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*for a sustainable future*

## OCCASION

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**United Nations Industrial Development  
Organization**

*Training Course  
Ecologically Sustainable Industrial Development*

## Learning Unit 8

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### **Sources of Information on Cleaner Production**

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Further information may be obtained from:  
Environment Coordination Unit, UNIDO  
Tele: (Austria) 43-1-21131-0 / Fax: 43-1-230-74-49

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### *Additional Course Materials*

Floppy disc: MICRO-METADEX<sup>PLUS</sup> and ICPIIC case studies

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## Introduction

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**L**earning Unit 8 introduces various sources of information that you may use to obtain further information about Cleaner Production. As you might imagine, there is a wealth of information available from UNIDO and UNEP, from other international organizations, from NGOs such as industry associations and environmental organizations and from national organizations.

### Objectives

The specific learning objectives of this unit are as follows:

- To introduce a variety of sources of information relevant to Cleaner Production issues, including organizations, contacts and databases.
- To provide practice in using UNIDO and UNEP databases that provide industry-specific information about Cleaner Production.

### Key Learning Points

- 1** UNIDO information on industry and technology is available through the Industrial and Technological Information Bank (INTIB).
- 2** INTIB has developed an Energy and Environment Information System (EEIS).
- 3** INTIB maintains a database on energy and environmental issues for industry called Referral Database on Energy and the Environment (REED).

- 4 The UNIDO book *Industry and Environment: A Guide to Sources of Information* explains how to organize a search for environmental information.
- 5 The Industry and Environment Programme Activity Centre (IE/PAC) of UNEP maintains a database and enquiry service on Cleaner Production, the International Cleaner Production Information Clearinghouse (ICPIC).
- 6 ICPIC issues several publications, including a quarterly newsletter, *Industry and Environment*; a biannual newsletter, *Cleaner Production* and many technical reports on Cleaner Production.
- 7 The World Industry Council for the Environment (WICE) was initiated by the International Chamber of Commerce to raise environmental awareness and concern on the part of industry in both developed and developing countries. It published the book *From Ideas to Action: Business and Sustainable Development* and issues a quarterly newsletter.
- 8 The International Network of Environmental Management Organizations (INEM) is a global network of independent business organizations devoted to environmental education and problem solving. It publishes a bulletin every two months.
- 9 The Business Council for Sustainable Development was set up to present a global business perspective on sustainable development at the United Nations Conference on Environment and Development (UNCED). It produced the book *Changing Course: A Global Business Perspective on Development and the Environment*, and continues to be a source of environmental information.
- 10 The United States Environmental Protection Agency (USEPA) maintains the Pollution Prevention Clearinghouse, offers many publications, including the free monthly newsletter *Pollution Prevention News*, and supports a pollution prevention research branch that is producing a series of industry-specific pollution prevention guidance manuals (16 to date).
- 11 Several other international and national institutions and professional associations, described in the *Study Materials*, also provide information on Cleaner Production.

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- 12** Given such a large mass of information, the key to an effective search is to define the query carefully.

### ***Suggested Study Procedure***

- 1** Take the test in the *Review*. Think about the questions raised and what you need to learn from this Learning Unit.
- 2** Work through the *Study Materials*, including the *Reading Excerpts*. Prepare answers to the questions and check your answers against those suggested.
- 3** Work with the demonstration data sets in the *Case Studies*.
- 4** Complete the exercises in the *Review*.

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## Study Materials

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**O**btaining information about Cleaner Production is largely a process of sorting through the almost endless variety of sources that are available to you. UNIDO, UNEP and many other organizations maintain databases that you can tap. There are books, periodicals, newsletters, bulletins and special reports available on just about any topic imaginable, from the general to the very specific. You can, for example, read the book *Changing Course*, which offers a global business perspective on development and the environment. Or, for very specific information, you can search the Industrial Development Abstracts (IDA) database of UNIDO for pollution prevention opportunities for a given application such as textile dyeing and finishing.

This Learning Unit first introduces you to sources of information within UNIDO and UNEP IE/PAC. It then briefly describes some of the other information sources available to you. While it is impossible to present an exhaustive list of all the available information sources, the discussion should at least familiarize you with a broad range of sources that you may consult. It then suggests an approach that you might use in organizing a search for specific types of information. It concludes with sample data searches based on databases available from UNIDO and UNEP.

### Recommended Starting Points

**W**here you first turn to for information should depend on your purpose. You may want to learn more about Cleaner Production. You may want to keep up with the latest news about Cleaner Production. Or you may want to search for detailed information about a special topic.

If you simply want to broaden your understanding of Cleaner Production, we recommend the following books:

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- Schmidheiny, S., *Changing Course: A Global Business Perspective on Development and the Environment* (Cambridge, Massachusetts, MIT Press, 1992).
- Willums, J.O., and U. Goluke, *From Ideas to Action: Business and Sustainable Development* (Oslo, International Environmental Bureau, 1992).
- Smart, B., ed., *Beyond Compliance: A New Industry View of the Environment* (Washington, D.C., World Resources Institute, 1992).
- Winter, G., *Business and the Environment* (Hamburg, McGraw-Hill, 1987).

If you want to keep up to date with the latest developments in Cleaner Production, we recommend that you subscribe to, or at least read regularly, the following periodicals:

- *Environmental Awareness Bulletin*, issued monthly by UNIDO.
- *Cleaner Production*, issued twice a year by UNEP.
- *Industry and Environment*, issued quarterly by UNEP.
- *Pollution Prevention News*, issued monthly by USEPA.
- A WICE newsletter to be issued quarterly.
- *Pollution Prevention Review*, published by Executive Publishers.
- *Journal of Cleaner Production*, published by Butterworth-Heinemann.

If you want to carry out a detailed search, you will first want to think carefully about your information needs. You can then draw on any of the information sources mentioned. In most cases, we suggest that you begin your search by contacting INTIB at the address and telephone numbers listed below.

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## Sources of Information

### United Nations Industrial Development Organization

**O**nce you are ready to begin your information search, you can look to a myriad of sources. One of your first should be UNIDO. You can direct questions to INTIB, the Industrial and Technological Information Bank of UNIDO:

INTIB  
UNIDO  
P.O. Box 300  
A-1400 Vienna  
Austria

Telephone: (43-1) 21131/3705  
Fax: (43-1) 230 7584  
GE QUICK-COMM:  
AAQ0001IB@UNIDO  
EARN/BITNET:  
pkepp@unido1.bitnet

INTIB draws on many sources of information, all of which can be used on your behalf; some of them are available for your use directly in the field.

- The Referral Database on Energy and Environment (REED) of INTIB contains industrial environmental information input by UNIDO staff from, *inter alia*, publications, other specialized databases, conference notifications and directories. REED is used by INTIB staff at Vienna to respond to your questions.
- The Industrial Development Abstracts (IDA) database of INTIB is a major source of information on UNIDO industrialization activities in developing countries. Environment-related projects are included. Much of the work is unique and unpublished elsewhere. The IDA database contains over 22,000 fully indexed abstracts of UNIDO documentation, including major studies and reports, technical assistance reports and proceedings of expert working groups, workshops and seminars. Copies of the reports in the IDA database are available on paper or microfiche. For use in the field, subsets of the database, including search software, are available on floppy disc for IBM-

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compatible PCs. One subset is specifically on UNIDO projects with environmental components.

- INTIB has special arrangements with several commercial databases on industry- and environment-related issues. Subsets of Metals Abstracts (METADEX), Engineered Materials Abstracts and the Materials Business File containing information on Cleaner Production and other environmental issues relating to the metallurgical and plastics/composites industries are available for use in the field. Search software is included. Sample METADEX records are included on the floppy disc accompanying this Learning Unit. Contact INTIB for further information.

INTIB issues monthly the *Environmental Awareness Bulletin*, an informal bulletin highlighting industry-related environmental activities. For information, write to the Editor, *Environmental Awareness Bulletin*, c/o INTIB, UNIDO. The INTIB quarterly newsletter, *INTIB Net*, also contains environment-related news items from time to time.

INTIB has developed an information network of over 80 national and 4 regional focal points in direct contact with INTIB at UNIDO headquarters. These focal points promote the diffusion of industrial and technological information within their own countries or regions. An international referral system is being established whereby queries received by the focal points will be redirected to a wide range of well-targeted sources of industrial and technological information. The sources will respond directly to the requestor. For a list of the focal points, write to INTIB.

To improve the availability of information on clean technology and ecologically sustainable industrial development to small and medium-size industries in developing countries, INTIB has established the Energy and Environment Information System. In participating countries, INTIB will select an institution with proven capabilities in information management and good links with industry to serve as a primary contact point. Other organizations that are in close touch with small and medium-size industries will serve as secondary contact points. INTIB is discussing details with institutions in 24 countries. A list of participating countries can be obtained from INTIB.

UNIDO has prepared a number of publications in the environment area. These include *Proceedings of the Conference on Ecologically Sustainable Industrial Development* (Copenhagen,

1991) and the book *Industry and Environment: A Guide to Sources of Information*. Another UNIDO publication on Cleaner Production of particular interest is *Energy Conservation in Industry, the first in the INTIB Energy and Environment Series*. Contact INTIB for further information.

UNIDO, the World Bank and IE/PAC are jointly developing pollution prevention and abatement guidelines for a number of industrial sectors. The first publications in the series cover the cement, textiles, chlor-alkali, leather tanning, pulp and paper, iron and steel, copper and nickel, aluminium, petroleum refining, pesticides, fertilizers and cane sugar manufacturing sectors; they will become available in early 1994. The target audience for these guidelines is project personnel in investment and development institutions as well as individuals who wish to familiarize themselves with the key environmental aspects of a specific industry sector.

### *Next Steps*

- 1** Read about the UNIDO Energy and Environment Information System, included in the *Reading Excerpts* at the end of this Learning Unit.
- 2** Look over the sample page of the *Environmental Awareness Bulletin*, also included in the *Reading Excerpts*.
- 3** Test your comprehension of the information by answering the questions below. Compare your answers with those suggested.

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## Questions

- 1 What is the main source of information on UNIDO industrialization activities in developing countries?
  
- 2 What does the IDA database contain?
  
- 3 What are some of the barriers facing an information system that targets small and medium-size industries in developing countries?
  
- 4 What is the target group for EEIS?
  
- 5 How will the EEIS project reach out to small and medium-size industries?

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Answers

1. Industrial Development Abstracts (IDA).
2. The IDA database contains over 22,000 abstracts of UNIDO documentation, including major studies and reports, reports resulting from UNIDO technical assistance activities, reports and proceedings of expert working groups, workshops and seminars and publications in series.
3. Small and medium-size industries in developing countries do not want to pay for information, the information available is not relevant to their problems or they lack modern communication equipment.
4. Small and medium-size industries in developing countries.
5. Through a network of secondary contact points (trade associations, chambers of commerce etc.) organized around a primary contact point in the country.

## United Nations Environment Programme

**T**he Industry and Environment Programme Activities Centre (IE/PAC) of UNEP in Paris was created in 1975 to help industry and Governments to incorporate environmental criteria into industrial development. It maintains an on-line information clearinghouse, produces several publications related to Cleaner Production and conducts training activities around the world. For information on all the services, products and publications described below, contact IE/PAC at the address given.

The computerized on-line International Cleaner Production Information Clearinghouse (ICPIC) of IE/PAC contains message centres, bulletins providing the latest news about Cleaner Production worldwide, a calendar of events (conferences, training seminars and workshops), a case-study database with over 600 entries, descriptions of country and corporate Cleaner Production programmes and a bibliographic database holding hundreds of Cleaner Production document abstracts. ICPIC is accessible free-of-charge to anyone by telephone/modem connection. For information on how to access this database, contact IE/PAC at its Paris address. Sample ICPIC records are included on the floppy disc included with this Learning Unit.

IE/PAC publications include the following:

- A quarterly review, *Industry and Environment*, which reports examples of environmentally sound management in industry.
- A biannual newsletter, *Cleaner Production*, which provides news of activities related to Cleaner Production.
- Various technical reports and documents, such as *Climate Change and Energy Efficiency*. Other UNEP reports of interest include *Tanneries and the Environment: A Technical Guide* and *Audit and Reduction Manual for Industrial Emissions and Wastes*. The last two were produced jointly with UNIDO.

IE/PAC training activities related to Cleaner Production include workshops and seminars that are organized at the request of Governments, industry and academia. One of its recent training projects is a Cleaner Production Programme in China, requested by

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the Chinese Environmental Protection Agency and sponsored by the World Bank.

To facilitate the collection and dissemination of information and to provide continuing input on the direction of its Cleaner Production programme, IE/PAC maintains a number of working groups. These include industry working groups for leather tanning, textiles, metal finishing, pulp and paper and biotechnology as well as working groups on data management, education, policies and strategies.

Inquiries may be directed to:

UNEP IE/PAC  
Tour Mirabeau  
39, Quai André Citroën  
F-75739 Paris, Cedex 15  
France

Telephone: (33-1) 44371450  
Fax: (33-1) 40588874

UNEP  
P.O. Box 30552  
K-Nairobi  
Kenya

Telephone: (2542) 621234  
Fax: (2542) 226886

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### *Next Steps*

- 1** Read selections from the brochure *ICPIC*, included in the *Reading Excerpts* at the end of this Learning Unit.
- 2** Look over the sample pages *Industry and Environment* and *Cleaner Production*, also included in the *Reading Excerpts*.
- 3** Test your comprehension of the information by answering the questions below. Compare your answers with those suggested.

## Questions

**1** List some publications of IE/PAC.

**2** Who can request training activities related to Cleaner Production from IE/PAC?

**3** What does ICPIC contain?

*Answers*

- 1. The periodicals Industry and Environment and Cleaner Production and the book Climate Change and Energy Efficiency.*
- 2. Governments, industry and academia.*
- 3. A message centre, bulletins, calendar of events, case studies, programme summaries, on-line bibliography, directory of contacts and topical conferences.*

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## World Industry Council for the Environment

**T**he World Industry Council for the Environment (WICE), which replaces the International Environment Bureau, was created in 1993 at the initiative of the International Chamber of Commerce. It represents the interests of over 90 of the world's leading companies committed to improving environmental policy and dedicated to the principles of sustainable development.

The core of the WICE programme is the activities of its task forces, which bring together academic and corporate experts on themes such as environmental reporting, energy efficiency in industry and technological cooperation.

WICE has two objectives: to promote cost-effective and sound science-based policies and to be a catalyst for change within corporate environmental management.

WICE has close links with Governments and intergovernmental organizations and publicizes business achievements in environmental management.

A free quarterly newsletter will soon be available from WICE. It will contain editorials, position papers, in-depth analyses and research information on environmental topics addressed by WICE task forces.

Inquiries may be directed to:

WICE  
40, cours Albert 1er  
F-75008 Paris  
France

Telephone: (331) 49 53 28 91  
Fax: (331) 49 53 28 80

### *Next Steps*

**I** Look over the sample page of *International Business and Sustainable Development*, published by the International Environment Bureau, the predecessor of WICE, included in the *Reading Excerpts* at the end of this Learning Unit.

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## International Network for Environmental Management Organizations

**T**he International Network for Environmental Management Organizations (INEM) was established in 1991 as a global federation of national and regional non-profit business associations fostering environmental management and sustainable development. It has members and affiliates in 19 countries on four continents.

The *INEM Bulletin*, published quarterly, shares information about INEM affiliate activities and reports on issues of interest to members. It is available free to INEM members and to governmental and intergovernmental organizations.

The INEM environmentalist management book *Business and the Environment* contains extensive check-lists and references to organizations and information sources. It has been published by the European Community in several languages including English, French, German, Mandarin and Portuguese and also in Danish, Swedish, Norwegian, and Russian.

Inquiries may be directed to:

INEM  
Bahnhofstr 36  
22880 Wedel/Holstein  
Germany

Telephone: (49-4103) 84019  
Fax: (49-4103) 13699

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### *Next Steps*

**I** Look over the sample page of the *INEM Bulletin*, included in the *Reading Excerpts* at the end of this Learning Unit.

## **Business Council for Sustainable Development**

**T**he Business Council for Sustainable Development was established in 1989 to present to UNCED a global business perspective on sustainable development. Its report to UNCED, *Changing Course*, published in 1992, contains a number of examples of eco-efficiency and technology cooperation by companies.

The Council is an independent group of leaders of major corporations around the world, representing a broad spectrum of business sectors and balanced between developed and developing countries. Members serve in a personal, not a corporate, capacity.

The Council aims to provide business leadership as a catalyst for change towards sustainable development by working with policy makers to create the conditions business needs to contribute effectively; helping make business a respected partner in policy development and implementation; promoting a clear understanding of sustainable development in the global business community; and encouraging business to develop goals and actions for sustainable development within their current profit/loss criteria and in the context of present/future international agreements, governmental policies and fiscal measures.

The Council's current work programme includes the examination of policy and the development of projects, with the focus on two key concepts: eco-efficiency (i.e. the corporate goal of increasing value added while minimizing resource use and pollution), and technology cooperation (i.e. partnership to transfer clean technologies, along with training and education, from companies that have them to companies that need them).

The Council also proposes to establish an innovative public/private partnership group with the IFC, UNDP and UNEP to facilitate specific eco-efficient projects involving technology cooperation. Through its current policy and project work, the Council is a continuing source of information on Cleaner Production.

Inquiries may be directed to:

BCSD  
Route de l'Aéroport 10  
CH-1210 Geneva  
Switzerland

Telephone: (41-22) 7883202  
Fax: (41-22) 7883211

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## Other International Organizations

**T**he International Register of Potentially Toxic Chemicals (IRPTC) is a cooperative research and information centre of WHO, ILO and UNEP. IRPTC provides a database, a newsletter and many publications that set standards for acceptable exposure to such potentially hazardous chemicals as have been adequately researched (10,000 out of 80,000).

IRPTC  
Case Postale 356  
CH-1219 Châtelaine, Geneva  
Switzerland

Telephone: (41-22) 9799111  
Fax: (41-22) 7973460

WHO has information systems and publications that promote environmental health considerations in economic and development activities. Topics include occupational health, pollution control, water supply, sanitation, environmental planning and rapid assessment of waste by industry.

WHO  
Ave. Appia  
CH-1211 Geneva  
Switzerland

Telephone: (41-22) 7912111  
Fax: (41-22) 7910746

In addition to its many publications, ILO maintains a database on hazardous chemicals used by industry and an information service in its occupational health department.

ILO  
CH-1211 Geneva  
Switzerland

Telephone: (41-22) 7996111  
Fax: (41-22) 798-6111

OECD is active in environmental economics, management and research and has many publications. It has a programme on technology and the environment that focuses on the promotion of cleaner technology.

OECD  
2, rue André Pascal  
F-75775 Paris, Cedex 16  
France

Telephone: (33-1) 45248200  
Fax: (33-1) 45248500

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The Centre for Our Common Future publishes a number of useful works, notably a monthly newsletter, *The Network*, that monitors and reports on follow-up activities to UNCED.

Centre for Our  
Common Future  
Palais Wilson  
52, rue des Paquis  
CH-1201 Geneva  
Switzerland

Telephone: (41-22) 732-7117  
Fax: (41-22) 738-5046

The World Resources Institute has several publications that are relevant to Cleaner Production concerns.

World Resources Institute  
1709 New York Ave. NW  
Washington, D.C. 20006  
United States

Telephone: (202) 638-6300  
Fax: (202) 638-0036

All these organizations normally respond to requests for information by fax, post or telephone.

## International Professional Associations and Selected Commercial Periodicals

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**T**he International Association of Water Pollution Research publishes *Water Research* (monthly), *Water Science and Technology* (monthly), *Water Quality International* (quarterly), *IAWPRC Yearbook Conference Proceedings* (series) and a variety of Association scientific and technical reports. It holds biennial international conferences and sponsors the activities of over 30 specialist working groups.

IAWPRC  
1 Queen Anne's Gate  
London SW1H 9BT  
United Kingdom

Telephone: (44-71) 222-3848  
Fax: (44-71) 222-1811

The International Union of Air Pollution Prevention Associations publishes *IUAPPA Newsletter* (quarterly), *IUAPPA Handbook* (biennial), the book *Clean Air Around the World* and the proceedings of its congresses. It holds triennial international cleaner air congresses as well as regional conferences and maintains an information and advisory service.

IUAPPA  
136 North St  
Brighton BN1 1RG,  
United Kingdom

Telephone: (44-273) 26313  
Fax: (44-273) 735802

The International Association for Clean Technology was founded in 1987 to promote the research and application of cleaner technology and methodology. It has published two books, *Hazardous Waste Management* and *Industrial Risk Management and Clean Technology*, as well as *The International Journal of Clean Technology and Environmental Sciences* (quarterly) and a quarterly newsletter. It also convenes workshops and congresses to demonstrate the technical, environmental and economic aspects of Cleaner Production.

IACT International Secretariat Telephone: (43-1) 56-74-87  
Rechte Wienzeile 29/3 Fax: (43-1) 31-41-82  
A-1040 Vienna  
Austria

The World Federation of Engineering Organizations was founded in 1968 to advance the profession of engineering and to foster cooperation between engineering organizations throughout the world. It publishes a newsletter (semi-annual) and the proceedings of its biennial general assemblies and organizes congresses and seminars on various engineering topics, including environmental engineering.

WFEO  
1-7 Great Georges Street  
London SW1P 3AA  
United Kingdom

Telephone: (44-71) 222-7512  
Fax: (44-71) 222-0812

*Pollution Prevention Review* is published quarterly by Executive Enterprises. It contains articles on pollution prevention submitted by specialists and managers in industry, pollution prevention consultants, members of the research and university communities and employees of concerned state and federal agencies.

Executive Enterprises, Inc. Telephone: (212) 645-7880  
22 West 21st Street Ext. 248  
New York, N.Y. 10010-6990  
United States

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The *Journal of Cleaner Production* is an international journal published in January, April, July, and October by Butterworth-Heinemann. It contains interdisciplinary research papers on practical strategies to eliminate or reduce pollutants at the source.

Butterworth-Heinemann      Telephone: (44 865) 310366  
Linacre House                      Fax: (44 865) 310898  
Jordan Hill  
Oxford, OX2 8DP  
United Kingdom

## Depository Libraries

**N**ational, university and local libraries may have information on Cleaner Production. Many of them throughout the world receive copies of United Nations publications and have an obligation to make them available on request and to respond to inquiries. They can also often search in international databases for specialized information.

Extensive environmental information is also available from Governments, international organizations, sectoral and non-sectoral industry associations, professional associations, universities, trade unions, NGOs and publishers as well as from commercial vendors of databases and information services.

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### *Next Steps*

- 1 Test your comprehension of the information by answering the questions below.
- 2 Compare your answers with those suggested.

## Questions

1 What is INEM?

2 What is the task of the Business Council for Sustainable Development?

3 Do you now know the names of some publications that focus on the prevention of air pollution?

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1 The International Network for Environmental Management is a global federation of national and regional non-profit business associations fostering environmental management and sustainable development

2 The Business Council for Sustainable Development was established to present to UNCED a global business perspective on sustainable development and to stimulate the interest and involvement of the international business community. It is made up of business leaders from developed and developing countries

3 IUAPPA Newsletter (quarterly), IUAPPA Handbook (biennial) and Clean Air Around the World

## United States Environmental Protection Agency

**U**SEPA is one of the few national environmental agencies to operate with a specific legislative mandate to promote pollution prevention. The Pollution Prevention Act of 1990 established as national policy an environmental management hierarchy that sets pollution prevention as the option of first choice. In support of this programme, USEPA actively supports the transfer of technical information on pollution prevention and an extensive pollution prevention research effort.

The Office of Pollution Prevention and Toxics of USEPA, at Washington, D.C., publishes a free monthly newsletter, *Pollution Prevention News*, which describes pollution prevention initiatives throughout the United States. In addition, it published *Pollution Prevention 1991: Progress on Reducing Industrial Pollutants* and *1993 Reference Guide to Pollution Prevention Resources*, an annual guide (portions of the latter are contained in the *Reading Excerpts* at the end of this Learning Unit).

The Pollution Prevention Clearinghouse of USEPA is dedicated to reducing or eliminating industrial pollutants through technology transfer, education and public awareness. It contains technical, policy, programmatic, legislative and financial information on source reduction and recycling efforts in the United States and abroad. It is a free service of USEPA and is accessible by personal computer, telephone hot line or post (see *Reading Excerpts* for information on how to access this service).

The Pollution Prevention Research Branch of USEPA, at Cincinnati, Ohio, supports an extensive research effort. It is publishing a series of industry-specific pollution prevention guidance manuals (13 to date) and environmental research briefs. Every six months it publishes a report on its current projects.

USEPA and many state agencies and local governments in the United States produce fact sheets covering a wide range of topics.

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Inquiries may be directed to:

PPIC  
USEPA  
401 M St. SW, PMA-211A  
Washington, D.C. 20460  
United States

Telephone: (202) 260-1023  
Fax: (202) 260-0178

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### *Next Steps*

- 1** Read the selections from *1993 Reference Guide to Pollution Prevention Resources*, included in the *Reading Excerpts* at the end of this Learning Unit.
  - 2** Look over the sample page of *Pollution Prevention News*, also included in the *Reading Excerpts*.
  - 3** Test your comprehension of the information by answering the questions below.
  - 4** Compare your answers with those suggested.
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### Questions

**1** Which publication provides the best overview of pollution prevention information resources available in the United States?

**2** What is the PPIC?

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3 What are some industry-specific sectors covered by USEPA pollution prevention guidance manuals?

4 What is the name of the USEPA generic waste reduction manual?

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Answers:  
1. 1993 Reference Guide to Pollution Prevention Resources.  
2. The Pollution Prevention Information Clearinghouse (PPIC) is a free, non-regulatory service of USEPA and consists of a repository, a telephone reference and referral service and a computerized information exchange system.  
3. The 13 manuals published to date cover such sectors as auto repair, commercial printing and fabricated metal industry.  
4. Facility Pollution Prevention Guide.

## Additional Suggested Readings



This concludes the study section of Learning Unit 8. For additional readings on sources of information about Cleaner Production, you may refer to the following:

Allaby, M., ed., *Dictionary of the Environment*, 3rd rev. (London, Macmillan Reference Books, 1988).

ILO, *Environmental Management* (Geneva, 1992).

North, Klaus. *Environmental Business Management: An Introduction*, Management Development Series No. 30 (Geneva, International Labour Office, 1992).

Porteous, A., *Dictionary of Environmental Science and Technology* (Milton Keynes, Open University Press, 1991).

UNIDO, *Industry and Environment: A Guide to Sources of Information* (Bollschweil, Germany, Grüb, 1991).

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## Case Studies

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### *Next Steps*

- 1 The *Case Studies* for this Learning Unit consist of sample data searches using the ICPIC and MICRO-METADEX<sup>PLUS</sup> databases both of which are contained on a single IBM-compatible floppy disc.
- 2 Follow the instructions on the following pages and do the exercises.
- 3 Compare your results with those suggested.

### Case Study 1: Cleaner Production Cases from ICPIC

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**T**hese user instructions and exercises are for 16 case studies on Cleaner Production drawn from the ICPIC file of machine-readable information and contained on the floppy disc. As the ICPIC file is not a database but consists essentially of lists of text records, regular database search strategies cannot be used. INTIB has prepared this floppy disc in a simple ASCII format, which can be used with an IBM-compatible PC. As an aid to the user in navigating the text, a small programme has been included to allow searching for text strings.

#### User Instructions

Ensure that you are in the DOS working environment.

Place the disc in the A or B floppy drive.

At the screen prompt (either A:\ or B:\), type **LOOK**, which will present the text file for viewing and press carriage return (CR).

The PgDn and PgUp keys will scroll through the text a screen at a time. The up and down arrow keys will do the same, but only one line at a time.

To look for a string of text, press **F**, which will trigger the command line at the bottom of the screen with the prompt *Find*.

Then type the string (not case-sensitive) that you wish to find, e.g. solvent, and press **CR**. The first line that contains this text string will be highlighted, with the string itself in a more distinctive colour.

To view further occurrences of the string, press **PF3 (F3)**. This can be repeated until the message *Text not found* appears.

Alternatively, return to the top of the file by pressing **Home** to view another term.

At this point, press **CR** to return to the command level.

The help key (**PF1** or **F1**) presents additional features that may be utilized.

Press **ESC** when finished with the file.

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**Note that the text file is structured according to the following format:**

- 1.0 Headline**
- 2.0 SIC/ISIC code**
- 3.0 Name and location of company**
- 4.0 Clean technology category**
- 5.0 Case study summary**
- 6.0 Economics**
- 7.0 Cleaner Production benefits**
- 8.0 Obstacles, problems and constraints**
- 9.0 Date study performed**
- 10.0 Contacts and citation**
- 11.0 Keywords**
- 12.0 Assumptions**
- 13.0 Peer review**

**Keywords**

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## Exercises

The following exercises are intended to show how you can move about in the text file by using simple string searches. Return to the top of the file before starting each exercise by pressing Home.

**1** Are there case studies on electroplating in the sample data set? (Hint: find occurrences of the string **electroplating**.) Result: five case studies.

**2** How many case studies in the sample data set relate to textiles? (Hint: find the string **textile**.) Result: two case studies.

**3** Is chrome waste included in any of the case studies? (Hint: find the string **chrome waste** in any field.) Result: two case studies.

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## Case Study 2: Sample Records from MICRO-METADEX<sup>PLUS</sup>

**T**hese user instructions are for the sample records from MICRO-METADEX<sup>PLUS</sup>, a machine-readable source of technical and business information on recent developments in environmental technology in the fields of metallurgy, plastics and composites. Approximately 50 items on waste minimization procedures relating to plating bath wastes have been selected for this disc by staff of INTIB. The records, including abstracts, have been loaded into Micro-ISIS read and print database application, which can be used with an IBM-compatible PC.

### User instructions

Ensure that you are in the DOS working environment.

Place the disc in the A or B floppy drive.

At the screen prompt (either A:\ or B:\) type **ISIS**.

At the prompt *Please enter your ID*, type **DEMO**.

Choose **S**, which calls the search facilities.

Choose **T** from the search facilities menu, which presents a dictionary of search terms.

At the prompt *Key*, either press **CR**, which starts the dictionary at the beginning, or type any letter or string of letters (e.g. **chrome**), which starts the dictionary at that point.

Select a term by pressing **S**. The term will be highlighted. Additional terms may be chosen by moving the cursor to the term and pressing **\***. This procedure will select an item from the database in which both terms appear.

Type **X** once and the search procedure will be started with a statement of the question posed.

Press **CR** and the question will be run against the database. If there is a result, it can then be displayed. If further dictionary support is required, press **T** to repeat the search formulation process, starting from "at the prompt key..."

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Type **D** to display the results which will appear in short form.

Type **U** to call up different display options. Move the cursor to **JOURN** and press **CR**, followed by **D** again. The search result will be presented in a standard abstract journal format.

To see the second screen of multi-screen entries, press **CR**.

Type **X** until the DOS prompt appears to exit the application.

These instructions give only a quick overview of the information on this demonstration disc. The full application allows a much wider range of search options, including the ability to combine or to specify a relation between several terms (full Boolean logic).

The following access points (indexes) are available to use in searching. Sample questions are provided to allow you to test the application. The database can be searched using prefixes, which indicate the position of a term in the record, or single words, which can appear in several different positions in the record. The prefixes are as follows:

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AF	=	Author affiliation
DA	=	Date of abstract
DP	=	Date of publication
JD	=	Date of journal
JN	=	Name of journal
LA	=	Language of document
MT	=	Main term
NC	=	Name (initials) of author
NM	=	Name (family) of author
SC	=	Subject category
ST	=	Secondary term
ZZ	=	Abstract code

The content of the prefix fields may consist of individual words or strings of words. For example, to search for the term **plating bath wastes** as a main term, the appropriate prefix must be used: **MT=plating bath wastes**. *No spaces should be used before or after the equals sign.*

Alternatively, all three words can be searched separately without using a prefix. For example, search for the terms **plating** or **wastes**. If this option is chosen, you should be prepared to find

the word(s) occurring anywhere in the record, such as in the title of an article or of a meeting, as well as in a prefixed field.

## Exercises

- 1 Do any of the items in the database include mention of cadmium? (Hint: find if the word cadmium occurs in any of the fields indexed in this sample database by typing cadmium after the prompt *Key:* ) Result: six items.
  
- 2 How many items in the sample database are primarily on the topic of copper plating? (Hint: find copper plating used as a main term: *MT=copper plating.*) Result: five items.
  
- 3 Are there any items in the database written by M.F. Szabo? (Hint: search for Szabo as a family name in the author index: *NM=Szabo.*) Result: one item.
  
- 4 Are there any articles in the sample database from the journal *Metal Finishing*? (Hint: search the index under name of journal: *JN=Metal Finishing.*) Result: two items.
  
- 5 Is there any material in the sample database in the German language? (Hint: search in the language index: *LA=German.*) Result: seven items.

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## Review

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### Test



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The following test will help you review the material in this Learning Unit.

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**1** A printed source of environmental information from UNIDO is

- a. INTIB
- b. *Industry and Environment: A Guide to Sources of Information*
- c. REED
- d. ICPIC

**2** The UNIDO information system that supports a network of 80 focal points around the world is operated by

- a. INTIB
- b. IE/PAC
- c. REED
- d. ICPIC

**3** Data on UNIDO's energy and environment-related industrialization activities in developing countries are obtained from UNIDO via

- a. METADEX
- b. Industrial Development Abstracts
- c. Energy Technology Clearinghouse
- d. ICPIC

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- 4 Data on environmental economics are best obtained from
- a. UNIDO
  - b. OECD
  - c. UNDP
  - d. World Industry Council for the Environment

- 5 The name of the UNEP on-line pollution prevention clearing-house is
- a. PPIC
  - b. Awareness and Preparedness for Emergencies at Local Level (APELL)
  - c. ICPIC
  - d. Energy and Environment Information System

- 6 The acronym IE/PAC stands for
- a. Industry and Environment Pollution Action Centre
  - b. Intensive Environmental Preventive Action Control
  - c. Initiatives in Environment Prevent Active Coordination
  - d. Industry and Environment Programme Activity Centre

- 7 A database available from UNIDO that contains information on metallurgy and the environment is
- a. INTIB
  - b. REED
  - c. METADEX
  - d. ICPIC

- 8 A United Nations-sponsored source of data on hazardous chemicals and health is
- a. INTIB
  - b. IRPTC
  - c. International Occupational Safety and Health Information Centre
  - d. REED

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**9** One source of information for setting up a national environmental management association for enterprises is

- a. World Environment Centre
- b. Business Council for Sustainable Development
- c. INEM
- d. WICE

**10** A source for training materials in hazardous waste management is

- a. IE/PAC
- b. INEM
- c. ICC
- d. UNIDO

**11** In a remote area of a developing country, the first United Nations source of industrial environmental information should be

- a. IE/PAC
- b. USEPA
- c. INTIB focal point
- d. UNIDO Environment Coordination Unit

**12** The key problem with getting environmental information is usually

- a. Time
- b. Relevance
- c. Cost
- d. Availability

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9-2 21-11  
0-9 01-9  
0-9 01-9 5-1  
0-9 01-9

## Some Ideas to Think About

Take some time to think about the following questions.

**1** Which of the sources of information described in this Learning Unit are most accessible to you?

**2** Do you have access to a PC with modem?

**3** Does your nearest UNIDO office subscribe to any of the periodicals mentioned?

**4** Do you know of any government offices or libraries that might contain some of the information sources that we have discussed?

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## Reading Excerpts

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### Energy and Environment Information System (EEIS)

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Based on an information sheet in the UNIDO press kit on the Industrial and Technological Information Bank.

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#### The Situation of Developing Countries

**A** recent study commissioned by INTIB assessed the current supply of industrial information to developing countries, with particular emphasis on environmental information, especially for small and medium-scale enterprises (SME).

The study concluded that there are few systems that hold such information, that those that do, do not target SMEs in developing countries, and that other industrial information systems may reach end-users in developing countries, but not in the SME sector.

On the other hand, there are clear indications of growing demand for environment information in the SME sector in developing countries—there is therefore a gap between supply and demand.

Factors contributing to the 'data gap' between data producers and data users in developing countries are related to the location of many of these commercially oriented information systems in the North or in international agencies. The former frequently require full-cost recovery for their systems, thus excluding the SME sector in developing countries, and indeed any concentration on developing countries as such. The latter often have supply-led systems, set up on the basis of available information, rather than information needs, and consequently little thought is given to making this information relevant to end-users.

In particular, the following factors contribute to this information gap:

- Information provided concerns advanced Northern technologies rather than those appropriate to conditions and financial resources in the South;

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- Even where information systems target users in developing countries, these are either large corporations, consultants or researchers at universities or research institutes which may have advanced communication capabilities. The use of advanced technologies and information systems for information transfer does not take into account the limited communication and data handling capabilities in the SME sector in developing countries, and therefore restricts their access.
- SMEs in developing countries rarely place monetary value on information, and are therefore unattractive targets for commercially run systems.
- The commercial hosts that carry the bulk of data bases in the North do not target developing countries. There is, therefore, a widespread lack of experience in small and medium enterprises in developing countries as to the existence of data bases, and methods of accessing them.
- While SMEs in developing countries are generally unaware of the available information resources, data base owners are unaware of the potential usefulness of the information they hold to SMEs in developing countries.
- SMEs recognize the need for environmental and energy information, but are rarely able to articulate this need. Any information system will therefore have an educational as well as an informative task. Few information system operators have attempted to undertake this task.
- Less-developed telecommunications in many developing countries and lower computer usage in SMEs act as physical and psychological barriers to effective information and technology transfer. Few information systems function by means of local contact points and have dissemination methods appropriate to local needs. Even fewer systems have recognized the educational role they must play in creating the market they intend to serve.

Considering the foregoing conclusions and capacity indicated above, UNIDO has a unique chance to contribute to bridging this gap. INTIB has broad experience of global industrial information to transfer to developing countries. The data bases that are currently being assembled and utilized within INTIB, and UNIDO's expertise in disseminating information to developing countries, are valuable foundations for a demand-led system that aims to facilitate information and technology transfer to end-users in developing countries, with a strong emphasis on SMEs. These capabilities can be employed to further not only North-South information transfer, but also South-South and South-North transfer.

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## Programme of Action

**I**NTIB's environmental information strategy for the next few years will specifically address the needs of SMEs in developing countries, while continuing a broader programme of collection and dissemination.

The key issues that the strategy needs to tackle in order to achieve this objective are:

- Development or continuation of products that meet the real demand for such a service, in qualitative and quantitative terms;
- Use of highest-impact mechanisms for distribution, promotion and commercialization of the system;
- Identification of lowest-cost sources of information that yield maximum economies of scale.

The proposed strategy will be based on seven broad elements:

- Target group—identification of an SME clientele with a real need for an environmental information service;
- Product—development of an information product range tailored to SME needs, with varying levels of content and formats;
- Sourcing—continued development of agreements with information sponsors to reduce data collection and preparation costs;
- Distribution—development and maintenance of a decentralized mechanism for information distribution;
- Dissemination mechanisms—application of the most cost-effective methods of information packaging, which will also be those appropriate to SMEs;
- Promotion—sensitization of information intermediaries and end-users, as well as regulatory authorities through a variety of fora and media;
- Pricing and cost recovery—development of a variety of price schemes for the different levels of information, keeping in mind the economic constraints many end-users are likely to encounter.

## Project Status Report

**T**he objective of the Energy and Environment Information System (EIS) project is to test the establishment of sustainable, cost-effective mechanisms for management of industrial environment information targeted to SMEs within developing countries. The EIS project follows a strategy that first identifies a key institution which has a proven capability in information management and an existing information programme with staff and budget as well as the ability to function as an information service to industry in

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the national context. Such a centre is the project's main liaison for the system in that country and is designated the Primary Contact Point (PCP).

It is one of the chief responsibilities of the Primary Contact Point to help build the EIS network within the country by identifying and entering into working arrangements with from ten to fifteen other organizations which have direct association with SMEs. Such organizations could include trade associations, Chambers of Commerce, local administrative offices and environmental consulting companies. These Secondary Contact Points (SCPs) have access to the information products and services made available from UNIDO/INTIR through the PCP and have the responsibility to assist their member SMEs and entrepreneurs to make use of the information, as appropriate. Thus the network is built.

It is envisaged that existing and emerging national institutions which are responsible for the SME sectors will, through this project, develop cost-effective mechanisms for the capacity-building support necessary to address the issues of information provision for environmental awareness and improved industrial response to pollution prevention. As each country's institutional structure varies, country studies are an essential first stage to pre-set terms of reference and contractual obligations, together with the application of a number of criteria for evaluation of the various components of the system. The Energy and Environment Information System project originally provided financial support for pilot surveys in four developing countries. The interest aroused during the project's initial study, however, indicated that a broader geographical coverage was needed in the pilot activities. Currently 20 additional institutions (7 in Latin America, 7 in Africa, 2 in Asia and 4 in Eastern Europe) have expressed interest in undertaking preparatory country surveys at their own cost.

The institutions that have been involved or expressed their interest in this first step of the strategy are from:

#### **Africa**

Botswana  
Ethiopia  
Kenya  
Nigeria  
Sudan  
United Republic of Tanzania  
Zambia  
Zimbabwe

#### **Latin America & Caribbean**

Argentina  
Bolivia  
Brazil  
Cuba  
Ecuador  
Jamaica  
Peru  
Venezuela

#### **Asia & Pacific**

India  
Indonesia  
Thailand

#### **Eastern Europe**

Czech Republic  
Hungary  
Poland  
Russian Federation  
Slovakia

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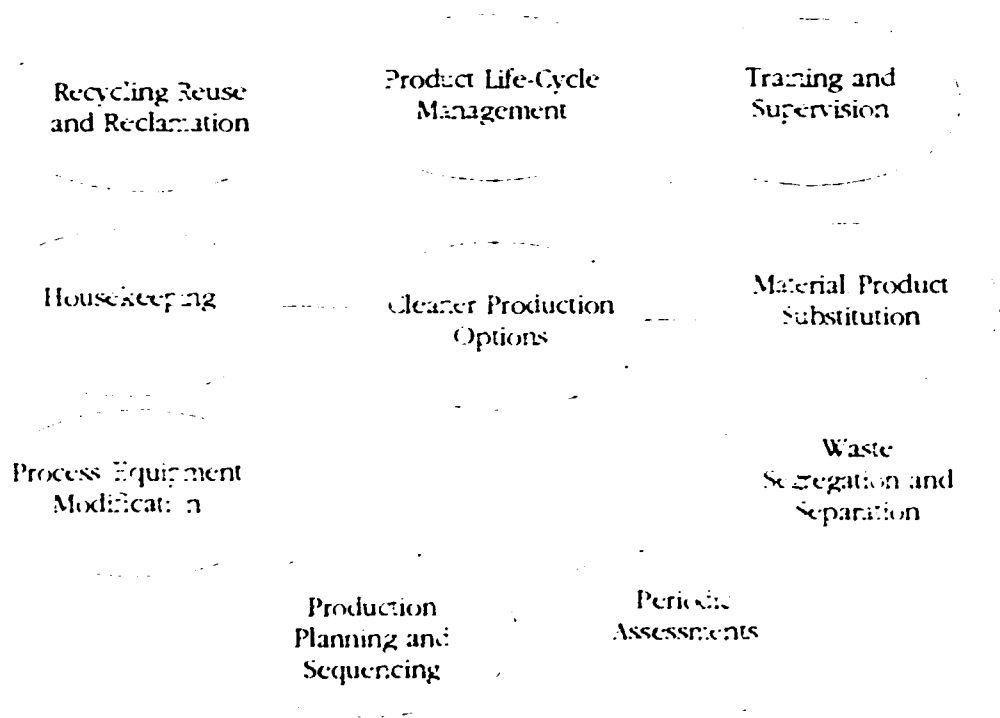
## International Cleaner Production Information Clearinghouse (ICPIC)

Excerpted with permission, from: the UNEP brochure *ICPIC: International Cleaner Production Information Clearinghouse*.

### Cleaner Production

*Reducing or eliminating discharges to the environment through source reduction, recycling, implementation of low and non-waste technologies, and product life-cycle management.*

Cleaner Production saves money and reduces environmental impacts through a variety of options.



UNEP's Industry and Environment Office (IEO) was established in Paris in 1975 to bring industry, governments and non-governmental organizations together to work towards environmentally sound forms of industrial development. To this end, the IEO concentrates on formulating and promoting appropriate policies and strategies. More specifically, it seeks to

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- Define and encourage the incorporation of environmental criteria in industrial development;
- Formulate and facilitate the implementation of principles and procedures to protect the environment;
- Promote the use of safe, low and non-waste technologies; and
- Stimulate the exchange of information and experience on environmentally sound forms of industrial development throughout the world.

IEO's work programme is divided into four principal divisions: the publication of technical guides; technical cooperation; training; and information transfer. IEO has also developed a programme on Awareness and Preparedness for Emergencies at Local Level (APELL) to prevent and to respond to technological accidents.

## **Electronic Information Exchange**

### **ICPIC Contains:**

#### **Message Centre**

An on-line feature allows communication with other network members. You and others may leave information, system updates and questions and answers.

#### **Bulletins**

Latest news and announcements in the international clean technology community.

#### **Calendar of Events**

Listing of upcoming national and international conferences, training seminars and workshops.

#### **Case Studies**

A database of technical and programme case studies highlighting industry and waste involved, economic incentives and cost recovery time.

#### **Programme Summaries**

Descriptions of national and international programmes on Cleaner Production.

#### **On-Line Bibliography**

A bibliography of hundreds of clean technology documents, with information for ordering.

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### **Directory of Contacts**

An automated version of UNEP's Cleaner Production Directory.

### **Topical Conferences**

**I**CPIC contains topical conferences on various issues of Cleaner Production. Operating just like the main computer system, each conference contains a message centre, bulletins, and data bases particular to the conference topic. Conferences currently available include:

#### **PPIC/USA**

Full access to features of the Pollution Prevention Information Clearinghouse (PPIC) run by the U.S. Environmental Protection Agency.

#### **Industry Working Groups**

Information on UNEP/IEO's working groups, including tanning, electroplating, textiles, halogenated solvents etc.

#### **Government Policies Working Group**

Descriptions of government policies and strategies to promote and transfer Cleaner Production processes and products.

#### **Data Harmonization Working Group**

Summaries of activities of UNEP/IEO's data harmonization working group intended to standardize clean technology data systems from member nations.

#### **Cleaner Production Research**

Search by topic area or organization to find the latest progress in programme and process research, including innovative technologies. Research topics include manufacturing options, product longevity, agricultural practices, transportation alternatives, and energy consumption.

#### **Country-Specific Conferences**

Clean technology activities of specific countries.

### **Accessing ICPIIC**

**A**nyone can access the ICPIIC computer system using either an Apple or IBM (or compatible) personal computer, or a dumb terminal equipped with a modem (1200 or 2400 baud) and appropriate communications software.

To access the system directly, set your communications soft to 8 data bits, no parity, and 1 stop bit.

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Using **CrossTalk™** or similar communications software, type in the bold characters at the "Command?" prompt:

- 
- **Number:** 33-1-40-58-88-78\*
  - **Data bits:** 8
  - **Parity:** None
  - **Stop bits:** 1

\*Omit country code and city code if calling from Paris or France.

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Once in ICPIIC, all functions are easily performed using abbreviated commands. For example, type:

- 
- **B**—to look at a Bulletin
  - **R**—to Read a message
  - **E**—to Enter a message
  - **J**—to Join a topical conference
- 

The ICPIIC can be accessed by anyone using direct dial telephone lines for only the cost of a long distance telephone call. In many countries, ICPIIC can be accessed through a local call to your country's packet switch network.

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## 1993 Reference Guide to Pollution Prevention Resources

Excerpted, with permission, from USEPA, *1993 Reference Guide to Pollution Prevention Resources*, EPA/742/B-93-001.

### Introduction

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

—The Pollution Prevention Act of 1990

### Purpose of This Document

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

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

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

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information services (see section on Pollution Prevention Clearinghouses, Associations and Hotlines).

## Updates to This Guide

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

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

Pollution Prevention Information Clearinghouse  
U.S. Environmental Protection Agency, PM-211A  
401 M. Street, SW, RM 2904  
Washington, D.C. 20460  
United States

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

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## Industry-Specific Guides and Fact Sheets

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

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

The current PPIC holdings include assessment publications specific to the industries identified below. PPIC's document development, research, and information-gathering efforts produce a continual influx of material into the clearinghouse. For this reason, the list provided should be regarded as representative rather than exhaustive. Anyone is welcome to visit the U.S. EPA Headquarters library (401 M Street, Washington, D.C., Room M2904) to use this collection and other library resources. Fact sheets and a number of EPA publications are available, free of charge, from the clearinghouse. For other material, interlibrary loan is available.



Industry/Process	SIC Code
Automotive Repair	7535
Automotive Paint	7535
Aviation Facility	4582
Boat Building and Maintenance	3732
Building and Construction	1500
Dairy Plant	2044, 2046
Dry Cleaning	7210
Electroplating	3470
Fiberglass	2220
Fur Dressing/Tanning	3110
General Medical and Surgical Hospitals	8062
Heavy Equipment Maintenance	7699
Manufacturing/Distribution Co.	3900
Metal Finishing	3470
Paint Manufacturing/Formulating	2850
Pesticide Formulating	2870
Pharmaceutical Preparations	2850
Photofinishing/Photoprocessing	7395
Poultry Processing	2016
Precious Metal Platers	3911, 3914
Printed Circuit Board Manufacturing	3672
Printing	2700
Pulp and Paper Products	2600
Research and Education Institutions	8732, 8733
Research Laboratories	7391
Seafood Processing	2091
Textile Manufacturing	2200
Vehicle Maintenance	7500
Vocational Shops	8249
Wood Treating/Preserving	2491

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### Industry-Specific Pollution Prevention Guidance Manuals

The Pollution Prevention Research Branch of EPA's Office of Research and Development, in Cincinnati, OH, is publishing a series of industry-specific pollution prevention guidance manuals. Sixteen manuals in the series have been published for the industrial categories designated in the titles provided below.

The manuals supplement the EPA's generic waste reduction manual entitled, *Facility Prevention Guide*. Both the general manual and the industry-specific guides are available free of charge from CERL: 513-569-7562 or Fax 513-569-7566.

### Guidance Manuals Currently Available

Guides to Pollution Prevention:	Automotive Refinishing Industry	EPA 625/7-91/016
Guides to Pollution Prevention:	Auto Repair Industry	EPA 625/7-91/015
Guides to Pollution Prevention:	The Commercial Printing Industry	EPA 625/7-90/008
Guides to Pollution Prevention:	The Fabricated Metal Industry	EPA 625/7-90/006
Guides to Pollution Prevention:	Fiberglass Reinforced and Composite Plastics	EPA 625/7-91/012
Guides to Pollution Prevention:	Marine Maintenance and Repair	EPA 625/7-91/015
Guides to Pollution Prevention:	Mechanical Equipment Repair Industry	EPA 625/R-92/008
Guides to Pollution Prevention:	Metal Casting and Heat Treating Industry	EPA 625/R-92/008
Guides to Pollution Prevention:	Metal Finishing Industry	EPA 625/R-92/011
Guides to Pollution Prevention:	The Paint Manufacturing Industry	EPA 625/7-90/005
Guides to Pollution Prevention:	The Pesticide Formulating Industry	EPA 625/7-90/004
Guides to Pollution Prevention:	Pharmaceutical Preparation	EPA 625/7-91/017
Guides to Pollution Prevention:	Photoprocessing Industry	EPA 625/7-91/012
Guides to Pollution Prevention:	The Printed Circuit Board Manufacturing Industry	EPA 625/7-90/002
Guides to Pollution Prevention:	Research/Educational Institutions	EPA 625/7-90/010
Guides to Pollution Prevention:	Selected Hospital Waste Streams	EPA 625/7-90/009

*Note: Additional guidance manuals on Thermal Metal Working and Municipal Pretreatment Programs are scheduled for release in 1993.*

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### The Following Volumes are Available

<i>Source Reduction of Halogenated Solvents:</i>	Summary Report
<i>Source Reduction of Halogenated Solvents:</i>	Lifecycle Inventory and Tradeoff Analysis
<i>Source Reduction of Halogenated Solvents:</i>	Adhesives
<i>Source Reduction of Halogenated Solvents:</i>	Aerosols
<i>Source Reduction of Halogenated Solvents:</i>	Chemical Intermediates
<i>Source Reduction of Halogenated Solvents:</i>	Dry Cleaning of Fabrics
<i>Source Reduction of Halogenated Solvents:</i>	Electronic Products
<i>Source Reduction of Halogenated Solvents:</i>	Flexible Foam
<i>Source Reduction of Halogenated Solvents:</i>	Paint Stripping
<i>Source Reduction of Halogenated Solvents:</i>	Parts Cleaning
<i>Source Reduction of Halogenated Solvents:</i>	Pharmaceuticals
<i>Source Reduction of Halogenated Solvents:</i>	Textiles

The Source Reduction Research Partnership (SRRP) has published a report entitled *Potential for Source Reduction and Recycling of Halogenated Solvents*. This report is a result of a five-year collaborative effort between the Environmental Defense Fund (EDF) and the Metropolitan Water District of Southern California. The report consists of 12 separate volumes: a comprehensive summary volume, a separate lifecycle inventory and tradeoff analysis, and ten industry-specific technical support reports. The objectives of the SRRP study include a survey and evaluation of existing and potential techniques for reducing the generation of halogenated solvent wastes, and thus their potential release into the environment, across a wide range of the industrial users of these solvents.

Each of the industry-specific volumes begins with a description of the industry and processes where halogenated solvents are used. Sources and causes of releases are described and regulatory regimes discussed for waste streams of concern. Subsequent sections focus on source reduction opportunities through chemical substitution, process modification, product substitution and recovery/reuse.

Each volume is \$10 and can be ordered from:

Environmental Defense Fund  
Rockridge Market Hall  
5655 College Avenue  
Oakland, California 94618  
United States

Telephone: 510-658-8008  
Fax: 510-658-0630

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## Fact Sheets

The fact sheets listed below contain overviews, tips, and/or guidelines for pollution prevention. Some provide only general information or advice on how to set up programs, while others identify pollution prevention opportunities for specific industries, processes, or materials. EPA, state agencies, and local governments produced these fact sheets. In many cases, multiple sources have published fact sheets on a particular topic. Fact sheets on the topic areas listed below are available from the Pollution Prevention Information Clearinghouse. *Orders are limited to 10 items per request.*

### EPA Pollution Prevention Fact Sheets

ACE: Agriculture in Concert with the Environment  
 Design for the Environment: Chemical Design Project  
 Design for the Environment: Cleaner Technology for a Safer Future  
 Design for the Environment: Dry Cleaning Project  
 Design for the Environment: Printing Project  
 EPA's 33/50 Program  
 EPA's 33/50 Program: Forging an Alliance for Pollution Prevention  
 EPA's Pollution Prevention Enforcement Settlement Strategy  
 EPA's Pollution Prevention Incentives for States  
 EPA's Pollution Prevention Strategy  
 Guides to Pollution Prevention  
 Local Governments and Pollution Prevention  
 National Pollution Prevention Center for Higher Education  
 National Pollution Prevention Environmental Education Project  
 New Form R Reporting Requirements  
 Pollution Prevention Act of 1990  
 Pollution Prevention Grant Programs  
 Pollution Prevention Information Clearinghouse  
 Preventing Pollution Through Efficient Water Use  
 Pollution Prevention Training and Education  
 Recent Publications  
 Setting up a Pollution Prevention Program  
 Source Reduction Review Project  
 You Can Make a Difference

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### Fact Sheet Topic Areas

General Pollution Prevention Information	Electroplating
Aerospace	Local Government—policies of and guides for Lumber, Wood Products and Furniture
Automotive Repair, Maintenance, Salvage Yards, Painting, Radiators	Paint
Facility Audit Checklists	Paper
<i>Chemical Manufacturing</i>	Pesticides
<i>Cleaning</i>	Petroleum Refining—Fossil Fuel for Electric Power Generation and Oil Cleanup
<i>Coating/Painting</i>	Plastics and Fiberglass
<i>Dry Cleaning</i>	Primary Metal Industries—Metal Finishing, Manufacturing, Machine Toolers, Metal Recovery
<i>Formulators</i>	Printing, Publishing, and Photoprocessing/Recycling and Recycling Markets
<i>Machining</i>	Solvents
<i>Metal Industry</i>	Steel and Foundry
<i>Operating Procedures</i>	Textiles - Mills, Manufacturing
<i>Petroleum Industry</i>	Waste Water Treatment
<i>Photoprocessing</i>	
<i>Printed Circuit Board Industry</i>	
<i>Radiator Repair</i>	
Chemicals	
Circuit Boards	
Coal Mining	
Cooling Towers	
Dry Cleaning	

## Clearinghouses and Associations

### Pollution Prevention Information Clearinghouse

The Pollution Prevention Information Clearinghouse (PPIC) is dedicated to reducing or eliminating industrial pollutants through technology transfer, education, and public awareness. It is a free, nonregulatory service of the U.S. EPA, and consists of: a repository, a telephone reference and referral service and a computerized information exchange system.

The repository of the PPIC is a hard copy reference library, housed at the U.S. EPA Headquarters Library, containing the most current pollution prevention information. The repository includes training materials, conference proceedings, journals, and Federal and State government publications. The repository can be visited at the Headquarters Library, Room M2904 (401 M. Street, SW, Washington, D.C.). For use outside the Washington, D.C. area, the Library maintains cooperative agreements with many academic, public, and special libraries to borrow or lend books, journals, and other research materials through interlibrary loan. Abstracts and titles of holdings can be viewed by accessing PPIC (see below).

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The Clearinghouse distributes selected EPA documents and fact sheets on pollution prevention free of charge. For a current distribution list call, fax, or mail a request to the PPIC (see below).

Telephone service is available to answer or refer questions on pollution prevention or the PPIC and take orders for documents distributed by the PPIC.

Pollution Prevention	Phone: 202-260-1023
Information Clearinghouse	Fax: 202-260-0178
Environmental Protection Agency, PM 211-A	
401 M Street, SW	
Washington, D.C. 20460	
United States	

### **Pollution Prevention Information Exchange System (PIES)**

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.

Anyone can access PIES using either an IBM PC (or compatible), Apple, or a dumb terminal equipped with a modem (1200 or 2400 baud), and appropriate communications software. PIES is accessible through a regular telephone call, the SprintNet<sup>SM</sup> network and the EPA x.25 wide area network (for EPA employees only). The following communications software settings are required if you are calling PIES on a regular telephone line:

Phone Number: 703-506-1025  
 Speed: 1200 or 2400  
 Data Bits: 8  
 Parity: None  
 Stop Bits: 1

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

A short, 2 page, "PIES Quick Reference Guide" was written to help new users log-on to and use the system. This guide can be requested by calling the PIES technical support office. A PIES User Guide (version 2.1, Nov. 1992) is available and may be obtained free of charge by leaving a message on the system addressed to 'Sysop', or by writing or calling the Clearinghouse.

Phone: 703-821-4800  
Fax: 703-821-4775

Contact the PIES Technical Support Office for information on how government employees can access PIES toll-free.

### **SprintNet<sup>SM</sup>**

SprintNet<sup>SM</sup> is a data network subscription service that enables you 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. To access PIES through SprintNet<sup>SM</sup> you must first obtain a SprintNet<sup>SM</sup> account. If you already subscribe to this service, dial your local SprintNet<sup>SM</sup> access number. At the © prompt, type: c 202561311 (your SprintNet<sup>SM</sup> account number) (your personal SprintNet<sup>SM</sup> password to access the PIES). If you would like to receive information about how to subscribe to SprintNet<sup>SM</sup>, contact the PIES Technical Support Office. (Note: SprintNet<sup>SM</sup> is not affiliated with the U.S. EPA or the PPIC).

### **Center for Environmental Research Information (CERI)**

CERI is the focal point for the exchange of scientific and technical environmental information produced by EPA. It supports the activities of the Office of Research and Development (ORD), its laboratories, and associated programs nationwide. CERI 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.

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