: (800) 632-8181 (in Massachusetts)

**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.

For more information, contact:

John Enhrenfeld
Technology, Business and the Environment Group
Center for Technology, Policy and Industrial
Development
E40-242
Massachusetts Institute of Technology
Cambridge, Massachusetts 02139
Tel: (617) 253-7753

Department of Environmental Protection

The department implements the state's Toxics Use Reduction Act.

For more information, contact:

Suzi Peck
Massachusetts Department of Environmental Protection
1 Winter Street
Boston, Massachusetts 02108
Tel: (617) 292-5870

Economic Development Center

This center provides assistance to improve economic stability and diversity. It also links University of Massachusetts resources to business practices.

For more information, contact:

Economic Development Center
203 Hampshire House
University of Massachusetts
Amherst, Massachusetts 01003
Tel: (413) 549-4930

**NEWMOA/Northeast States
Pollution Prevention Roundtable**

This roundtable was initiated in 1989 by the Northeast Waste Management Officials' Association (NEWMOA) to assist state programs, industry, and the public in implementing effective source reduction programs. The effort involves four 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 policies, strategies, and technologies
- ▷ Coordinating an interstate roundtable of state pollution prevention programs
- ▷ Researching source reduction strategies (such as 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. The roundtable also publishes a free quarterly newsletter, *Northeast States Pollution Prevention News*, which is available upon request.

For more information, contact:

Terri Goldberg
Program Manager
Northeast States Pollution Prevention Roundtable
Northeast Waste Management Officials' Association
129 Portland Street, Suite 502
Boston, Massachusetts 02114-2014
Tel: (617) 367-8558
Fax: (617) 367-0449

**Office of Technical Assistance
for Toxics Use Reduction**

This office, in addition to other programs it operates, carries out waste minimization workshops, offers technical assistance to toxics users, and is a clearinghouse for technical and policy information.

For more information, contact:

Barbara Kelley, Director
Richard Reibstein, Outreach Director
Office of Technical Assistance for Toxics Use Reduction
Massachusetts Department of the Environment
100 Cambridge Street
Boston, Massachusetts 02202
Tel: (617) 727-3260

Toxics Use Reduction Institute

The institute promotes reduction in the use of toxic chemicals or the generation of toxic byproducts in Massachusetts industry through policy and technical research, education, training, and technical support. Programs include workshops and conferences on topics such as material substitution, closed loop processes, and toxic use audits. The institute also has a library of toxics use reduction and pollution prevention information in its Technology Transfer Center, as well as a surface cleaning laboratory.

For more information, contact:

Janet Clark
Toxics Use Reduction Institute
University of Massachusetts—Lowell
One University Avenue
Lowell, Massachusetts 01854-2881
Tel: (508) 934-3275
Fax: (508) 934-3050

Tufts University

► 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 all center programs.

For more information, contact:

David Gute
Center for Environmental Management
Tufts University
474 Boston Avenue, Curtis Hall
Medford, Massachusetts 02155
Tel: (617) 627-3531

► Tufts Environmental Literacy Institute (TELI)

This Institute assists faculty from various disciplines incorporate environmental issues into their curricula. TELI is involved in the demonstration project, Tufts CLEAN! (Cooperation, Learning, and Environmental Awareness Now!). The project has dual goals of reducing environmental impacts at Tufts, while sharing the lessons learned with others. The project involves students in audit design, data collection and analysis, implementation, and evaluation.

For more information, contact:

Tom Kelly
TELI
474 Boston Avenue, Curtis Hall
Medford, Massachusetts 02155
Tel: (617) 627-3486

MICHIGAN

Center for Clean Industrial and Treatment Technologies

This center is a research consortium founded in 1992 to address clean technology needs of interest to industry, government, and the public. The consortium consists of Michigan Technological University, the University of Wisconsin at Madison, and the University of Minnesota at Minneapolis. The emphasis of the center is pollution prevention through identification of alternatives, balanced assessment, and targeted research and development. Ultimately, the goal is to develop and advocate methods to fully use raw materials and produce products that are largely recyclable and/or exhibit minimal lifetime environmental risk. This is to be accomplished by acting as a sort of "analytical bridge" among industry, government, and academia to promote practical means of total quality management and environmental equity.

For more information, contact:

Pete Radecki
Center Program Manager
Michigan Technological University
1400 Townsend Drive
Houghton, Michigan 49931
Tel: (906) 487-3143
Fax: (906) 487-2061

Center of Excellence in Polymer Research and Environmental Study

This center is a partnership of university, industry, and government whose purpose is to conduct high-technology research that addresses environmental problems related to polymer wastes and proposes the development of new, environmentally responsible, and safe polymer products. The center is also committed to the transfer of pollution prevention and waste management technologies to commercial application in products and processes through their industry partners.

For more information, contact:

Dr. Daniel Klemper
Director, Center of Excellence in Polymer Research
and Environmental Study
University of Detroit-Mercy
4001 W. McNichols Road
Detroit, Michigan 48219-3599
Tel: (313) 993-1270
Fax: (313) 993-1409

Coating Research Institute

This institute was founded in 1985. It originally performed contract and grant research by the resident faculty, providing research and contributing to the learning environment of Eastern Michigan University. In 1990, the university joined the Michigan Polymer Consortium, a National Science Foundation grant was awarded to establish a new Industry/University Coatings Research Center, and the Emissions Evaluation Center (see below) was founded.

For more information, contact:

Dr. Frank Jones
Coating Research Institute
Eastern Michigan University
430 W. Forest Avenue
Ypsilanti, Michigan 48197
Tel: (313) 487-2203
Fax: (313) 483-0085

Emissions Evaluation Center

As an industry-university collaborative effort to reduce volatile organic compound emissions levels in coating materials, this center was developed by Eastern Michigan University and participating companies.

For more information, contact:

Dr. Taki Anagnostou
Eastern Michigan University
Ypsilanti, Michigan 48917
Tel: (313) 487-1235
Fax: (313) 487-8755

**Environmental Engineering Center
for Water and Waste Management**

The purpose of this center is to support the mission of Michigan Technological University by conducting research and educating students in water and waste management and to support economic development compatible with environmental protection. The research efforts of the center focus on drinking water, biological waste treatment, groundwater and surface water modeling, waste minimization, bioassays to detect pollution, and resource recovery.

For more information, contact:

Dr. C. Robert Baillod or Dr. Neil J. Hutzler
Environmental Engineering Center for Water
and Waste Management
Michigan Technological University
1400 Townsend Drive
Houghton, Michigan 49931
Tel: (906) 487-2530

Environmental Research Institute of Michigan

This institute is a research and development facility emphasizing electronics, computer sciences, and optics and their applications. It provides analytical and experimental investigations, as well as technical assistance. Three generations of companies have "spun off" from the institute to independently develop particular applications of machine vision and sensor technology (for example, remote sensing for mineral exploration, mapping, and environmental monitoring).

For more information, contact:

George Peace
Environmental Research Institute of Michigan
P.O. Box 8618
Ann Arbor, Michigan 48107
Tel: (313) 994-1200

Food Industry Institute

This institute provides a number of services to businesses, such as technical and managerial research assistance, feasibility studies, workshops and seminars, and independent and joint research efforts. Among the institute's research interests are processing technologies, food engineering, and packaging.

For more information, contact:

Dr. William Hailles
Food Industry Institute
201 Food Science Building
Michigan State University
East Lansing, Michigan 48824
Tel: (517) 355-8295

**Great Lakes and Mid-Atlantic
Hazardous Substance Research Center**

A cooperative research consortium comprising the University of Michigan, Michigan State University, and Howard University, this center supports hazardous waste training, technology transfer, and research (see also under the District of Columbia).

For more information, contact:

Dr. Walter J. Weber, Jr.
Director, Hazardous Substance Research Center
University of Michigan
EWRE Building, Suite 181
Ann Arbor, Michigan 48109-2125
Tel: (313) 763-2274

Industrial Development Institute

Small- and medium-sized industrial firms receive business and technical expertise to improve their competitive status.

For more information, contact:

Michael Martin
Industrial Development Institute
Michigan State University
D130 West Fee
East Lansing, Michigan 48824
Tel: (517) 355-0143

Industrial Technology Institute

This nonprofit research and development center serves as a focal point for improving the productivity and competitiveness of the durable goods manufacturing industry. It focuses on developing advanced automated manufacturing technologies and fostering the implementation of these technologies in the private sector.

For more information, contact:

John Sulewski
Industrial Technology Institute
P.O. Box 1485
Ann Arbor, Michigan 48106
Tel: (313) 769-4000

Institute of Materials Processing

This institute's Mineral and Solid Waste Processing Group has operated continuously since its establishment in 1955. It is a full-time nonacademic research institute housed in a new \$47.7 million Minerals and Materials Engineering facility on the campus of Michigan Technological University and is part of the university. The principal focus of the group is to conduct research and development in minerals, energy, wastes, and environmental-related areas, to provide research services and training for industries and government, and to assist the university's academic programs.

For more information, contact:

Jim Hwang, Director
Institute of Materials Processing
Michigan Technological University
1400 Townsend Drive
Houghton, Michigan 49931
Tel: (906) 487-2600

Institute of Science and Technology

This institute provides technology and management assistance to industry, to create and retain jobs. The institute accomplishes its objectives through direct consulting and through institution building. In addition, it publishes a state directory of research and development firms.

For more information, contact:

Larry Crockett
Institute of Science and Technology
University of Michigan
2200 Bonisteel Boulevard
Ann Arbor, Michigan 48109
Tel: (313) 763-9000

Lake Michigan Federation

This federation in a nonprofit, citizen-based organization whose mission is to restore and maintain the quality of the Great Lakes. (See the extended writeup under Illinois.)

For more information, contact:

Lake Michigan Federation
425 W. Western, #201
Muskegon, Michigan 49440
Tel: (616) 722-5116

Manufacturing Resource and Productivity Center

This center at Ferris State University assists small- to medium-sized manufacturers with technical problem solving and inventor counseling focused on applied technology.

For more information, contact:

Richard Hamilton
Manufacturing Resource and Productivity Center
1020 East Maple
Big Rapids, Michigan 49307
Tel: (616) 592-3774

MERRA Research, Development and Commercialization Center

MERRA is a Michigan public and private venture of government, industry, research institutes, universities, and colleges. It expedites economic development and diversification in Michigan through the enhancement of science and technology innovation and commercialization activities. In its Small Business Program, MERRA strives to streamline and coordinate the technological innovation and commercialization process for Michigan's small proprietary, technology-based business community. A recent MERRA conference focused on waste minimization needs in various business sectors.

For more information, contact:

Dr. Thomas Borton
MERRA Research, Development and
Commercialization Center
2901 Hubbard
P.O. Box 130500
Ann Arbor, Michigan 48113
Tel: (313) 930-0033
Fax: (313) 930-0145

Metropolitan Center for High Technology

This center facilitates the commercialization of technology, with the aim of stimulating economic growth in the state. The center initiates and participates in applied research, incubates new technology-based companies, and serves as a catalyst and focal point for urban development.

For more information, contact:

Charles Henderson
Metropolitan Center for High Technology
2727 Second Avenue
Detroit, Michigan 48201
Tel: (313) 963-0616

Michigan Biotechnology Institute

This nonprofit corporation is dedicated to commercializing biotechnology in Michigan. Among its many functions, the institute coordinates the development of biotechnology research and technology transfer between businesses and the major research universities in the state. One of its three major areas of research and development concentration is waste treatment biotechnology.

For more information, contact:

Dr. Jack Pincus
Michigan Biotechnology Institute
P.O. Box 27609
Lansing, Michigan 48909
Tel: (517) 355-2277

Michigan Development Services Job Commission

This group provides economic development programs and information on state development services to communities and businesses. The group coordinates a food-processing industry program with the Department of Agriculture and a forest products target industry program with the Department of Natural Resources.

For more information, contact:

Michigan Development Services Job Commission
P.O. Box 30225
Lansing, Michigan 48909
Tel: (517) 373-8495

Michigan Energy and Resource Research Association

This association has formed a partnership of the industrial, academic, and government sectors to promote energy-resource-technology research to bring public and private research and development grants into the state. The organization also provides information on the Small Business Innovative Research program.

For more information, contact:

Todd Anuskiewicz
Michigan Energy and Resource Research Association
328 Executive Plaza
1200 Sixth Street
Detroit, Michigan 48226
Tel: (313) 964-5030

Michigan Molecular Institute

This institute performs research in polymer science and composite technology and develops information on the molecular structure and behavior of nonmetallic materials.

For more information, contact:

Robert Kotchkiss
Michigan Molecular Institute
1910 West St. Andrews Road
Midland, Michigan 48640
Tel: (517) 832-5587

Michigan Office of Waste Reduction Services

This office provides technical assistance to firms in targeted industrial sectors, including onsite waste assessments, telephone consultations, and workshops. It conducts waste reduction research and analysis and develops and disseminates educational materials. The office holds an annual waste reduction roundtable and operates a waste reduction information clearinghouse and resource center. The office helps build coalitions to encourage pollution prevention, coordinates the Auto Pollution Prevention Project, and coordinates with EPA on a geographical initiative to focus pollution prevention efforts on business and industry in southeast Michigan.

The office is involved in several demonstration projects. The Laboratory Surplus Supplies Exchange is a demonstration project with state government laboratories to establish an exchange of surplus laboratory supplies. A waste reduction demonstration and research and development grant program is to be initiated in 1994. The retired engineer demonstration project recruits and trains retired professionals to conduct waste assessments in companies in several areas of the state.

For more information, contact:

Nan Merrill, Manager
Office of Waste Reduction Services
Environmental Services Division
Michigan Departments of Commerce and
Natural Resources
116 West Allegan Street
P.O. Box 30004
Lansing, Michigan 48909-7504
Tel: (517) 335-1178

Michigan Small Business Development Centers

With 46 centers throughout the state, the small business development centers form a network of counseling and service centers that provide management and technical assistance for Michigan's present and future small business owners. The centers provide one-on-one counseling, educational programs, conferences, and workshops on a variety of small business topics.

For more information, contact:

Michigan Small Business Development Centers
Administrative Office
2727 Second Avenue
Detroit, Michigan 48201
Tel: (313) 964-1798
Fax: (313) 577-4222

Michigan Technology Deployment Service

This service assists small- and medium-sized firms that are considering adopting new computer-based technology. It also provides access to additional resources that may help firms modernize. The Department of Commerce also has a Technology Transfer Network that links businesses with technical innovations, improves access to existing technology by providing a point of entry to university research and development programs, and provides other technical and research and development services (contact Sharon Woollard at (517) 335-2139). In addition, the department assists in locating businesses in "high-tech" parks and provides financial assistance.

For more information, contact:

Michigan Technology Deployment Service
Michigan Department of Commerce
2901 Hubbard
Ann Arbor, Michigan 48109
Tel: (313) 769-4664

Midwest Manufacturing Technology Center, Ann Arbor, MI

See Chapter 3.

National Consortium for Environmental Education and Training

In 1992, EPA provided funding for this consortium, led by the University of Michigan, which is now coordinating a national effort to improve the efficiency and effectiveness of environmental education. Its goal is to encourage individuals to incorporate environmental strategies into their lives, while developing a citizenry that appreciates and respects the total environment. The consortium works to support, enhance, and extend effective environmental education in grades K through 12. It is developing a comprehensive set of environmental resources for trainers who provide continuing education for teachers. It is also engaged in several activities to make instructional materials and environmental information more accessible to teachers and students. Consortium projects support innovative ways of exploring how to motivate students toward involvement in environmental change. Consortium partners include Aspen Global Change Institute, the Center for Environmental Study, The Greening of Detroit, the North American Association for Environmental Education, Sonoran Arthrooid Studies, Inc., Howard University, the University of Illinois, Michigan State University, Sonoma State University, several University of Michigan units, Apple Computer, Inc., Electronic Data Systems, and Turner Educational Systems, Inc.

For more information, contact:

National Consortium for Environmental Education
and Training
School of Natural Resources and Environment
University of Michigan
Dana Building
430 E. University
Ann Arbor, Michigan 48109-1115
Tel: (313) 998-6726
Fax: (313) 936-2195

National Pollution Prevention Center for Higher Education

In 1991, the University of Michigan was awarded funding for a national pollution prevention education center. The purpose of this center is to develop pollution prevention curriculum modules for undergraduate and graduate courses in engineering business and science. The center conducts outreach efforts through short summer courses, offers pollution prevention internships for students at business and industrial facilities, and provides 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 their project, worth more than \$300,000, grows out of an EPA "2% Set-Aside" project initiated by EPA's Office of Pollution Prevention and Toxics.

For more information, contact:

Dr. Gregory A. Keoleian, Manager
School of Natural Resources
University of Michigan
Dana Building
430 E. University
Ann Arbor, Michigan 48109-1115
Tel: (313) 764-1412
Fax: (313) 936-2195

Research on Integrated Manufacturing Center

This cross-disciplinary center at the University of Michigan was created to enhance advances in the next generation of computer-integrated design and manufacturing systems. Particular research interests included robotics, manufacturing processes, and database management.

For more information, contact:

Robert Schneider
Research on Integrated Manufacturing Center
University of Michigan
College of Engineering
170 Advanced Technology Laboratory
Ann Arbor, Michigan 48109-2110
Tel: (313) 763-5630

Waste Reduction and Management Program

The Waste Reduction and Management Program is a university-based pollution prevention outreach program for business and industry that disseminates pollution prevention information, helps to facilitate business groups, and sponsors business seminars on waste reduction. The Water Resources Institute at Grand Valley State University also has several other programs of interest to businesses: the West Michigan Pollution Prevention Project, and geographic information system (GIS) capabilities. The West Michigan Pollution Prevention Project is a year-long effort funded by EPA to spread the word about pollution prevention through business coalitions. The institute's GIS is an array of topographic, geologic, demographic, and other data relevant to resource management and site evaluation.

For more information, contact:

Dr. Ronald Ward, Director
Janet Vail, WRAMP Manager
Water Resources Institute
Grand Valley State University
104 WRI
Allendale, Michigan 49401
Tel: (616) 895-3749
Fax: (616) 895-3864

MINNESOTA

College of St. Thomas Entrepreneurial Enterprise Center

This center is a state-of-the-art incubator facility. It provides office space, access to a network of business experts, and equal access to seed capital. The center also links businesses and the community with the College of St. Thomas.

For more information, contact:

College of St. Thomas Entrepreneurial
Enterprise Center
1107 Hazeltine Boulevard
Chaska, Minnesota 55318
Tel: (612) 448-8800

Department of Trade and Economic Development

This department creates programs and policies to improve economic development in the state. Included in the department is the Governor's Office of Science and Technology. In addition, the department's Development Resources Program has data resources that provide information and services for businesses considering locating in or expanding into Minnesota (contact Harry Rosefelt at (612) 296-5010 for more information on this program).

For more information, contact:

David Speer
Department of Trade and Economic Development
900 American Center Building
150 East Kellogg Boulevard
St. Paul, Minnesota 55101
Tel: (612) 296-6424

Inno-Media

Inno-Media is a resource center that provides guidance and services to investors, innovators, and industry to assist them in the innovation process.

For more information, contact:

Sam Koutavas
Inno-Media
230 Tenth Avenue South
Minneapolis, Minnesota 55415
Tel: (612) 342-4311

Minnesota Environmental Initiative

This nonprofit educational organization works in a collaborative fashion to facilitate solutions to contemporary regional environmental problems. The initiative is currently sponsoring an executive environmental management seminar.

For more information, contact:

Ciaran Mannion
Minnesota Environmental Initiative
27 Maquette Avenue South, Suite 2120
Minneapolis, Minnesota 55402
Tel: (612) 334-3388

Minnesota Environmental Quality Board

This board is spearheading a multi-agency sustainable development initiative. The board will be hosting a congress on sustainable development in 1994 and will be producing a final report discussing strategies for sustainable development in seven key topic areas, including manufacturing.

For more information, contact:

John Wells
Minnesota Environmental Quality Board
State Administration Building
658 Cedar Street
St. Paul, Minnesota 55155
Tel: (612) 297-2377

Minnesota Office of Waste Management

The overall mission of this office is to conserve resources and prevent pollution by developing projects and programs that reduce waste, recycle usable materials, recover resources from wastes, and treat waste to reduce the risk of pollution. The office provides matching grants to companies for projects that assess the feasibility of pollution prevention technologies. It also gives the Governor's Awards for Excellence in Pollution Prevention.

In terms of business assistance, the office assists Minnesota companies in developing their mandatory pollution prevention plans by providing a *Guide to Pollution Prevention Planning* and works in partnership with industry and professional associations to advance pollution prevention efforts in the state. It also finances the Minnesota Technical Assistance Program, which provides nonregulatory assistance to Minnesota industry (see below). The community assistance program provides information, education, referrals to and coordination of others, meeting facilitation, and matching grants. The annual pollution prevention conference's attendance exceeds 600 people, primarily from the private sector.

For more information, contact:

Kevin McDonald
Minnesota Office of Waste Management
1350 Energy Lane, Suite 201
St. Paul, Minnesota 55108-5272
Tel: (612) 649-5750/5744

Minnesota Pollution Control Agency

The agency, in addition to its other programs, provides technical assistance to hazardous waste generators, has a waste minimization pilot project for waste solvent generation, and offers training programs for RCRA compliance and waste reduction fact sheets.

For more information, contact:

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

Minnesota Project Innovation

This project is a statewide, nonprofit partnership of government, business, and other sectors whose purpose is to promote technological innovation, technology transfer, and economic development. It also helps small businesses learn about SBIR programs and obtain SBIR grants.

For more information, contact:

James Swiderski
Minnesota Project Innovation, Inc.
1107 Hazeltine Boulevard
Chaska, Minnesota 55318
Tel: (612) 448-8826

Minnesota Technical Assistance Program (MnTAP)

This program helps Minnesota businesses protect the environment by providing practical alternatives for properly managing industrial waste and preventing pollution of land, air, and water. It offers telephone and site visit assistance, a student intern program, an information clearinghouse, computerized library workshops and seminars, education and training program development, and materials exchange listings. It is funded by the Minnesota Office of Waste Management.

For more information, contact:

Cindy McComas, Director
Bob Lundquist, Assistant Director
Minnesota Technical Assistance Program
Environmental Health School of Public Health
University of Minnesota
1313 5th Street, S.E., Suite 207
Minneapolis, Minnesota 55414
Tel: (612) 627-4555/4646

Science and Technologies Office

This office provides businesses access to NASA technological information and other state business assistance programs, via database searches and in-house directories.

For more information, contact:

Science and Technologies Office
900 American Center Building
150 East Kellogg Boulevard
St. Paul, Minnesota 55101
Tel: (612) 297-1554

University Research Consortium

The faculty at the University of Minnesota formed this consortium to provide technical assistance and consulting services to the business community.

For more information, contact:

Dr. Ellen Fitzgerald
University Research Consortium
Minnesota Business and Technology Center
511 11th Avenue South
Minneapolis, Minnesota 55415
Tel: (612) 341-0422

Upper Midwest Manufacturing Technology Center, Minneapolis, MN

See Chapter 3.

Waste Reduction Institute for Training and Applications Research (WRITAR)

WRITAR is an independent, nonprofit, nonadvocacy organization dedicated to facilitating the implementation of innovative strategies, techniques, and technologies that prevent pollution at the source. The institute's activities include training, policy analysis, the development of educational materials, and program strategies designed to further the implementation of pollution prevention in both the private and public sectors. Through the newly formed Center for Excellence in Pollution Prevention, WRITAR delivers a variety of industry-specific and sector-specific training to both government and industry audiences.

For more information, contact:

Terry Foecke or Al Innes
Waste Reduction Institute for Training
and Applications Research, Inc.
1313 5th Street, S.E.
Minneapolis, Minnesota 55414-4502
Tel: (612) 379-5995
Fax: (612) 37905996

MISSISSIPPI

Institute for Technology Development

This institute provides assistance in technology development, innovation, commercialization, and university research networking.

For more information, contact:

Neil Yawn
Institute for Technology Development
700 North State Street, Suite 500
Jackson, Mississippi 39202
Tel: (601) 960-3615

Mississippi Technical Assistance Program and Mississippi Solid Waste Reduction Assistance Program

These two Mississippi State University programs work cooperatively to provide pollution prevention research, onsite waste assessments, workshops, conferences, employee and student education materials, a waste exchange, technology databases, and a monthly newsletter.

For more information, contact:

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

Mississippi Waste Reduction/Waste Minimization Program

This state program includes pollution prevention research, onsite waste assessments, a waste exchange database, an information clearinghouse, and a monthly newsletter. It also provides pollution prevention conferences and workshops for industries, businesses, municipalities, and the general public.

For more information, contact:

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

MISSOURI

Environmental Improvement and Energy Resources Authority

This organization provides financing for pollution prevention projects, sponsors a Household Hazardous Waste Project, and offers a waste exchange service in cooperation with the Industrial Materials Exchange Service.

For more information, contact:

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
Tel: (314) 751-4919

Hazardous Waste Program

This state program houses an agriculture-based information clearinghouse, presents educational and information projects focusing on agrichemical dealers, and cosponsors (with the University of Missouri) pollution prevention workshops for businesses.

For more information, 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
Tel: (314) 751-2556

MONTANA

Entrepreneurship Center

This center offers technical assistance to businesses (usually on a fee basis) and frequently makes use of the state university system to provide such assistance.

For more information, contact:

Entrepreneurship Center
412 Reid Hall
Montana State University
Bozeman, Montana 59717
Tel: (406) 994-4423

Montana Pollution Prevention Program

This program's main focus is on small business pollution prevention, Native American pollution prevention education, and conditionally exempt small-quantity hazardous waste generator/household hazardous waste issues. It provides nonregulatory education and technical assistance for small businesses, focusing on general, automotive, and dry cleaning/laundry. It offers training and workshops, vendor and supplier lists, fact sheets, do-it-yourself business-specific pollution prevention assessment checklists, and a library that includes videos, books, and journals. Coordinated with the Montana State University Extension Solid Waste Institute of Montana and the Water Quality Program, the Pollution Prevention Program provides education and training on household hazardous waste, precycling and recycling, landfill requirements, composting, water quality, and indoor air quality.

For more information, contact:

Dr. Michael P. Vogel, Director
Karen Bucklin Sanchez, Coordinator
Montana Pollution Prevention Program
Montana State University Extension Service
109 Taylor Hall
Bozeman, Montana 59717
Tel: (406) 994-3451
Fax: (406) 994-5417

Montana Science and Technology Alliance

This alliance is a partnership of business, government, and universities in Montana. It was created to strengthen and diversify the state's economy by encouraging innovative scientific and technological development.

For more information, contact:

Frank Culver
Montana Science and Technology Alliance
Department of Commerce
46 North Last Chance Gulch, Suite 2B
Helena, Montana 59620
Tel: (406) 449-2778

Montana Solid and Hazardous Waste Bureau

This bureau conducts waste audits, provides solvent user assistance, and carries out industry-specific pollution prevention workshops.

For more information, contact:

Roger Thorvilson
Montana Solid and Hazardous Waste Bureau
Department of Health and Environmental Sciences
1400 Broadway
P.O. Box 200901
Helena, Montana 59620-0901
Tel: (406) 444-1430
Fax: (406) 444-1499

Jeff Jacobsen
Montana State University Extension Service
807 Lean Johnson Hall
Bozeman, Montana 59717-0312
Tel: (406) 994-5683
Fax: (406) 994-3933

Montana Solid Waste Education Program

This program sponsors the Solid Waste Institute of Montana, which has a landfill operator training and certification program in cooperation with the Montana Association of Counties and the Montana Department of Health and Environmental Sciences. The Solid Waste Outreach Network provides a computerized information system for Montana landfill operators, including access to training, publications, regulations, and peer dialog. Other features of the Solid Waste Education Program are education programs for youths, teachers, and the general public that cover source reduction, recycling, composting, landfill disposal, and household hazardous waste; a series of 13 integrated solid waste fact sheets; the monthly newsletter, *Solid Waste and Pollution Prevention Education Update*; self-guided teaching modules covering solid waste issues, composting, and household hazardous waste; and a loan library of publications, fact sheets, videos, and other resources.

For more information, contact:

Dr. Michael P. Vogel
Montana State University Extension Service
109 Taylor Hall
Bozeman, Montana 59717
Tel: (406) 994-3451
Fax: (406) 994-5417

Renewable Energy and Conservation Program

This program, funded with Montana's coal severance tax revenue, was established to promote the research, development, and demonstration of energy conservation and of solar, wind, geothermal, and small-scale hydro and biomass energy resources.

For more information, contact:

Greg Mills
Renewable Energy and Conservation Program
Department of Natural Resources and Conservation
1520 East Sixth Avenue
Helena, Montana 59620
Tel: (406) 444-6774

NEBRASKA

Food Processing Center

This center provides the state's food processing industry with extension and research assistance from a centralized location. It assists in every aspect of the food industry (such as packaging, regulations, and marketing) serving as a liaison between industry and state government. The center also has a unique computerized market referral system that aids in locating food product and service needs and sources within the state.

For more information, contact:

Dr. Steve Taylor
Food Processing Center
University of Nebraska—Lincoln
East Campus, 134 Filley Hall
Lincoln, Nebraska 68583-0919
Tel: (402) 472-2831

Hazardous Waste Section

This section provides waste minimization counseling and workshops and operates an information clearinghouse.

For more information, 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
Tel: (402) 471-4217

NEVADA

Business Environmental Program

This program was started in 1988 by the Nevada Small Business Development Center, in conjunction with the Nevada Division of Environmental Protection. The program provides free and confidential pollution prevention, waste minimization, and hazardous waste regulatory assistance to Nevada businesses. It has a toll-free Hazardous Waste Information Line for calls within Nevada — (800) 882-3233 — to assist businesses with regulations, alternative product use, and pollution prevention. The program also offers telephone assistance, free training seminars, onsite assessments, fact sheets, a quarterly newsletter, and assistance manuals. EPA has provided additional funding to provide assistance with identifying and implementing pollution prevention opportunities. The Nevada Small Business Development Center also offers assistance to business in market research, business and financial skills, trade, and forecasting.

For more information, contact:

Kevin Dick, Manager
Kristen Franklin, Technical Assistance
Business Environmental Program
Small Business Development Center/MS 032
University of Nevada—Reno
Reno, Nevada 89557-0100
Tel: (702) 784-1717
Tel: (800) 882-3233 (in Nevada)

Colleen Cripps
Bureau of Waste Management
Division of Environmental Protection
Capitol Complex
333 West Nye Lane
Carson City, Nevada 89710
Tel: (702) 687-4670

Nevada Energy Conservation Program

This program offers funding for recycling projects and houses an information clearinghouse for recycling.

For more information, contact:

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

NEW HAMPSHIRE

New Hampshire Business and Industry Association

This organization provides onsite assistance, computer software to help businesses recycle, and a newsletter and conferences to promote pollution prevention for businesses.

For more information, contact:

Emily Hess
New Hampshire Waste Cap
New Hampshire Business and Industry Association
122 North Main Street
Concord, New Hampshire 03301
Tel: (603) 224-5388

New Hampshire Pollution Prevention Program

This program offers onsite technical assistance and houses a pollution prevention information clearinghouse. It also participates in the Northeast Industrial Waste Exchange, conducts conferences and workshops, and disseminates a newsletter.

For more information, contact:

Vincent R. Perelli or Paul Lockwood
Waste Management Division
New Hampshire Department of Environmental Services
6 Hazen Drive
Concord, New Hampshire 03301-6509
Tel: (603) 271-2902

NEW JERSEY

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.

For more information, contact:

Dick Magee
Hazardous Substance Management Research Center
Advanced Technology Center Building
323 Martin Luther King Boulevard
Newark, New Jersey 07102
Tel: (201) 596-5864

New Jersey Office of Pollution Prevention

This office develops legislation, rules, and regulations, gives out a governor's award, and prepares industry profiles for pollution prevention trend analysis.

For more information, contact:

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

New Jersey Technical Assistance Program

This program provides free and confidential technical services on pollution prevention and source reduction for small- and medium-sized manufacturers throughout New Jersey. It offers onsite assistance to identify pollution prevention options, training to aid in the development of a sustainable pollution prevention program, library research, referrals, and industry-specific workshops and presentations.

For more information, contact:

Richard Gimello
Technical Assistance Program
New Jersey Institute of Technology
Hazardous Substances Management Research Center
Center for Environmental and Engineering Sciences
323 Martin Luther King Boulevard
Newark, New Jersey 07102
Tel: (201) 596-5864

NEW MEXICO

All Indian Pueblo Council

The council coordinates waste management and environmental activities for the 19 pueblos in New Mexico. It serves as an information clearinghouse and provides technical support to individuals and facilities on pueblo lands.

For more information, contact:

Derrith Moore
Pueblo Office of Environmental Protection
All Indian Pueblo Council
3939 San Pedro, N.E.
Albuquerque, New Mexico 87110
Tel: (505) 884-0480

Bureau of Business Research and Services

The bureau provides research services and a data bank for business-related information.

For more information, contact:

Kathy Brook, Director
Bureau of Business Research and Services
New Mexico State University
Box 3CR
Las Cruces, New Mexico 88003
Tel: (505) 646-1434

Municipal Water Pollution Prevention Program

This program provides technical assistance to municipal water utilities to prevent surface water and groundwater pollution.

For more information, contact:

Patrick Hanson
Municipal Water Pollution Prevention Program
Surface Water Quality Bureau
New Mexico Environment Department
1190 St. Francis Drive
Santa Fe, New Mexico 87502
Tel: (505) 827-2799

New Mexico Environmental Alliance

This alliance is a consortium of industry, governmental agencies, universities, research laboratories, and others. The goals of this effort are to facilitate the application and commercialization of cost-effective, environmentally sound, technologies in areas such as waste minimization, remediation, waste management, pollution prevention, and environmentally conscious manufacturing. The alliance has a "working laboratory" for the development, permitting, and dissemination of new technologies with assistance for regulatory, technical, and economic issues. It also provides assistance to industries in accessing the Sandia and Los Alamos National Laboratories.

For more information, contact:

Marcia Oldakowski
New Mexico Environmental Alliance
New Mexico Economic Development Department
P.O. Box 20003
Santa Fe, New Mexico 87503
Tel: (505) 827-0563
Tel: (505) 827-0588

Solid Waste Source Reduction Program

This program provides assistance to businesses in the areas of source reduction and recycling of municipal solid waste.

For more information, contact:

Judy Kowalski
Director of Recycling
Solid Waste Source Reduction Program
New Mexico Energy, Minerals
and Natural Resources Department
2040 S. Pacheco Street
Santa Fe, New Mexico 87505
Tel: (505) 827-5993

State Technology Assistance Resource System (STARS)

The STARS Program coordinates the efforts of a wide range of local, state, and national business and technical assistance organizations. The STARS network includes business and financial planning organizations, a manufacturing assistance group, national laboratories, and university assistance programs, as well as access to the state and national databases and technology transfer opportunities.

For more information, contact:

Erich Strebe
STARS Program
New Mexico Small Business Development Center
525 Bucna Vista, S.E.
Albuquerque, New Mexico 87106
Tel: (800) 282-7232

Technology Enterprise Division

This organization is the lead state agency for promoting defense conversion technology, coordinating the transfer of defense and other technology from federal, state, and local governmental facilities to private sector industries, and promoting private-public partnerships. It develops and strengthens New Mexico's technology-based assistance infrastructure, including incubators, the State Technology Assistance Resource System (STARS—see above), the New Mexico Manufacturing Extension Program, in-plant training, high-speed data links, and a capital matchmaking network. The division also supports public-private technology alliances and industry clusters and promotes awareness of the state's technology-based economic development programs.

For more information, contact:

Ronald Tafoya or Mary Archuleta
Technology Enterprise Division
New Mexico Economic Development Department
1100 St. Francis Drive
Santa Fe, New Mexico 87503
Tel: (505) 827-0265
Fax: (505) 827-0588

Waste Management Education and Research Consortium

This consortium was established by New Mexico State University under a U.S. Department of Energy grant in 1990. Along with New Mexico State University, members are the University of New Mexico, the New Mexico Institute of Mining and Technology, Navajo Community College, and the Sandia and Los Alamos National Laboratories. The consortium's mission is to expand the Nation's capability to address the issues related to the management of all types of waste (hazardous, solid, and radioactive). Activities involve all waste management options, including pollution prevention. The consortium universities provide education and curricula development in waste management (graduate, undergraduate, and associate degrees with concentrations in environmental management). The consortium created a professional development teleconference series for industry and government and offers research programs that provide training to faculty and students.

For more information, contact:

Ron Bhada
Waste Management Education and Research Consortium
New Mexico State University
Box 30001, Department WERC
Las Cruces, New Mexico 88003-8001
Tel: (505) 646-2038

NEW YORK

Bureau of Pollution Prevention

The bureau offers waste reduction manuals, pollution prevention fact sheets, industry-specific workshops for small- and medium-quantity generators, an annual waste reduction conference, public outreach programs, and technical assistance. It serves as an information clearinghouse and participates in the Northeast Industrial Waste Exchange.

For more information, contact:

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

Center for Waste Reduction Technologies

See Chapter 4, Clearinghouses.

Erie County Office of Pollution Prevention

This office provides free and confidential technical and informational assistance on pollution prevention to small- and medium-sized businesses, municipalities, and trade associations in Erie County, western New York State, and Canada. It serves as an information clearinghouse, provides onsite consultations, and offers industry-specific small-quantity hazardous waste minimization workshops and other related workshops targeted at local government, public institutions, businesses, and the agricultural community.

For more information, contact:

Thomas Hersey
Pollution Prevention Coordinator
Office of Pollution Prevention
Erie County Department of Environment and Planning
Erie County Office Building
95 Franklin Street
Buffalo, New York 14202
Tel: (716) 858-7674

Hazardous Waste and Toxic Substance Research and Management Center

This center coordinates and mobilizes funding for multidisciplinary 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.

For more information, contact:

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

INFORM

A national non-profit environmental research organization, INFORM conducts research on industrial waste reduction efforts, and publishes reports and guides for communities and the public on pollution prevention topics.

For more information, contact:

INFORM
381 Park Avenue South
New York, New York 10016
Tel: (212) 689-4040

New York City Industrial Technology Assistance Corporation

This non-profit organization provides free and confidential technical advice on pollution prevention to New York City manufacturers. It identifies needs and technically feasible solutions, calculates costs and long-term savings, and identifies grants or financing programs for implementation.

For more information, contact:

Sara Garretson or Kevin Kelly
New York City Industrial Technology
Assistance Corporation
253 Broadway, Room 302
New York, New York 10007
Tel: (212) 240-6920
Fax: (212) 240-4889

New York Manufacturing Extension Partnership, Troy, NY

See Chapter 3.

Small Business Assistance Program

This program provides free and confidential technical advice on pollution prevention and control strategies, conducts environmental audits, and interprets federal and state requirements for small businesses in New York State. It will provide fee-free assistance for up to 3 days to achieve compliance with the Clean Air Act Amendments.

For more information, contact:

Marian Mudar
Small Business Assistance Program
New York State Environmental Facilities Corporation
50 Wolf Road
Albany, New York 12205
Tel: (800) 882-9721 (in New York)
Tel: (518) 457-3833
Fax: (518) 485-8494

Southwestern New York Environmental Compliance Network

This network provides free and confidential informational assistance on pollution prevention for manufacturers located in New York. It provides referrals and offers seminars for a small fee.

For more information, contact:

Sylvia Stenander
Southwestern New York Environmental
Compliance Network
Jamestown Community College
Box 20
Jamestown, New York 14702
Tel: (716) 665-5220, ext. 446

Suffolk County Pollution Prevention Program

This program provides free and confidential technical assistance focusing on waste reduction and waste management that reduces the quantity and toxicity of generated wastes. It assists businesses and industries in Suffolk County.

For more information, contact:

Judy Jakobsen
Pollution Prevention Program
Suffolk County Water Authority
Box 38
Oakdale, New York 11769
Tel: (516) 563-0306

Waste Management Institute

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

For more information, contact:

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

NORTH CAROLINA

EPA Research Center for Waste Minimization and Management

EPA sponsors this major university-based research center that focuses specifically on the challenge to minimize and manage hazardous substances. Located at North Carolina State University, this 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 the discharge of hazardous substances to all environmental media. A strong commitment is also being made to technology transfer and training.

For more information, contact:

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

Dr. William H. Glaze
Department of Environmental Science and Engineering
University of North Carolina—Chapel Hill
Chapel Hill, North Carolina 27514
Tel: (919) 966-1024

North Carolina Pollution Prevention Program

This program provides nonregulatory multimedia technical assistance to industries, local governments, and state agencies. It features an information clearinghouse, industry-specific waste reduction reports, onsite technical assistance, matching and research grants, and outreach, training, and education programs.

For more information, 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
Tel: (919) 571-4100

Waste Reduction Resource Center for the Southeast

This center was established in 1988 to provide multimedia waste reduction support for the eight states of EPA's Region 4 (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 agencies, from all 50 states, and from numerous private sources. It serves as a clearinghouse and referral service on upcoming conferences, meetings, and new publications. Technical staff prepare reports on industry-specific waste reduction questions. The center has the capacity to assign trained engineers to respond to questions regarding specific waste reduction problems. The center also provides onsite waste reduction assessments and training for regulatory agency and industrial personnel.

For more information, contact:

Vic Young
Waste Reduction Resource Center for the Southeast
3825 Barrett Drive
P.O. Box 27687
Raleigh, North Carolina 27611-7687
Tel: (800) 476-8686

NORTH DAKOTA

Center for Economic Development

This center provides a wide range of technical assistance to small firms throughout the state and to Native American reservations in North Dakota, South Dakota, and Montana.

For more information, contact:

Dr. Wallace Eide
Center for Economic Development
North Dakota State University
Fargo, North Dakota 58103
Tel: (701) 237-8873

Energy and Environmental Research Center

This center features an integrated systems approach to energy and environmental research and technology development. The approach begins with fundamental evaluation and characterization of earth resources, followed by research and development of innovative technologies to extract and use these resources in an environmentally acceptable manner. The approach culminates in using natural resources to safely dispose the wastes generated.

For more information, contact:

Dr. Gerald, Groenwald, Director
Energy and Environmental Research Center
Center of Excellence for Toxic Metal Emissions
University of North Dakota
15 North 23rd Street
University Station, Box 8213
Grand Forks, North Dakota 58202-8213
Tel: (701) 777-5131
Fax: (701) 777-5181

Innovation and Business Development Center

This center provides technical and business support services to entrepreneurs, inventors, and small manufacturers, including engineering and science support, and Small Business Innovative Research applications.

For more information, contact:

Bruce Gjovig
Innovation and Business Development Center
University of North Dakota
University Station, Box 8103
Grand Forks, North Dakota 58202
Tel: (701) 777-3132

**North Dakota Department of Health
and Consolidated Laboratories**

The North Dakota State Department of Health and Consolidated Laboratories is involved in a number of environmental programs that are consistent with pollution prevention principles. For example, approximately 60 cities in the state are active in the Wellhead Protection Program, which strives to eliminate or reduce potential groundwater contaminant sources. Through the Nonpoint Source Pollution Management Program, pollution is reduced through projects that promote the voluntary use of agricultural best management practices. This program administers 19 projects totaling \$1.8 million. Funded projects demonstrate the effectiveness of reduced cropland tillage, proper grazing use, livestock waste management, low-energy precision irrigation, and nutrient and pesticide management.

Under the Feedlot Program, approximately 900 waste disposal systems are reviewed and approved to reduce the amount of pollution than may get to surface water or groundwater resources. Through the Hazardous Waste Management Program, generators are required to administer waste minimization programs and certify each time a manifest is used to transport hazardous waste that they have taken waste minimization measures. Through the Solid Waste Education Program, source reduction strategies and safer alternatives to household hazardous substances are provided to the public and private sectors via brochures, seminars, health fairs, and other outreach avenues.

For more information, contact:

Jeff Burges

Pollution Prevention Coordinator

North Dakota State Department of Health
and Consolidated Laboratories

P.O. Box 5520

Bismarck, North Dakota 58502-5520

Tel: (701) 221-5150

Fax: (701) 221-5200

**University of North Dakota
Atmospheric Science Department**

This department has applied for grant funding for a pollution prevention program, along with the Three Affiliated Tribes and the North Dakota State Department of Agriculture.

For more information, contact:

Abdul Alkezweeny

University of North Dakota

Atmospheric Science Department

Grand Forks, North Dakota 58202

Tel: (701) 777-2959

Fax: (701) 777-5032

OHIO

American Institute for Pollution Prevention

This institute was founded jointly by 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, program, 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 associations. These experts participate in four councils that undertake various tasks—economics, education, implementation, and technology.

For more information, contact:

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

Tel: (513) 556-3693

**Center for Environmental
Research Information (EPA)**

See Chapter 1.

Cleveland Advanced Manufacturing Program/ Great Lakes Manufacturing Technology Center

See Chapter 3.

Institute of Advanced Manufacturing Sciences

This institute offers technical assistance in waste reduction, including onsite assessments, telephone assistance, training programs, and testing and demonstration of clean production technologies. Grants allow some of these services to be offered free-of-charge to manufacturers.

For more information, contact:

Sally Clement
Institute of Advanced Manufacturing Sciences
Ohio Edison Technology Center
1111 Edison Drive
Cincinnati, Ohio 45216
Tel: (513) 948-2036

Ohio Department of Natural Resources

This department is involved with litter prevention and recycling grants to local governments and state agencies. It offers technical assistance to communities and businesses and education, public outreach, and research.

For more information, contact:

Paul R. Baldridge
Division of Litter Prevention and Recycling
Ohio Department of Natural Resources
Fountain Square Court, Building F2
Columbus, Ohio 43224-1387
Tel: (614) 265-6333

Ohio Environmental Protection Agency

This agency reviews and develops pollution prevention legislation, conducts pollution prevention data collection and analysis, handles activities relating to permitting and inspections, sponsors demonstration projects for industry, participates in conferences and seminars, and is involved in outreach and information dissemination.

For more information, contact:

Roger Hannahs or Anthony Season
Pollution Prevention Section
Division of Hazardous Waste Management
Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, Ohio 43266-0149
Tel: (614) 644-3969

RCRA Generator Training Program

Workshops introduce 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. Regulation and compliance are also discussed. Workshops consist of 2- to 3-day sessions.

For more information, contact:

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

OKLAHOMA

Association of Central Oklahoma Governments

This association provides technical assistance to central Oklahoma businesses and municipalities on water supply and availability, water quality, soil quality, land use, and population projections. It also develops water conservation programs, as well as water system and distribution system needs and assessments.

For more information, contact:

Zack Taylor
Association of Central Oklahoma Governments
6600 North Harvey Place, Suite 200
Oklahoma City, Oklahoma 73116
Tel: (405) 848-8961

Center for Resource Conservation and Environmental Research

The goal of this center is to establish and maintain a "center without walls" to provide Oklahoma, the Southwest region, and the Nation with benefits of a coordinated, multidisciplinary, multi-institutional research, analysis, and evaluation of the technical, policy, and managerial issues related to resource conservation and reduction, reduction and disposal of municipal and industrial wastes, and avoidance and correction of pollution for air, land, and water. The center accomplishes its technical studies through the resources of Oklahoma State University, the University of Oklahoma, and the University of Tulsa.

For more information, contact:

Robert Fulton
Vice President
Oklahoma Alliance for Public Policy Research
2630 Northwest Expressway, Suite B
Oklahoma City, Oklahoma 73112
Tel: (405) 943-8989
Fax: (405) 943-8997

Governor's Council on Environmental Quality

This council consists of government, industry, and community representatives that advise the governor on options, such as pollution prevention, for improving environmental quality. It also develops pollution prevention and waste minimization incentives and award programs for industry and businesses.

For more information, contact:

Ellen Bussert or Mary Lane Schooley
Office of the Secretary of the Environment
P.O. Box 150
Oklahoma City, Oklahoma 73101-0150
Tel: (405) 231-2551

Oklahoma Cooperative Extension Service

This program conducts a variety of pollution educational services, including programs on household wastes, pesticide handling and use, integrated pest management, and water quality protection.

For more information, contact:

Sam Harp
Oklahoma Cooperative Extension Service
Oklahoma State University
214 Agriculture Hall
Stillwater, Oklahoma 74078-0469
Tel: (405) 744-8419
Fax: (405) 744-6059

**Pollution Prevention
Technical Assistance Program**

This program provides waste audits and technical assistance for industries and workshops on waste minimization for general audiences. Future workshops will be more specific to industries. A resource center provides information and case studies.

For more information, contact:

Dianne Wilkins
Pollution Prevention Program
Oklahoma Department of Environmental Quality
1000 Northeast 10th Street
Oklahoma City, Oklahoma 73117-1212
Tel: (405) 271-1400

Rural Enterprises

This organization offers a wide variety of business development support services, including an evaluation (based on 33 factors) of a firm's ideas for development. Engineers help address manufacturing and design engineering needs. The organization is a certified development company authorized by the Small Business Administration.

For more information, contact:

Tom Seth Smith
Rural Enterprises
P.O. Box 1335
Durant, Oklahoma 74702-1335
Tel: (405) 924-5094

Small Business Development Center

This center provides management assistance to small businesses through a consortium of state universities and the Small Business Administration.

For more information, contact:

Velvree Ogle
Small Business Development Center
517 West University Boulevard
Durant, Oklahoma 74701
Tel: (405) 924-0277

Technology Transfer Center

This center provides evaluations of new technologies, as well as information to inventors to facilitate their patent application process. It also identifies productivity problems and corresponding solution that will use new technology applications. In addition, the center makes available information regarding federal laboratories and other research and development resources. The focus is on manufacturers in rural Oklahoma. This is a regional office of the Small Business Development Center (see above).

For more information, contact:
Technology Transfer Center
Oklahoma State University District Office
P.O. Box 1378
Ada, Oklahoma 78420
Tel: (405) 332-4100

OREGON

Toxics Use Reduction Program

The Oregon Toxics Use Reduction and Hazardous Waste Reduction Act of 1989 was designed to achieve facility-wide changes that reduce, avoid, or eliminate the use of toxic substances and the generation of hazardous wastes by requiring affected parties to develop reduction plans. This state law takes a comprehensive approach to addressing chemical usage from start to finish. Long-term implementation of the law is expected to lower industrial costs and liabilities, as well as to benefit public health and safety and the environment.

Program staff monitor compliance with the law's reporting requirements and provide onsite technical assistance upon request. They provide training workshops to help the law's planners throughout the state develop and implement facility reduction plans. Staff also maintain an information clearinghouse, develop and distribute toxics use reduction literature on various reduction opportunities, and administer the Governor's Award for Toxic Use Reduction, which is a public recognition program for successful companies.

For more information, contact:
Sandy Gurkewitz, Coordinator
Toxics Use Reduction Program
Oregon Department of Environmental Quality
811 S.W. Sixth Avenue
Portland, Oregon 97204
Tel: (503) 229-5918
Fax: (503) 229-6977

Waste Reduction Assistance Program

This program offers waste reduction audits and other technical assistance for hazardous waste generators and transporters, large users of chemicals listed in Section 313 of the Superfund Amendments and Reauthorization Act (SARA), and businesses. Workshops for hazardous waste generators and specific industries include sessions devoted to waste reduction topics, such as "Developing Waste Re-

duction Plans," "Conducting Waste Assessments," and "Oregon's Toxic Use Act." Other features of the program are RCRA program development, capacity assurance planning, a technical resource library and clearinghouse, publications, an awards program, and a hotline.

For more information, contact:
Roy W. Brower, Manager
Oregon Department of Environmental Quality
811 S.W. Sixth Avenue
Portland, Oregon 97204
Tel: (503) 229-5913

WRAP/Oregon State University

The Waste Reduction Assistance Program and Oregon State University are collaborating on revising the engineering curriculum at the university to incorporate waste reduction technologies, and on developing training courses at the community college level on hazardous materials management and toxic substance use reduction and planning.

For more information, contact:
Dr. Ken Williamson
Environmental Engineering Office
Civil Engineering Department
Oregon State University
Apperson 206
Corvallis, Oregon 97331-2302
Tel: (503) 754-2751

PENNSYLVANIA

Carnegie Mellon University: Green Design Initiative

Carnegie Mellon University is conducting research and education programs in the fields of product and process design for the environment and "green" policy development. The university is working in partnerships with industry, government agencies, and foundations to develop practical tools and guidelines for green design.

For more information, contact:
Dr. Noelle Conway-Schempf
Executive Director
Green Design Initiative
Carnegie Mellon University
Pittsburgh, Pennsylvania 15213
Tel: (412) 268-2299

Center for Hazardous Materials Research

See Chapter 4, Clearinghouses.

Department of Environmental Resources

This department offers technical assistance, outreach, information exchange, and hazardous waste facilities planning. It sponsors grants for hazardous waste recycling equipment, the Annual Waste Minimization Award, and funding for the Center for Hazardous Materials Research.

For more information, contact:

Meredith Hill
Assistant to the Deputy Secretary
Office of Air and Waste Management
Pennsylvania Department of Environmental Resources
P.O. Box 2063
Harrisburg, Pennsylvania 17105-2063
Tel: (717) 772-2724
Fax: (717) 783-8965

David Piposzar
Assistant Director
Allegheny Health Department
3333 Forbes Avenue
Pittsburgh, Pennsylvania 15213
Tel: (412) 578-8030
Fax: (412) 578-8325

National Environmental Technology Applications Corporation (NETAC)

The organization conducts applied pollution prevention research, testing and demonstrations, regulatory and business development, and technology transfer. It also provides pollution prevention training and education for industry, government, and university representatives.

For more information, contact:

Devon Streit
NETAC
University of Pittsburgh Applied Research Center
615 William Pitt Way
Pittsburgh, Pennsylvania 15238
Tel: (412) 826-5511

Pennsylvania Technical Assistance Program

This program offers technical assistance for industries, access to pollution prevention information, networking to provide key contacts, linkages to other resources and expertise, and sponsorship for seminars.

For more information, contact:

Jack Gido, Director
Pennsylvania Technical Assistance Program
Penn State University
110 Barbara Building II
810 North University Drive
University Park, Pennsylvania 16802
Tel: (814) 865-0427
Fax: (814) 865-5909

RHODE ISLAND

Chemical Engineering Department

The University of Rhode Island Chemical Engineering Department has a program in which 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.

For more information, contact:

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

Pollution Prevention Program

This program provides technical assistance for industries and businesses, onsite waste reduction assessments, an awards program, conferences and workshops that include pollution prevention topics, and hazardous waste technology, research, development, and demonstration with the University of Rhode Island and industries. It has a waste reduction information clearinghouse and disseminates a newsletter and other publications.

For more information, contact:

Richard Enander
Pollution Prevention Program
Office of Environmental Coordination
Rhode Island Department of Environmental Management
83 Park Street
Providence, Rhode Island 02903-1037
Tel: (401) 277-3434

SOUTH CAROLINA

Center for Waste Minimization

This center provides technical assistance primarily for small- and medium-sized companies, conducts telephone and onsite waste reduction assessments, holds waste minimization seminars for business and industry representatives, and offers training assistance (including videotapes). It also publishes a quarterly newsletter called *Options*.

For more information, contact:

Ray Guerrin
Center for Waste Minimization
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201
Tel: (803) 734-4715

Hazardous Waste Management Research Fund

This organization sponsors workshops and seminars on waste minimization that are offered by Clemson University's Continuing Engineering Education office. Workshop topics include waste reduction for vehicle/auto service shops, textile manufacturers, metal fabricators, machine shops, painting and coating shops, and solvent users, as well as the development of site-specific waste reduction programs. This program also sponsors waste minimization research and development programs and awards programs. It has a research fund and a quarterly newsletter titled *P₂ SC*.

For more information, contact:

Eric Snider, Ph.D., P.E., Director
Continuing Engineering Education
Clemson University
P.O. Drawer 1607
Clemson, South Carolina 29633
Tel: (803) 656-3308

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

Southeast Manufacturing Technology Center, Columbia, SC

See Chapter 3.

SOUTH DAKOTA

Waste Management Program

This program consists of technical assistance primarily focused on source reduction, onsite technical assistance and waste audits for industries and businesses, workshops and seminars on various waste management topics, a database of small-quantity generator case histories, and an awards program.

For more information, contact:

Wayne Houtcooper
Waste Management Program
Department of Environment and Natural Resources
Joe Foss Building
523 E. Capitol Avenue
Pierre, South Dakota 57501-3181
Tel: (605) 773-4216
Fax: (605) 773-6035

TENNESSEE

Bureau of Environment

This bureau provides technical assistance for industries, small communities, and government agencies, as well as free and confidential onsite waste reduction audits. It also conducts pollution prevention workshops, seminars, and conferences. Other features are an information clearinghouse, challenge grants for hazardous waste generators, and an award program.

For more information, contact:

Paul Evan Davis
Bureau of Environment
Tennessee Department of Health and Environment
L & C Building, 14th Floor
401 Church Street
Nashville, Tennessee 37243-0455
Tel: (615) 741-3657

Sylvia Gordon

WRATT Case Studies
University of Tennessee
Center for Telecommunications and Video
1345 Circle Park Drive, Suite 61
Knoxville, Tennessee 37996
Tel: (615) 974-1313

Waste Minimization Assessment Center

Managed by the University City Science Center in Philadelphia, this center is staffed by engineering students and faculty who have considerable expertise with process operations in manufacturing plants. Staff perform quantitative waste minimization assessments for small- to medium-sized generators.

For more information, contact:

Dr. Richard J. Jendrucko, Director
Waste Minimization Assessment Center
Department of Engineering Science and Mechanics
310 Perkins Hall
University of Tennessee
Knoxville, Tennessee 37996-2030
Tel: (615) 974-7682

**Waste Reduction Assessment
and Technology Transfer (WRATT)**

This program, offered by the University of Tennessee Center for Industrial Services, includes industry-specific workshops, workshops for federal and state agency staff, case studies, national teleconferences on waste reduction opportunities, videos of previous teleconferences, interactive training modules, comprehensive training manuals, and onsite waste reduction assessments conducted by full-time field engineers and retired engineers.

For more information, contact:

Cam Metcalf, Training Coordinator
Center for Industrial Services
University of Tennessee
226 Capitol Boulevard Building, Suite 606
Nashville, Tennessee 37219-1804
Tel: (615) 532-8657

TEXAS

Center for Environmental Technologies

This center coordinates conferences, short courses, and lectures that address environmental concerns, pollution prevention, pollution controls, and Federal, state, and local regulations. The 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 stormwater discharge, groundwater monitoring, and pesticides.

For more information, contact:

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

Center for Hazardous and Toxic Waste Studies

This center incorporates pollution prevention concepts into existing engineering courses at Texas Tech University. It offers 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. The center conducts onsite waste audits and research and development.

For more information, contact:

Dr. John R. Bradford, Director
Center for Hazardous and Toxic Waste Studies
Texas Tech University
P.O. Box 43121
Lubbock, Texas 79409-3121
Tel: (806) 742-1413

Economic Development Center

This center at the University of Texas at San Antonio offers technical and management assistance to small- and medium-sized firms. Another economic development center, located at Texas Southern University at (713) 527-7785, also assists businesses; however, it focuses primarily on financial and business planning assistance.

For more information, contact:
Economic Development Center
College of Business
University of Texas at San Antonio
1222 North Main, Suite 750
San Antonio, Texas 78212
Tel: (210) 558-2480

Environmental Institute for Technology Transfer

This institute 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.

For more information, contact:
Dr. Gerald I. Nehman, Director
Dr. Victorio Argento, Associate Director
Environmental Institute for Technology Transfer
University of Texas at Arlington
Box 19050
Arlington, Texas 76109
Tel: (817) 273-2300
Fax: (817) 794-5653

EPA Research Center for Waste Minimization and Management

Texas A&M University is a member of this center, which is located at North Carolina State University in Raleigh (see the listing under North Carolina).

For more information, contact:
Dr. Kirk Brown
Department of Soil and Crop Science
Texas A&M University
College Station, Texas 77843
Tel: (409) 845-5251

Gulf Coast Hazardous Substance Research Center

This center is a research consortium of eight universities, with its center located at Lamar University in Beaumont. 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 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 approximately 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, the University of Alabama, the University of Central Florida, the University of Houston, the University of Texas at Austin, and Texas A&M University.

For more information, contact:
Tom Pinson, Assistant Director
Gulf Coast Hazardous Substance Research Center
Lamar University
P.O. Box 10613
Beaumont, Texas 77710
Tel: (409) 880-8707
Fax: (409) 880-2397

Small Business Technical Development Center

The Small Business Technical Development Center was designed to diversify the state's economy by advancing the commercial technology base. It also provides technical assistance through its Small Business Research Center, which includes books, periodicals, and other informational materials. A statewide network has been formed of technical assistance centers, which are operated in conjunction with the state's regional small business development centers. These centers focus services on small technology-based firms.

For more information, contact:
Christie Havemann
Small Business Technical Development Center
Texas Engineering Experiment Station
West Engineering Research Center Room 310
Texas A&M University System
College Station, Texas 77843-3369
Tel: (409) 845-6556

Source Reduction and Recycling Program

Sponsored by the Railroad Commission of Texas, this program provides technology transfer of source reduction and recycling methods and procedures for oil and gas exploration and production wastes through a telephone help line and its *Waste Minimization and Management Manual*. The program's quarterly newsletter on source reduction and recycling conveys up-to-date pollution prevention news to the oil and gas operators of Texas. The program provides onsite assistance in assessing oil and gas exploration and production operations for source reduction and recycling opportunities. It also provides pollution prevention training for personnel of the Texas oil and gas industry, emphasizing waste stream identification, waste characterization, and source reduction and recycling concepts.

For more information, contact:

Bart Sims
Source Reduction and Recycling Program
Oil and Gas Division
Railroad Commission of Texas
P.O. Box 12967
Austin, Texas 78711-2967
Tel: (512) 463-5405

Texas Agricultural Extension Service

This service sponsors agricultural waste pesticide collection, used oil and used tire recycling centers, and agricultural pesticide container recycling centers and events. It provides nutrient management planning, including soil testing and precision application determinations. The service operates the Tex-A-Syst Program, a wellhead protection system for agricultural producers and private domestic wells. Outreach and educational efforts include landscape waste minimization, the xeriscape program, landscape irrigation audits, community composting, and pesticide applicator training.

For more information, contact:

Dr. John M. Sweeten
Issues Coordinator for Water Quality and Conservation
Department of Agricultural Engineering
303 Scoates Hall
Texas A&M University
College Station, Texas 77843-2121
Tel: (409) 845-7451
Fax: (409) 847-8828

Dr. Phillip J. Hamman
Agricultural Chemicals Project
Department of Entomology
411 Heep Center
Texas A&M University
College Station, Texas 77843-2475
Tel: (409) 845-7026
Fax: (409) 845-7029

Don L. Renchie
Urban Pesticide Training Program
Agricultural Chemicals Project Group
115 Agronomy Field Lab
Texas A&M University
College Station, Texas 77843-2474
Tel: (409) 845-3849
Fax: (409) 845-6251

Texas Department of Agriculture

The department cooperates with the Texas Natural Resource Conservation Commission (see below) and the Texas Agricultural Extension Service (see above) to coordinate the Pesticide Container Recycling Program and the Agricultural Waste Pesticide Collection Program. The department also offers technical assistance to the Tex-A-Syst Program for groundwater protection.

For more information, contact:

Leslie Smith
Compliance and Quality Assurance
Texas Department of Agriculture
P.O. Box 12847
Austin, Texas 78711
Tel: (512) 475-1620

Texas Natural Resource Conservation Commission

The commission's onsite assistance involves its staff providing nonregulatory assistance to facilities. Staff also provide pollution prevention planning assistance through workshops and review of the source reduction and waste minimization plans required by the Texas Waste Reduction Policy Act of 1991. Clean Texas 2000 is a statewide pollution prevention program for businesses, industries, local governments, schools, civic organizations, and citizens. The commission serves as the state's Toxic Release Inventory coordinator by assisting industries in complying with the regulations. The commission's waste exchange efforts is its Resource Exchange Network for Eliminating Waste. The commission also produces publications, guidance documents, and other information materials for citizens, groups, and industries.

For more information, contact:

Patti Everitt
Office of Pollution Prevention and Recycling
Texas Natural Resource Conservation Commission
P.O. Box 13087
Austin, Texas 78711-3087
Tel: (512) 463-4580
Fax: (512) 475-4599

Texas Research and Technology Foundation

The foundation is providing a comprehensive development program to help the San Antonio region advance technologically in the life sciences and biomedical research. The foundation is developing a 1,500-acre research park; it is also working with the University of Texas to establish an Institute of Biotechnology, as well as working to establish an Invention and Investment Institute.

For more information, contact:

Texas Research and Technology Foundation
8207 Callaghan Road, Suite 345
San Antonio, Texas 78230
Tel: (210) 677-6000

UTAH

Center for Environmental Services

Environmental management training and technical assistance are available, with a special emphasis on the needs of northern Utah's small- and medium-sized businesses and manufacturers, as well as its cities and towns. Pollution prevention opportunities are among the topics covered by the center's services.

For more information, contact:

Dianne Siegfried, Director
Barbara A. Wachocki, Director
Center for Environmental Services
Weber State University
Ogden, Utah 84408-2502
Tel: (801) 626-7559

Department of Environmental Quality

The department focuses on establishing a coordinated, multimedia pollution prevention program statewide and emphasizing education for Utah's businesses, industries, and citizens about the importance of pollution prevention. The department features an Industrial Pollution Prevention Workgroup, Small Business Assistance Program, Electronic Pollution Prevention Bulletin Board Service, Environmental Training Series, Sustainable Agriculture Program, Adopt-A-Waterbody Program, Pollution Prevention Outreach Program, and library.

For more information, contact:

Sonja Wallace or Stephanie Bernkopf
Pollution Prevention Co-Coordinator
Office of the Executive Director
Utah Department of Environmental Quality
168 North 1950 West Street
Salt Lake City, Utah 84114-4810
Tel: (801) 536-4480
Fax: (801) 536-4401

VERMONT

Pollution Prevention Program

This program offers onsite technical assistance and waste reduction audits and reviews toxic use and hazardous waste reduction plans submitted by industry. It sponsors conferences and industry-specific workshops and seminars that address pollution prevention topics and makes presentations at public forums to assist the private sector in developing and implementing pollution prevention strategies. The program also has an information clearinghouse.

For more information, contact:

Gary Gulka
Pollution Prevention Division
Vermont Department of Environmental Conservation
103 South Main Street
Waterbury, Vermont 05671-0404
Tel: (802) 241-3888

Retired Engineers and Professionals (R.E.A.P.) Pollution Prevention Program

The R.E.A.P. Program offers onsite assessments of waste management problems and regulatory requirements for developing toxics use reduction and hazardous waste management plans for Class A and Class B generators. It develops pollution prevention strategies, operates a pollution prevention library, and provides training and workshops.

Administered by Vermont WasteCap under the sponsorship of Associated Industries of Vermont, the program maintains a pool of 25 Associates whose backgrounds include chemical engineering, electronics, aerospace engineering, machine tooling, and plant management. Associates are regularly offered training opportunities in pollution prevention technologies.

For more information, contact:

Connie Leach Bisson, Director
Vermont Waste Cap
P.O. Box 630
Montpelier, Vermont 05601
Tel: (802) 223-3441
Fax: (802) 223-2345

VIRGINIA

Minority Business Enterprise

Minority entrepreneurs receive technical assistance (among other services), including educational courses and resource information.

For more information, contact:

Minority Business Enterprise
200-202 North 9th Street
11th Floor
Richmond, Virginia 23219
Tel: (804) 786-5560

Small Business and Financial Services Office

This office provides information to small businesses on sources of technical, management, and financial assistance programs operating throughout Virginia. It also provides information on laws and regulations governing businesses. The office operates a clearinghouse and "one-stop shop" to further assist businesses in addressing their needs.

For more information, contact:

Small Business Coordinator
Small Business and Financial Services Office
Virginia Department of Economic Development
1000 Washington Building
Richmond, Virginia 23219
Tel: (804) 786-3791

University Center for Environmental and Hazardous Materials Studies

This center conducts interdisciplinary research on environmental topics, including pollution prevention, and provides technical assistance.

For more information, contact:

University Center for Environmental and Hazardous
Materials Studies
Virginia Polytechnic Institute and State University
Blacksburg, Virginia 24061-0113
Tel: (703) 231-7508

Waste Minimization Program

Outreach programs are targeted at specific industries, local and state government, institutions, laboratories, and other generators of solid and hazardous wastes. Workshops address the ship repair, furniture manufacturing, and printing industries, as well as urban pesticide use issues. The program also provides a source reduction conference, technical assistance and onsite waste reduction audits, a hazardous waste information hotline, an information clearinghouse, and a Governor's Award.

For more information, contact:

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

WASHINGTON

Business Assistance Center

This center provides one-stop access to many business resources, such as information on state regulations. A communication and information program provides businesses with publications, as well as access to other state services via the center's toll-free Business Assistance Hotline.

For more information, contact:

Sandra Granger
Business Assistance Center
Washington Department of Trade
and Economic Development
919 Lakeridge Way, S.W.
Suite A (FU-12)
Olympia, Washington 98504
Tel: (206) 753-5614
Tel: (800) 237-1233 (in Washington State)

Hazardous Waste and Toxics Reduction Program

In March 1990, Washington State passed the Hazardous Waste Reduction Act, which requires certain hazardous substance users and hazardous waste generators to develop pollution prevention plans and submit annual progress reports. Program staff provide free nonregulatory technical assistance, including onsite pollution prevention assessments

and guidance on how to develop a pollution prevention plan. They also develop and distribute written guidance on a wide variety of pollution prevention topics. The program organizes pollution prevention planning workshops throughout the state, operates a resource center of pollution prevention information available to the public and industry, and publishes a free quarterly newsletter called *Shoptalk*.

For more information, contact:

Peggy Morgan
Hazardous Waste and Toxics Reduction Program
Washington Department of Ecology
P.O. Box 47600
Olympia, Washington 98502
Tel: (206) 407-6739
Fax: (206) 407-6715

Pacific Northwest Pollution Prevention Research Center

This center is a nonprofit public-private partnership formed to identify opportunities and overcome obstacles to pollution prevention in the Northwest, and to serve as a critical link among government officials, industry leaders, and public interest representatives. Activities include identifying research and project needs, facilitating the transfer of pollution prevention information, and providing research support. The center acts as a referral service, providing links to a wide variety of information sources, from technical assistance to advice on funding sources. It facilitates a number of roundtables related to pollution prevention, including fish processing, pulp and forestry, oil and gas exploration, and EPA Region 10's Regional Pollution Prevention Roundtable. The center is establishing an Industrial Liaison Project that will transfer the results of nonproprietary pollution prevention research from large to small companies. A bimonthly newsletter covers a wide variety of pollution prevention topics. Other activities include distributing reports and other materials on pollution prevention, hosting seminars, and maintaining several databases to help technical assistance programs and others access and effectively transfer information.

For more information, contact:

Madeline M. Grulich, Executive Director
David Leviten, Technical Director
Pacific Northwest Pollution Prevention Research Center
1326 Fifth Avenue, Suite 650
Seattle, Washington 98101
Tel: (206) 223-1151
Fax: (206) 223-1165

Small Business Development Center

Technical assistance is provided to small businesses, particularly minority firms, and to entrepreneurs. The center assists in the development of innovations and technology transfer. It also maintains special libraries for research purposes and has access to computer mainframes to process and search large volumes of data.

For more information, contact:

Frank Hoy
Small Business Development Center
College of Business and Economics
Washington State University
Pullman, Washington 99164-4740
Tel: (509) 542-5760

Washington Waste Reduction, Recycling, and Litter Control Program

This program offers technical assistance for business, industry, and local government. It also offers grants for small-quantity generators and local governments and distributes informational and educational materials.

For more information, contact:

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

WEST VIRGINIA

Center for Education and Research with Industry

This center promotes links among universities, businesses, and government to enhance economic development in the state through the use of university resources. Marshall University's Center for Regional Progress provides research, technical assistance, and management consulting using university resources.

For more information, contact:

William Edwards
Center for Education and Research with Industry
Marshall University
Huntington, West Virginia 25755-2130
Tel: (304) 696-3368

Department of Commerce, Labor and Environmental Resources

This department serves as a resource for pollution prevention matters in the state.

For more information, contact:

William Brannen
Water Resources
West Virginia Department of Commerce,
Labor and Environmental Resources
1356 Hansford Street
Charleston, West Virginia 25301
Tel: (304) 558-4000

West Virginia Generator Assistance Program

This program provides onsite technical assistance for generators of hazardous waste, as well as industry-specific outreach and education.

For more information, contact:

Phil Albert
Generator Assistance Program
Waste Management Section
West Virginia Division of Natural Resources
1356 Hansford Street
Charleston, West Virginia 25301
Tel: (304) 558-6350

West Virginia Scorecard

The Scorecard, issued by the National Institute for Chemical Studies (NICS), is an annual analysis of industrial releases to the environment in West Virginia. The effort is overseen by a group of environmentalists, industry representatives, and representatives from the West Virginia Department of Environmental Protection. Each TRI reporter in the state is included in the analysis, which is accompanied by narrative discussion of pollution prevention ideas. Originally developed as a voluntary program to reduce air toxics, the Scorecard project quickly expanded to a multimedia voluntary programs with over 170 companies on board.

For more information, contact:

Dr. Paul L. Hill
National Institute for Chemical Studies
2300 MacCorkle Avenue SE
Charleston, WV 24304
Tel: (304) 346-6264
Fax: (304) 346-6349

WISCONSIN

Bureau of Business Development Services

This bureau coordinates resources for development projects; promotes a Small Business Ombudsman to encourage entrepreneurship and assist new ventures; provides technical assistance and information on state regulations (contact Sara Burr at (608) 266-0562); and promotes the economic development assets of the state and state development funds (for example, the Technology Development Fund and the Permit Information Center).

For more information, contact:

Louis Cornelius
Bureau of Business Development Services
Wisconsin Department of Development
123 West Washington Avenue
P.O. Box 7970
Madison, Wisconsin 53707
Tel: (608) 266-8629

Engineering Professional Development Program

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

For more information, contact:

Pat Eagan
Engineering Professional Development Program
College of Engineering
University of Wisconsin—Madison
432 North Lake Street
Madison, Wisconsin 53706
Tel: (608) 263-7429

Innovation Service Center

This center assists inventors and businesses by providing several services. One service involves consideration of 33 areas of a product's potential commercial viability, including environmental impact, research and development, production feasibility, and societal impact.

For more information, contact:

Debra Malewicki
Innovation Service Center
University of Wisconsin—Whitewater
402 McCutchan Hall
Whitewater, Wisconsin 53190
Tel: (414) 472-1365

Innovative Network Foundation

Among other efforts, this group oversees the development of an entrepreneurial resource library, a newsletter, and forums and training programs.

For more information, contact:

Diane Curtz
Innovative Network Foundation
P.O. Box 71
Madison, Wisconsin 53701
Tel: (608) 256-8348

Lake Michigan Federation

This federation is a nonprofit, citizen-based organization whose mission is to restore and maintain the quality of the Great Lakes. (See the extended writeup under Illinois.)

For more information, contact:

Lake Michigan Federation
647 W. Virginia, #307
Milwaukee, Wisconsin 53204
Tel: (414) 271-5059

Lake Michigan Federation
812 S. Fisk Street
Green Bay, Wisconsin 54303
Tel: (414) 499-0220

Marketing Division

This division conducts market research and product feasibility studies for smaller producers and agribusinesses. It also identifies new product opportunities and provides technical business advice, technical assistance, and assistance in resource coordination.

For more information, contact:

James Smith
Marketing Division
Wisconsin Department of Agriculture, Trade,
and Consumer Protection
801 West Badge Road
Madison, Wisconsin 53713
Tel: (608) 266-7170

Small Business Development Center

This center was created to strengthen the state's economy by assisting small businesses. The center generates basic and applied research, publishes and distributes information, and provides a variety of other services to small businesses.

For more information, contact:
Small Business Development Center
University of Wisconsin—Madison
602 State Street
Madison, Wisconsin 53703
Tel: (608) 263-7766

Solid and Hazardous Waste Education Center

In cooperation with the Wisconsin Department of Natural Resources, the University of Wisconsin's Extension Office offers workshops in solid waste reduction, recycling, and 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.

For more information, contact:
David Liebl, Wayne Pferdehirt, or Philip (Jack) Annis
Solid and Hazardous Waste Education Center
University of Wisconsin—Madison
Extension Office
529 Lowell Hall
610 Langdon Street
Madison, Wisconsin 53703
Tel: (608) 262-0385

University-Industry Research Program

This program provides businesses with convenient access to the University of Wisconsin's research resources, special research facilities, technology transfer activities, educational programs, library services, and industrial consortia.

For more information, contact:
University-Industry Research Program
University of Wisconsin—Madison
WARE Office Building
610 Walnut Street
Madison, Wisconsin 53705
Tel: (608) 263-2840

Wisconsin Department of Natural Resources

Wisconsin DNR conducts site-specific waste audits, provides regulatory compliance assistance, offers water reduction and recycling demonstration grants to industry, provides training, and distributes information (through courses, seminars, an information clearinghouse, newsletters, brochures, case studies, and fact sheets). It also has an awards program. It provides workshops for state agency personnel on pollution prevention, as well as waste reduction workshops for specific businesses, industries, and process users. The department coordinates pollution prevention partnerships with industries and other groups. Specific information on various programs follow.

The Office of Pollution Prevention creates a focus for multimedia policy development and partnerships with industry and other groups. It coordinates the department's Prevention/Environment/Prosperity Awards, which recognize businesses' accomplishments in source reduction. It also coordinates staff training and identifies reporting and environmental needs related to pollution prevention.

The Hazardous Waste Minimization Program's Pollution Prevention Clearinghouse distributes more than 150 publications, publishes the newsletter "Waste*Less*News," holds workshops, provides small-quantity generator information, and distributes the Industrial Materials Exchange Service to help businesses and local government prevent pollution, minimize waste, and remain in compliance. The Small Business Clean Air Act Compliance Assistance program, in cooperation with the Wisconsin Department of Development, provides information on compliance responsibilities, technical information, and alternative approaches for complying with regulations. The Solid Waste Reduction and Recycling Assistance program provides information, including handbooks, videos, and fact sheets, as well as workshops on Wisconsin's (Solid) Waste Reduction and Recycling Law and options for reducing and recycling solid waste.

For more information, contact:

Director, Office of Pollution Prevention (TS/6)
Lynn Persson, Hazardous Waste Minimization Program
Bob Baggot, Small Business Clean Air Act
Compliance Assistance
Kathleen Haas, Solid Waste Reduction
and Recycling Assistance
Bureau of Solid and Hazardous Waste
Management (SW/3)
Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, Wisconsin 53707-7921
Tel: (608) 267-9700 (Director)
Tel: (608) 267-3763 (Persson)
Tel: (608) 267-3136 (Baggot)
Tel: (608) 264-6026 (Haas)

**Wisconsin Hazardous Pollution Prevention
Assessment Grant Program**

Through this program, the Department of Development provides grants to businesses to conduct onsite pollution prevention assessments.

For more information, contact:

Todd Kearney
Office of Development Finance
Wisconsin Department of Development
123 West Washington Avenue
P.O. Box 7970
Madison, Wisconsin 53707
Tel: (608) 266-6675

WYOMING

Economic Development and Stabilization Board

This board was developed to foster the economic growth of businesses throughout the State of Wyoming. It provides a range of services, including assistance with state regulations and requirements and energy costs and availability.

For more information, contact:

Economic Development and Stabilization Board
Herschler Building, 3rd Floor
Cheyenne, Wyoming 82002
Tel: (307) 777-7284

**Wyoming Department
of Environmental Quality**

The department, in addition to its other functions, conducts site-specific waste audits for businesses and distributes information. It integrates pollution prevention concepts into relevant agency programs, conducts pollution prevention workshops for small businesses, and houses an information clearinghouse. The department sponsors the Wyoming Pollution Prevention Roundtable, which consists of representatives from business, industry, government agencies, and environmental groups who meet to promote pollution prevention in Wyoming. A program to develop voluntary waste reduction agreements between the State of Wyoming and individual industry participants is underway. The department also operates the Wellhead Protection Project and the Municipal Waste Pollution Prevention Project.

For more information, contact:

David Finley, Manager
Patricia Gallagher, Senior Environmental Analyst
Wyoming Department of Environmental Quality
122 West 25th Street
Cheyenne, Wyoming 82002
Tel: (307) 777-7752
Fax: (307) 777-5973

ISLANDS AND TERRITORIES

**American Samoa
Environmental Protection Agency**

This agency is responsible for incorporating pollution prevention into regulatory programs, such as permitting and enforcement. It operates an island-wide waste oil collection and recycling project, and it develops and implements pollution prevention and waste minimization practices for industrial facilities in Pago Pago Harbor.

For more information, contact:

American Samoa Environmental Protection Agency
Office of the Governor
American Samoa Government
Pago Pago, American Samoa 96799
Tel: (684) 633-2304

Guam Environmental Protection Agency

This agency oversees incorporation of pollution prevention into regulatory programs, and conducts small-quantity generator waste audits.

For more information, contact:

Guam Samoa Environmental Protection Agency
D-107 Harmon Plaza
130 Rojas Street
Harmon, Guam 96911
Tel: (671) 646-8863

**Northern Mariana Islands Division
of Environmental Quality**

For more information, contact:

Division of Environmental Quality
P.O. Box 1304
Saipan, Mariana Islands 96950
Tel: (670) 234-6984

Palau Environmental Quality Protection Board

For more information, contact:

Palau Environmental Quality Protection Board
Republic of Palau
P.O. Box 100
Koror, Palau 96940
Tel: (680) 488-1639

**For information on American Samoa, Guam,
Northern Mariana Islands, and Palau pollution
prevention programs from the EPA Regional
Office, contact:**

Norman Lovelace, Chief
Office of Pacific Island and Native American Programs
U.S. EPA Region 9, (E-4)
75 Hawthorne Street
San Francisco, California 94105
Tel: (415) 744-1599

CHAPTER 3 OTHER FEDERAL PROGRAMS

Federal agencies have become actively involved in pollution prevention in recent years, spurred on by environmental responsibilities, a need to conserve resources, and most recently, a series of Executive Orders that mandate pollution prevention as the option of first choice in environmental management.

This chapter outlines a number of programs from selected federal agencies, focusing on projects that offer assistance to, or interactions with, outside researchers, businesses, and communities.

DEPARTMENT OF AGRICULTURE (USDA)

ACE Grants (Agriculture in Concert with the Environment)

See Chapter 1, Grants.

Integrated Pest Management/ Cooperative State Research Service

Sponsored by the USDA Cooperative State Research Service, this program funds research and collaborative programs with other agencies and organizations for the management of pest populations. Competitive awards are based on science peer review. Research focuses on biological control, cultural control, host resistance, pest management integration, resistance management, application technology, and movement and dispersal of biotic agents.

For more information, contact:

Dr. Robert C. Riley, Dr. James R. Cate,
or Dr. John M. Barnes
USDA Cooperative State Research Service
Plant and Animal Sciences
Acrospace Building
Washington, D.C. 20250-2220
Tel: (202) 401-4781
Fax: (202) 401-4888

Integrated Pest Management/ Cooperative Extension Service

USDA's Cooperative Extension Service has developed an IPM program committed to guiding U.S. agriculture towards widespread use of ecologically-based pest management approaches that emphasize biological control and other alternatives to pesticides. Extension's IPM program strives to educate users of pesticides about the economic and environmental benefits of IPM strategies through consultations, clinics, workshops, conferences, demonstrations, field days, seminars, and a wide variety of publications and video productions. The audience for these education and training programs includes farmers, ranchers, homeowners, and urban and industrial pest management professional.

For more information, contact:

Michael S. Fitzner
USDA Extension Service
Ag Box 0909
Washington, DC 20250-0909
Tel: (202) 720-2471
Fax: (202) 720-4395
E-mail: mfitzner@esusda.gov

Global Change Research Program

Sponsored by the USDA Forest Service, this program investigates potential alterations in the earth's environment, including climate change, increased ultraviolet radiation, air pollution, acidic deposition, and intensified land use. The research is based on an ecosystem and regional approach. Monitoring programs provide baseline information for describing current resource conditions and trends.

For more information, contact:

Global Change Research Program
USDA Forest Service
P.O. Box 96090
Washington, D.C. 20090-6090
Tel: (202) 205-1561
Fax: (202) 205-1546

DEPARTMENT OF COMMERCE/ NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

Manufacturing Extension Partnership

Formerly the Manufacturing Technology Center program, this partnership is a nationwide system of manufacturing extension centers, state planning support, and coordinated information, services, and resources. The partnership is designed to bridge a technological gap between sources of manufacturing technology and the small- and medium-sized companies that need new technologies.

The partnership works with state governments, industry, and educational institutions nationwide to establish non-profit manufacturing extension centers that serve as the focal point for delivering services to smaller manufacturers. The centers include, and are modeled after, seven manufacturing technology centers that were established by NIST between 1989 and 1992 (in CA, KA, MI, MN, NY, OH, and SC). To carry out the Clinton Administration's

plan to create more than 100 centers by 1997, funding for additional centers has been awarded through the Department of Defense's Technology Reinvestment Project (see below) as part of the department's support for assisting manufacturing firms in becoming less dependent on the defense industry.

The manufacturing extension centers provide a wide range of services, all designed to help manufacturers improve their competitiveness through the use of appropriate modern technologies, processes, and techniques. Among their services, these centers provide manufacturing company assessments, demonstrations, and company-specific technology projects. In addition, many of the centers assist companies in becoming environmentally competitive. These services may be provided directly or in partnership with other organizations, such as state pollution prevention programs. Write-ups on the original seven centers, followed by a listing of the remaining 22 MEP centers (as of September 1994) are given below.

For more information, contact:

Joyce Johannson or David Gold
Manufacturing Extension Partnership
U.S. Department of Commerce/NIST
Building 224 Room B115
Gaithersburg, Maryland 20899-0001
Tel: (301) 975-5020
Fax: (301) 963-6556

California Manufacturing Technology Center

This center, located in Hawthorne, California, focuses on assisting smaller aerospace suppliers and rural manufacturers in transferring aerospace technologies to other commercial applications.

For more information, contact:

Joan Carvell, Acting Director
California Manufacturing Technology Center
13430 Hawthorne Blvd.
Hawthorne, CA 90250
Tel: (310) 355-3060
Fax: (310) 676-8630
E-mail: carvell@cerf.net

Great Lakes Manufacturing Technology Center

This center's client base is nearly 9,000 manufacturing establishments in and around the Cleveland, Ohio, area. Nearly 40 percent of these firms are SIC 3500 (industrial machinery and equipment), with the remaining firms representing a diverse cross-section of manufacturing technologies. The Environmental Services Program was established in 1991 by the Cleveland Advanced Manufacturing Program to assist manufacturers with their environmental concerns. Features of the program include waste reduction assessments for manufacturers, regulatory assistance, pollution prevention seminars, a national teleconference on water-based alternatives to solvent cleaning, and an environmental hotline—(800) 927-0436.

For more information, contact:

Dr. George Sutherland, Director
Cleveland Advanced Manufacturing Program
Great Lakes Manufacturing Technology Center
4600 Prospect Avenue
Cleveland, Ohio 44103-4314
Tel: (216) 432-5322
Fax: (216) 361-2900
E-mail: george.sutherland@camp.org

Mid-America Manufacturing Technology Center

This center is a subsidiary of Kansas Technology Enterprise Corporation, located in Topeka, Kansas. It is a nonprofit corporation established by the State of Kansas. The center oversees six regional technology transfer offices located in the state, with a seventh planned to open. The center has strong ties to the colleges and vocational technical institutes in the area. The three largest industry groups manufacture agricultural equipment, fabricated metal products, and aircraft parts.

For more information, contact:

Paul Clay, Director
Mid-America Manufacturing Technology Center
10561 Barkley, Suite 602
Overland Park, Kansas 66212
Tel: (913) 649-4333
Fax: (913) 649-4498
E-mail: "paul_clay.mamtckc"@qm-gateway.tisl.ukans.edu

Midwest Manufacturing Technology Center

This center was founded as part of the Industrial Technology Institute, located in Ann Arbor. It primarily serves southern Michigan. The small firms the center serves specialize in machine tools, tooling, metal forming, and plastic processing.

For more information, contact:

John Cattier, Director
Midwest Manufacturing Technology Center
Industrial Technology Institute
P.O. Box 1485
2901 Hubbard Road
Ann Arbor, Michigan 48106
Tel: (313) 769-4377
Fax: (313) 769-4064
E-mail: jfc@iti.org

New York Manufacturing Extension Partnership

The center's principal target region is New York State, and the typical client firms are small- to medium-sized establishments in SIC 3400 (fabricated metals products) and SIC 3500 (industrial machinery and equipment). During 1990, for example, the center initiated 68 field projects with small manufacturing firms.

For more information, contact:

Mark Tebbano, Director
Northeast Manufacturing Extension Partnership
Rensselaer Technology Park
385 Jordan Road
Troy, New York 12180-8347
Tel: (518) 283-1010
Fax: (518) 283-1112
E-mail: mark_tebbano@nemtc.itn.org

Southeast Manufacturing Technology Center

This center's client base is more than 4,000 small- and medium-sized manufacturing firms in South Carolina. Typical client firms have 50 to 100 employees. Most of the target firms are concentrated in small rural facilities that manufacture discrete parts and metal working, with a small percentage specializing in electrical/electronic, plastics, and lumber/wood products.

For more information, contact:

Southeast Manufacturing Technology Center
P.O. Box 1149
Columbia, South Carolina 29202
Tel: (803) 252-6976
Fax: (803) 252-0056
E-mail: bishop@smtc.engr.scarolina.edu

Upper Midwest Manufacturing Technology Center

This center's target industries include computers, industrial and electrical machinery, metals fabrication, plastics, and composites. The center plans to initially serve the Minneapolis-St. Paul area and then expand to provide assistance to Minnesota and neighboring regions.

For more information, contact:

Sandy Voight
Upper Midwest Manufacturing Technology Center
Minnesota Technology, Inc.
111 Third Avenue S., Suite 4000
Minneapolis, Minnesota 55401
Tel: (612) 654-6201
Fax: (612) 654-5207
E-mail: jshwed@tecnet.me.tufts.edu

Other Manufacturing Extension Partnerships

Arizona:

Charles Klement, Director
Arizona Applied Manufacturing Center
c/o Gateway College
108 N. 40th Street
Phoenix, Arizona 85034
Tel: (602) 392-5184
Fax: (602) 392-5329

California:

Katy Wolf, Director
Pollution Prevention Center
Institute for Research and Technical Assistance
2800 Olympic Boulevard, Suite 101
Santa Monica, California 90404
Tel: (310) 453-0450
Fax: (310) 453-2660

Colorado:

Craig Carlile, Director
MAMTC Colorado Regional Office
Rockwell Hall
Colorado State University
Fort Collins, Colorado 80523
Tel: (303) 224-3744
Fax: (303) 224-3715
E-mail: carlille@longs.lance.colostate.edu

Connecticut:

Peter Laplaca, Director
Connecticut State Technology Extension Program
368 Fairfield
Storrs, Connecticut 06269-2041
Tel: (203) 486-2585
Fax: (203) 486-3049
E-mail: plapplac@tecnet.me.tufts.edu

Delaware:

John J. Schwed, Director
The Delaware Manufacturing Alliance
Delaware Technology Park
One Innovation Way, Suite 301
Dover, Delaware 19711
Tel: (302) 452-2522
Fax: (302) 452-1101
E-mail: jshwed@tecnet.me.tufts.edu

Georgia:

Charles Estes, Director
Georgia Manufacturing Extension Alliance
Georgia Institute of Technology
223 O'Keefe Building
Atlanta, Georgia 30332
Tel: (404) 894-3830
Fax: (404) 853-9172
E-mail: charles.estes@edi.gatech.edu

Illinois:

Rheal Turcotte, Director
Chicago Manufacturing Technology Extension Center
3333 West Arthington
Chicago, Illinois 60624
Tel: (312) 467-0622
Fax: (312) 265-8336
E-mail: turcotte@tecnet.me.tufts.edu

Iowa:

Del Shepard, Acting Director
Iowa Manufacturing Technology Center
Des Moines Area Community College
2006 South Ankeny Boulevard, Building 18-EDG
Ankeny, Iowa 50021
Tel: (515) 965-7040
Fax: (515) 964-6206
E-mail: iowamtc@exnet.iastate.edu

Kentucky:

Kris Kimel, Director
Kentucky Technology Service
P.O. Box 1049
Lexington, Kentucky 40588
Tel: (606) 233-3502
Fax: (606) 259-0986

Maryland:

Edwin Gregg, Jr., Director
Maryland Manufacturing Modernization Network
Maryland Department of Economic Development
Division of Business
217 East Redwood Street
Baltimore, Maryland 21202
Tel: (410) 333-6990
Fax: (410) 333-1836

Massachusetts:

Jan Pounds, Director
Massachusetts Manufacturing Partnership
Bay State Skills Corporation
101 Summer Street
Boston, Massachusetts 02110
Tel: (617) 292-5100
Fax: (617) 292-5105
E-mail: jpounds@tecnet.me.tufts.edu

New Mexico:

Bill Rector, Director
New Mexico Manufacturing Extension Program
New Mexico, Inc.
1601 Randolph Road, S.E., Suite 210
Albuquerque, New Mexico 87106
Tel: (505) 272-7800
Fax: (505) 272-7810

New York:

Douglas Koop, Director
Hudson Valley Manufacturing Outreach Center
Hudson Valley Technical Development Center
300 Westage Business Center Suite 140
Fishkill, New York 12524
Tel: (914) 896-6934
Fax: (914) 896-7006
E-mail: ny0071@mail.nyser.net

POLLUTION PREVENTION DIRECTORY

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Betsy Poole, Director
Western New York Manufacturing Outreach Center
Western New York Technology Development Center
1576 Sweet Home Road
Amherst, New York 14228
Tel: (716) 636-3626
Fax: (716) 636-3630
E-mail: ny0065@mail.nyser.net

Sara Garretson, Director
New York City Manufacturing Outreach Center
New York ITAC
253 Broadway, Room 302
New York, New York 10007
Tel: (212) 240-6920
Fax: (212) 240-4889
E-mail: ny0076@mail.nyser.net

Mike Dziak, Director
Manufacturing Outreach Center of New York
—Southern Tier
UniPEG
1310 North Street
Endicott, New York 13760
Tel: (607) 748-9214
Fax: (607) 785-0026
E-mail: ny0069@mail.nyser.net

Ohio:

David Thomas-Greaves, Director
Plastics Technology Deployment Center
GLMTC Manufacturing Outreach Program
4600 Prospect Avenue
Cleveland, Ohio 44103
Tel: (216) 432-5300
Fax: (216) 361-2088

Oklahoma:

Edmund J. Farrell, Director
Oklahoma Alliance for Manufacturing Excellence, Inc.
525 South Main, Suite 500
Tulsa, Oklahoma 74103
Tel: (918) 592-0722
Fax: (918) 592-1417

Pennsylvania:

Ray Christman, Director
Western Pennsylvania Manufacturing Extension Program
4516 Henry Street
Pittsburgh, Pennsylvania 15213
Tel: (412) 687-0200, ext. 234
Fax: (412) 687-5232
E-mail: kfill@tecnet.me.tufts.edu

Edith Ritter, Director
Pennsylvania Manufacturing Extension Program:
North/East Region Manufacturers Resource Center
125 Goodman Drive
Bethlehem, Pennsylvania 18015
Tel: (610) 758-5599
Fax: (215) 758-4716
E-mail: edie@net.bfp.org

Virginia:

John D. Hudson, Jr., Director
A.L. Philpott Manufacturing Center
231 East Church Street
Martinsville, Virginia 24112
Tel: (703) 666-8890
Fax: (703) 666-8892
E-mail: phcc@vtvm1.cc.vt.edu

Washington:

Peggy Flynn, Director
Washington Alliance for Manufacturing
2401 Utah Avenue South, Suite 700
Seattle, Washington 98134
Tel: (206) 622-3456
Fax: (206) 622-1609
E-mail: pflynn@tecnet.me.tufts.edu

DEPARTMENT OF DEFENSE

The Department of Defense began developing pollution prevention programs in the late 1980s, both in response to its own environmental responsibilities and as part of its research and technology development activities.

In-house pollution prevention: The Department of Defense issued an overall hazardous waste minimization policy in 1987 and set a goal of 50 percent reduction in the disposal of hazardous wastes by 1992, which was met by August 1992. Individual services within DOD have been operating under a number of additional waste minimization policies, such as the 1989 "Hazardous Material Control and Management Program" for the Navy. The Defense Logistics Agency is involved in reassessing procurement specifications to reduce the use of hazardous materials. In addition, "Model Community" demonstration projects aim at institutionalizing multimedia prevention-based techniques and approaches across entire federal installations. The first of these demonstrations, the Tidewater Inter-agency Pollution Prevention Program (TIPPP), was initiated for three DOD bases (Army, Navy and Air Force) in the Chesapeake Bay/Tidewater VA region.

Significant new pollution prevention efforts are expected as DOD services comply with Executive Order 12856 which requires annual public reports on wastes and releases from federal agencies to EPA's Toxic Release Inventory and to the states where the chemicals are released. The first reports are due by July 1, 1995. The public can obtain the reported information from a national computer database and from their respective states (see TRI User Support in Chapter 4, Databases).

For more information, contact:

Carole Parker
Director of Pollution Prevention
Deputy Under Secretary of Defense for
Environmental Security
Office of the Secretary of Defense
3400 Defense Pentagon
Washington, DC 20301-3400
Tel: (703) 614-3045

Research and Technology Development. Among the many projects underway in DOD are the Technology Reinvestment Project (TRP) and the Strategic Environmental Research and Development Program (SERDP). Each is described below.

Technology Reinvestment Project (TRP)

The Technology Reinvestment Project is a federal effort administered by the Advanced Research Projects Agency (ARPA) to develop "dual-use" technologies with both military and commercial applications, and to help small defense firms make the transition to commercial markets. Funded at \$554 million in FY 1994, the TRP consists of eight statutory programs established under the Defense Conversion, Reinvestment and Transition Assistance Act of 1992. The project awards matching federal funds on a competitive basis to three types of activities:

- industry-led consortia to develop technologies with the potential for commercialization within five years;
- state- and community-based manufacturing extension programs and other innovative mechanisms to deploy existing technology and best practices to small firms; and
- college and university programs to educate and train manufacturing engineers and technicians.

Program inquiries are directed to a 1-800-DUAL-USE hotline. A program information package (the "Red Book") is available as well.

Strategic Environmental Research and Development Program (SERDP)

EPA, DOD and DOE jointly manage SERDP, a coordinating mechanism that supports environmental quality research, development, demonstration, and application programs. One of SERDP's primary objectives is to conduct projects relating to innovative technologies, management practices, and other approaches for preventing pollution. SERDP has developed six "technology thrust areas" — cleanup, compliance, conservation, pollution prevention, global environmental change, and energy conservation/renewable resources.

Within the pollution prevention area, the program's major objectives focus on decreasing the quantity of disposed wastes, ensuring that environmental ramifications are key evaluation factors for new defense systems, and developing substitutes for banned substances such as ozone-depleters and asbestos. For more information or for contacts in the participating federal agencies, contact the SERDP Information Line at (703) 525-5300, ext. 546.

DEPARTMENT OF ENERGY (DOE)

Conservation and Renewable Energy Inquiry and Referral Service

Known as CAREIRS and administered by DOE's National Renewable Energy Laboratory, this toll-free telephone and post office box service provides the American public with information about energy conservation and efficiency and renewable energy technologies. The audience is homeowners, small businesses, energy professionals, and educators. CAREIRS maintains an inventory of response materials consisting of more than 150 publications and topical fact sheets and 500 computer-generated information briefs, professional organization and resource lists, educational materials, and topical bibliographies. Information on renewable energy technologies includes active and passive solar water and space heating, passive cooling, photovoltaics, wind energy, biomass and municipal solid waste-to-energy conversion, solar thermal electric powerplants, geothermal and ocean energy, small-scale hydroelectric power, electric vehicles, alcohol fuels, wood heating, and hydrogen fuel.

For more information, contact:

CAREIRS

P.O. Box 3048

Merrifield, Virginia 22116

Tel: (800) 623-2929

P2Info

This pollution prevention information hotline was developed for U.S. Department of Energy facilities and contractors. P2Info is operated by Pacific Northwest Laboratory and includes pollution prevention technologies and tools, and vendor data from within and outside the DOE complex. Callers to the P2Info hotline can receive technical assistance in locating information on pollution prevention in three categories: pollution prevention resources and tools, pollution types, or process technologies.

For more information, contact:

Sallie Ortiz

P2Info

c/o Pacific Northwest Laboratory

Mail Stop P838

P.O. Box 999

Richland, Washington 99352

Tel: (509) 3P2-INFO. (509-372-4636)

Tel: (509) 372-4540 (system operator)

E-mail: p2info@pnl.gov.

Energy Efficiency and Renewable Energy Clearinghouse

See Chapter 4, Clearinghouses.

Climate Change Action Plan Energy Partnerships for Climate Action

President Clinton released a National Climate Change Action Plan in October 1993 in partial fulfillment of the United States' commitment to the Framework Convention on Climate Change signed by the U.S. and other countries at the Earth Summit in Rio de Janeiro in 1992. The Climate Change Action Plan sets forth a broad array of nearly 50 programs through which the private sector can actively participate in reducing its greenhouse gas emissions. The plan includes voluntary initiatives that represent ongoing programs (such as Green Lights), as well as new programs such as the Motor Challenge.

DOE is responsible for about half the programs listed in the action plan; other federal agencies, such as the Department of Agriculture, State Department, Department of Agriculture, and EPA, share responsibility for the rest. The initiatives in the plan not only will result in environmental benefits, but are expected to yield energy and cost savings as well as a surge of new environmental protection technologies and services. DOE energy programs listed in the plan include the following:

- **Accelerating the Adoption of Energy-Efficient Pollution Prevention Technologies for Industry** — DOE will provide federal support for removing technical and nontechnical barriers and for speeding the adoption of energy-efficient industrial process technologies. DOE contacts: Marsha Quinn at (202) 586-2097 or Ron Santoro at (202) 586-8296.
- **Climate Challenge** — Participating utility companies choose how to best achieve or register the most cost-effective greenhouse gas reductions they discover on their own, including renewables, efficiency improvements, electro-technologies, joint implementation projects, and other efforts. Over a thousand electricity producers have already joined this program. DOE contact: Marsha Quinn at (202) 586-2097.
- **ClimateWise** — Participants are eligible for nationwide recognition for emission reduction achievements and pledge commitments. DOE and EPA will help participants design and tailor a "custom fit" of Climate Change Action Plan programs for their companies and

refer them to appropriate technical assistance resources to help reduce emissions still further. Contacts: Jerry Kotas at DOE at (303) 275-4714, Pam Herman at EPA at (202) 260-4407, and Marsha Quinn at DOE at (202) 586-2097.

- **Coordinate DOE Rebuild America and EPA Energy Star Buildings** — Companies, in partnership with local organizations and government, can apply for assistance to retrofit their facilities with energy-efficient technology. Through Rebuild America, DOE will help improve buildings through grants, planning and management support, technical assistance and training, and recognition. Contacts: Mark Bailey at DOE at (202) 586-9424 and Chris O'Brien at EPA at (202) 233-9146.
- **Energy Efficiency and Renewable Energy Information and Training** — This program provides training and information materials tailored to specific needs in the building industry, as well as detailed information on how to best achieve cost and energy savings. DOE contact: Donna Hawkins at (202) 586-9389.
- **Energy Analysis and Diagnostic Centers** — DOE provides free energy audits and technical recommendations, through university centers, to small- to medium-sized businesses, as well as a range of implementation support services to take advantage of the audits. DOE contact: Charles Glaser at (202) 586-1298.
- **"Cool Communities" Program** — Companies, communities, and federal facilities are eligible for technical assistance and training to reduce their energy demands and directly sequester carbon, as well as for local government funding for tree planting and installing light-colored pavement or roofing surfaces. DOE contact: Jacob Kaminsky at (202) 586-9204.
- **"Golden Carrot" Programs for High-Efficiency Industrial Air Compressors, Pumps, Fans and Drives and Other Industrial Process Technology** — DOE will work with utilities to develop targeted incentive strategies to encourage manufacturers to deliver and/or develop new high-efficiency equipment for future purchase. DOE will also provide information that identifies cost-effective, efficient process equipment. Companies can lower their capital investments in high-efficiency industrial equipment through collaborative incentive programs facilitated by DOE. DOE contacts: Jeffery Dowd at (202) 586-7258 and Paul Scheihing at (202) 586-7234.

- **"Golden Carrot" Market-Pull Partnerships** — Companies working toward the development of super-efficient appliances (e.g., clothes washers, residential lighting, advanced heat pumps, and central air conditioning) may be eligible to enter a competition funded by a pooled utility rebate fund. DOE contact: James Brodrick at (202) 596-5253.
- **Motor Challenge** — Participants in this program will have the opportunity to receive reliable and timely information about energy-efficient electric motor systems, help develop new information on electric motor systems, and be recognized for innovation and achievement in this technological field. DOE contacts: Motor Challenge Hotline and Information Clearinghouse at (800) 862-2086 and Paul Scheihing at (202) 586-7234.
- **Residential Energy Efficiency Programs (Energy Value Homes)** — This program rewards and recognizes home builders who build new homes that exceed the established energy standards and/or apply active and passive solar technologies. The program offers cost-shared demonstration projects that showcase advanced energy efficiency and solar techniques and new design programs for home builders. Contacts: Jon Stone at DOE at (202) 586-9471 and Ery Bales at EPA at (202) 233-9127.

For more information, contact:

Arlene Anderson
U.S. DOE
Climate Change Action Team
EE-71, Green Room IJ-009
1000 Independence Avenue SW
Washington, DC 20585
Tel: (202) 886-3818
Fax: (202) 586-9847

Innovative Concepts Program

This Department of Energy (DOE) program provides seed-money grants to encourage energy innovation and help new technologies move more quickly from the conceptual state into the marketplace. The program seeks to be the "first funder" for concept stage technology in specific problem areas, which for the past 3 years have been waste minimization and utilization. The seed funding is intended to fund concept definition to a stage at which other prospective sponsors can more clearly assess the potential of the concept. After grant completion, the funded

projects showcase their technologies at a technology fair, which is the primary mechanism for exposing potential sponsors to the concepts.

For more information, contact:

Elliott Levine

U.S. DOE

Conservation and Renewable Energy Division

Inventions and Innovation Division

1000 Independence Avenue

Washington, D.C. 20585

Tel: (202) 586-1478

NICE³ Grants

(National Industrial Competitiveness Through Efficiency: Energy, Environment and Economics)

See Chapter 1, Grants.

Office of Technology Development Pollution Prevention Program

DOE is currently supporting three pollution prevention activities. One involves a collaborative program with the U.S. Air Force in technology development. The second involves recycling, treatment, and disposal of nonnuclear weapons. The third involves the effective implementation of environmentally conscious manufacturing technologies in cooperation with the U.S. electronic industry.

For more information, contact:

Environmental Technology Innovation Service

Office of Scientific and Technical Information

P.O. Box 62

Oak Ridge, TN 37831

Tel: (800) 845-2096 or (615) 576-8401

Small Business Innovation Research Program (SBIR)/Small Business Technology Transfer Pilot Program

The SBIR program, created in 1982, has a goal of increasing the private sector commercialization of technology developed through federal research and development activities and increasing small business participation in federal R&D. Eleven agencies including DOE have established an SBIR program; applicants are selected competitively for awards in about 45 topic areas. For more information, contact the DOE SBIR Program Office at (301) 903-5867.

The Small Business Technology Transfer (STTR) pilot program was established in 1992 and is administered by five agencies: DOD, DOE, Health and Human Services, NASA, and the National Science Foundation. Under this program, a portion of the federal agency's extramural research or R&D budget is reserved for awards to small businesses for cooperative R&D to be conducted jointly with a non-profit research institution. For more information, contact the DOE STTR Program Office at (301) 903-5867.

Small Business Technology Integration Program

DOE, under the Office of Technology Development, has established this program to facilitate the development and use of small business technologies with the DOE Environmental Restoration and Waste Management (EM) program. Specific goals are to conduct outreach activities, assist in structuring procurements so that small businesses are given fair representation, reduce barriers to small business participation in the EM program, and help firms advance their technologies into the government and commercial environmental markets.

For more information, contact:

Joseph Paladino

U.S. DOE

1000 Independence Ave.

Washington, D.C. 20585

Tel: (301) 903-7449

DEPARTMENT OF TRANSPORTATION

The Department of Transportation is involved in numerous activities related to transportation, energy, and the environment through its constituent agencies, particularly the Federal Highway Administration, the Federal Transit Administration, and the Federal Aviation Administration. Enactment of the Intermodal Surface Transportation Efficiency Act of 1990 (ISTEA) has engendered numerous programs related to reducing pollution from automobiles, improving community involvement in transportation planning, implementing effective travel demand management measures, and encouraging public transit opportunities.

For more information, contact:

Technology Sharing Program
U.S. Department of Transportation
400 Seventh Street SW
Washington, DC 20590
Tel: (202) 366-4000

Hazardous Materials Information Exchange

Sponsored by the Federal Emergency Management Agency and the Department of Transportation and housed at the Argonne National Laboratory, this computerized bulletin board is designed for the distribution and exchange of hazardous materials information. It provides a centralized database for sharing information pertaining to hazardous materials emergency management, training, resources, technical assistance, and regulations. The audience includes federal, state, and local governments and private industry. To access the system at (708) 972-3275, use 8 data bits, no parity, 1 stop bit, and up to 14,400 baud.

For more information, contact:

Cathy Gerard
Argonne National Laboratory
DIS 900
9700 S. Cass Avenue
Argonne, Illinois 60439
Tel: (800) 752-6367 (hotline)
Fax: (708) 252-5217

HMIX Coordinator

FEMA State and Local Program Support Directorate
Technological Hazards Division
500 C Street NW
Washington, DC 20472
Tel: (202) 646-3525

PRESIDENT'S COUNCIL ON SUSTAINABLE DEVELOPMENT

The 25-member Council on Sustainable Development was created by President Clinton in June 1993. The Council's mission is to explore and develop policies that encourage economic growth, job creation, and effective use of our natural and cultural resources. The Council's goals include developing policy recommendations that integrate economic and environmental concerns, sponsoring projects that demonstrate sustainable approaches, contributing to the work of the United Nations Commission on Sustainable Development, and educating the public about sustainable development. Council members include representatives from industry, environmental groups, labor, and civil rights organizations, as well as the Secretaries of Commerce, Energy, and the Interior.

For more information, contact:

World Resources Institute
1709 New York Avenue NW
Washington, DC 20036
Tel: (202) 638-6300

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

U.S. AID has created an Environmental Pollution Prevention Project (EP3) aimed at establishing pollution prevention programs in developing countries through a combination of in-plant diagnostic assessments, information services, training, and institutional support for governments, using both paid and volunteer U.S. industry and pollution prevention experts. An EP3 office opened in Tunisia in October 1993 to support Tunisian businesses and the Ministry of the Environment. EP3 offices are under consideration in Egypt, Ecuador, and Eastern Europe. A volunteer program is being coordinated by the Coalition for International Environmental Research and Assistance (CIERA); contact Maurice Knight at (703) 351-4004 for information on volunteering. EP3 has developed a clearinghouse and plans to issue a quarterly newsletter (*EP3 News*).

For more information, contact:

EP3
1530 Wilson Blvd. Suite 900
Arlington, VA 20009-2406
Tel: (703) 351-4004
Fax: (703) 351-6166

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CHAPTER 4: RESOURCES

A wide variety of publications (including audit manuals, facility assessment guides, specific industrial process handbooks, toxic use reduction guides, fact sheets, and cost analysis manuals) are available on pollution prevention topics, as are videos, software packages, newsletters,

CONTINUED...

- I. Clearinghouses
- II. Databases
- III. Periodicals & Directories
- IV. Hotlines
- V. Index of Centers & Associations/
Index of Training Opportunities

Continued from previous page—

training materials, curriculum guides, and other resources. On-line data searches through databases and waste exchanges are available as well. This chapter provides a list of selected clearinghouses, databases, periodicals and directories, and hotlines. No attempt is made at comprehensiveness. Consult the listings in earlier chapters for additional resources provided by federal, state, and other programs.

I. CLEARINGHOUSES

California Department of Toxic Substances Control Technology Clearinghouse

The department implements a Technology Clearinghouse and technology transfer outreach programs. These programs convey technical waste minimization information to generators of hazardous waste through seminars, symposia, training sessions, and presentations. In addition, thousands of technical documents (including waste audit studies, fact sheets, and reports) are mailed free of charge to California generators and distributed through local governments. The department develops and distributes the *California Waste Exchange—Newsletter/Catalog*, a semi-annual document that contains hazardous waste information topics such as technology innovations, recycling potential, and a calendar of seminars and training sessions. Also, the catalog lists waste wanted and waste available.

For more information, contact:

Kim Wilhelm
Department of Toxic Substances Control
Office of Pollution Prevention
and Technology Development
400 P Street
P.O. Box 806
Sacramento, California 95812-0806
Tel: (916) 322-3670

Center for Hazardous Materials Research (CHMR)

This center offers pollution prevention workshops for industrial representatives, consultants, engineering students, and regulatory personnel. It also has a pollution prevention speakers' bureau that provides experts for conferences of trade associations, business groups, community organizations, and local governments. Other features of CHMR

are onsite pollution prevention facility assessments and technical assistance, pesticide research and education, and a regulatory information and technical assistance hotline. The center disseminates a quarterly newsletter, industry-specific manuals and fact sheets, videos, a *Hazardous Waste Minimization Manual*, and other publications including pollution prevention handbooks on the fabricated metal products industry, industrial solvents, and the vehicle maintenance industry. CHMR is a non-profit subsidiary of the University of Pittsburgh, funded by multiple private and public sector contracts.

For more information, contact:

Roger L. Price, P.E.
Manager, Pollution Prevention Programs
Steven T. Ostheim, P2 Information
& Training Programs
Center for Hazardous Materials Research
University of Pittsburgh Applied Research Center
320 William Pitt Way
Pittsburgh, Pennsylvania 15238
Tel: (412) 826-5321, ext. 205 (Price)
Tel: (412) 826-5321, ext. 241 (Wilk)
Fax: (412) 826-5552

Center for Waste Reduction Technologies (CWRT)

CWRT is an industry-driven, non-profit organization affiliated with the American Institute of Chemical Engineers. CWRT is dedicated to sponsoring and developing new and innovative waste reduction technologies and methodologies and transferring this information to industry. The Center has more than 25 sponsors including major petroleum and chemical companies, other manufacturers and users of chemicals, engineering contractors, and environmental consultants. CWRT's work comprises targeted research (both generic and collaborative), technology transfer, and enhanced education in a collaborative efforts among industry, government, and academia. Technology transfer activities include publications and the development of broad, interlinked databases for identification and application of waste reduction technologies.

For more information, contact:

Center for Waste Reduction Technologies
American Institute of Chemical Engineers
345 East 47th Street
New York, New York 10017
Tel: (212) 705-7462
Fax: (212) 752-3297

Energy Efficiency and Renewable Energy Clearinghouse

Sponsored by DOE, this clearinghouse promotes the application of sustainable energy technologies and contains information on passive solar home design, energy-efficient appliances, biofuels production, independent power generation using renewable resources, recycling, waste-to-energy systems, and weatherization materials and techniques. Its documents include fact sheets, publications, brochures, source lists, and bibliographies. Staff offer detailed technical responses on energy efficiency and renewables, personal business assistance for entrepreneurs and inventors, and referrals to appropriate contacts within trade and professional associations, federal, university, and private laboratories, state energy offices, and special interest groups. To receive and respond to requests electronically, toll-free access is provided to a computer bulletin board system via modem; dial 1-800-273-2955, with 8 data bits, no parity, 1 stop bit, and terminal emulation VT-100 (ANSI). Access through the Internet is at ENERGYINFO@delphi.com.

For more information, contact:

Energy Efficiency and Renewable Energy Clearinghouse
P.O. Box 3048
Merrifield, VA 22116
Tel: (800) 523-2929
Tel: (800) 273-2957 (for the hearing impaired)

Environmental Financing Information Network

This network provides information on financing alternatives for state and local environmental programs and projects, including pollution prevention and control, primarily in the form of abstracts of publications, case studies, and contacts. Services include an online database, a hotline, and distribution of publications pertaining to financing. The case studies and abstracts outline successful financing alternatives, while the contact profiles refer users to financial and program experts (for example, government officials) who have general or particular experience in public financing and environmental programs. The hotline provides user support and refers callers to compatible clearinghouses and hotlines. The database is accessible to the public through EPA's Online Library System (OLS), which resides on the EPA mainframe computer. OLS consists of several databases that can be used to locate a variety of environmental information. OLS is available via modem using telecommunications software or through the Internet. Other than telecommunications charges, there are no additional fees for accessing OLS.

For more information, contact:

Kathryn Pease-Hulshof
Environmental Financing Information Network
Resource Management Division
U.S. EPA (3304)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-0420
Fax: (202) 260-0710

Indoor Air Quality Information Clearinghouse

Opened in the fall of 1992, this clearinghouse provides access to information about indoor air quality problems. It is equipped with toll-free, operator-assisted telephone access. Staff provide written information (including fact sheets, brochures, and EPA documents), perform literature searches, and make referrals to appropriate government and nonprofit organizations. The targeted audience is building design, construction, and management professionals, indoor air quality researchers and experts, private sector diagnostic and mitigation firms, school administrators, government officials, health practitioners, the real estate industry, and the general public. Hours of operation are Monday through, Friday, 9:00 a.m. to 5:00 p.m. EST.

For more information, contact:

Susan Dolgin
Indoor Air Quality Information Clearinghouse
P.O. Box 37133
Washington, DC 20013-7133
Tel: (800) 438-4318
Tel: (301) 233-9030 (Dolgin)
Fax: (301) 588-3408

International Cleaner Production Information Clearinghouse

The International Cleaner Production Information Clearinghouse (ICPIC) is the PPIC's sister clearinghouse operated by the United Nations Environment Program (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, contact PPIC (see below) or:

The Director

Industry and Environment Program Activity Center

United Nations Environment Programme

39-43 quai Andre Citroen

75739 Paris CEDEX 15

France

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

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

ICPIC computer network: 33-1-40-58-88-78

National Center for Environmental Publications and Information

Known as NCEPI, this center focuses on scientific/technical and public-oriented environmental information, both in hard copy and multimedia products. Approximately 2,500 new titles are added annually to the NCEPI system database. Services are provided to federal, state, and local agencies, businesses, civic and environmental groups, academia, and the public, both nationally and internationally. Hours of operation are Monday to Friday, 8:00 a.m. to 4:30 p.m. EST. Current in-stock issues are available by identifying your name, telephone number, address to forward the publication, publication title, and EPA document number to:

NCEPI

11029 Kenwood Road, Building 5

Cincinnati, Ohio 45242

Tel: (513) 891-6561

Fax: (513) 891-6685

For more information, contact:

Deborah McNealley

U.S. EPA/NCEPI

26 West Martin Luther King Drive

Cincinnati, Ohio 45268

Tel: (513) 569-7985

Fax: (513) 569-7186

National Technical Information Service

Located in the U.S. Department of Commerce, NTIS is the central source for the public sale of U.S. Government-sponsored research, development, and engineering reports. It is also a central source for federally generated machine-processible data files. It contains reports on air pollution, acid rain, water pollution, marine pollution, marine ecosystems, land use planning, fisheries management, solar energy, offshore oil drilling, solid wastes, traffic noise, and radiation monitoring.

For more information, contact:

Chief, Order Processing Branch

National Technical Information Service

5285 Port Royal Road

Springfield, Virginia 22161

Tel: (703) 487-4650

Fax: (703) 321-8547

Office of Water Resource Center

This center houses a reference file and database of EPA's Office of Water publications, which are free of charge. It also has videotapes and other resources available. EPA employees and the general public use the center to order documents and research references. Office of Water guides available include the *Catalog of the Office of Science and Technology*, Office of Drinking Water publications, and Office of Wetlands, Oceans and Watersheds publications. Hours of service are Monday through Friday, 8:30 a.m. to 5:00 p.m. EST, with 24-hour voice mail.

For more information, contact:

Office of Water Resource Center

U.S. EPA (4100 P)

401 M Street SW

Washington, DC 20460

Tel: (202) 260-7786

Fax: (202) 260-4383

Pollution Prevention Information Clearinghouse (PPIC)

PPIC has three primary functions. It is a distribution center for nonregulatory documents emanating from the EPA Office of Pollution Prevention and Toxics (OPPT) and various other EPA programs. These include the Design for the Environment (DfE) Project, the Environmental Leadership Program, various grants, and state and education and training programs (see Chapter 1 for descriptions of these programs). Second, PPIC maintains a telephone hotline for document orders and to refer callers to other EPA information resources. Third, PPIC maintains a collection of documents relating to pollution prevention, waste minimization, and alternative technologies. This is available for browsing in the EPA Headquarters Library during visitor hours (10:00 a.m. to 2:00 p.m. EST) and through EPA's Online Library System (OLS). OLS is available through a synchronous (modem) communication at (919) 549-0720, with 7 data bits, even parity, 1 stop bit, and half duplex. PPIC currently publishes a quarterly dis-

tribution list. For the most recent list, call (202) 260-1023. Hours of operation are Monday through Friday, 8:00 a.m. to 4:00 p.m. EST (24-hour voice mail).

For more information, contact:

Pollution Prevention Information Clearinghouse
U.S. EPA (3404)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-1023
Fax: (202) 260-0178
E-Mail: ppic@epamail.epa.gov

Watershed Information Resource System

Known as WIRS, this system is a resource center for bibliographic information maintained by the Terrene Institute. Formerly known as the Clean Lakes Clearinghouse, it contains information on technical reports, conference proceedings, Government documents, journal articles, and other relevant publications. WIRS abstracts and indexes approximately 4,000 watershed-related documents, more than a quarter of them less than 5 years old. The database is updated annually. Complete up-to-date information is now available on diskette. The user-friendly system is available for the special introductory price of \$250; a demonstration disk can be purchased for \$20, which can be applied to the purchase price. Users can purchase updates by subscription or annually.

Data can be accessed by topic, keyword, author, state or country, waterbody name and type, and publication date. Topics covered include aquatic ecology, watershed management and problems, wetlands, lake management and protection, restoration techniques, best management practices, and point and nonpoint sources of pollution.

For more information, contact:

Laura Ludwig
Terrene Institute
1717 K Street, N.W., Suite 801
Washington, DC 20006-1504
Tel: (800) 726-LAKE
Tel: (202) 833-8317 (Ludwig)
Fax: (202) 296-4071

II. DATABASES

Cleanup Information Bulletin Board System (CLU-IN)

Designed for hazardous waste cleanup professionals, CLU-IN allows for the exchange of information and technology transfer for those involved in Superfund cleanups, RCRA corrective action, and underground storage tank sites, with a particular emphasis on innovative treatment technologies. The system operator can be reached at (301) 589-8368.

For more information, contact:

Gary Turner
Technology Innovation Office
U.S. EPA (5102W)
401 M Street SW
Washington, DC 20460
Tel: (703) 308-7025
Fax: (703) 308-8528

EcoGopher (for Telnet Accessible Sources (Internet))

EcoGopher is a gopher developed by the University of Virginia's Division of Recoverable and Disposable Resources. It provides access to most major environmental resources currently available over the Internet, including many EPA resources. It is available through TELNET> ecosys.drdr.virginia.edu, with the login of gopher. Dial-up access is available for 2400 baud systems at 804-924-0577 and for 9600 baud systems at 804-982-5084. Type ecosys.drdr at the prompt, and the login is gopher. Choose 8, "Education," in the EcoGopher menu; from there, other environmental resources are available, including EnviroGopher (29), which supplements the resources available on the EcoGopher. EnviroGopher provides access to numerous environmental resources, including various listservs and other discussion groups.

U.S. EPA Gopher

EPA Gopher is the primary public access mechanism on the Internet for EPA. Its Internet address is gopher.epa.gov. EPA Gopher provides a range of EPA-generated information in electronic format and also offers access to:

▷ **EPA Software for Environmental Awareness (18)**—This resource gives users access to EPA-generated freeware on a number of topics, including pollution prevention. "Agricultural Pollution Prevention" is available through the following path: 3/1/2 agricut.zip <PC BIN>.

▷ **U.S. Environmental Protection Agency Online Library System (OLS) (17)**—OLS is the national online catalog of the EPA library network. It includes the catalogs of the Headquarters Library and all the Regional libraries. The special collection of the PPIC is cataloged on OLS and is recognized with the call letters PPC.

For more information, contact:

Mike Weaver
U.S. EPA (3405R)
401 M Street SW
Washington, DC 20460
Tel: (703) 235-5577
Fax: (703) 557-3186

EPA Office of Air Quality Planning and Standards' Technology Transfer Network Bulletin Board Systems

The Technology Transfer Network is a network of bulletin board systems created by EPA's Office of Air Quality Planning and Standards. There are numerous bulletin boards covering various air-related subjects. Dial-up access is at 800-541-5742 or 919, with 8 data bits, no parity, and 1 stop bit, on a terminal that is VT-100, ANSI, or their emulations. This is also available through TELNET> ttnbbs.rtpnc.epa.gov. Two relevant resources are as follows:

▷ **COMPLI (Pollution Prevention Data Base)** — COMPLI has the Pollution Prevention Data Base; it is an archive of industry case studies, regulatory actions, professional contracts and services, training and education opportunities, and much more. It also provides users with an electronic mail utility and the opportunity to be added to a list of contacts.

▷ **National Air Toxics Information Clearinghouse (NATICH)** — NATICH was established to support state and local agency efforts to control toxic air pollutants. The database contains state and local air toxics contacts, regulatory program descriptions, ambient concentration guidelines and standards, pollutant re-

search and methods development activities, and other air toxics information. Federal, state, and local officials can access NATIC directly with a valid account. The general public can access the system free of charge via the National Technical Information Service (NTIS) bulletin board system, Fedlink.

For more information, contact:

Vasu Kilaru
Pollutant Assessment Branch
U.S. EPA (MD-13)
Research Triangle Park, NC 27711
Tel: (919) 541-5332
Fax: (919) 541-4028

EPA Office of Research and Development Electronic Bulletin Board System:

ORD has created a text-searchable database (available 24 hours a day) of all ORD publications since 1976. It also offers such services as new information bulletins, online registration for ORD meetings, and public domain files. The database offers online ordering of ORD publications.

For more information, contact:

ORD Electronic Bulletin Board System
Center for Environmental Research Information
U.S. EPA
26 West Martin Luther King Drive
Cincinnati, Ohio 45268
Tel: (800) 258-9605
Tel: (513) 569-7700 (in Ohio)
Tel: (513) 569-7272 (system contact)
Fax: (513) 569-7566

FedWorld™

This pilot project run by the National Technical Information Service (NTIS) allows access to over 100 computer bulletin board systems operated by the U.S. Government through the FedWorld GateWay™. The system includes a bulletin information center, a library of computer files, conference areas, online help, search and retrieve capabilities, and a weekly listing of NTIS's 25 best sellers. To access, dial FedWorld™ at 703-321-8020. Set parity to none, data bits to 8, and Stop Bit to 1 (N,8,1). Set terminal emulation to ANSI or VT-100. For problems or more information, call (703) 487-4608, Monday to Friday, 10:00 a.m. to 4:00 p.m. EST.

Hazardous Solvent Substitution Data System

Provides information on 340 substitutes for hazardous solvents. Users can access the system free of charge by modem or through Internet. The system contains technical product data sheets from solvent manufacturers as well as a link to vendor-supplied and Material Safety Data Sheets.

Key word and topic searches available.

For more information, contact:

Kevin Twitchell
Hazardous Solvent Substitution Data System
EG&G Idaho, Inc.
P.O. Box 1625
Idaho Falls, ID 83415-2208
Tel: (208) 526-6956
Fax: (208) 526-8541

National Materials Exchange Network

Electronic linking over 40 industrial waste exchanges across North America, this network allows users to locate materials available and wanted, which are organized into 17 categories, using any computer and modem. Materials include waste by-product, surplus, off-spec, over-stock, obsolete, and damaged materials.

For more information, contact:

Patrick Moctezuma
Pacific Materials Exchange
1522 N. Washington St. Suite 202
Spokane, WA 99201-2454
Tel: (509) 325-0551
Fax: (509) 325-2086

National Center for Manufacturing Sciences (NCMS)

- **NCMS Material Compatibility Database**—Assists users of ozone-depleting chemicals in evaluating and selecting alternative solvents. Includes over 1300 data elements on each of the facility-tested alternatives.
- **NCMS Solvent Database**—Contains information on solvents, including chemical and physical properties, environmental fate, health, and safety data, and regulatory information. Designed for use by research, design, and development engineers, plant environmental engineers, and environmental policy personnel. Based on Paradox, the database is designed to run on an IBM-compatible PC.

For more information, contact:

Mike Wixom
900 Victors Way
Ann Arbor, MI 48108
Tel: (313) 995-4910
Fax: (313) 995-4004

OZONET

A globally accessible system containing information on processes, materials, and technologies for substitutes for ozone-depleting substances. The database resides in the General Electric network and is accessible via PC and Macintosh. On-line access fee: \$42/hour. Contains technical reports, published results of research investigations, product supplier information, international legislation, and contacts in government and industry.

For more information, contact:

David Bergman
IPC
7380 Lincoln Ave.
Lincolnwood, IL 60646
Tel: (708) 677-2850
Fax: (708) 677-9570

Pollution Prevention Information Exchange System (PIES)

PIES is a 24-hour electronic network consisting of technical databases and mini-exchanges that focus on specific pollution prevention issues, a calendar of events, hundreds of case study abstracts on pollution prevention, and message centers for interaction and exchange with users. The International Cleaner Production Information Clearinghouse (ICPIC) and OzonAction are also available by accessing PIES.

Accessing PIES

Anyone can access PIES using either an IBM PC (or compatible, an Apple, or a dumb terminal equipped with a modem (1200 or 2400 baud) with appropriate communications software. PIES is accessible through a regular telephone call, the SprintNetSM network, and the EPA x.25 wide area network (for EPA employees only). The following communications software settings are required to call PIES on a regular telephone line:

Phone number: (703) 506-1025
Speed: 1200 or 2400
Data bits: 8 Parity: None Stop bits: 1

PIES Technical Support Office

Contact the PIES Technical Support Office for information on how government employees can access PIES toll-free. Tel: (703) 821-4800. Fax: (703) 821-4775.

SprintNetSM

SprintNetSM is a data network subscription service that enables users to access PIES in most major metropolitan areas using a local telephone call. Users are billed for connect time through U.S. Sprint, thus saving long-distance telephone charges. For information on how to subscribe to SprintNetSM, contact the PIES Technical Support Office. SprintNetSM is not affiliated with EPA or PPIC.

Right-to-Know Network (RTKnet)

This network, familiarly known as RTKnet, is an online telecommunications link to national environmental databases. It was started in 1989 in support of EPCRA. It receives support from EPA and several foundations. The audience is the general public, particularly grass roots environmentalists. Other users include states, media, industry, and academic researchers. The sponsoring agencies are OMB Watch and the Unison Institute.

For more information, contact:

OMB Watch/Unison Institute
1731 Connecticut Avenue, N.W.
Washington, DC 20009-1146
Tel: (202) 797-7200

TRI User Support

TRI User Support provides access and support to TRI data in various formats, including printed reports, online databases, CD-ROMs, magnetic tapes, and computer diskettes. The services are provided Federal, state, local, and international governments, industry and trade associations, environmental and public interest groups, academia, and citizens. These services include providing general TRI information, TRI publications, searches, searching assistance, National Library of Medicine TOXNET online search training, CD-ROM training, referral to EPA regional or state TRI contacts, other TRI resource centers, and documentation support to all public access TRI products.

For more information, contact:

Michele Tsai
Information Management Division
Office of Pollution Prevention and Toxics
U.S. EPA (7407)
401 M Street SW
Washington, DC 20460
Tel: (202) 260-1531 (hotline)
Tel: (202) 260-0568 (Tsai)
Fax: (202) 260-4659

Waste Reduction Advisory System (WRAS)

WRAS is a computerized waste management tool designed to provide waste generators with a range of options for reducing and recycling industrial waste. WRAS contains a Waste Reduction Audit Checklist, which leads the user through a series of question to assess current waste reduction activities and then identify potential waste reduction techniques. It also contains a Waste Reduction Information Bibliography which provides literature abstracts and case studies on waste reduction technologies. Users can search by SIC code, waste type, process, and source, as well as by economic information, reduction techniques, and author/title. Available for PCs for \$95.

For more information, contact:

Buz Bailey or Jenny Saunders
Hazardous Waste Research and Information Center
One East Hazelwood Drive
Champaign, IL 61820
Tel: (217) 333-8940
Fax: (217) 333-8944

III. PERIODICALS & DIRECTORIES

Access EPA. Directory published by EPA's Office of Information Resources Management. Includes public information tools, major EPA dockets, clearinghouses and hotlines, library and information services, state environmental libraries, and EPA acronyms. 1993 edition, EPA 220-B-93-008. Available from the Public Information Center, U.S. EPA (3404), 401 M Street SW, Washington, DC 20460. Tel: (202) 260-7751.

EDF Letter. Bimonthly newsletter for members, covers a wide range of environmental issues and EDF activities in recycling, waste reduction, environmental protection. Contact: Membership Department, Environmental Defense Fund, 257 Park Avenue South, New York, NY 10010. Tel: (212) 505-2100.

Environmental Management Research Faculty Profile. Pollution Engineering, 1993. A 700-page directory with profiles of 10,000 university researchers in North America and Mexico involved in environmental control and pollution prevention research projects. Research projects are arranged by subject and industry. Database version is available in PC and Macintosh formats for \$225. Contact: Pollution Engineering, Book Department, 1350 E. Touhy Ave., Des Plaines, IL 60018. Tel: (800) 523-9654. Fax: (708) 390-2779.

Guide to Pollution Prevention Funding Organizations. Directory of public and private organizations that fund pollution prevention research. Available from Pacific Northwest Pollution Prevention Research Center, 1218 Third Ave. #1205, Seattle, WA 98101. Tel: (206) 223-1151.

International Journal of Environmentally Conscious Manufacturing. Quarterly journal providing information to manufacturers and the general public on recent advances and research related to environmentally conscious manufacturing. Contact: ECM Press, P.O. Box 20959, Albuquerque, NM 87154-0959.

Journal of the Air & Waste Management Association. Designed to serve and inform professionals involved with environmental management, particularly for air pollution. Contact: Air & Waste Management Association, P.O. Box 2861, Pittsburgh, PA 15230. Tel: (413) 232-3444. Fax: (412) 232-3450.

Journal of Cleaner Production. Quarterly journal devoted to the exchange of information on research, development, and implementation of cleaner technologies around the world. Contact: Journals Fulfillment Dept., Butterworth-Heinemann, 80 Montvale Ave., Stoneham, MA 02180. Tel: (617) 438-8464. Fax: (617) 438-1479.

National Directory of U.S. Energy Periodicals. Lists over 700 publications on renewable energy, energy efficiency, nuclear power, and other energy topics. The **National Directory of Safe Energy Organizations** (6th edition, revised) contains listings for over a thousand non-profit groups involved in energy issues. Available in hard copy, diskette, or as zip-coded mailing labels from Public Citizen, 215 Pennsylvania Ave. SE, Washington, DC 20003. Tel: (202) 546-4996.

Northeast States Pollution Prevention News, free quarterly newsletter. Contact: Northeast Waste Management Officials Association, 129 Portland Street, 5th Floor, Boston, MA 02114. Tel: (617) 367-8558.

Pollution Prevention Fact Sheet: Recent Publications. EPA fact sheet, updated periodically. Available through PPIC, (202) 260-1203.

Pollution Prevention News. Free bimonthly newsletter on pollution prevention topics, including reports from EPA offices, people and places in the news, state programs, and calendar of conferences and events. Contact: Pollution Prevention News, U.S. EPA (7409), 401 M Street SW, Washington, DC 20460.

Pollution Prevention Research Branch: Recent Publications. Lists new publications available free of charge from EPA's Center for Environmental Research Information. Available from CERI, 26 West Martin Luther King Drive, Cincinnati, OH 45268. Tel: (513) 569-7562.

Pollution Prevention Review. Quarterly journal on source reduction and waste minimization, with emphasis on technical and institutional issues encountered in industrial settings. Contact: Executive Enterprises, Inc. 22 West 21st St., New York, NY 10010-6990. Tel: (800) 332-8804.

Pollution Prevention Update. Highlights federal legislation, EPA initiatives, Roundtable activities, and state pollution prevention program activities. Available from the National Pollution Prevention Roundtable, 218 D Street SE, Washington, DC 20003. Tel: (202) 543-7272.

POLLUTION PREVENTION DIRECTORY

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Pollution Prevention Yellow Pages. This directory lists and describes state and local pollution prevention programs. New edition forthcoming late 1994. Available from National Pollution Prevention Roundtable, 218 D Street SE, Washington, DC 20003. Tel: (202) 543-7272.

Public Information Center Publications List. List of publications available from the EPA Public Information Center. Contact: PIC, U.S. EPA (3404), 401 M Street SW, Washington, DC 20460. Tel: (202) 260-7751.

Reusable News. A quarterly newsletter on municipal solid waste issues. Contact: RCRA Information Center, U.S. EPA, 401 M Street SW (5305), Washington, DC 20460. Tel: (800) 424-9346.

Toxics Use Reduction Research Directory. 1992. A 64-page guide with background and contact information on government, private, university, and international organizations involved in toxics use reduction research. Contact: Toxics Use Reduction Institute, University of Massachusetts at Lowell, Lowell, MA 01854-2881. Tel: (508) 934-3275. Fax: (508) 453-2332.

IV. HOTLINES

EPA:

Acid Rain Hotline	617-674-7377
Control Technology Center (Small Business Assistance Program)	919-541-0800
Environmental Technology Hotline	202-260-2686
EPCRA Hotline (TRI information)	800-535-0202
Green Lights Hotline	202-775-6650
Office of Water Resource Center	202-260-2814
RCRA, UST, CERCLA Hotline	800-424-9346
Stormwater Hotline	703-821-4823
Stratospheric Ozone Info Hotline	800-296-1996
TRI User Support	202-260-1531
TSCA Hotline (33/50 information)	202-554-1404
Wetlands Information Hotline	800-832-7828 (703-525-0985 international)

DOE:

CAREIRS	800-623-2929
Motor Challenge Hotline	800-862-2086
P2Info	509-3P2-INFO

SWANA:

Solid Waste Assistance Program	800-677-9424
Peer Match	301-585-2898

V. INDEX OF CENTERS & ASSOCIATIONS/ INDEX OF TRAINING OPPORTUNITIES

This list represents selected centers and associations with a larger regional or national focus. Many of these organizations have extensive collections of information applicable and available to a broad range of industries and communities. Organizations marked with an asterisk offer training

and/or educational materials. Training in pollution prevention is also available through conferences and workshops offered by numerous technical assistance programs described in Chapter 2.

Name	Location	Telephone
American Institute for Pollution Prevention	Cincinnati, OH	(513) 556-3693
Association of State & Territorial Solid Waste Management Officials (ASTSWMO)	Washington, DC	(202) 624-5828
*California Department of Toxic Substances Control	Sacramento, CA	(916) 324-1807
*Center for Environmental Research Information	Cincinnati, OH	(513) 569-7562
Center for Hazardous Materials Research	Pittsburgh, PA	(412) 826-5321
*Center for Waste Reduction Technologies	New York, NY	(212) 705-7407
*Environment Canada	Ottawa, Ontario	(613) 241-5692
Gulf Coast Hazardous Substance Research Center	Beaumont, TX	(409) 880-8897
*Illinois Hazardous Waste Research and Information Center (HWRIC)	Champaign, IL	(217) 333-8940
*National Pollution Prevention Center for Higher Education	Ann Arbor, MI	(313) 764-1412
National Pollution Prevention Roundtable	Washington, DC	(202) 543-7272
*Northeast Waste Management Officials Association (NEWMOA)	Boston, MA	(617) 367-8558
Pacific Northwest Pollution Prevention Research Center	Seattle, WA	(206) 223-1151
*Pollution Prevention Education and Research Center	Los Angeles, CA	(310) 206-2098
Solid Waste Association of North America	Silver Spring, MD	(301) 585-2898
*Toxics Use Reduction Institute	Lowell, MA	(508) 934-3275
*WRATT-University of Tennessee	Knoxville, TN	(615) 974-1313
*Waste Reduction Resource Center for the Southeast (WRRC)	Raleigh, NC	(800) 476-8686
*Waste Reduction Institute for Training and Applications Research, Inc. (WRITAR)	Minneapolis, MN	(612) 379-5995

