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PRTR IMPLEMENTATION: MEMBER COUNTRY PROGRESS

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EXECUTIVE SUMMARY

Introduction

In recognition of the value of integrated environmental data[1] on pollutants released by source and the importance of such data for environmental management, the Council adopted a Recommendation on Implementing Pollutant Release and Transfer Registers [C(96) 41/FINAL – see Annex 1]. The Council Act calls on Member countries to take steps to develop and make publicly available a Pollutant Release and Transfer Register (PRTR) system, using as a basis the guiding principles to the Act and information set forth in the OECD's *Guidance Manual for Governments* on PRTR (OCDE/GD (96) 32).

Section II, (1) of the PRTR Council Act instructs the Environmental Policy Committee to review actions taken by Member countries to implement a PRTR and report to the Council three years from enactment and periodically thereafter. ***The following report, which summarises actions taken by Member countries to implement a Pollutant Release and Transfer Register, provides background for a separate report which has been provided to Council [C(2000)134].***

Background

A PRTR, as defined in the *Guidance Manual for Governments*, is an inventory of pollutants released to air, water and soil, and waste transferred off-site for treatment and/or disposal. Facilities that release or transfer one or more of the chemicals listed in the government inventory, report periodically – usually annually – how much of each chemical was released or transferred and to which environmental media. Further information about the nature of a PRTR can be found in the Guidance Manual.

In parallel with this activity, the Secretariat, in 2000, will produce a technical report highlighting characteristics of selected Member country PRTR systems. This work responds to a request from participants at the 1998 Tokyo conference on PRTRs. (This conference was the largest and most significant gathering of PRTR experts since the Earth Summit in 1992, and it resulted in a blueprint for future international action to enhance and support PRTR implementation.) The report will further analyse the different national systems and will discuss how a variety of national goals can drive the design of a PRTR and its operation. It will also serve as a reference for countries developing, or considering the development of, PRTRs.

1 . "Integrated" refers to data collected from all environmental media: air, water and soil.

Information Collection

To collect the information for the review of implementation of the PRTR Council Act, a questionnaire was distributed to Member countries in February 1999. Nineteen Member countries[2] and the Slovak Republic responded.

Summary of Activities in Member Countries

Since 1996, when the Council Recommendation was adopted, the number of Member countries with operating PRTR systems had more than doubled. Eight Member countries have now implemented a PRTR, and eight others are developing a system. Table 1 (see page 7), which provides an overview of the state of Member country programmes as of June, 1999, illustrates the range of PRTR activities among OECD countries. As made clear by the responses to the questionnaire, Member countries adhered to most of the guiding principles in the annex to the Recommendation when they developed or modified their systems. Most countries actively used the information found in the *Guidance Manual for Governments* in developing their PRTR. The Netherlands and the United Kingdom, through their participation in the OECD process to develop the Guidance Manual, identified key modifications that could be made to their pollution inventory systems, which were in operation before 1996. Both countries restructured their systems in accordance with the guiding principles.

Within the OECD context, Member countries with operating PRTR systems, as well as those with systems under development, have actively participated in international PRTR activities. Countries with operating PRTRs have helped both Member and non-member countries develop systems by sharing lessons learned, participating in workshops and conferences and welcoming visitors from other nations with whom they shared information about the form and structure of their PRTRs. Such actions have provided a key impetus to PRTR proliferation and have greatly facilitated the efforts of countries wishing to establish their own systems.

Conclusion

Most Member countries have made marked progress in adopting PRTR systems, although some have yet to begin. Despite this progress, for those systems in operation or under development, certain aspects could be improved, such as: i) the extent to which PRTRs are used to help Member countries better monitor progress and performance of environmental policies; ii) the inclusion of information on wastes transferred off-site for treatment and/or disposal; iii) the integration of data from all environmental media (air, water and soil); iv) the active dissemination of PRTR source-specific data to the public; and v) the extent to which data are used to identify and assess possible risks to humans and the environment. A few countries, such as Australia, are reviewing issues concerning the addition of transfers and other design aspects of their programme to create a system aligned more closely with the guiding principles annexed to the Council Act.

As more and more countries develop PRTRs, governments may wish to place more emphasis on sharing and comparing data, which is a basic premise set forth in the Council Act and Principle 12 of its Annex. Currently the sharing and comparison of PRTR data among countries is quite limited: Canada and the United States have begun to share and jointly publish data from their PRTR systems, and the European Pollutant Emission Register will foster data sharing and comparison among EU countries. More attention

2 . Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, Hungary, Ireland, Italy, Japan, Korea, Mexico, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom and the United States.

to this activity at OECD level could enhance government efforts towards meeting shared environmental goals and international commitments, and help further efforts towards sustainable development.

The Council Act recommends that Member country progress in implementing the Act be reviewed three years from the date of the Act and *periodically thereafter*. Given the developmental stage of many Member country programmes, it might be useful to take stock of the progress of Member countries in 2004 and report the results to EPOC.

Table 1. Summary of Member Country Activity

This chart is based on responses made by governments to the OECD PRTR questionnaire.
Operating systems as of June 1999 are highlighted in gray.

	First year of data collection	Environmental media covered	Mandatory or voluntary system	Number of listed chemicals	Transfers offsite included	Reporting of public facilities	Diffuse sources included	Report cycle	Public Dissemination of full (raw) data	Public Dissemination of aggregated data sets	Pilot Study	Consultation with affected and interested parties on design	Site specific reporting
Australia	1998	A,W,L	Mandatory	90	No	Yes	Yes	Annual	Yes	Yes	Yes	Yes	Yes
Austria[1]	N/A												
Belgium Fl. (Air)	1993	Air	Mandatory[2]	63		No	Yes	Annual	No	Yes	Yes	Yes	Yes
Belgium Fl. (Water)	1993	Water	Mandatory	162	Yes	No	No[3]	Annual	No	Yes	No	No	Yes
Canada	1993	A,W,L	Mandatory	245	Yes	Yes	Yes	Annual	Yes	Yes	Yes	Yes	Yes
Czech Republic	N/A	A,W,L	Mandatory	N/A	Yes	Yes	No	N/A	No	Yes	Yes	Yes	Yes
Denmark	1989	Water	Mandatory	300	Yes	Yes	No	Annual	Yes	Yes	Yes	Yes	Yes
Finland	1988	A,W,L	Mandatory	50	No	Yes	No	Annual	No	Yes	Yes	No	Yes
Hungary	N/A	A,W,L	Mandatory	200-250	Yes	N/A	No	N/A	N/A	N/A	Planned	Yes	Yes
Ireland	1995	A,W,L	Mandatory	PER list[4]	Yes	Yes	No	Annual	Yes	Yes	No	Yes	Yes
Italy	1995	Land	Mandatory		Yes	Yes	No	Annual	Yes	Yes	Yes	Yes	Yes
Japan	2001	A,W,L	Mandatory	to be determined	Yes	Yes[7]	Yes	Annual	No[8]	Yes	Yes	Yes	Yes
Korea	1999	A,W,L	Mandatory	80	Yes	Yes	Yes	Annual	Yes	Yes	Yes	Yes	Yes
Mexico	1997	A,W,L	Both	191	Yes	Yes	No	Annual	No	Yes	Yes	Yes	Yes
Netherlands	1976[7]	A,W,L	Mandatory	180	Yes	Yes	Yes	Annual	Yes	Yes	Yes	Yes	Yes
Norway	1992	A,W,L	Mandatory	250	Yes	Yes	Yes	Annual	No[2]	Yes	No	No	Yes
Slovak Republic	1998	A,W	Both	200	Yes	Yes	No	Annual	Yes	Yes	Yes	Yes	Yes
Sweden	N/A	A,W,L	Mandatory	N/A	N/A	N/A	Yes	N/A	N/A	N/A	Yes	Yes	Yes
Switzerland	N/A	A,W,L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes	N/A
United Kingdom	1991[9]	A,W,L	Mandatory	183	No	Yes	Yes	Annual	Yes	Yes	No	Yes	Yes
United States	1987	A,W,L	Mandatory	643	Yes	Yes	No	Annual	Yes	Yes	No	Yes	Yes

A,W,L = Air, Water, Land
N/A = Not available or not answered
1. No PRTR or plans to develop a PRTR at this time
2. Started in 1980 as voluntary; since 1997, it is mandatory
3. Waste Register
4. Available through Republic of Ireland EPA, P.O. Box 300, Johnstown Castle Estate, Co. Wexford, Ireland
5. Planned
6. To be provided when requested
7. 1999 for new system
8. In 2000, data will be available on Internet
9. 1998 for new system

PRTR IMPLEMENTATION: MEMBER COUNTRY PROGRESS

I. Introduction

The OECD began work on Pollutant Release and Transfer Registers (PRTRs) in 1993, as a follow-up to the United Nations Conference on Environment and Development (UNCED). Member countries, along with UN organisations involved in implementing Chapter 19 of Agenda 21, asked the Secretariat to prepare a guidance manual for use by governments that were considering establishing a PRTR. In 1995, only a few OECD countries had PRTRs or were considering developing them. The *PRTR Guidance Manual for Governments*[3] [OECD/GD(96)32)] was published in 1996, the same month that the Council enacted the Recommendation on Implementing Pollutant Release and Transfer Registers (Annex 1 contains a copy of the Act). This Council Act recommends that Member countries implement a PRTR system. It instructs the Environmental Policy Committee to review progress after three years and report to the Council[4]. This report has been prepared in response to this instruction.

A. Context

To collect information on Member country PRTR activities, the Secretariat, in consultation with Member governments, developed a questionnaire requesting information about the status and progress of Member country activities to implement the Council Act. The questionnaire was distributed to Member countries in February 1999. Nineteen Member countries responded, along with the Slovak Republic which requested the opportunity to report on its activities. This report is based on the responses and covers activities from March, 1996 to June, 1999.

The report is divided into five sections. Section I provides contextual and background information on the OECD's PRTR programme and Council Act. Section II describes steps taken by countries to develop or modify PRTRs. Section III summarises the degree to which respondents have followed the 14 principles annexed to the Council Act. Section IV contains the conclusion and Section V comprises the annexes to the report.

The Secretariat, as a parallel activity, will produce a technical report in 2000, highlighting specific attributes or characteristics of selected Member country PRTR systems. This work was initiated in response to a request from participants at a major PRTR conference held in Tokyo in 1998. It will provide

3. The Manual provides comprehensive guidance on establishing a PRTR system. It does not prescribe a specific course of action; rather, it describes various options for developing an effective system tailored to domestic needs.

4. Section II, (1) of the Recommendation instructs the Environment Policy Committee "to review actions undertaken by Member countries and to report to Council three years from the date of this Recommendation and periodically thereafter concerning progress".

further analysis of the various national systems and will serve as an additional guide for countries developing, or considering the development of, PRTRs.

B. Background

UNCED's Agenda 21, Chapter 19, calls on governments to implement and improve databases concerning chemicals, including emission inventories, with the co-operation of industry and the public. It further calls for industrial firms to provide data on substances they produce, particularly those needed for the assessment of potential risks to human health and the environment. As stated in Chapter 19, these data should be made available to national authorities, international bodies and other interested parties involved in hazard and risk assessment. Among the types of data referred to are those concerning emissions to air, water and soil, as well as transfers of waste off-site for treatment and/or disposal. A PRTR brings these data together in one system.

Reflecting the strong support of Member countries for the PRTR concept, Environment Ministers at the 1996 Environment Policy Committee meeting at the Ministerial level endorsed a Council Act on Implementing PRTRs, which the Council subsequently enacted. It recommends that each Member country take steps to establish, as appropriate, a PRTR system and make the results publicly available, using as a basis the guiding principles found in the annex to the Recommendation as well as information in the *Guidance Manual for Governments.*

C. Pollutant Release and Transfer Registers

Definition

A PRTR is an inventory of pollutants released to air, water and soil, and of waste transferred off-site for treatment and/or disposal. Facilities releasing one or more of the chemicals listed report periodically – usually annually – on what was released, how much, and to which environmental media.

Objective

The main objective of a PRTR is to collect and collate data on releases, by source, of potentially harmful chemicals to air, water and soil, and of wastes transferred off-site. It gathers in one place data that are critical for pollution prevention and chemical management programmes. With this information, governments can set priorities for reducing, or even eliminating, those releases that are potentially the most damaging.

National system

The characteristics of a PRTR vary depending on a country's needs, conditions, environmental objectives and national priorities. The systems in operation today are based on differing goals and objectives, so their design and operation differ. One size or design does not fit all; countries, cultures and conditions vary. A PRTR adapted to national environmental priorities provides a means of tracking the generation, release and fate of pollutants over time**.**

Basic characteristics

Although PRTRs are designed to be country-specific, certain characteristics are common to all systems and they form the backbone of a system. These include:

- a list of potentially hazardous chemicals for chemical-specific reporting;
- multi-media or integrated reporting of releases and transfers (i.e. to air, water and land);
- reporting of data by source;
- periodic (usually annual) reporting;
- availability of data and information (generally facility-specific) to the public.

II. Summary of Actions by Member Countries to Implement the Council Act

A. PRTRs in Operation

When the Council Act on PRTRs was adopted in February 1996, the United States and Canada had PRTR systems in operation that conformed to the guiding principles, while Ireland, Norway, the Netherlands and the United Kingdom had systems under development or were modifying their integrated reporting systems to be more like a PRTR as defined in the Council Act and guidance manual. Australia and Mexico have since developed and begun operating a PRTR.

BOX I

US Toxics Release Inventory

The US was the first country to develop what people now call a PRTR. Under their system, which began in 1987, release and transfer data from all environmental media are collected annually on a list of priority chemicals by source. These data are then widely distributed to the public to provide them with information about their local environment. The US TRI is a prime example of how PRTR systems evolve. In the 12 years since this system began, over 300 new chemicals have been added (making a total of 643), as well as additional industrial sectors. Currently, the US Environmental Protection Agency has proposed the addition of several persistent bio-accumulating chemicals and lowering the threshold for reporting to capture these potentially toxic releases and transfers.

B. PRTRs Under Development

OECD countries in the process of developing PRTR systems are Belgium, the Czech Republic, Denmark, Finland, Hungary, Italy, Japan, Korea and Sweden. In addition, the European Union is designing such a system[5] as is the Slovak Republic, an observer to EPOC and the Joint Meeting. These systems, which are all based on mandatory reporting requirements, are in various stages of development.

5. The European Pollutant Emission Register, when implemented, could provide a good basis for EU countries to build complete PRTRs (i.e. one that covers all environmental media and transfers, etc.). The current proposal includes only air and water releases.

Some countries, such as Japan, have taken rapid action to establish a PRTR. Within just a few years, Japan had carried out a pilot study and passed a law to establish a PRTR. Regulations to implement the law, now under development, will include the list of substances, reporting industries and methods for information dissemination. Japan's first PRTR report will be published in 2002 for releases and transfers made in 2001.

Similarly, the Czech Republic, which started in 1994 by conducting a PRTR pilot study with the United Nations Institute for Training and Research, has made great strides. It is preparing a PRTR law that will be presented to the legislature in 2000. Once the law is in place, key features of the system will be based on the results of past pilot studies and recommendations from an intersectoral PRTR committee.

In 1997-98, Korea carried out a pilot study to identify any possible issues or problems in the design of its PRTR system. As a result of this study, the government set guidelines for reporting industries. Korea's Ministry of Environment expects to have its system fully operational in 2000.

The Swedish Environmental Protection Agency has been given the task of developing a PRTR system to collect data on emissions of hazardous substances. A proposed PRTR framework was to be submitted for government review by the end of 1999.

Hungary expects to propose a regulation on supplying pollutant data in 2000. The National Committee of Environment has consulted with several industry sectors and stakeholder groups about establishing an integrated register. Hungary expects to combine chemical lists from existing legislation and add chemicals of priority concern, such as persistent bio-accumulators. The first reporting year would be 2001.

In Belgium, each of the three regions has its own integrated data reporting systems for air and water releases. Those of Flanders and Wallonia are more developed than that of the Brussels region. The idea of creating a co-ordinated national system is being considered.

The European Union is developing the European Pollutant Emission Register under the Integrated Pollution Prevention and Control Directive. The first reporting year will be 2001. Transfers will not be included initially, but are expected to be taken into consideration in the future. The EU has also embarked on a project to determine ways to integrate all the disparate environmental reporting systems that have developed in Europe.

For Denmark, Finland and Italy, creating a PRTR would mean integrating and modifying existing emission and waste reporting programmes.

C. Other Activities

Switzerland has carried out a pilot study to identify needs and special conditions for a PRTR system. Following a recent seminar with stakeholders, the Swiss Agency for the Environment, Forests and Landscape (SAEFL) will propose a new pilot study in 2000 to collect more information and involve additional industrial sectors, as the first study involved only the chemical industry.

III. Concordance with Guiding Principles

Most Member countries have adhered to the 14 principles annexed to the Council Recommendation in developing or modifying their systems. For instance, Australia and Canada made great efforts to include affected and interested parties in the development of their systems [**Principles 3 and 10**]. Australia spent nearly two-and-a-half years in consultations with stakeholders – holding town meetings, publicising

information and forming a consultation committee of affected and interested parties. Similarly, Canada developed its system with advice from a National Co-ordinating Task Force, which included all stakeholder groups. In 1998-99, proposed modifications to the Canadian system, such as the addition and deletion of chemicals, were also presented to a task force of affected and interested parties for advice and comment.

In accordance with **Principle 1**, most Member country PRTR programmes provide data to the public by source, or will do so as part of their plans to phase in their systems. Mexico and Japan will collect data by source but release it to the public on a more regional or county basis. All operating PRTR systems collate data released to air, water and land. However, only Canada, the United States, Ireland, Mexico and the Netherlands (in 2000) collect data on waste transfers off-site for treatment and/or disposal[6]. The Czech Republic, Hungary, Japan and Korea expect to include reports on waste transfers off-site in their PRTRs.

Principle 2 states that the PRTR data should be used to promote prevention of pollution at source, e.g. by encouraging use of cleaner technologies. National governments might use PRTR data to evaluate the progress of environmental policies and assess the extent to which national environmental goals have been achieved. Most countries use the data to promote pollution prevention and to help better manage their environmental programmes. For example, the Netherlands developed its original emission inventory in the 1970s as a tool for monitoring environmental policy performance. The United States uses its PRTR to promote source reduction and Japan plans to use its system to promote voluntary chemical management by industry and to monitor performance of existing policy. Common PRTR system goals are to: prevent pollution; inform the public about chemical releases (community right to know); monitor environmental policy performance; and support targeted regulatory initiatives, waste minimisation and cleaner production.

Principle 3 states that governments should co-operate with affected and interested parties to develop a set of goals and objectives for the system and to estimate its potential benefits and costs to reporting firms, government and society as a whole. Most governments developing PRTRs have consulted with interested and affected parties on such goals, benefits and costs. For example, Mexico established a national stakeholder group to help set goals, review benefits and select chemicals for the list. Australia set up a consultation group (as did Canada) to obtain input from all stakeholders on the goals, benefits and costs. To obtain stakeholder input concerning proposed system modifications, the United Kingdom held public meetings and consultations.

Member countries with an operating PRTR or with one under development have created or will create a list of chemicals subject to reporting by industry [**Principle 4**]. A variety of techniques were used to develop these lists. For example, Australia formed an independent Technical Advisory Panel to determine the methodology for evaluating substances for inclusion. Other countries, such as Korea, selected those chemicals that were regulated and deemed as toxic or under investigation. The Netherlands chose a combination of national priority substances under current laws and ordinances and those subject to an international obligation for which reporting was required. As part of the package of changes to the United Kingdom system, a list of chemicals was developed that includes substances released under a regulated Integrated Pollution Control (IPC) permitted process. Hungary will use chemicals noted in lists annexed to existing regulations. Some countries, such as Canada and the Czech Republic, have based their list on one developed by another country, adapting it to reflect substances in commerce nationally.

All countries with an operating PRTR require not only private sources to report, but also public ones [**Principle 5**]. **Principle 6** states that *to reduce duplicative reporting, PRTR systems should be integrated to the degree practicable with existing information sources such as licences or operating permits.*

6 . While several countries noted that they have waste registers, these are separate, whereas a PRTR is an integrated system.

Norway, Ireland and the United Kingdom have developed systems that integrate their PRTRs with operating permits or licence procedures.

Principle 7 recommends that countries consider both voluntary and mandatory reporting when designing their systems. All systems in operation and under development mandate reporting, or will do so. In some instances, countries, such as Mexico, have developed a combination system with mandatory reporting requirements for a limited number of chemical substances alongside a voluntary reporting system for a larger number of substances[7].

The policy goals of the Netherlands and Australia led them to include both diffuse and point sources within their systems [**Principle 8**]. Both countries indicated that the inclusion of diffuse sources gave a more complete picture of pollutants released to the environment, along with their sources, and that this information provides them with a better basis for policy review. Several other countries, including Korea and Mexico, are considering the inclusion of diffuse sources in their PRTRs.

Making chemical release and transfer data accessible to the public is a prime objective of a PRTR, and almost all countries with systems in operation regularly release data to the public [**Principle 9**]. All countries with systems under development intend to follow suit. The Internet appears to be the favoured mechanism for publicising the data, but many countries also disseminate summary reports of the data collected, along with other background information, in hard copy[8]. The United States has the most extensive dissemination system. Data, as reported by facilities, are placed on the Internet in a variety of web sites, and are also incorporated into a summary report and distributed to the news media, local communities, universities and non-governmental organisations. Comprehensive sets of data are available on CD-ROM and diskette, which can be obtained at public libraries and public institutions, or directly by post. State fact sheets are created to provide the public with information on a more local scale. Other countries, including Ireland, the Netherlands, Norway and the United Kingdom, plan to put facility-specific data on the Internet.

Principle 10 states that PRTR systems should allow for mid-course evaluations and have the flexibility to be modified as needs change. All systems in operation have in some way been adjusted or modified, or there are plans to do so. For example, Canada and the United States have added new chemicals since the systems were first implemented (and they intend to add others, such as persistent bio-accumulators), while the Netherlands has reduced the number of chemicals reported from nearly 900 to about 180, based on changing needs and coverage of industry sectors. The United Kingdom is considering expanding the industries covered by its PRTR and has enhanced its system to provide greater access to the data collected. Member countries developing systems should pay particular attention to this principle to ensure that their systems grow and develop to meet changing needs.

Member countries have implemented data handling and management procedures to verify reported data [**Principle 11**]. As might be expected, some systems are more sophisticated than others in identifying errors in data received. Canada, for example, has not only incorporated error-checking routines into its

7 . While this type of system can be useful as countries phase in PRTR programmes, it could lead to some inconsistencies due to variability in the validity of the data. Similarly, a combination system might make it difficult for two countries to share data, if one has data reported under a mandatory system and the other under a voluntary system.

8 . The provision of data to the public also follows Principle 10 of the Rio Declaration (UNCED, 1992), to which all Member countries have subscribed. Principle 10 states that the public has the right to know about environmental information held by public authorities and should be allowed to participate in environmental decision making.

PRTR reporting software[9], but it also reviews reported information visually to identify any outliers and it analyses industrial sectors to verify reportable quantities for a specific operation and/or use category. Under the Australian PRTR, the state and territory governments are responsible for assessing the integrity of data reported by facilities.

The second part of **Principle 11** says data should be managed in a way that information on geographic distribution of releases and transfers can be identified. The majority of countries provide the public with some sort of information on geographic distribution of regulated pollutant release. While countries including Australia, Canada, the Netherlands and the United States have actively combined PRTR data with a geographic information system (GIS), more and more countries, including the United Kingdom, have begun using different graphic display data systems that are similar to the GIS. With respect to combining PRTR data with other data sets, the United States is investigating ways to combine PRTR data with financial and other economic data sets, and Norway is looking into ways to make data more accessible to financial institutions.

Principle 12 states that PRTR systems should allow, as far as possible, comparison and co-operation with other national PRTR systems and possible harmonisation with similar international databases. The Commission for Environmental Co-operation (CEC), established under the North American Free Trade Agreement, has embarked on a project to share and compare data between countries of North America. The European Pollutant Emission Register (EPER) should provide a framework to create or modify EU Member state systems so that data can be appropriately shared and compared among European Union countries. It may be possible to use the EPER and CEC programmes as models to extend the sharing and comparing of PRTR data OECD-wide.

Compliance mechanisms have been established for systems in operation [**Principle 13**]. Most government efforts to develop or modify a PRTR have been transparent and objective [**Principle 14**]. Almost all countries used a multi-stakeholder process to provide input on the design of their PRTR. Japan, for example, formed a multi-stakeholder advisory committee to evaluate the outcomes of its pilot PRTR study. Public notification was made and invitations were distributed to keep all affected and interested parties informed of the government's efforts to develop PRTR legislation. However, in the United States, where Congress drew up the original list of chemicals and requirements, a multi-stakeholder process was not used. Nonetheless, all regulations and other modifications concerning the United States programme were developed with input from all stakeholders.

IV. Conclusion

Many Member countries have made remarkable progress over the past few years in an effort to meet their commitment to the Council Recommendation. Nonetheless, it is worth noting that there are still countries where no actions have been taken. In addition, it appears that some countries need to improve certain aspects of their existing pollutant or emission inventory before these can be considered PRTR systems. Examples of improvements that could be made to operating PRTR systems, or those under development, include: i) using the PRTR to better monitor progress and performance of environmental policies; ii) including information on wastes transferred off-site for treatment and/or disposal; iii) integrating data from all environmental media (air, water and soil); iv) more actively disseminating PRTR source-specific data to the public; and v) using data more extensively to identify and assess possible risks to humans and the environment.

9 . Under the Canadian National Pollutant Release Inventory, industry reports electronically via a software package developed by Environment Canada for this purpose.

A few countries, such as Australia, are reviewing issues concerning the addition of transfers. Other countries are exploring how data generated under a PRTR can be used to identify and assess potential risks to humans and the environment. In addition, some countries are reviewing ways to augment their air or water emission inventories to include all environmental media.

As countries develop and modify PRTRs, it is recommended that they take into consideration section I, (3) of the Council Act concerning the sharing of data among Member countries, and Principle 12 on possible harmonisation with similar international databases. Although a PRTR is a national system, more focus on the international sharing of data and comparability can help Member countries' governments meet shared environmental goals and international obligations, and help further efforts towards sustainable development.

Finally, the Council Act recommends that Member country progress in implementing the Act be reviewed three years from the date of the Act and *periodically thereafter*. Given the developmental stage of many Member country programmes, it might be useful to take stock of the progress and accomplishments of Member countries again in 2004 and report the results to EPOC.

V. ANNEXES

Annex 1: Recommendation of the Council on Implementing Pollutant Release and Transfer Registers

(Adopted by the Council at its 869th Session on 20 February 1996 [C(96)41/FINAL])

Annex 2: Survey of Member Governments' Implementation of PRTR Council Act (Questionnaire)

Annex 3: Consolidation of the Responses to the PRTR Questionnaire

ANNEX 1

RECOMMENDATION OF THE COUNCIL ON IMPLEMENTING POLLUTANT RELEASE AND TRANSFER REGISTERS

(Adopted by the Council at its 869th Session on 20 February 1996[C(96)41/FINAL])

RECOMMENDATION OF THE COUNCIL ON IMPLEMENTING POLLUTANT RELEASE AND TRANSFER REGISTERS

THE COUNCIL,

Having regard to Article 5 b) of the Convention on the Organisation for Economic Co-operation and Development of 14th December 1960;

Having regard to **Principle 10** of the Report of the United Nations Conference on Environment and Development of 3-14 June 1992 (Agenda 21) to which all OECD Member countries have subscribed, and which states that "each individual shall have appropriate access to information concerning the environment that is held by public authorities, and the opportunity to participate in decision-making processes and that countries shall encourage public awareness and participation by making information widely available";

Having regard to Chapter 19 of Agenda 21 which states, *inter alia*, that governments with the co-operation of industry should improve data bases and information systems on toxic chemicals, such as emission inventory programmes and that the broadest possible awareness of chemical risks is a prerequisite for chemical safety;

Noting that several Member countries and the European Community are acting to collect data concerning pollutant releases and transfers from various sources and to make these data publicly accessible;

Noting that many individual enterprises and industrial sectors within the OECD area are voluntarily providing information about pollutant releases and transfers;

Noting that a number of non-member countries are also exploring ways to obtain and make available national data about pollutant releases and transfers;

Noting that the OECD Secretariat with the aid of Member governments and other affected and interested parties is preparing a Guidance for Governments Manual specifically to assist governments wishing to institute a Pollutant Release and Transfer Register;

Recognising that reducing potentially harmful releases and transfers of pollutants while promoting economic progress is a foundation for achieving sustainable development;

On the proposal of the Environment Policy Committee (EPOC);

I. RECOMMENDS:

(1) That Member countries take steps to establish, as appropriate, implement and make publicly available a pollutant release and transfer register (PRTR) system using as a basis the principles and information set forth in the OECD Guidance to Governments Manual for PRTRs.

(2) That Member countries in establishing PRTR systems should take into account the set of principles which are contained in the Annex to this Recommendation of which it forms an integral part.

(3) That Member countries should consider sharing periodically the results of the implementation of such systems among themselves and with non-member countries with particular emphasis upon sharing of data from border areas among relevant neighbouring countries.

II. INSTRUCTS:

(1) The Environment Policy Committee to review actions undertaken by Member countries and to report to Council three years from the date of this Recommendation and periodically thereafter concerning progress.

(2) The Environment Policy Committee to consider how OECD can aid other international organisations and bodies, upon their request, in helping non-member countries which may be contemplating the establishment of PRTR systems.

PRINCIPLES CONCERNING ESTABLISHMENT OF PRTR SYSTEMS

[1] PRTR systems should provide data to support the identification and assessment of possible risks to humans and the environment by identifying sources and amounts of potentially harmful releases and transfers to all environmental media.

[2] The PRTR data should be used to promote prevention of pollution at source, e.g., by encouraging implementation of cleaner technologies. National governments might use PRTR data to evaluate the progress of environmental policies and to assess to what extent national environmental goals are or can be achieved.

[3] In devising PRTR systems, governments should co-operate with affected and interested parties to develop a set of goals and objectives for the system and estimate potential benefits and costs to reporters, government and society as a whole.

[4] PRTR systems should include coverage of an appropriate number of substances which may be potentially harmful to humans and/or the environment which are released and or transferred.

[5] PRTR systems should involve both the public and private sectors as appropriate and include those facilities which might release and/or transfer substances of interest, as well as diffuse sources, if appropriate.

[6] To reduce duplicative reporting, PRTR systems should be integrated to the degree practicable with existing information sources such as licenses or operating permits.

[7] Both voluntary and mandatory reporting mechanisms for providing PRTR inputs should be considered with a view as to how best to meet the goals and objectives of the system.

[8] The comprehensiveness of any PRTR in helping to meet environmental policy goals should be taken into account, e.g., whether to include releases from diffuse sources ought to be determined by national conditions and the need for such data.

[9] The results of a PRTR should be made accessible to all affected and interested parties on a timely and regular basis.

[10] Any PRTR system should allow for mid-course evaluation and have the flexibility to be altered by affected and interested parties in response to changing needs.

[11] The data handling and management capabilities of the system should allow for verification of inputs and outputs and be capable of identifying geographical distribution of releases and transfers.

[12] PRTR systems should allow as far as possible comparison and co-operation with other national PRTR systems and possible harmonisation with similar international databases.

[13] A compliance mechanism to best meet the needs of the goals and objectives should be agreed by affected and interested parties.

[14] The entire process of establishing the PRTR system and its implementation and operation should be transparent and objective.

ANNEX 2:
SURVEY OF MEMBER GOVERNMENTS' IMPLEMENTATION OF PRTR COUNCIL ACT

SURVEY OF MEMBER GOVERNMENTs' IMPLEMENTATION OF PRTR COUNCIL ACT

Background

On 20 February, 1996, OECD Environment Ministers endorsed, and the OECD Council adopted, a Recommendation on Implementing Pollutant Release and Transfer Registers (PRTRs) [C(96)41/FINAL - attached] that calls on countries to "to take steps to establish, as appropriate, implement and make publicly available a pollutant release and transfer register, using as a basis the principles and information set forth in the OECD Guidance Manual for Governments."

Section II, Part 1 of this Council Act instructs "*the Environment Policy Committee [EPOC] to review actions undertaken by Member countries and to report to Council three years from the date of this Recommendation and periodically thereafter concerning progress.*" In order to fulfil this requirement and conduct such a review, the following questionnaire was developed for Member countries to report on actions taken to implement the Council Act.

Design of the Questionnaire

The questionnaire is designed to collect information that will allow a review of progress Member countries have made in achieving the objectives set out in the Council Act and referenced in the OECD Guidance Manual for Governments [OCDE/GD(96)32]. The fourteen principles listed in the Annex of the Recommendation served as a guide to the main topics covered by this questionnaire.

The questions have been designed to allow reporting on those systems in place (i.e., operational) and those under development. With respect to systems under development, respondents are encouraged to provide information to the best of their ability on what they anticipate their system to look like when it is operational. If it is still too early to say, they should report "N/A" (not applicable).

The questionnaire is divided into four parts: Part 1, PRTR Background and Context; Part 2, Process for Developing a PRTR; Part 3, System Design and Components; and Part 4, Use of PRTR Data and Results.

Filling Out the Questionnaire

In order to facilitate the collation of information the questionnaire has been created in electronic format and answers can be provided directly on this form. All respondents are encouraged to fill out this form and return the file to the Secretariat by e-mail, or mail a PC diskette containing the file to the Secretariat.

When completing this form, please type in as much information as necessary noting that the text boxes for each question and the cells in the matrices are flexible in size.[10] If you would like to submit additional information to expand or clarify your responses, please feel free to do so. This additional information can also be sent to OECD electronically or via the post or telefax.

Definitions

[10] If the box does not expand automatically to permit you to type in the necessary information, click on the perimeter of the box one time. Then click on it again. Anchors or small boxes should then appear. Click on one of the anchors on the bottom of the box and drag it with the mouse to enlarge the box to fit your text.

For the purposes of this questionnaire, please refer to the Glossary of Terms for PRTR Development, found in the PRTR Guidance Manual for Governments (Annex; pages 134-141). In addition, the following definitions/clarifications are provided:

affected and interested parties: this term refers to all parties that are interested in, or affected by, a pollutant release and transfer register including, *inter alia*, all levels of government, industry, the public, environmental citizen organisations, international bodies, academia, etc. Also, for the purposes of this questionnaire, the terms "stakeholders" and "affected and interested parties" are meant to mean the same thing.

chemical/chemical species: as defined by IUPAC (Guidance Manual, page 135). In addition, for simplicity the word "chemical" has been (and can be) used in lieu of "chemical species" and/or "pollutant".

public facility: includes, for example, a facility owned and/or operated by a public entity, a privately owned facility operated by a public entity and a publicly owned facility that is privately operated.

release: The scope of this definition ranges greatly between countries. For purposes of this questionnaire, the term release means an emission to air or water or land, individually or collectively.

site: a geographic location of an individual facility.

transfer: as with the definition of release, the definition of transfer varies greatly between countries. In general, a transfer refers to an offsite transfer of a reportable chemical for treatment or disposal; however, it is recommended that you use your national definition.

Submission of Responses

Responses to the questionnaire are due by 26 March, 1999. A report will be prepared based on responses from Member countries. Please submit the completed the questionnaire and matrices to:

Claudia Fénérol
OECD/OCDE
2, André-Pascal
75775 Paris Cedex 16
FRANCE
tel: 33 1 45 24 17 63
fax: 33 1 45 24 16 75
email: claudia.fenerol@OECD.org

Report of Member Country Questionnaire

Country

Contact Person

Name

Office-Agency/ Ministry

Address

Phone (+country code)

Fax

E-mail

PART I - PRTR BACKGROUND AND CONTEXT

A. PRTR SYSTEM

1. Does your country have a PRTR in operation, or under development?

☐ **In operation**

☐ **Under development**

If your system is **under development**, briefly describe the status of the system. For the remainder of this questionnaire, please indicated (as appropriate) which aspects are ***proposed*** or ***final***.

2. Is reporting under the PRTR system (or will reporting be)?

Voluntary ☐ **(go to question 3)**

Mandatory ☐ **(go to question 4)**

3. Voluntary Reporting

i. Please describe the arrangement between government and industry for the collection of information (e.g., voluntary agreement, memorandum of understanding, other)

ii. If applicable, please indicate the date when the arrangement was agreed to by the parties.

4. <u>Mandatory</u> Reporting

i. Please indicate if there is (or will be) enabling legislation, a regulation, ordinance or a combination that mandates reporting (e.g., *legislation* that requires the establishment of a PRTR, and a *regulation* that elaborates the specific elements in the PRTR).

ii. Please indicate the date(s) when the enabling instrument(s) was/were signed into law or issued, or when this is expected to occur:

Legislation--date:
Regulation--date:
Ordinance---date:
Other____---date:

5. Reporting Period. Please indicate the first period covered by PRTR reporting (or expected to be covered by PRTR reporting) and the deadline for reporting (e.g., after a PRTR regulation went into effect, companies were to report on releases that occurred for the period 1 January, 1996 to 31 December, 1996, and the deadline for reporting was 1 June, 1997).

First reporting period: from _____ to _____
Deadline for reporting: _____

6. Have there been any complete reporting periods since the first one?

No ☐
Yes ☐**; how many? _____**

7. Briefly list the goal(s) and objective(s) [or those anticipated] of the PRTR system?

8. Which government ministry or agency manages the PRTR system (i.e., collates data, disseminates data nationally, places raw data into context)? Please explain if the management is divided between more than one body or level of government. For example, a local government collects data from facilities and submits it to the national authority.

9. Have modifications been made to the PRTR since it became operational?
☐ **yes** ☐ **no**

If yes, please describe. For example, such modifications could be the addition or deletion of chemical species on the list, the inclusion of diffuse sources, the addition and deletion of industry sectors/sources, etc.

B. Integration of PRTR Systems

1. Has [will] the PRTR system been [be] integrated with existing information sources or databases? (e.g., Nationally -- operating permits, media specific regulatory programmes, etc., or Internationally -- use of sources of data such as Corinair, LRTAP, Climate Change, etc.).

2. Are PRTR data [Will PRTR data be] integrated with geographic information systems or other database systems (e.g., systems containing data on risk or hazard assessments, financial information, etc.)?
☐ **yes** ☐ **no** If yes, please list the systems or databases.

PART II - PROCESS FOR DEVELOPING A PRTR

A. Transparency and the Involvement of Affected and Interested Parties

1. In developing the PRTR was [is] there a consultation process with affected and interested parties? ☐ **yes** ☐ **no**

2. How were [will] interested and affected parties [be] identified and notified about the development of the PRTR and the consultation process (e.g., public notifications, direct invitations, etc.)? Briefly describe.

3. Once interested parties were [are] contacted, what was [will be] done to inform and/or consult with them about the development of the PRTR? (For example, town meetings, the creation of a PRTR task force or advisory committee, etc.)

4. Which "stakeholder" groups were [are] involved in the consultation (e.g., industry, environmental citizens groups, academia, other experts, etc.)?

5. How were [are] interested and affected parties, or stakeholders, involved in the development process and at what stages of the design process? Please describe. For example, developing goals and objectives via a town meeting, selection of system components via a task force, etc.

B. Pilot Project or Test Study

1. Has your country carried out a pilot project or test study? ☐ **yes** ☐ **no**

If yes, please describe (e.g., the date and duration of the study, number of chemicals, reporting industries, number of reports received, geographic area of the study, results and recommendations)

PART III - SYSTEM DESIGN AND COMPONENTS

A. Comprehensiveness of the PRTR

1. What are the reporting thresholds [or those proposed]? For example, the number of employees of a company, amount of a chemical used or processed, etc.

2. How was[will] the list of chemicals[11] [be] devised? (e.g., How were chemicals selected? You may attach the criteria or description of the process to the questionnaire.)

[11] For reasons of simplicity, the words chemical or chemicals will be used. However, these words refer to chemical species as defined by IUPAC.

3. Is there is a process for adding or deleting chemicals from the list? Please describe.

4. How many chemicals are currently subject to reporting (or will be subject to reporting)? _____

5. Does your PRTR (or will your PRTR) cover releases to

☐ **Air** ☐ **Water** ☐ **Land**

6. Are [will] transfer data be collected? ☐ **yes** ☐ **no**

7. Are public facilities subject to reporting? ☐ **yes** ☐ **no**

8. Is reporting [will reporting be] on a facility (site specific) basis?

☐ **yes** ☐ **no**

9. Which industries (i.e., point source emitters) report [will report] PRTR data? For example, the chemical industry, the automobile industry, etc.

10. Are [will] data [be] collected from diffuse sources? ☐ **yes** ☐ **no**
If yes, from which sources or sectors (e.g., households, transport, agriculture, etc.)

11. What data or additional information, other than release and transfer data, is collected on the PRTR report? For instance, accidents and spills, underground injection, amount of chemical used, use/waste ratios, etc.

B. Data Handling, Management and Dissemination

1. Briefly describe how reported data are [will be] verified and checked for quality, e.g. what type of quality assurance/quality control programme exists?

2. Are [will] PRTR data [be] <u>accessible</u> to the public? ☐ **yes** ☐ **no**

3. Are [will] PRTR data [be] <u>actively</u> disseminated to the public? ☐ **yes** ☐ **no**
If **<u>yes</u>**, please list what medium is used to present and disseminate the data. For example, newspapers, electronically/Internet, microfilm or microfiche placed in public libraries, journals, etc. If **<u>no</u>**, but the data are accessible to the public, how does the public learn of such data and gain access to it?

4. Are [will] raw data (facility and chemical specific) [be] disseminated?
☐ **yes** ☐ **no**

5. Are aggregated data disseminated? ☐ **yes** ☐ **no** If yes, in what form?

PART IV - USE OF PRTR DATA AND RESULTS

A. Assessment of Possible Risks to Humans

1. Briefly describe key programmes in which PRTR data are [will be] used in the assessment of possible risks to human health and the environment.

B. Identifying Pollution at Source

1. Are [will] PRTR results [be] used to support and encourage pollution prevention? For instance, to identify candidates for cleaner technology, to encourage source reduction, for materials accounting, etc.?

2. Are [will] PRTR results [be] used to support and evaluate the performance of environmental policy?

3. Are there environmental programmes where PRTR data are integral to the implementation of those programmes? For example, are PRTR data being used to monitor pollution reduction milestones in a national environmental strategy or voluntary agreement, etc.?

C. International Comparison of PRTR Data

1. Are [will] PRTR data [be] shared and compared across borders? ☐ **yes** ☐ **no**
If yes, how and with which countries?

2. Are PRTR data from your country compared in a regional context? (e.g. North America, Europe, etc.)
☐ **yes** ☐ **no** If yes, please explain.

3. Has the PRTR system been specifically designed to permit the comparability of PRTR results? Are there elements in your system that allow for easy comparability? Please explain.

Future Directions

Please describe any future plans or proposed new directions for your national PRTR that are not described above,. (For those with systems under development, please indicate anticipated date of completion.)

Additional Comments

ANNEX 3*:*
CONSOLIDATION OF RESPONSES TO THE PRTR QUESTIONNAIRE

In February 1999, a questionnaire was sent to Member countries. All responses to the questionnaire received from Member countries were combined into one document found in this Annex. The consolidated version of the questionnaire provides further details about Member country progress in implementing a PRTR.

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PART 1 – PRTR BACKGROUND AND CONTEXT

A. PRTR SYSTEM

1. Does your country have a PRTR in operation or under development? *In the following chart, the media covered by the PRTR is described as A=Air, L=Land, and/or W=Water, and status is either (1) in operation or (2) under development.*

Country	Media	Status	Name of Programme	Comments on PRTR operation
Australia	A L W	1	National Pollutant Inventory (NPI)	New
Austria				There is no PRTR in Austria.
Belgium Fl.[12]	A W	1		
Canada	A L W	1	National Pollutant Release Inventory (NPRI)	
Czech Republic	A L W	2		Intersectoral Subcommittee for PRTR, established in 1998, is responsible for the development and implementation of a PRTR. Proposals are being developed for both technical and legal aspects of the reporting system; those relating to technical elements are the furthest along.
Denmark	A L W	2		The system in operation includes industrial wastewater to marine recipients (Water PRTR). An integrated system, under development, will include emissions into air, water and soil. The new system will be developed parallel to the EPER[13] under the EU-Commission.
Finland	A L W	2	VAHTI	The main focus is on the monitoring of legal compliance of facilities.
Hungary	A L W	2		

12 . Belgium Fl. has separate registers for Air and Water. Since the same laws and regulations apply to both registers, responses in this consolidated questionnaire will be combined.

13. EPER refers to the European Pollutant Emissions Register.

Country	Media	Status	Name of Programme	Comments on PRTR operation
Ireland	A L W	1	Pollution Emissions Register report (PER)	
Italy	L A W	1 2	Waste Register (WS) EPER[14]	
Japan	A L W	2		The cabinet approved a bill concerning a PRTR system on 16 March 1999. It was submitted to the Diet for consideration on the same date *and passed into law on 7 July 1999 after being slightly amended. Regulations are under development.*
Korea	A L W	2		The Ministry of Environment (MOE) is developing the guidelines and software for estimating chemical releases that can be used easily by enterprises. MOE developed the guidelines for oil refineries and chemical industries in 1998 and provided it to the enterprises subject to reporting in 1999.
Mexico	A L W	1	COA (Annual operation report)	New
Netherlands	A L W	1		Modified
Norway	A L W	1	INdustri KOntroll SYStem (INKOSYS)	
Slovak Republic	A W	2		The first Slovak PRTR should be completed in June 1999. It is based on available information already collected in Slovakia in compliance with the requirements of existing legislation. The Register has also been prepared in compliance with the OECD Recommendations.
Sweden	A L W	2		The government charged the Swedish Environmental Protection Agency (SEPA) with proposing a system to make information available to the public on the use and emissions of hazardous substances. The SEPA report to the Government is due 15 December 1999.
Switzerland	A L W	2		A pilot project with the chemical industry was recently finished. A workshop for all interested parties was organised for September 1999. A new pilot project involving other industry sectors is under development.
UK	A L W	1	Pollution Inventory (PI)	The Environment Agency's Pollution Inventory has been implemented for Integrated Control Processes (large industry) and proposals are underway to further develop the Pollution Inventory to cover smaller industry, large sewage treatment works and landfill sites.
USA	A L W	1	Toxic Release Inventory (TRI)	Off-site transfers are included.

14. Ibid.

2. Is [will] reporting under the PRTR system [be] voluntary or mandatory?

All countries reported having, or will be having, a mandatory system that requires the reporting of pollutant releases and transfers. In addition, two countries reported having a combination of voluntary and mandatory reporting systems.

3. Does your country have a completely voluntary reporting system? Please describe.

No country reported having a completely voluntary reporting system.

4. Mandatory Reporting. Please indicate if there is (or will be) enabling legislation, a regulation, an ordinance, or a combination of these that mandates reporting (e.g. *legislation* that requires the establishment of a PRTR, a *regulation* that elaborates the specific elements in the PRTR). In the following chart, Enabling Instruments are labelled: L=Legislation; R=Regulation; O=Ordinance; Ot=Other.

Country	Enabling Instrument/ Date	Description of / comments on enabling instrument
Australia	**Ot**-NEPM, 27 Feb. 1998	Ot-NEPM, 27 Feb 1998. Australia's PRTR, known as the National Pollutant Inventory (NPI), was developed as a National Environment Protection Measure (NEPM) by the National Environment Protection Council (NEPC). The NEPC, established by the National Environment Protection Council Act 1994, is a national, statutory body which has law-making powers. Members are Ministers representing Australia's Commonwealth, State, and Territory governments of Australia. The NPI Measure was agreed by the NEPC on 27 February 1998 and passed its disallowable period in the Commonwealth Parliament on 13 May 1998. A Memorandum of Understanding Relating to the Implementation of the NPI was also agreed by the Commonwealth, States, and Territories on 27 February 1998. The purpose of this agreement is to ensure consistent implementation of the NPI. Copies of both of these documents can be downloaded from the Internet at http://www.environment.gov.au/epg/npi/pubs/publications.html. In addition, the Commonwealth enacted a National Environment Protection Measures (Implementation) Act in 1998 that provides for the implementation of Measures by Commonwealth facilities (State and Territory laws do not apply to Commonwealth activities or facilities).
Austria		
Belgium Fl.	**L**- VLAREM II, January 1992 **R**- VLAREM II, Annex 4.1.8, January 1992	**Belgium Fl. (Air and Water)** The Air register began as a voluntary effort in 1975. The methodology was developed between 1975 and 1979 and refined in the years leading to enactment of VLAREM II in 1992, which legislated mandatory compliance. The regulations governing specific activities are contained in Annex 4.1.8 of VLAREM II. Both air and water information is covered. The Water register began as a mandatory effort in 1993. For Water, yearly measurements by companies are required. Some of the reported parameters are also included in the tax regulations.
Canada	**L**	Information is collected for the National Pollutant Release Inventory under the authority given to the Minister under section 16(1) of the Canadian Environmental Protection Act.
Czech Republic	**L** (Theses expected Dec. 1999; full text expected June 2000); **R** June 2000 - planned **O**-ordinance expected January 2001	A specific Act on PRTR is being proposed, after some unsuccessful attempts to find if there was a framework for such a programme in already-existing legislation (Act on Chemical Substances, Environmental Right-to-Know Act). This new legislation will contain a decree defining specific PRTR elements.
Denmark	**O**-Aquatic Environment Plan 1987 (water)	The Danish Aquatic Environment Plan mandates monitoring and data collection for emissions to water. The EU Directive 96/61 EC, which concerns Integrated Pollution Prevention and Control (IPPC), will be adopted in the Danish legislation. The IPPC Directive requires establishment of a pollutant register for air and water emissions. Data collection is scheduled to begin in 2001.

Country	Enabling Instrument/ Date	Description of / comments on enabling instrument
Finland	**L**-Water Act 1961; Air Pollution Prevention Act 1982; Waste Act 1993.	
Hungary	**R**-Expected 2000	The planned regulation is provisionally titled Regulation on Mandatory Pollution Data Supply.
Ireland	**L**-1992 EPA Act	The PRTR in the Republic of Ireland is called the Pollution Emissions Register (PER). Reports are submitted by industrial facilities as part of their Integrated Pollution Control (IPC) licence under the EPA Act of 1992. The PER is a register of potentially harmful pollutant releases or transfers. It is anticipated that the EU's IPPC Directive, when transposed into Irish Law, will include a provision to ensure that any requirements of a European Pollution Emissions Register are met. This is expected to occur in late 1999, early 2000.
Italy	**L**-25 Jan. 1994, n. 7 **L**- 5 Feb. 1997, n. 22 EPER (proposed)	WASTE REGISTER Law 70/94 establishes a form of environmental statement. Legislative decree 2/297, which replaces DPR 915/82, is a framework law on waste management. The proposed EPER is a transposition into law of the Council directive 96/61/EC.
Japan	**L**- July 1999 (*expected*) **R**-Expected 2000	A bill describing the framework of a PRTR system was submitted to the Diet. Following approval of the legislation the government will develop regulations (e.g., a list of chemicals to be reported, and a list of industry sectors that will be required to report) to implement the PRTR system. In addition to the mandatory implementation of a PRTR system, voluntary programmes have been implemented by two industrial organisations without prior arrangement with the government. The Japanese Chemical Industry Association (JCIA) requests its member companies to report on the release and transfer of target substances. The Japan Federation of Economic Organisations (Keidanren) requests its member organisations to arrange voluntary reporting from their member companies. The JCIA arrangement was agreed in 1994 and its first report was released in January 1997. The Keidanren arrangement was agreed in 1997 and its first report was released in June 1998**.**
Korea	**L**-Toxic Chemicals Control Act, Article 14, 31 December 1996 **R**-Regulations on surveying of chemicals, 6 January 1999 **Ot**-Release Amount and Estimation Factor (Ministry of Environment (MOE) Notification No. 1998-155	
Mexico	**O**- SEMARNAP, April 1997.	Mexico has a combined mandatory/voluntary system, in which reporting is mandatory for six chemicals, but voluntary for all others. In April 1997, the ordinance was enacted in conjunction with the Instituto National de Ecologia (INE). This ordinance legally redefines the administrative reporting mechanisms in Mexico and thus provides the foundation for implementation of the national PRTR programme. With the publication of the Sole

Country	Enabling Instrument/ Date	Description of / comments on enabling instrument
Mexico (continued)		Environmental License (LAU) and the Annual Operational Report (COA), Mexico produced innovative and simplified instruments to measure and monitor high environmental impact in relevant industries. The COA is an annual multimedia reporting procedure used to record and update information on toxic emissions and pollution discharges into the environment by industry. COA is the main tool for the effective development of the Mexican PRTR.
Netherlands	**O**- 2000, scheduled	This ordinance will set rules for 320 large companies.
Norway	**L**-Pollution Control Act, 13 April 1981	This law, regarding special permits required for polluting activity, delineates reporting procedures.
Slovak Republic		At this time, voluntary participation exists for the chemical industry under the scope of "Responsible Care," an agreement in effect since 1998. It is planned, however, that the PRTR will become mandatory. Mandatory reporting under the sytem is made in response to specific environmental laws.
Sweden		A regulation will be implemented that requires the establishment of a limited PRTR with specific elements that should be reported.
Switzerland		N/A
UK	**L**-Environmental Protection Act 1990, Section 10	The UK PRTR operates under various sets of legislation, in place or proposed: In place: Regulations for environmental reporting within the Environmental Protection Act 1990 (EPA 90) for large industrial processes. Proposed: *Short term:* To carry out large sewage treatment works through existing legislation (Secretary of State Direction under Water Resources Act 1991). To provide initial data from the current requirements under EPA 90 and Waste Management Regulations for major landfill sites. *Longer Term*: To produce a comprehensive and consistent Pollution Inventory, new regulations will be required. These could be put in place under the existing legislation or under the Pollution Prevention and Control Act 1999; regulations are currently in draft format.
USA	**L**-The Emergency Planning and Community Right-to-Know Act (EPCRA), 1986	Following the passage of EPCRA, the US EPA issued regulations in 1988 that explained the reporting requirements of the US PRTR. In subsequent years, the US EPA has issued other regulations that updated the reporting requirements (e.g., adding/deleting chemicals, new data elements). In 1990, the US Congress enacted a new law, titled the Pollution Prevention Act (PPA), which expanded the amount of information available to the public by adding new types of information collected on the PRTR report. The PPA requires industry to provide more comprehensive information on the waste management actions of facilities. A proposed regulatory update was issued in April 1999 to lower thresholds for persistent, bio-accumulative toxics (PBTs), and to modify the reporting requirements for certain chemicals.

5. Reporting Period: Please indicate the first period covered, or expected to be covered, by PRTR reporting and the deadline for reporting (e.g. after a PRTR regulation went into effect, companies were to report on releases that occurred for the period 1 January 1996 to 31 December 1996, and the deadline for reporting was 1 June 1997).

Country	From	To	Deadline for the first reporting period
Australia	1 July 1998	30 June 1999	30 September 1999
Austria			
Belgium Fl.	1 January 1993	31 December 1993	1 April 1994
Canada	1 January 1993	31 December 1993	1 June 1994
Czech Republic			
Denmark	1 January 1989	31 December 1989	1 October every year—Water Inventory.
Finland	1988	1997	Annual results of the previous year are due by the end of May.
Hungary			
Ireland	1995	1996	Within one year of the date that the IPC license is issued, the PER Report, where required, must be submitted to the EPA.
Italy	1 January 1995	31 December 1995	Waste Register: 30 April 1996 i.e. waste only.
Japan	1 April 2001 (planned)	31 March 2002 (planned)	Mid-2002 (to be determined)
Korea	1 January 1999	31 December 1999	28 February 2000
Mexico	1 January 1997	31 December 1997	31 June 1988 for the 1997 reporting year; now 30 April of following year
Netherlands	1 January 1999		Data for 1999 are due in 2000.
Norway	1 January 1992	31 December 1992	1 March 1993
Slovak Republic	1 January 1997	31 December 1998	31 December 1998
Sweden			
Switzerland			
UK	1 January 1998	31 December 1998	January 1999
USA	1 January 1987	31 December 1987	1 July 1988

6. Have there been any complete reporting periods since the first one? If yes, how many?

Country	Yes	No	Number of / comments on reporting periods
Australia		✓	
Austria			
Belgium Fl.	✓		5, Annually since first report in 1993
Canada	✓		6, Annually
Czech Republic		✓	
Denmark	✓		8, Water only
Finland			Continuous
Hungary		✓	
Ireland			3, Annually
Italy	✓		4 : waste only
Japan		✓	
Korea		✓	
Mexico	✓		1
Netherlands		✓	
Norway	✓		6, Annually
Slovak Republic		✓	
Sweden		✓	
Switzerland			
UK		✓	
USA	✓		12; Annual reporting

7. Briefly describe the goal(s) and objective(s), actual or anticipated, of the PRTR system.

Country	Goals and objectives of PRTR system
Australia	The objectives of the NPI are to: (1) provide information to enhance and facilitate policy formulation and decision making for environmental planning and management; (2) provide publicly accessible and available information, on a geographic basis, about specified emissions to the environment, including those of a hazardous nature or involving significant impact; and (3) promote and assist with the facilitation of waste minimisation and cleaner production programmes for industry, government, and the community.
Austria	
Belgium Fl.	The emission inventory system for air in the Flemish region comprises the registration, analysis, localisation and presentation of emission data of both industrial and non-industrial sources in Flanders and the inventory for water includes only industrial emissions; To monitor annually the emission from all sources of air pollution; to evaluate the progress of environmental policy; To provide the official emission data to (inter)national bodies; and To disseminate the emission data to the public and to pollution modelling.
Canada	Encourage voluntary action, monitor progress, inform the public, and support targeted regulatory initiatives.
Czech Republic	Development of an integrated register, harmonised with existing reporting systems (e.g. REZZO) in order to: avoid gaps and duplicities in reporting; obtain readily accessible, geographically based information on chemical use, release and disposal; improve the feedback on the efficacy of legal measures.
Denmark	The Water PRTR shall serve as a tool for getting information about emissions and as a comparison with the goals in the Aquatic Environment Plan. The EPER should serve as a tool for providing information to the public and policy-makers.
Finland	Compliance with permit conditions, assessment of emissions for national and international reporting, preparation of new policy measures.
Hungary	The proposed objectives: to support authorities for review of environmental impact assessment; to enable development of national and regional data bases; to support the determination of fines and charges; to provide data for submission under international agreements and for environmental performance reviews; to estimate the environmental performance of enterprises; to provide information to the public; to raise attention to contaminants of environmental health; to reveal relevant trends in qualitative and quantitative aspects of contamination; to give reasons for programmes aimed at risk reduction; and to motivate enterprises to improve technology.
Ireland	One of the primary purposes of the PER report is to ensure that the destination of major pollutants is tracked. Annual publication of summary information on the PER reports provides the public with information on the use, control, transfer and release of certain specified pollutants in IPC facilities. The PER is based on a mass balancing methodology, which provides important information on material flows in the facility. This highlights priority areas for improvement such as options for waste reduction and improved operation procedures.

Country	Goals and objectives of PRTR system
Italy	Waste Register: to take a census, to plan management activity. EPER: to deliver data to the EU Commission, to take a census, to plan management activity.
Japan	To promote the businesses' voluntary improvements in the management of specific chemical substances and to prevent any impediments of environmental protection.
Korea	To encourage individual enterprises to voluntarily reduce the amount of release and transfers of toxic chemicals; to provide data to support the identification and assessment of possible risks to humans and the environment.
Mexico	To provide: i)a reliable and updated database of releases and transfer of specific pollutants; ii) information to assist industries in management decision-making; and iii) information on the emissions of substances which impose risks to human health and the environment. To simplify industrial reporting requirements. To allow follow-up and quantification of progress on reducing the release of pollutants. To facilitate the development of a mechanism that enables Mexico to meet its international commitments related to environmental information. To develop a pollutant emissions information system that provides public access.
Netherlands	Monitoring emissions from all sources to all compartments, including transfer and environmental load.
Norway	The Norwegian Pollution Control Authority's internal control system has been devised to standardise and increase the efficiency of the emission reports submitted by industrial enterprises. Only enterprises with a current discharge permit granted by the Norwegian Pollution Control Authority are required to report within the system. Enterprises are selected on the basis that reports shall be submitted by all enterprises with emissions of any significance.
Slovak Republic	Harmonisation with international (OECD, UNITAR, EU) approaches, protection of human health and environment, making the information publicly available, and development of an integrated list of point sources of pollutants and waste.
Sweden	The proposal is expected to cover individual reporting by the largest industrial activities, while SMEs have to be covered by statistics/emission factors. The aim is also to cover the future reporting on emissions required by IPPC Directive, Art. 15&3.
Switzerland	N/A
UK	The primary objectives are: To provide the public with easily accessible information about pollution from industrial and other sources in their local area and nationally; To help environmental regulators to protect the environment; and To help the government meet national and international commitments and obligations.

Country	Goals and objectives of PRTR system
USA	Raising community awareness: Communities surrounding facilities should have access to information about the releases and other waste management of toxic chemicals from those facilities. Raising public awareness: The PRTR data provides information about national, state, and regional releases and other waste management of toxic chemicals. The PRTR data also provides information about specific chemicals, industry sectors or companies. Raising industry awareness: The management of each reporting facility must sign each PRTR report to ensure high-level awareness of the facility's releases and other waste management of toxic chemicals. Targeting: Federal, state and local governments use the PRTR data to identify chemicals, industry sectors, geographic regions or media that require specific regulatory action. Prioritisation: Federal, state and local governments use the PRTR data with other data, such as toxicity, demographics, and weather patterns, to select chemicals or industries for more immediate action, enabling the government to use its resources more effectively. Industry uses PRTR data to prioritise chemicals or processes for actions to reduce releases. Risk management: PRTR data informs stakeholders, allowing them to take effective steps to minimise potential harm to human health or the environment from toxic chemicals. Tracking trends: PRTR data allows the public and other stakeholders to track the year to year trends in releases and other waste management of chemicals. Tracking can be conducted for individual industry sectors, companies or facilities; carcinogens, chemicals of regional concern, or chemicals targeted by international conventions; or national, regional, state, or local trends. Communication: Industry should use the PRTR data to communicate information about the policies and efforts to protect the environment to the public and other stakeholders. Education: Environmental groups, industry and the government use PRTR data to increase public understanding about toxic chemicals and the potential impact of the releases and other waste management of those chemicals on the environment. Empowering the public: PRTR data enhances the ability of the public to work on a more equal footing with facilities when working to improve environmental conditions.

8. Which government ministry or agency manages the PRTR system (e.g. collates data, disseminates data nationally, places raw data into context)? Please explain if the management is divided between more than one body or level of government. For example, a local government collects data from facilities and submits it to the national authority.

Country	Agency / Comments
Australia	Under the NEPM, the Commonwealth, State and Territory governments of Australia share responsibility for managing the NPI. The State and Territory governments are responsible for collection and verification of emission information from reporting facilities within their jurisdictions. They forward this information to the Commonwealth government. The Commonwealth government is responsible for collating the information and presenting it on the NPI database. Other Commonwealth responsibilities include providing "contextual information" on the substances on the NPI reporting list (such as what the substances are derived from, what they are used for, and the risks to human health and the environment associated with them), and disseminating the database via the Internet, CDROM, public libraries, universities, and other educational institutions.
Austria	
Belgium Fl.	Air: The operator of the facility submits the environmental annual report in triplicate to the Environmental Licences Department, including one copy sent to the Flemish Environment Agency. The data are evaluated and managed by the FEA, stored in a databank and used for the objectives mentioned in question 8. When reporting the data internationally, the data are totalled together with the data from the other regions (Wallonia and Brussels) by IRCEL (National Focal Point Belgium) and sent to the concerned authorities. Water: The operator of the facility submits the environmental annual report in triplicate to the Environmental Licences Department, including one copy is send to the Flemish Environment Agency. The data are evaluated and managed by the FEA, stored in a databank and used for the objectives mentioned in question 7B**.**
Canada	Environment Canada
Czech Republic	A national authority is being proposed that would be supervised by the Ministry of Environment (MOE). Final allocation will be decided in late 1999.
Denmark	Local authorities collect data from facilities and submit it to the Danish Environmental Protection Agency (Water register).
Finland	Regional Environment Centres, Ministry of the Environment, Finnish Environment Institute.
Hungary	Ministry of Environment
Ireland	Environmental Protection Agency
Italy	Waste Register Data collection is handled by the Chamber of Commerce Industry Crafts and Agriculture, and disseminated by the Ministry of Environment, as well as the National Environmental Protection Agency. EPER (proposed): Data will be collected by the Ministry of Environment and would be disseminated by the National Environmental Protection Agency.

Country	Agency / Comments
Japan	EA and MITI will be the general managers of the system. The Ministry of Health and Welfare will also take part in the selection of chemicals. Owners of facilities will be required to submit data to the Ministries and Agencies having jurisdiction over them via the prefectural governments. The Ministries and Agencies will transfer the data to EA and MITI. EA and MITI will record the data on computer files and aggregate them adequately. They will provide the file to local governments as well as to the Ministries and Agencies having jurisdiction over businesses and will publish the aggregated data.
Korea	The mayors of metropolitan cites, governors or the heads of (regional) Environmental Management Offices collect data from facilities and submit it to the Ministry of Environment.
Mexico	The Ministry of the Environment, Natural Resources and Fisheries (SEMARNAP), through the National Institute of Ecology (NIE), is in charge of the management of the PRTR system.
Netherlands	Inspectorate for Environmental Protection Department of Monitoring and Information Management
Norway	Norwegian Pollution Control Authority (SFT) is responsible for permits issued (to approximately 500 reporting enterprises) by the SFT. The county authority is responsible for the permits (approximately 200) issued by the county authority**.**
Slovak Republic	Co-ordination and Development: Institute of Preventive and Clinical Medicine (IPCM). The Ministry of Health and Inter-sectoral Commission for Chemical Safety have endorsed the IPCM to co-ordinate and develop PRTR. The Ministry of Environment also supports this activity. Data were collected by the Slovak Hydrometeorological Institute and the Slovak Environmental.
Sweden	SEPA will be responsible for the collection of data, but regional and local authorities will also be involved in the collection of data, although the extent of their involvement has not yet been decided.
Switzerland	Swiss Agency for the Environment, Forests and Landscapes (SAEFL)
UK	Environment Agency for England and Wales (NDPB), Sponsoring Department, Department of the Environment, Transport and the Regions.
USA	The US EPA sets national policies, collects the reports, enters the data, and disseminates the information nationally. State governments also have leeway to set additional policies (e.g., additional chemicals or industry sectors) for facilities in their states. Since facilities must submit PRTR reports both to the federal government and to the state in which they are located, the state governments collect copies of the PRTR reports, enter the data into State databases, and disseminate state information.

9. Have any modifications been made to the PRTR since it became operational?

Country	Yes	No	Nature of modifications
Australia		✓	
Austria			
Belgium Fl.	✓		In 1995, some threshold values of total annual emissions were lowered and reporting became required when threshold values are exceeded. In 1996, the reporting obligation was also extended to facilities with class 1 and class 2 licences, whereas only class 1 facilities were previously concerned.
Canada	✓		The requirement of qualitative reporting of pollution prevention activities was added in 1997 and the mandatory reporting of transfers off site for recycling was added in 1998. Consultations with affected or interested parties are underway with the intention of adding more substances before the end of 1999.
Czech Republic		✓	Under development
Denmark		✓	
Finland	✓		System is under constant development.
Hungary			
Ireland	✓		The introduction of IPC licensing is on a phased basis by sector of activity. The chemical sector was the first to be subject to IPC licensing, in 1994 and it was the first to submit PER reports. Other sectors, such as surface coatings, food and drink, cement, and fossil fuels have applied since 1994, and most are required to provide PER reports annually. The remaining sectors, including energy and minerals, are required to apply for IPC licensing between now and 2002.
Italy	✓		For the Waste Register
Japan		✓	
Korea		✓	
Mexico		✓	
Netherlands	✓		Voluntary reporting became mandatory, as did the selection of relevant monitoring substances and facilities required to report.
Norway	✓		Modifications are determined on a case-by-case basis. When new sources of emissions are detected that may contain chemicals not yet registered, modifications are considered.

Country	Yes	No	Nature of modifications
Slovak Republic		✓	
Sweden			
Switzerland			
UK	✓		The new Pollution Inventory was developed from the previous Chemical Release Inventory (CRI). The main change from the CRI to the Pollution Inventory was the introduction of a standard list of substances (with associated thresholds) that are released to air, controlled waters and sewers and should be reported by industry. In addition, the new Pollution Inventory requires information on hazardous and non-hazardous waste produced by the IPPC-regulated process. Under the CRI, the selection of substances to media was done purely on a site-by-site basis. These changes are described in the Agency's Conclusions of Consultation document, *Isrcon2.doc*, available from Environment Agency for England and Wales, Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol BS32 4UD, UK. In addition, raw data will now be placed on the Internet.
USA	✓		Chemical changes: the EPA has amended the list of chemicals reportable to the US PRTR. In 1993, the EPA added ozone-depleting chemicals (ODC) to the PRTR list. In 1994, nearly 300 chemicals were added to the PRTR list, including additional ODCs, pesticides, and chemicals regulated under other EPA regulations. The Agency also has deleted chemicals when industry has brought convincing evidence that the chemicals should not be included on the list. Pollution prevention data: Recognising the success of the US PRTR, Congress enacted the Pollution Prevention Act of 1990. This law expanded the types of information collected on the PRTR report. While the original legislation creating the PRTR required facilities to report transfers for treatment off-site, the new legislation also required facilities to report off-site transfers for recycling or energy recovery, and on-site treatment, recycling, and energy recovery. The new legislation also required facilities to make projections for the next 2 years about the amount of the chemical the facility expected to release, treat, recycle, or burn for energy recovery on-site and off-site. Another requirement was a data element asking facilities to report on the types of source reduction activities taken to reduce the use of the chemical. Facility changes: The original industries required to report to the US PRTR were manufacturing facilities. In subsequent years, EPA has added federal facilities, metal mining facilities, coal mining facilities, electricity generating facilities, bulk petroleum facilities, chemical wholesale facilities, hazardous waste treatment facilities, and solvent recovery facilities. New data elements: EPA has made changes to certain types of data elements with the goal of providing more detailed information to the public. An example is the division of the underground injection data element into two data elements. EPA has made this change to enable industry to indicate the type of wells into which a facility is injecting the chemical. Now, facilities can report the amount of chemical injected into a Class I well, or the amount sent to all other types of wells. Persistent, bio-accumulative Toxins: the EPA has begun work to expand the information on chemicals that are persistent, bio-accumulative, and toxic. This includes setting new reporting thresholds for these PBT chemicals and adding additional PBT chemicals to the PRTR list. Vice President Albert Gore has called on EPA to complete this work in 1999 so that facilities would begin reporting for these PBT chemicals in the 2000 reporting year.

B. INTEGRATION OF PRTR SYSTEMS

1. Has [will] the PRTR system been [be] integrated with existing information sources or databases? For example, national operating permits, media-specific regulatory programmes, etc.; or international sources of data such as CORINAIR, LRTAP, Climate Change, etc.

Country	Yes	No	Integration of PRTR
Australia			We are unable to provide specific examples at this point because the official reporting period is not yet completed.
Austria			
Belgium Fl.		✓	The data is and can be used for reporting to CORINAIR, LRTAP, Climate Change, etc., but is not directly linked to these international databases.
Canada	✓		Data collection for the National Pollutant Release Inventory is co-ordinated with data collection by some provinces. Greater integration of information collection within the federal government and with the provinces is being actively pursued.
Czech Republic	✓		An integration mechanism has been proposed. A comprehensive analysis of existing systems was made to find a unified mode of reporting. In addition to existing databases (REZZO), the development of an information centre on chemicals is under development.
Denmark	✓		Seventeen data centres for subject areas (e.g., air quality, energy, groundwater, waste and recycling) have been established within the Ministry of Energy and Environment. The Danish EPA has developed an environmental data strategy, MIDAS, which organises data according to the PSR (Pressure-State-Response) concept. The experiences from the strategy have been discussed with the European Environmental Agency (EEA). MIDAS includes a conceptual system for exchange of environmental data, called STANDAT. Uniform code lists are used to ensure inter-ministerial as well as EEA liaison.
Finland	✓		The system is integrated with permitting data base.
Hungary	✓		Proposed
Ireland	✓		The PER reports have been used as part of the information for the Republic of Ireland's CORINAIR submissions. In the future, the PER will form part of the mechanism to track information on pollutants affecting climate change.
Italy	✓		WASTE REGISTER: This system will be integrated with existing sources and databases nationally. EPER: The intention is to use CORINAIR data (proposed).
Japan		✓	To be considered; no plans at this stage.

Country	Yes	No	Integration of PRTR
Korea		✓	Existing information sources, such as media regulatory programme systems, do not supply the data to support the assessment or identification of possible risks to humans and the environment.
Mexico	✓		With operating permits like the Sole Environmental License.
Netherlands	✓		Except permits.
Norway	✓		The system is integrated with the operating permit system. The information collected is being used for additional mutual reporting obligations and to European agreements, such as CORINAIR. The PRTR system has information from enterprises that have a permit from the Authority.
Slovak Republic	✓		
Sweden			
Switzerland			
UK	✓		The existing PI data is obtained within the conditions of authorisation on the IPC process required under the Environmental Protection Act 1990. The information is used by DETR in assessing the total UK contributions for substances released on the National Atmospheric Emissions Inventory (NAEI).
USA	✓		US PRTR data can be used, for example, in issuing permits. It can be part of an analysis of potential impacts to areas from facilities requesting the permit. Using PRTR data, along with census data and data on other air pollutants collected under other legislation (e.g., particulate matter and nitrogen dioxide), the US EPA determines the overall environmental conditions in the area of the facility. The US EPA then reviews whether or not the activity for which the permit was requested will adversely impact the neighbouring populations. The US EPA also has used the PRTR data to assess the validity of permitting data. The Agency's enforcement programme has reviewed facilities' PRTR data and compared the same facilities' permitting information. Discrepancies point to areas that may require further US EPA review to ensure that a facility is reporting its permitting data correctly. When the US EPA takes enforcement action against a company, there are several options for redress. Besides the traditional examples, such as fines or other penalties, another option is an agreement between the US EPA and the company to take actions that reduce the releases or the generation of toxic chemicals. Under these situations, the company sets reduction goals, which use the US PRTR data as a means of tracking progress. Another example of the integration of PRTR data with other information is the Sector Notebook Project that seeks to take a more comprehensive view of the different industry sectors. The project provides an overview of each sector, the processes typical per sector, and the regulatory framework affecting each sector. In addition, each sector notebook reviews the PRTR data for each sector, recognising the need for a fully multimedia picture of the releases and other waste management from the sector. While the original aim for this project was to provide the US EPA enforcement office with a broad understanding of each industry sector, the initiative was expanded to increase the public's access to this information.

2. Are PRTR data [will PRTR data be] integrated with geographic information systems or other database systems (e.g. systems containing data on risk or hazard assessments, financial information, etc.)**?**

Country	Yes	No	PRTR integration with other information systems
Australia	✓		The database containing NPI emissions data is an interactive geographic information system that allows users to define different geographical areas of interest. A trial database can be viewed at http://www.environment.gov.au/epg/npi/home.html.
Austria			
Belgium Fl.	✓		Currently, we have our own geographic system based on Lambert co-ordinates. In the future we will use the GIS, used by the Flemish Environment Agency.
Canada	✓		The facility-specific information includes geographic co-ordinates so that the data can be integrated with geographic information systems. Standard industrial classification codes for Canada and the United States are collected to permit cross-border comparisons by the industrial sector. This also allows integration of national statistical information with PRTR data. The North American Industrial Classification System codes are being collected for the 1998 reporting year.
Czech Republic	✓		REZZO system.
Denmark	✓		ArcView, Acrinfo, MapInfo, Intergraph, among others
Finland	✓		GIS
Hungary			N/A
Ireland	✓		The PER information may, as resources allow, be used in GIS in the future; however, grid reference for IPC facility locations need to be GPS verified.
Italy	✓		WASTE REGISTER will be integrated with the database systems of the GIS, Chamber of Commerce Industry Crafts and Agriculture net.
Japan		✓	To be considered; no plans at this stage.
Korea	✓		The data will be collected at the Chemicals Information Centre operated by the National Institute of Environmental

Country	Yes	No	PRTR integration with other information systems
			Research (NIER).
Mexico	✓		PRTR data are integrated with geographic information and database systems developed by personnel of the institution. These systems are based in systems such as Arc View, Arc Info, and Oracle.
Netherlands	✓		Integrated with GIS, but not with risk systems.
Norway		✓	This is something we are working on. There is much interest in comparing environmental information with other data, such as economic and financial information.
Slovak Republic	✓		Information is not yet available; therefore, we can only anticipate the use to which the PRTR data will be put, since the results from the first PRTR was published in June 1999.
Sweden			
Switzerland			
UK	✓		The Agency has placed the data on a GIS mapping interface on its internet site http://www.environment-agency.gov.uk and is developing a wide range of other databases (e.g. river quality information) that can be similarly linked. The Pollution Inventory data are also readily integrated with the other databases used by the Agency for regulation of IPC Processes.
USA	✓		Envirofacts: Using the Internet, the public can access the Envirofacts database. This is a US EPA-operated system that provides comprehensive access to environmental information collected under various environmental programmes, including the PRTR. An individual using Envirofacts has several options. He/she can create customised data runs by selecting the report criteria. Another option is to generate maps that show the locations of facilities reporting PRTR data as well as other data. Scorecard: An environmental organisation has created a new Internet site that integrates GIS capabilities with PRTR data and other environmental information, including data on animal wastes. The name of this Internet site is Scorecard. The environmental organisation is seeking to increase public awareness through a user-friendly database.

PART II – PROCESS FOR DEVELOPING A PRTR

A. TRANSPARENCY AND THE INVOLVEMENT OF AFFECTED AND INTERESTED PARTIES

1. In developing the PRTR, was [is] there a consultation process with affected and interested parties?

Country	Yes	No	Consultation process
Australia	✓		
Austria			
Belgium Fl.	Air	Water	
Canada	✓		
Czech Republic	✓		
Denmark	✓		
Finland		✓	
Hungary			NA
Ireland	✓		
Italy	✓		
Japan	✓		
Korea	✓		
Mexico	✓		
Netherlands	✓		
Norway		✓	
Slovak Republic	✓		
Sweden			NA
Switzerland	✓		
UK	✓		
USA	✓		The US has several processes for engaging stakeholders in all changes to the PRTR system.

2. How were [will] interested and affected parties [be] identified and notified about the development of the PRTR and the consultation process (e.g. public notification, direct invitations, etc.)? Briefly describe.

Country	Notification process
Australia	The NEPC Act, under which the NEPM was developed, specifies principles for consultation in the development of Measures. The purpose of the principles is to ensure an open and transparent process in the development of NEPMs. Management and consultative groups were established during the development of the NPI NEPM. The Peak Non-Government Organisation Advisory Group contained representatives of both industry and environment groups and provided policy advice to the NEPC Committee. Public meetings were held in each state and territory during the development of the NPI-NEPM to provide the communities with an opportunity to comment on drafts of the NEPM. Between 1994 and 1996, prior to the decision to develop a NEPM, extensive consultations were conducted on what form Australia's PRTR should take. This consultation process included holding public meetings in cities and regional centres, developing a discussion paper and inviting public submissions on it, and the formation of an advisory committee.
Austria	
Belgium Fl.	Air: The methodology was developed between 1975 and 1981 in a Research & Development Programme, Environment Air. This involved consultation with many interested parties (universities, experts from other countries, etc.). Before the programme became mandatory, the government also consulted with industry representatives.
Canada	Provinces, other federal government departments, major industrial associations, and environmental organisations were (are) contacted. The selection of participants representing environmental organisation is co-ordinated by the Canadian Environmental Network.
Czech Republic	All interested parties, including all governmental sectors (health, agriculture, trade and industry, etc.), industries (Czech Association. of the Chemical. Industry, etc.), universities (Institute of Chemical Technology, Prague), and major NGOs, have been invited to participate in the Intersectional Subcommittee for PRTR**.**
Denmark	Direct invitations to representatives from industry, local authorities and NGOs.
Finland	
Hungary	The official procedure of designing and drafting a legislative act involves the thorough discussion among delegates of the interested government departments. Representatives of individual associations will also be invited. A legal instrument of significant effect to the environment shall be reviewed by a governmental advisory body and a national committee on the environment which consults with the interested NGOs and affected parties.
Ireland	The EPA drafted a guidance note and relevant bodies were notified, by written invitation, to make submissions.
Italy	Interested parties participated at every stage in the development of the Waste Register.
Japan	Public notification to submit comments on the interim report of the pilot programme conducted by EA. Direct invitation to the Technical Advisory Committee to evaluate the outcome of the Pilot Project. Direct invitation to the Central Environment Council and Chemical Production Council as Council members. Public notification to collect comments regarding the discussion at the Central Environment Council and the Chemical Products Council. Direct invitation to a hearing at the Central Environment Council.

Country	Notification process
Korea	The research project in charge of developing PRTR system held a workshop with the affected and interested parties in 1998.
Mexico	Affected and interested parties received public notification. Invitations were also made to industry, academia, and NGOs to participate in the development of the Mexican PRTR system.
Netherlands	Written documentation, co-ordinating committees, etc.
Norway	Very limited consultations were sought during development of the present system (1992). Currently, however, there is broad consultation and information on the PRTR is widely publicised.
Slovak Republic	Experts in chemical safety were selected and invited to participate in the development of PRTR. Experts are the representatives of ministries, institutions, industry, academy and NGOs.
Sweden	Relevant actors will be directly invited.
Switzerland	Direct contacts, working parties, and workshops.
UK	An initial stakeholder meeting was held with representatives of industry, trade associations, environmental groups, government departments, and fellow regulators. This was followed by a publicly available consultation document prior to finalising the initial implementation of the Pollution Inventory. The Agency has set up an external Advisory Committee to advise on the development of the Pollution Inventory. This group includes representatives from the key stakeholders described above. This entire process is described in the "Conclusions of Consultation" document, available from Environment Agency for England and Wales, Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol BS32 4UD, UK. (NB: the title of the Inventory on this document is the *Inventory of Sources and Releases*, as this was the original working title for the Pollution Inventory.)
USA	When the US EPA proposes a change to the PRTR system, it must take several steps to ensure public awareness of this change and provide the public with the opportunity to provide comments and suggestions. Since the US PRTR is a continually evolving system, this is an ongoing process. As a first step, the US EPA must make a formal proposal, which is published in a federal newspaper, called the *Federal Register*. The *Federal Register*, published daily, catalogues all new proposed changes to rules and regulations throughout the federal government. A proposal must identify the rule or regulation that is being changed, describe in detail the types of changes, the reasons for the change, and the office to contact for questions and comments. All proposed changes to the PRTR system also are posted on the PRTR Internet site. In addition, the US EPA frequently contacts stakeholders, in both industry and environmental groups, that may have an interest in the activity, to ensure their awareness of the proposal.

3. Once interested parties were [are] contacted, what was [will be] done to inform and/or consult with them about the development of a PRTR? (For example, town meetings, the creation of a PRTR task force or advisory committee, etc.)

Country	Informing and consulting with interested parties
Australia	Refer to response under question 2.
Austria	
Belgium Fl.	(Air) Creation of an advisory committee.
Canada	When the system was developed, and as modifications are proposed, a multistakeholder working group is formed. The information is given to the working group and the group's reports are published to a wider audience.
Czech Republic	The subcommittee regularly publishes progress reports in scientific journals and at conferences. The mass media are informed.
Denmark	The data in the water-PRTR are collected as an integrated part of the permit system for industries and disseminated to the local authorities. A procedure for the EPER has not yet been finalised.
Finland	
Hungary	
Ireland	All submissions have been assessed by the EPA. Guidance documents relating to IPC licensing requirements are available to the public through the EPA publications office.
Italy	Waste Register: Interested parties are informed and consulted annually.
Japan	Public notification to comment on the interim report of the pilot programme was conducted by the Environmental Agency. Direct invitation to the Technical Advisory Committee to evaluate the outcome of the Pilot Project. Direct Invitation to the Central Environment Council and Chemical Production Council as Council members. Public notification to collect comments regarding the discussion at the Central Environment Council and the Chemical Products Council. Direct invitation to a hearing at the Central Environment Council.
Korea	Experts from Japan and the US explained their PRTR systems to the affected parties, who were subsequently consulted about the enforcement scheme for the PRTR.

Country	Informing and consulting with interested parties
Mexico	A national co-ordinating group (NCG) was formed during the first stage of the pilot project. The NCG was co-ordinated by INE and was composed of seven other Mexican federal ministries, industrial associations, academe and NGOs. The NCG was in charge of discussing and developing the overall objectives and the constituent components of the named *Régistro de Emisiones y Transferencia de Contaminantes (RETC)*. Under the guidance of UNITAR, the NCG developed its own terms of reference, which define members' functions and responsibilities as well as the general agenda and schedule for design of the technical, administrative, and legal strategy for PRTR implementation. The work is reflected in the National Executive Proposal published in March 1997.
Netherlands	Extensive co-ordination circuit.
Norway	Limited consultation, 1992.
Slovak Republic	A National Co-ordinating Team was created. Experts were informed of all proposed activities and their suggestions solicited. They were also asked to comment on the provisional versions of the PRTR.
Sweden	The actors will be invited to a hearing and will have an opportunity to comment on the proposal before the final decisions are made.
Switzerland	Working parties and workshops
UK	The Agency has set up an Advisory Committee to advise on development of the Agency's Pollution Inventory.
USA	When the US EPA posts a proposed change to the PRTR system in the *Federal Register*, the public, including the affected industries, can submit comments or suggestions. These comments may provide evidence or suggestions that require the US EPA to make changes to the original proposal. By encouraging public comment, the US EPA ensures that the final decision is well considered. Allowing public comments also assures that the public, including the affected industries, are prepared for the changes when the Agency puts forward its final decision. After receiving the comments and suggestions, the US EPA responds by posting a Response to Comments in the *Federal Register*. The Agency also may propose changes to the original proposal in response to some of the comments. At the end of the process, an entry in the *Federal Register* details the final decision on the proposed changes. The US EPA also conducts public meetings in various US cities to allow the public to discuss the proposed changes directly with Agency staff. Stakeholder groups also may request meetings with US EPA staff and managers to discuss the changes. In addition, EPA staff members frequently visit the offices of stakeholder groups to make presentations and answer questions about proposed changes.

4. Which "stakeholder" groups were [are] involved in the consultations (e.g. industry, environmental, citizen, academia, experts)**?**

Country	Stakeholder groups
Australia	Industry, environmental and citizen groups, academia, experts, and the general public.
Austria	
Belgium Fl.	Air: industry, academia, and other experts.
Canada	Governments, aboriginal people, labour, industry, and environmental citizens groups.
Czech Republic	Government sectors, industries, universities, and NGOs are included on the Subcommittee for PRTR.
Denmark	Industry experts and local authorities.
Finland	
Hungary	A national association comprising several industries and stakeholder groups consulted by the national committee on the environment.
Ireland	Submissions were requested from government departments, industry associations, fisheries boards, NGOs, legal advisors, industry, public representatives, etc.
Italy	Waste register: industry has been involved in the consultation process.
Japan	Representatives of industry, environmental and citizens' groups, consumer groups, academia, and local governments.
Korea	The affected parties who took part in the workshop included business entities, academic and citizen groups, and expert groups (chemical engineering, toxicology, environment, chemical and others).
Mexico	Industry, academia, NGOs and other consultants.
Netherlands	Industry, experts from research organisations.
Norway	1999: industry, environment groups, mass media.
Slovak Republic	Ministries, institutions, industry, academia, and NGOs.
Sweden	Central, regional, and local level agencies, industry, NGOs.
Switzerland	For the small pilot project, consultants came mainly from the chemical industry. All interested parties were invited to participate in a workshop.
UK	Representatives from government departments, fellow UK environmental regulators, industry and trade associations, environmental groups, and consumer groups
USA	The US EPA involves all stakeholder groups in the development of its PRTR. These include representatives from federal agencies, academia, environmental groups, industry associations, and state governments.

5. How were [are] interested parties, or stakeholders, involved in the development process, and at what stages of the design process? Please describe. For example, developing goals and objective via a town meeting, selection of system components via a task force, etc.

Country	Description of stakeholders' involvement in the development process
Australia	Consultations, through the peak non-government organisation Advisory Groups and the NEPC Committee, public meetings in cities and regional centres.
Austria	
Belgium Fl.	(Air) Initially, stakeholders were consulted in the selection of reportable information, and later, when the air register became mandatory, in the selection of pollutants and threshold values.
Canada	Environment Canada sets the parameters for the consultation. The multistakeholder working group can modify the terms of reference for the group. Environment Canada develops an initial proposal for review and comment by the working group.
Czech Republic	As part of the committee on PRTR.
Denmark	The demand and need for data from industry has been discussed in the paper, "Environment, Industry and Regulations," submitted to the relevant parties. In addition, a seminar was held in the autumn of 1997. Relevant parties will be heard before a final decision is made about the EPER.
Finland	
Hungary	N/A
Ireland	In the development process, by written invitation to make submissions on the draft guidance note.
Italy	WASTE REGISTER: stakeholders were involved by establishment of a task force at the Ministry of Industry, and again in meetings at various stages in the progress.
Japan	To date, developing the basic framework of the system, which was necessary for enacting the legislation, via the process described above (question 2).
Korea	The affected parties provided their input. A key point raised was the need to develop the easy application guidelines on the estimation of chemical releases in order to implement effectively the PRTR.

Country	Description of stakeholders' involvement in the development process
Mexico	To build co-responsibility and consensus towards environmental policies, INE works closely with industrial representatives, universities, and NGOs. Industry representatives have taken a more conservative view in terms of the substances that should be included and public access to information at a facility level. Universities and NGOs tend to be more ambitious on these issues. Government institutions provided information about how environmental data were being collected, the benefits of establishing a PRTR programme, and what kind of inventories could be useful to improve environmental management in Mexico. Industry, academia, and NGOs commented during the PRTR development process and they participated in the decision making of the PRTR's components, such as the toxic substance list, the presentation of the reporting form, and access to information.
Netherlands	Continuous process for over 25 years.
Norway	The interested parties will be asked to function as consultants. The decision on how the system will develop further will be made by the authority responsible for the system.
Slovak Republic	All stakeholders were involved in all stages from the very beginning. All proposals were sent to stakeholders for comments.
Sweden	The proposal is being elaborated in close co-operation with different divisions in the SEPA as well as with the Swedish Chemicals Inspectorate. Others will be approached when a first draft proposal can be presented.
Switzerland	A small pilot project was carried out with the chemical industry. All stakeholders were informed at two workshops. A pilot project is in a development stage involving representatives from federal and cantonal authorities, several industry sectors and NGOs.
UK	Stakeholder meetings allowed interested parties to participate in developing a consultation document. The consultation document was sent out for comment by stakeholders. Finally, the Pollution Inventory Advisory Committee (an external body consisting of all stakeholders) provided comment.
USA	The US Congress develops legislation independent of the federal agencies. During the development of the legislation for the US PRTR in 1986, the US EPA, like the public, had the opportunity to provide comments and suggestions. For the 1988 regulations that elaborated the 1986 legislation, the US EPA received comments and suggestions from stakeholders, and these comments and suggestions were considered before the final 1988 regulations were issued. (For all subsequent changes to the PRTR system, see Question 3). The public also has a proactive mechanism to request changes to the PRTR system. The public, including industry, environmental groups, individual citizens and academia, may issue petitions to the US EPA requesting that the Agency make a particular change. Environmental groups have petitioned to add industry sectors. Industry associations have petitioned to delete certain chemicals from the PRTR list. Another example is the petition from the Governor of the state of New York to add certain ozone-depleting chemicals. Upon receiving these petitions, the US EPA may agree to implement the change, by publishing a proposal in the *Federal Register*. The Agency also may issue a denial, published in the *Federal Register*, which would detail the reasons for denying the petition.

B. PILOT PROJECT OR TEST STUDY

1. Has your country carried out a pilot project or test study? If yes, please describe (e.g. the date and duration of the study, number of chemicals, reporting industries, number of reports received, geographic area of the study, results and recommendations).

Country	Yes	No	Pilot project or test study
Australia	✓		Kalgoorlie, Western Australia NPI Trial 1998-1999: The trial is developing emission-estimation technique manuals for estimating emissions from nickel smelting and gold refining and for estimating emissions relevant to the mining sector. Industry reference groups were formed to provide expertise from a range of processes within the gold and nickel industries. The groups consist of companies involved in the Kalgoorlie Trial as well as a number of other interested companies. The trial is also looking at methods to estimate emissions from non-industrial sources in the Kalgoorlie region. The Kalgoorlie NPI Trial is being run by the Western Australian Department of Environmental Protection and WMC Resources. Southeast Queensland Trial 1997-1998: A trial was held in Southeast Queensland by the Queensland Department of Environment and Heritage in order to develop processes for compiling and presenting the NPI data. It was completed in October 1998. The processes and methodologies developed in the trial will have a significant impact on how the NPI will be applied throughout Australia. Southeast Queensland's industries, including government enterprises and utilities, were invited to volunteer to participate in the trial. Around 125 emission estimation reports were collected from 70 industrial facilities in a 22,246 km^2 zone. The trial method for compiling emission data asked facilities to estimate how much of the substances on the NPI reporting list they used and to submit this data to the trial team. Emissions from smaller companies, domestic sources, and transport were also estimated so that a more complete picture of emissions could be compiled. All of this data has been loaded into the NPI database and is available for viewing at http://www.environment.gov.au/npi/seq_trial.html. Victorian Air Trials 1995-1996: These trials of the NPI were held in Dandenong Port Pirie, Newcastle, and Launceston. The trials, run by the Victorian Environment Protection Authority, collected data on emissions of pollutants to the air. The 1995 trial database illustrated some of the functions that would be available on the national database, which will be ready in early 2000, and was instrumental in determining the shape and look of the current NPI database. Information on this trial is available at http://www.environment.gov.au/epg/npi/database/trials/air_emissions_trials.htmlhttp://www.environment.gov.au/epg/npi/air/emissions/trials.html.
	✓		
	✓		
Austria			
Belgium Fl.	Air	Water	Air. From 1975 until 1977, two areas were involved, Gent (Flanders) and Liège (Wallonia). In 1978 the methodology was tried out nationally (all three regions). In 1982 only the Flemish Region continued with the emission inventory according to the developed methodology.
Canada	✓		A test study on the full list of chemicals was carried out: a few industries volunteered to take part in the initial trial which was small.

Country	Yes	No	Pilot project or test study
Czech Republic	✓		1994**,** initial stage: implementation of Czech Republic into the UNITAR Pilot Programme. 1995, rearrangement of the project, design of the Czech Pilot Study according to UNITAR recommendations (ICT-Prague). 1996, pilot study trial, first part. 1997, completion of the study: Details are in the UNITAR questionnaire which is available from the Ministry of Environment (MOE), Vrsovicka 65, 100 10 Prague, Czech Republic.
Denmark	✓		A feasibility study was conducted to identify methods for collecting emissions data and to propose requirements for a computerised registration system. Based on the study, a pilot project was carried out in an industrialised municipality in 1994/95. The local authorities played an active role in collecting data from 38 enterprises. In principle, all emissions into air and water and waste were included.
Finland	✓		1994, Kymi province: small test study with SMEs on 20 compounds.
Hungary		✓	
Ireland		✓	Although no pilot study was carried out, the PER is being extended every year. The results of PER reports are published annually in the report on IPC licensing and control, which is available on the Agency's web site http://www.epa.ie.
Italy	✓		Waste Register One test study by the National Research Council was carried out in 1977-79, and one by the National Institute of Health in 1988. EPER: a preliminary study is being carried out at the Ministry of Environment to identify IPPC industries and verify the number of chemicals and corresponding thresholds.
Japan	✓		A pilot project was conducted by the Environmental Agency (EA) from June 1997 to September 1998 and a second project is currently being carried out. For the first study, 178 chemicals were reported on by about 1800 manufacturing and other facilities located in part of Kanagawa prefecture, Kawasaki-city and Aichi prefecture, were asked to participate—52% of which reported. The objectives of the pilot project were to verify the entire process, to solve various problems regarding the technical matters, and to increase the understanding of PRTRs by all parties. These goals were met reasonably well. To establish a legal framework of a national PRTR system, more discussion was expected at the Central Environment Council and other bodies.
Korea	✓		The Ministry of Environment (MOE) conducted the first pilot project with 22 enterprises to uncover any problems that might occur in the course of full enforcement. Unfortunately, the result was not satisfactory due to a lack of expertise and experience in estimating releases. Consequently, it became necessary for the government to develop the guidelines for estimating pollutant releases. During August 1997 and June 1998, MOE developed guidelines for the oil refinery and chemical industry sectors as a result of their first research project and then they conducted a second pilot project to apply the guidelines. Since August 1998, MOE has been conducting a third research project to develop guidelines applicable to the other 21 industry sectors, along with software to enable the automatic estimation of the release amount by simple input of some basic data.

Country	Yes	No	Pilot project or test study
Mexico	✓		Following the organisation and definition of the programme's participants, the National Co-ordinating Group (NCG) ran a regional pilot study in the state of Queretaro, Mexico, during 1995 and 1996. Its purpose was to train government personnel and to test industry response to the new environmental management tools before establishing the PRTR nation-wide. The state of Queretaro was selected because of its diversified industrial infrastructure. The pilot project took approximately 10 months to complete and it was developed in 4 phases: planning, preparation, implementation, and analysis. A total of 178 chemicals were to be reported. Of 80 companies invited to participate in this voluntary pilot, only 46 companies (64%) reported.
Netherlands	✓		A half-year pilot project was conducted in South Limburg in 1994. The design was evaluated and finalised for the 1975-1982 system.
Norway		✓	
Slovak Republic	✓		A pilot project was conducted from 1 July 1998 to 31 June 1999. The project involved 80 chemicals, and all industry was invited to participate, with the reports numbering in the thousands. From these, the 50 largest sources of air pollution, the 60 most significant water pollution sources, and the 1048 reports on chemical waste were used for the PRTR. The entire area of Slovakia was covered. As a result of the study, an integrated list has been developed but there is the continuing need to develop relevant legislation in support of the PRTR.
Sweden	✓		The SEPA 1994 pilot study, comprising two municipalities, included 100 companies (large, medium, small) and covered 28 well-known chemicals. A reporting format, together with guidelines and specific information designed to help the company follow the format, was sent out. A descriptive brochure was also provided to encourage participation, which was voluntary. Both the frequency and quality of the responses were low.

Country	Yes	No	Pilot project or test study
Switzerland	✓		In 1996 the Swiss authorities initiated a small pilot project in co-operation with the Basel Chemical Industry. An electronic reporting form was prepared to collect information on the facility/company (name, address, contact person), water and energy use, on the substance (e.g., name, purchase, production, inventory, turnover), quantities of emissions (air, water, and soil / spill and leak), quantities of waste (method of disposal, treatment on or off-site) and quantities of recycling. The quantities were characterised as measured, estimated, or calculated to specify the precision of data reported and to avoid unnecessary costs of measurement. Five companies collected data on five substances (acetonitrile, bis-phenol A, chlorobenzene, dichloromethane, and pyridine) in 17 Swiss facilities for the reporting year 1995. The practical experience showed that it is very important to exactly define the parameters to get comparable data, e.g. the definition of the system boundaries. Furthermore, it turned out to be difficult to establish a reference value showing the relation between emissions or waste to the turnover of a substance. A simplified system was tested by collecting the emission data of the year 1996. The boundaries of the facilities were defined as the boundaries of the system. Therefore only the emissions after the internal waste treatment were taken into account. The results of the small pilot project were published in 1999 (available only in German). As a lot of environmental data are collected by the cantons, they were asked to report on the present status of their data banks on emissions and waste. This survey showed that there are considerable differences in the ways data are collected, stored, and made public. A main problem is confidentiality, as usually only part of the collected data or aggregated information is available. Two workshops (23 April 1997 and 14 September 1999) were organised to inform all interested stakeholders of the project to set up a Swiss PRTR. Presentations were given by representatives from the OECD, federal and cantonal authorities, industries, banks and NGOs. It was an opportunity to evaluate the needs of the parties interested in emission data and the possibilities of data suppliers. A pilot project involving all interested stakeholders including several industries is forecasted to start in 2000. A working party is being set up for planning, scheduling and guiding the process.
UK		✓	
USA		✓	

PART III SYSTEM DESIGN AND COMPONENTS

A. COMPREHENSIVENESS OF THE PRTR

1. What are the current [or proposed] reporting thresholds? (For example, the number of employees in a company, amount of a chemical used or processed, etc.)

Country	Reporting thresholds and comments
Australia	The NPI has the following categories of thresholds: **Category 1** contains a broad range of substances (most of the NPI reporting list substances fall into Category 1). The reporting threshold for a Category 1 substance is exceeded if a facility uses more than 10 tonnes of that substance in a reporting period. **Category 1a** contains Total Volatile Organic Compounds. The reporting threshold for Category 1a is exceeded if a facility uses more than 25 tonnes in a year or if it has a bulk storage facility design capacity greater than 25 kilo-tonnes. **Category 2a** contains a group of substances that are usually common products of combustion or other thermal processes. The reporting threshold for Category 2a is exceeded if a facility burns 400 tonnes or more of fuel or waste in a reporting period or if it burns 1 tonne or more of fuel or waste in an hour at any time during the reporting period. **Category 2b** also contains substances that are common products of combustion or thermal processes. The reporting threshold for Category 2b is exceeded if a facility:) burns 2,000 tonnes or more of fuel or waste in a year; or 2) if it consumes 60,000 megawatt hours or more of energy in a year; or 3) if the maximum potential power consumption of the facility at any time in the year is rated at 20 megawatts or more. **Category 3** contains Total Nitrogen and Total Phosphorus. The reporting threshold is exceeded if a facility's annual emissions to water (excluding emissions to groundwater and sewer) exceed: 15 tonnes per year for Total Nitrogen and 3 tonnes per year for Total Phosphorus.
Austria	
Belgium Fl.	The combination of facilities with a licence class 1 and 2, and yearly emissions above a certain threshold (emissions in kg/year).
Canada	The facility must have 10 employees and must manufacture, process, or otherwise use 10 tonnes of a listed chemical.
Czech Republic	For the first year of reporting, only chemical industries will report. The number of 20 employees is tentatively proposed as a threshold.
Denmark	In principle, all emissions should be reported. Local authorities administer the permit system. All industries, in order to operate, are required to have a permit, including permits to release a certain amount of harmful or hazardous substances.

Country	Reporting thresholds and comments
Finland	Plants with an environmental permit or obligation under the waste or water prior notification requirements must report.
Hungary	N/A
Ireland	There is no threshold for reporting. PER reports must be submitted by any IPC licensee who uses or generates in production-related activities any of the pollutants or categories of pollutants listed on the PER list and when the IPC licence so requires. A copy of the PER list is available from the Environmental Protection Agency Headquarters, P.O. Box 3000, Johnstown Castle Estate, Co. Wexford, Ireland.
Italy	WASTE REGISTER: Reporting thresholds include the number of employees, waste hazard, amount of waste, and business volume for the previous year.
Japan	To be determined by regulations.
Korea	Companies subject to reporting are those with 100 or more employees in 1999 and 2000, and 50 or more employees beginning in 2001. Toxic chemicals in excess of 50 tons per year manufactured, processed and otherwise used in a place of business are subject to reporting.
Mexico	The Mexican PRTR does not have thresholds. Only industries that fall under federal jurisdiction are obliged to comply with the reporting requirements.
Netherlands	Determined by policy departments.
Norway	Holding a permit and having “emissions of any significance”.
Slovak Republic	No thresholds for PRTR. Thresholds are set by the existing legislation.
Sweden	
Switzerland	
UK	The amount of a chemical released determines the reporting requirements.
USA	The US PRTR has an employee threshold of 10 or more full time employees (2000 work hours per year) and two chemical use thresholds. If the facility manufactures or processes a chemical at 25,000 pounds (11,365 kilograms) or greater, the facility must report for that chemical. Processing a chemical means the preparation of a chemical for distribution in commerce. In addition, if the facility uses (i.e., engages in activities that are neither manufacturing nor processing) a chemical at 10,000 pounds (4,545 kilograms) or greater, the facility must report for that chemical. (In fall 1999, the US EPA expects, through regulations, to establish a lower reporting threshold for chemicals that are persistent, bio-accumulative, and toxic. This threshold would be 100 pounds (45.5 kg). For toxic chemicals that are highly persistent and highly bio-accumulative, a threshold of 10 pounds (4.5 kg) will be set. For dioxins and furans, a 0.1 gram threshold will be set.)

2. How was [will] the list of chemicals [be] devised? (e.g. How were chemicals selected?) You may attach the criteria of descriptions of the process to the questionnaire. [NB. For reasons of simplicity, the words *chemical* or *chemicals* will be used. However, these words refer to chemical species as defined by IUPAC.]

Country	Methods for developing the list of chemicals
Australia	An independent Technical Advisory Panel was established by the NEPC to determine a methodology for evaluating substances for inclusion on the NPI reporting list and, subsequently, to develop a reporting list. The Panel produced a draft report that was the subject of national consultation in June 1997. The Panel revised their report, as well as the NPI reporting list, based on comments received during this national consultation process. The Panel's report is available at http://www.environment.gov.au/epg/npi/pubs/publications.html.
Austria	
Belgium Fl.	The selection was made based on relevant parameters for air and water pollution, health effects, toxicity, and reporting obligations.
Canada	The initial NPRI list was based on the 1989 TRI list. Substances that were used in very low quantities or already regulated were removed. The list of substances proposed for addition in 1999 are based on the 1999 US TRI list and the Canadian lists of substances of concern.
Czech Republic	NPRI (Canada) list has been taken as a model for the development of the Czech list. Other proposals are currently under consideration by the Subcommittee according to the List of General Categories in Table 2 of the OECD Guidance Manual.
Denmark	A number of sources, including legislation, obligations in international conventions and agreements, and the Danish List of Undesirable Substances, were used to create the Water PRTR. The EPER is still under development and a decision. has not yet been made. Chemicals will be selected in collaboration with the EU Commission.
Finland	Substances and parameters that are regulated in permits or that are otherwise considered harmful for the environment and health are included. Chemicals with a high indicator value and those required under national and international reporting were also criteria.
Hungary	The lists annexed to the existing legislation on air water and soil protection will be combined. These lists include chemicals of any regulatory concerns. The resulting lists will be supplemented by a list of chemicals of persistent toxic and bio-accumulating properties.
Ireland	The PER list is based on List I and List II substances (EC Directives 75/464/EEC & 80/68/EEC) and on Annex II of the Council Directive on Hazardous Waste 91/689/EEC.
Italy	Waste Register is based on the European Waste Catalogue Code. EPER will be based on the European Pollutant Register's List which is currently under discussion by the Committee of Article 19 of the Council directive 96/61/EC.
Japan	To be determined by regulations based on the advice of specified councils.
Korea	The 80 chemicals manufactured or used most according to a survey of amount of chemicals in circulation in 1996, were selected as having the criteria for designation to the list of toxic chemicals and observational chemicals (Annex 1 of Presidential Decree on Toxic Chemicals Control Act).

Country	Methods for developing the list of chemicals
Mexico	An official norm now under development will establish the selection criteria and the final list of 191 substances to be reported in the PRTR. The selection criteria for the initial list was derived from (1) Mexican Official Standards, (2) the first list of high-risk activities, (3) catalogue of toxic substances of the Ministry of Health, and (4) list of pesticides of CICOPLAFEST. Using parameters of toxicity, bio-accumulation and environmental persistence, the initial list was reduced to a manageable size (191 substances). The list of substances found in international environmental agreements signed by Mexico (i.e., Convention on Climate Change, Montreal Protocol, and CEC resolutions) were the final lists considered for the PRTR substance list.
Netherlands	From a combination of national priority substances and international obligations.
Norway	The list of chemicals has grown slowly since 1992 as the knowledge of industrial pollution increased. The selection of chemicals is done after investigation of the releases from individual enterprises.
Slovak Republic	Chemicals were selected from the existing lists of chemicals (or groups of chemicals) in national legislation.
Sweden	The selection of chemicals will be based on criteria such as toxicity, persistence, and potential for bio-accumulation. The relevance for Sweden of including these chemicals will be checked against the National Product Register. Chemicals for which international reporting is necessary will be added as appropriate.
Switzerland	
UK	This is outlined in the conclusions of a consultation document (isrcon2.doc), available from Environment Agency for England and Wales, Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol BS32 4UD, UK. Substance Selection for Air: Pollutants contributing to the long term potential harm to the "global community"; Pollutants with recognised public health implications leading to low level ozone formation, carcinogens, etc; Pollutants which are persistent, toxic and/or bio-accumulative; and Pollutants for which the UK has international reporting responsibilities, that is, pollutants included in the National Air Quality Strategy (in order to allow comparisons with other sources such as traffic and agriculture). The Agency believes it also needs to be aware of large releases of particular substances where the compound is not specifically listed on the ISR. This applies to Organic compounds (5 tonnes); Halogens (1 tonne); and Acid Forming Gases (1 tonne). Substance Selection for Controlled Waters and Sewer: List 1 or List 2 of the EC Dangerous Substances Directive (76/464/EEC) and subsequent "daughter" Directives; and UK international commitment to report and reduce the load of certain substances that are considered a priority by the International Conferences on the Protection of the North Sea (NSC); or the substance has been identified by the Agency as an endocrine disrupting substance of particular concern.
USA	The original list of chemicals for the US PRTR was provided by the legislation creating the PRTR (US TRI). Congress compiled the original list of approximately 320 chemicals and chemical categories from two lists of chemicals regulated by the states of New Jersey and Maryland. The US EPA has expanded this list to 643 chemicals and chemical categories. The criteria for adding chemicals are found in the EPCRA legislation that established the US PRTR. Because a primary goal of the US PRTR is to provide information about toxic chemicals to local communities, the criteria include one or more of the following: acute toxicity, chronic human toxicity, and environmental toxicity. A more detailed description of the criteria, as provided by the EPCRA statute, is available from the Toxic Release Inventory Program, US Environmental Protection Agency, (7408), 401 M St. SW, Washington, DC 20460.

3. Is there a process for adding or deleting chemicals from the list? Please describe.

Country	Process for adding or deleting chemicals
Australia	Any process to amend the reporting list must be in accordance with the procedures for amending NEPMs set out in the NEPC Act. The NEPM also states that such procedures should be: transparent, allow for any person to make submissions recommending variations to the reporting list, and involve a technical advisory panel to provide recommendations to the Council on addition or deletion of nominated substances to or from the reporting list.
Austria	
Belgium Fl.	Changes can be made when necessary, but this would require a change in the regulations which takes time. We do not foresee another, or easier, process.
Canada	A process is in place for 1999 and 2000. A permanent, on-going process is under development.
Czech Republic	Such a process is being prepared. Governed by the national authority, it will be based on the annual evaluation of reports.
Denmark	Water PRTR – No EPER – Adding and deleting chemicals from the list will be done in collaboration with the EU Commission.
Finland	Environment authorities check the relevancy for each permit period.
Hungary	
Ireland	The EPA reserves the right to add or delete from the PER list as considered appropriate.
Italy	Waste Register has an ad hoc working group that has authority to add and delete chemicals from the list.
Japan	To be determined by regulations based on the advice of the specified councils.
Korea	MOE plans to gradually increase the number of chemicals subject to reporting based on the results of surveys of the amount of chemicals in circulation between 1998 and 1999.
Mexico	This list will be revised every 2 years. The adding or deleting process will be based on the criteria established by the norm.

Country	Process for adding or deleting chemicals
Netherlands	Proposals are made to the co-ordinating committee (CCDM).
Norway	The list of chemicals has grown slowly since 1992, with the increase in knowledge of industrial pollution. The selection of chemicals is done after an investigation of releases from individual enterprises.
Slovak Republic	The existing enabling legislation needs to be modified.
Sweden	
Switzerland	
UK	Chemicals can be added or deleted through recommendation from the Advisory Committee and through Agency action.
USA	Before adding or deleting chemicals, either at the request of the public or from internal decisions, the US EPA publishes a public notice in the *Federal Register* to advise the public about the proposed addition or deletion and to solicit comments. A second notice in the *Federal Register* responds to these comments. The Agency then issues a final decision, also published in the *Federal Register*. For making its decisions on whether to add or delete a chemical, the US EPA reviews the toxicity data available for the chemical(s) in question. The toxicity criteria are provided by the EPCRA legislation.

4. How many chemicals are currently [will be] subject to reporting?

Country	Number of chemicals subject to reporting
Australia	90; however, data on 36 chemicals will be collected in 1998 and 1999.
Austria	
Belgium Fl.	Air, 63; Water, 162
Canada	245
Czech Republic	
Denmark	Approximately 300.
Finland	Approximately 50
Hungary	Approximately 200-250
Ireland	See PER list of substances.
Italy	
Japan	To be determined.
Korea	80
Mexico	191
Netherlands	150 (excluding solid waste); however, 30 are under discussion. (180 total).
Norway	Approximately 250
Slovak Republic	
Sweden	
Switzerland	
UK	183
USA	643

5. Does your PRTR cover [will it cover] releases to air, land, or water?

Country	Air	Water	Land	PRTR coverage of releases
Australia	✓	✓	✓	
Austria				
Belgium Fl.	✓	✓		Separate inventories
Canada	✓	✓	✓	
Czech Republic.	✓	✓	✓	
Denmark	✓	✓		Planned EPER (water inventory currently operational)
Finland	✓	✓	✓	Separate inventories
Hungary	✓	✓	✓	Planned
Ireland	✓	✓	✓	
Italy	✓	✓	[✓]	Proposed EPER, plus the operating waste register.
Japan	✓	✓	✓	
Korea	✓	✓	✓	
Mexico	✓	✓	✓	
Netherlands	✓	✓	✓	
Norway	✓	✓	✓	
Slovak Republic	✓	✓		
Sweden	✓	✓	✓	
Switzerland	✓	✓	✓	Planning stage
UK	✓	✓	✓	
USA	✓	✓	✓	Air emissions are broken down into two categories, fugitive releases and stack releases. Water emissions are broken down by the identity of the receiving stream. For Land, releases are broken down into five categories. These are: 1) landfills covered by a specific permit (RCRA Subtitle C), 2) other landfills, 3) land treatment/application farming, 4) surface impoundment, and 5) other disposal.

6. Are [will] transfer data [be] collected?

Country	Yes	No	Comments on collection of transfer data
Australia		✓	The inclusion of transfer data will be reviewed by the NEPM that is due to commence in October 1999.
Austria			
Belgium Fl.	Water only		
Canada	✓		
Czech Republic	✓		Planned
Denmark	✓		If "transfer" is waste (e.g., hazardous waste), then transfer data are being collected
Finland		✓	
Hungary	✓		Planned
Ireland	✓		
Italy	✓		Yes, for transboundary wastes in the waste register.
Japan	✓		
Korea	✓		Planned
Mexico	✓		
Netherlands	✓		
Norway	✓		On-site transfers within the facility.
Slovak Republic	✓		Planned
Sweden			
Switzerland			
UK		✓	
USA	✓		The off-site transfer data are broken down according to the fate of the transferred chemical. Transfers off-site may be for disposal, treatment, recycling, energy recovery, or for treatment at water treatment facilities.

7. Are public facilities subject to reporting?

Country	Yes	No	Comments on public facility reporting
Australia	✓		
Austria			
Belgium Fl.		✓	
Canada	✓		
Czech Republic	✓		
Denmark	✓		
Finland	✓		
Hungary			N/A
Ireland	✓		
Italy	✓		For Waste Register
Japan	✓		Planned
Korea	✓		
Mexico	✓		
Netherlands	✓		
Norway	✓		
Slovak Republic	✓		
Sweden			
Switzerland			
UK	✓		
USA	✓		Federal facilities are required by an executive order by the US President to report to the US PRTR. Some state governments also require state facilities to report to the PRTR.

8. Is [will] reporting [be] on a facility (site-specific) basis?

Country	Yes	No	Comments on facility reporting
Australia	✓		
Austria			
Belgium Fl.	✓		For both air and water.
Canada	✓		
Czech Republic	✓		
Denmark	✓		
Finland	✓		
Hungary	✓		Proposed.
Ireland	✓		
Italy	✓		
Japan	✓		
Korea	✓		
Mexico	✓		
Netherlands	✓		
Norway	✓		
Slovak Republic	✓		
Sweden	✓		Large facilities only.
Switzerland			
UK	✓		
USA	✓		Facility-specific data are essential for communities to have the information necessary for taking action to protect the local environment.

9. Which industries (i.e. point source emitters) report [will report] PRTR data? For example, the chemical industry, the automobile industry, etc.

Country	Reporting industries
Australia	Any facility that exceeds the thresholds must report. The following are **exceptions**: a mobile emission source (i.e., an aircraft in flight or a ship at sea) operating outside the boundaries of a fixed facility; a petroleum retailing facility engaging in the retail sale of fuel; a dry-cleaning facility employing less than 20 persons; a scrap-metal handling facility trading in metal that is not engaged in the reprocessing of batteries or the smelting of metal; a facility, or those parts of a facility, engaging solely in agricultural production, including the growing of trees; aquaculture, horticulture or livestock raising (unless it is engaged in processing of agricultural produce or intensive live-stock production such as a pig sty or a cattle feedlot).
Austria	
Belgium Fl.	The relevant industries are contained in a list of "Facilities causing Nuisance" and in annexes to the annual report "Lozingen in de lucht" which are available from Vlaamse Milieumaatschappij/Flemish Environment Agency, Alfons Van de Maelestraat 96, 9320 Erembodegem, Belgium.
Canada	All point sources unless specifically exempted. Exemptions include schools, laboratories, hospitals, motor vehicle repair, retail distribution and sale of goods, fuel distribution, and growing or extraction of natural resources (processing is not exempted).
Czech Republic	It is intended that, after the first year of reporting (i.e. 2000 or 2001), all point source emitters will be required to report. Possible thresholds are currently under discussion.
Denmark	Water-PRTR: In principle, all facilities with emission to marine water. EPER: Facilities included in the Annex to the IPPC directive.
Finland	All industries with significant emissions.
Hungary	N/A
Ireland	All IPC licensees who use or generate pollutants on the PER list in production activities must submit PER reports. The activity sectors are listed in the first schedule to the EPA act, 1992. Additional information is available from the Environmental Protection Agency, EPA Headquarters, P.O. Box 3000, Johnstown Castle Estate, Co. Wexford, Ireland.
Italy	For the Water Register, all point source emitters will report PRTR data. For the EPER, the question is under discussion.

Country	Reporting industries
Japan	To be identified by regulations.
Korea	Oil refinery and chemical industries (KSIC 23, 24) in 1999 and the 23 business sectors (KSIC 15<19, 21<36, 74, 93) from 2000 onward.
Mexico	Chemical, petrochemical and petroleum, paints and ink, automotive, paper and cellulose, metallurgic, glass, asbestos, cement, limestone, hazardous waste treatment industries and power plants
Netherlands	All large point sources.
Norway	All major industries (chemical, mines, textile, pulp and paper, metal plants [Al, Fe, Si, etc.], combustion plants, refinery, food industry, etc.).
Slovak Republic	All industries.
Sweden	The proposal is expected to cover industrial activities such as IPPC activities and the largest Class A industries, according to the Environmental Code.
Switzerland	
UK	*Current*: IPC Industry (SI 472), Subject to Part A of the EPA 1990. These include the power industry, chemical industry, metal industries, mineral/cement industries, and others, e.g., incinerators. *Planned*: large and medium STWs, landfill sites, and other processes subject to IPPC Directive, e.g., intensive livestock farming.
USA	The following are required to report: all manufacturing industries (e.g., chemical, automobile, furniture, food processing); electricity generating facilities; coal mining facilities; metal mining facilities; petroleum bulk storage facilities; chemical wholesale facilities; federal facilities; hazardous waste treatment facilities; and solvent recovery facilities.

10. Are [will] data [be] collected from diffuse sources? If yes, from which sources or sectors (e.g. households, transport, agriculture, etc.)?

Country	Yes	No	Comments on diffuse source collection
Australia	✓		The States and Territories are responsible for estimating emissions from diffuse sources such as motor vehicles, aircraft, and lawn mowers. Emissions from facilities that do not trigger the thresholds will also be included in these estimations. The Commonwealth, States and Territories have identified priority airsheds and water catchments for which aggregated emissions will be estimated in 1998-1999 and 1999-2000.
Austria			
Belgium Fl.	Air	Water	Air: Households, transport, agriculture (see Annex 3 to the legislation, available from Vlaamse Milieumaatschappij/Flemish Environmental Agency, Alfons Van de Maelestraat 96, 9320 Erembodegem, Belgium).
Canada	✓		Other sources of information are used to estimate releases of listed substances from selected sources such as motor vehicle use and dry cleaning.
Czech Republic		✓	Because collection of data from diffuse sources is fairly complex, it is not currently proposed.
Denmark		✓	
Finland		✓	
Hungary		✓	
Ireland		✓	
Italy		✓	
Japan	✓		Emission sources to be estimated will be identified at a later stage.
Korea	✓		Ministry of Environment (MOE) plans to include releases from diffuse sources, such as household, pesticide, small- and medium-sized-enterprises and others in the PRTR system to provide data to support the identification and assessment of possible risks. MOE is surveying the amount of chemicals in circulation between 1998 and 1999 in order to build a PRTR system for diffuse sources.
Mexico		✓	

Country	Yes	No	Comments on diffuse source collection
Netherlands	✓		Households, agriculture, transport, nature, SME
Norway	✓		Only diffuse sources at plants/enterprises holding a permit according to the act
Slovak Republic		✓	
Sweden	✓		Only SMEs at this stage
Switzerland			
UK	✓		Non-point fugitive sources are covered by industry. Diffuse sources are covered by agriculture.
USA		✓	The present information on non-point sources is limited in the US PRTR. The US EPA, however, recognises the benefits of including non-point source information in the PRTR. In the US EPA's report on the 1996 PRTR data, for instance, there are discussions on pesticides applications, which provides greater context to the point source information submitted by pesticides manufacturers. The Agency will continue to review information available on non-point sources for inclusion in future publications of the PRTR data.

11. What data or additional information (other than release and transfer data) are collected on the PRTR report? For instance, accidents and spills, underground injection, amount of chemical used, use/waste ratios, etc.

Country	Additional data/information collected
Australia	Only emissions data are reported to the States and Territories. However, spills of NPI substances into the environment should be reported if the substance threshold is reached.
Austria	
Belgium Fl.	Air: Information about installations, consumption of fuels and raw materials, data on final products, stacks and pipes, emission periods and reduction measures. Water: Information about installations, production processes, emission periods and reduction measures.
Canada	Accidents, spills, and underground injection are reported along with other releases. Production/activity ratio has been included on a voluntary basis since 1998. The report also includes the number of employees at each facility.
Czech Republic	One-time non-production releases (natural disasters, remedial actions) are suggested for the first year of reporting. Other sets of data are proposed for future inclusion.
Denmark	EPER: Not yet decided, but probably accidents.
Finland	Supervision and permitting documents.
Hungary	
Ireland	The PER Report is not an emissions inventory but a mass balance; therefore, usage in the year is tracked against emissions into air, water and waste, and the amount lost to production, treatment, and recovery/recycling. The remainder is listed as "unaccounted", and thus facilitates the "closing" of the balance. The IPC licensee provides information on the eco-efficiency of their operations with respect to PER substances. Two indices are reported, the IGEE (Index of Gross Eco-Efficiency), which is the proportion of gross process waste to gross usage, and INEE (Index of Net Eco-Efficiency), which is the proportion of net process waste to gross usage. The indices are very useful trending tools. Incidents at IPC facilities, such as accidents and spills, are not included in the PER Report.
Italy	For the Waste Register, annual residual volume of waste discharges is collected.
Japan	To be considered (no plans at this stage).
Korea	Facility identification, stream or water body name, latitude and longitude, toxic chemical identification, amount of chemicals used or manufactured, maximum amount of toxic chemical on site, ratio of reporting year release amount to prior year release amount, source reduction activities, and other elements.
Mexico	Accidents and spills, amount of chemical used, activity indicators.
Netherlands	Accidents and spills, transfer and treatment of waste water, storm sewer deposition leaching.
Norway	Waste per year production volumes; products; noise (as a pollutant).

Country	Additional data/information collected
Slovak Republic	No additional data are collected on the PRTR report.
Sweden	The proposal is expected to cover the amount of chemicals released to air, water, and land.
Switzerland	
UK	Accidental releases (releases mandated under EPA 1990). Proposed to encompass Energy Efficiency under IPPC.
USA	The US EPA includes specific data elements, in addition to releases and transfers, to ensure the public's access to a more comprehensive picture of waste management at facilities. The goal is to provide the communities with information on the total production-related waste at local facilities. Underground injection: Broken into two categories; (1) Facilities may report the amount injected into Class I wells and (2) the amount injected into Class II – V wells. On-site waste management is broken down according to the method of waste management. These methods include on-site treatment, on-site recycling, and on-site energy recovery. On-site waste treatment method: Using codes supplied by the US EPA, the facilities indicate the types of treatment methods employed to treat the waste containing the reported chemical. This information provides the public with an explanation about the steps the facility is taking to reduce releases. Off-site waste management: Broken down according to the fate of the transfer. These are transfers for disposal, transfers for treatment, transfers for recycling, transfers for energy recovery and transfers to water treatment facilities. Identity of receiving facilities: For all transfers of a chemical off-site, whether for disposal, treatment, recycling, or energy recovery, the reporting facility must identify the name and address of the receiving facility, allowing the communities near those receiving facilities to have the appropriate information directive. Source reduction actions: Facilities are asked to indicate, using codes provided by the US EPA, the types of source reduction activities undertaken in order to minimise the use of the reported chemical. Waste management projections: For each category of waste management (e.g., on- site treatment, off-site recycling, on-site releases) facilities are asked to provide estimates for the next two years on the amount of waste projected for each reported chemical. Just as the collection of PRTR data has encouraged facilities to confront their waste generation, these data elements encourage facilities to consider future actions to reduce the waste generation.

B. DATA HANDLING, MANAGEMENT AND DISSEMINATION

1. Briefly describe how reported data are [will be] verified and checked for quality, e.g. what type of quality assurance / quality control programme exists?

Country	Data verification method
Australia	The States and Territories are responsible for assessing the integrity of data reported by facilities within their jurisdictions before providing the information to the Commonwealth. While the Memorandum of Implementation Relating to the Implementation of the NPI has provisions for States and Territories to conduct compliance inspections, the government's focus in this first reporting period is on identifying reporting facilities and encouraging them to report.
Austria	
Belgium Fl.	Air: Annual emissions are checked with results of measurements, existing emission factors and calculations based on reported fuel consumption. Water: Annual reported emissions and the emissions reported for tax calculations are checked with results of yearly measurements, for only a limited number of parameters, by the government from the 800 largest emitters.
Canada	The data are verified using error-checking routines in the reporting software. Reported information is also analysed and outliers are identified and verified. Analysis by industrial sector is also performed.
Czech Republic	Not available, but the necessity for such a programme is recognised.
Denmark	EPER: it is not yet decided; it will be developed in collaboration with the EU Commission.
Finland	Environment authority checks the quality by comparison and other means.
Hungary	
Ireland	The IPC licensee submits a PER proposal which includes the substances to be tracked and the methods of measurement. This proposal must be approved by the EPA before the PER report is generated. The PER report, when submitted, is assessed by the EPA, and the methodology may be audited on-site by the EPA.
Italy	For the Waste Register, data are first checked for quality by an expert task force under an agreement among the Chamber of Commerce, Industry, Crafts and Agriculture, and then validated by National Environmental Agency and National Institute of Statistics.
Japan	Not yet discussed, but a manual for estimation will be developed and distributed.
Korea	The expert group of the Chemical Substance Evaluation Committee will check the reporting data. The Ministry of Environment (MOE) will supply the software enabling automatic estimation of release amounts and electronic reporting formats to the business sector to enhance the accuracy of the reporting data.

Country	Data verification method
Mexico	For the first cycle of reporting there were no verification procedures. Data were collected and captured to the database the same way they were handed to INE. However, a pilot project with the World Bank is about to begin. The main objective of this project is to evaluate the quality of data in each of the reports by developing a QA/QC system. A project with the US Environmental Protection Agency, sponsored by the CEC, is also under development. This project focuses on the incorporation of a QA/QC procedure into the actual reporting software. With this modification, industry will only be allowed to capture validated information into the reporting software.
Netherlands	Expert judgement and consensus.
Norway	The annually reported data are controlled by the officer in charge of the permit. The control consists of a comparison with figures reported and compared with the production volume reported. The Authority can also visit any plant if necessary to check compliance with conditions in the permit and to check the reporting routine at the enterprise.
Slovak Republic	The Inspectorate of Environment monitors compliance with environmental legislation.
Sweden	
Switzerland	
UK	Data provided by the operator are entered by Agency administrative staff for IPC Processes. At this stage the Agency Pollution Inspector (usually with a detailed knowledge of process industry operation) responsible for the process will QA the data against the original form to ensure accuracy in input and to assess the accuracy of the original information provided by the operator. These data are then "signed off" as suitable for public access on the internet. Various other electronic checks are also carried out, including a check against previous years' figures and comparison against similar processes on the Pollution inventory.
USA	The US EPA conducts numerous data quality checks to ensure that data are correctly entered into the database. Considering that the US EPA receives over 100,000 PRTR reports each year, 100% verification of data is not feasible. Therefore, the US EPA conducts the following activities to assure the greatest degree of data accuracy: *4% verification*: The US EPA staff personally verify 4% of the PRTR reports submitted on paper, comparing these reports with the data in the PRTR database. As more facilities submit their PRTR data on diskette, the percentage verified by US EPA staff is expected to rise to 10%. *100,000 pound review*: All PRTR reports for which the total releases are greater than 100,000 pounds (45,454 kilograms) are checked for accuracy. *Facility review*: Each reporting facility receives a computer-generated copy of the release and other waste management data in the PRTR database for that facility. The facility is asked to verify that the PRTR database data are the same as the data submitted by the facility. If the data are invalid, the facility contacts the US EPA to correct the data. *Comparisons with state PRTR data*: Each reporting facility is required to submit two copies of its PRTR reports, one to the federal government and one to the state in which it is located. The US EPA, therefore, compares the federal government's PRTR data for each state with the data that each state has entered into its state PRTR databases. Discrepancies identify data quality issues.

2. Are [will] PRTR data [be] <u>accessible</u> to the public?

Country	Yes	No	Accessibility of data to public
Australia	✓		
Austria			
Belgium Fl.	✓		
Canada	✓		
Czech Republic	✓		
Denmark	✓		
Finland	✓		
Hungary	✓		
Ireland	✓		
Italy			
Japan	✓		
Korea	✓		
Mexico	✓		
Netherlands	✓		
Norway	✓		
Slovak Republic	✓		
Sweden			
Switzerland			
UK	✓		
USA	✓		

3. Are [will] PRTR data [be] actively disseminated to the public? If yes, please list what medium is used to present and disseminate the data. (For example, newspapers, electronic/Internet, microfilm or microfiche placed in public libraries, journals, etc.) **If no, but the data are accessible to the public, how does the public learn of such data and gain access to it?**

Country	Yes	No	Internet	CDROM	Public Libraries	Universities	Other Institutions	Other
Australia	✓		✓	✓	✓	✓	✓	✓
Austria								
Belgium Fl.	✓		Air: Annual report "Lozingen in de lucht" is distributed on a large scale. Specific emission data (site, area, etc.) are given on request. In the future, some information will be available on internet. Water: None, although specific emission data (site, area, etc.) are given on request. Some information is available on Internet.					
Canada	✓		✓	✓	✓	✓	✓	✓
Czech Republic	✓		✓					✓
Denmark	✓		Since 1993 the EPA has annually published the results of the Aquatic Environment Plan related to point sources (like water purifying plants and industries). The publications are accessible on the Internet. The plan focuses on emissions of organic compounds, nitrogen and phosphorus. In addition a number of industries are required to carry out a green account, which is also accessible at the Internet. The EPER will be reported by the European Environmental Agency.					
Finland		✓						
Hungary								
Ireland	✓		The annual report on IPC licensing and control has a section on PER, which is a summary of the information submitted to the EPA during the previous year. The 1997 report is available to view on the EPA internet site, http://www.epa.ie. In the future, PER reports may be downloaded, by IPC facility, to the EPA's internet site.		PER reports are available to view, in hard copy, on the public files, which are accessible in EPA Headquarters and regional offices.			✓
Italy	✓		The Ministry of National Environmental Protection Agency (NEPA) publishes Waste Register related PRTR data.					

Country	Yes	No	Internet	CDROM	Public Libraries	Universities	Other Institutions	Other
Japan	✓		✓					to be determined
Korea	✓		✓					
Mexico		✓	The public learns about the existence of these data through NGOs. The public's right to know is guaranteed in Article 159 of the environmental law: "Every person has the right to request environmental information from the Ministry, states, Federal District and municipalities. For this disposition, any written, visual or database information on air, water, soil, flora, fauna and natural resources is considered environmental information."					
Netherlands	✓		✓					✓
Norway			All data are accessible to the public. Any report submitted to the Authority is considered a public document; with few exceptions, the public have the right to see (or have a copy of) any paper of interest. The rules are cited in The Freedom of Information Act.					
Slovak Republic	✓		✓					✓
Sweden								
Switzerland								
UK	✓		✓	The Agency has carried out a high profile publicity campaign including production of a "glossy leaflet". For those with no Internet access the Agency has provided an information service through its free customer telephone helpline.				
USA	✓		✓	✓	✓	✓	✓	✓

4. Are [will] facility and chemical-specific raw data [be] disseminated?

Country	Yes	No	Dissemination of raw data
Australia	✓		
Austria			
Belgium Fl.		✓	
Canada	✓		
Czech Republic		✓	
Denmark	✓		
Finland		✓	
Hungary			
Ireland	✓		
Italy	✓		
Japan		✓	To be provided when requested.
Korea	✓		
Mexico		✓	
Netherlands	✓		
Norway		✓	It is planned that facility specific data will be available as Internet in 2000.
Slovak Republic	✓		
Sweden			
Switzerland			
UK	✓		
USA	✓		

5. Are aggregated data disseminated? If yes, in what form?

Country	Yes	No	Form used for dissemination
Australia	✓		Internet, CD ROM's, Reports
Austria			
Belgium Fl.	✓		Air: Emissions by site are available to the public, not by stack. More detailed information is only used by government for modelling and policy purposes. Water: Some emissions by site are available to the public. More detailed information is only used by government for modelling and policy purposes.
Canada	✓		In the yearly summary report.
Czech Republic	✓		Internet, hard copy.
Denmark	✓		Both aggregated and raw data are published in the Point Source Report from the EPA.
Finland	✓		Environment and emissions reports and information bulletins.
Hungary			
Ireland	✓		In the annual report on Response: IPC licensing and control, and the EPA's internet site, as described above.
Italy	✓		The NEPA documents are disseminated by Internet, but the system is being perfected.
Japan	✓		By a written report and via Internet
Korea	✓		The data to be disseminated will be classified according to chemical species, areas, business, media (air, water body or soil) etc.
Mexico	✓		PRTR information will be disseminated at an aggregated level. Information on releases and transfers will be disseminated at municipality levels in each state of the country.
Netherlands	✓		Currently, an annual summary report (in Dutch and English) is distributed.
Norway	✓		The data reported to the Authority gives us the raw material for production of the document, *Pollution in Norway.*
Slovak Republic	✓		It is planned to use Internet and to prepare hard copies of PRTR publications.
Sweden			
Switzerland			
UK		✓	While they are not currently disseminated, a report of aggregate data was distributed in the past. An environmental burden system is under development.
USA	✓		In addition to the chemical- and facility-specific data provided to the public, the US EPA provides analyses of the data in an annual publication called the Public Data Release. This document aggregates the data across the nation, for each state, by industry sector, by certain groups of chemicals (e.g., carcinogens, ozone-depleting chemicals, heavy metals), and by each medium (e.g., air releases, off-site transfers for disposal, amounts treated on-site, total releases on and off site, total production-related waste).

PART IV – USE OF PRTR DATA AND RESULTS

A. ASSESSMENT OF POSSIBLE RISK TO HUMANS

1. Briefly describe key programmes in which PRTR data are [will be] used in the assessment of possible risks to human health and the environment.

Country	Key programmes in which PRTR data are/will be used
Australia	NA at this stage
Austria	
Belgium (Fl.)	Data of the emission inventory are sometimes compared with emission results and discovered health effects.
Canada	PRTR data are used for the evaluation of Canadian priority substances. Once a substance is determined to be toxic, PRTR data are used to develop control options. PRTR data are used to monitor releases and transfers for toxics and substances of concern over time.
Czech Republic	For these purposes, PRTR data will be used primarily by the Intersectoral Committee for Chemical Safety. The use by local authorities is foreseen.
Denmark	Council Regulation (EEC) on the evaluation and control of the risks of existing substances and for substances under the High Production Volume Chemicals Programme of the OECD.
Finland	No such programmes exist.
Hungary	The national programme of environmental protection launched in 1997 established a framework for assessment and reduction of chemical risks. The national environmental health programme, also launched in 1997, is aimed at reducing the pollution of human health concern.
Ireland	Although no programmes are currently underway, it is anticipated that, as resources allow, GIS maps may be generated to determine concentrations of pollutants by area.
Italy	Waste Register data are made available by the administrations involved in human health and environment risk assessment.
Japan	Taking PRTR data into consideration, the national government will conduct environmental monitoring and studies concerning effects to human health and the environment.
Korea	NIER will evaluate the possible exposure to the public with a GIS modelling programme based on PRTR data and will set the priority of chemicals for risk assessments of the chemicals.
Mexico	Information gathered in the PRTR will be used for environmental and health risk assessment for the Programme of Environmental Management of Toxic Substances of Environmental Priority developed by the INE Directorate of Substance Management.
Netherlands	Research at RIVM, RI2A and universities.
Norway	The reported figures give the authorities (at all levels) information about the state of the environment, and can lead to any necessary action. Please keep in mind that the system has only information from enterprises holding a permit according to the act.

Country	Key programmes in which PRTR data are/will be used
Slovak Republic	
Sweden	
Switzerland	
UK	The Agency sees the Pollution Inventory as a key regulatory tool for itself and for Government. It will impact on the regulatory procedures for which the Agency has responsibility.
USA	Examples of regulatory programmes in which the US PRTR data is used for assessing possible risks, or in developing tools to assess possible risks to human health and the environment include: Chemical Testing: There are many chemicals for which there is limited or no information about the toxicity. Such information is essential for determining potential risks from chemical releases. The US EPA uses the PRTR data, along with other information (e.g., production volume data), to prioritise chemicals that should undergo testing. A primary goal is to ensure the public's access to information on the toxicity of chemicals, particularly chemicals that are released or transferred from local facilities. Waste Minimisation National Programme: Using US PRTR data on waste, the US EPA is working to minimise potential risks to human health and the environment from those wastes. Facilities that hold specific permits are targeted. The programme has overlaid a grid on the nation and uses PRTR data with other information to prioritise areas, based on potential risk. Those areas deemed to be at the greatest risk are targeted for more immediate attention to reduce waste generation. National Air Toxics Initiative: For 188 chemicals identified as hazardous air pollutants, the US EPA is using PRTR data for air releases, along with other information (e.g., data on mobile sources and area sources), to prioritise areas according to potential risks from the air pollutants. This prioritisation allows the US EPA to target areas for assistance to reduce the emissions. Source Water Protection Programme: US EPA regulations that target potential risks to drinking water use PRTR data for water releases, along with other available information on small source data, to identify the sources of toxic chemicals. After identifying sources, the individual states are required to conduct an inventory of these chemicals and sources. The goal of the programme is to increase awareness among state governments and the public about the presence and sources of these toxic chemicals in the watersheds or wellheads used as sources of drinking water. Through this awareness, the releases of these chemicals, and thus the risks posed by them, would decrease over time. Hazardous Air Pollutants: Following the publication of the first years of the PRTR data, the US Congress enacted legislation that targeted the air emissions of toxic chemicals. The law required the US EPA to enact regulations to reduce these air emissions. Using PRTR data with emissions data from other sources, the US EPA identified 188 chemicals as Hazardous Air Pollutants, which would be subject to this law. Urban Strategy: The US EPA is targeting the air emissions of 30 toxic chemicals that can have an impact on urban air conditions. The goal is to reduce the potential risk posed to urban areas by these emissions. The targeted chemicals are a subgroup of the 188 Hazardous Air Pollutants (HAPs), which themselves are a subgroup of the US PRTR chemical list. The programme takes regulatory action to reduce these air emissions. The US PRTR data are used, along with estimates for small and non-point sources, to determine emissions. Action Plans for Persistent, Bio-accumulative Toxics (PBTs): The US EPA is establishing national action plans to reduce the incidence of PBT chemicals. The PRTR data for PBT chemicals assist in the selection of chemicals for new action plans. With the proposed lower thresholds for PBT chemicals, this project should have improved information on the releases and other waste management of PBT chemicals.

B. IDENTIFYING POLLUTION AT THE SOURCE

1. Are [will] PRTR results [be] used to support and encourage pollution prevention? For instance, to identify candidates for cleaner technology, to encourage source reduction, for materials accounting, etc.?

Country	Yes	No	Uses of PRTR results
Australia	✓		Two of the objectives of the NPI are (1) to promote and assist with the facilitation of waste minimisation and cleaner production programmes for industry, government and the community and (2) to provide information to enhance and facilitate policy formulation and decision-making for environmental planning and management. As the programme gains maturity, data generated through the NPI will be used for these purposes.
Austria			
Belgium Fl.	✓		Data of the emission inventory are used to support environmental policy.
Canada	✓		PRTR data are used to set priorities in targeting pollution prevention programmes and to encourage action on the part of industry.
Czech Republic	✓		By Ministry of Environment (MOE) and other sectoral ministries, industries and NGOs.
Denmark			
Finland			
Hungary			
Ireland	✓		PER facilitates the elimination and reduction of emissions through the use of cleaner technologies; implementation of efficient and effective pollution control systems; and identification of options for improvement, such as improved measurement, material substitution by less harmful ones, and waste minimisation.
Italy	✓		The Waste Register results are being used currently, and the EPER results will also be used.
Japan	✓		Possible

Country	Yes	No	Uses of PRTR results
Korea	✓		Ministry of Environment (MOE) will set the priority for chemicals to be reduced and will encourage enterprises to voluntarily reduce the release amount of toxic chemicals through good operating practice, process and procedure modification, substitution of raw materials or others.
Mexico	✓		Information gathered by the PRTR will provide industry with additional tools for decision-making to promote: clean technology, use of alternative fuel and other materials, improved manufacturing processes, etc.
Netherlands	✓		
Norway	✓		This was one of the main goals for the system as it was designed.
Slovak Republic	✓		Such use of the PRTR results is intended.
Sweden			
Switzerland			
UK	✓		
USA	✓		Pollution prevention data elements are on the PRTR reporting form. Facilities must report on on-site waste management (e.g., treatment, recycling and energy recovery) and off-site transfers for further waste management (e.g., treatment, recycling and energy recovery). Facilities must make projections for the next 2 years for releases and for on- and off-site waste management in order to encourage facilities to consider future waste generation and how that waste might be reduced. Facilities also must provide information on source reduction steps taken during the reporting year. The 33/50 Programme is an example of an initiative that used PRTR data to encourage facilities to make reductions in releases and transfers through the use of pollution prevention actions. The programme aimed to achieve a 50% reduction in the releases and transfers, as reported to the PRTR, of 17 PRTR chemicals. The US EPA profiled numerous companies that reduced their releases and transfers through pollution prevention efforts. States also are using PRTR data to foster pollution prevention. Programmes in New Jersey and Massachusetts are two examples. These two states use PRTR data to identify facilities that release or manage toxic chemicals and then work directly with the facilities to reduce the generation of these toxic chemicals. This assistance can be technical support to identify new technologies or substitute chemicals. Both states have set 50% state-wide reduction goals for the generation of toxic chemical wastes.

2. Are [will] PRTR results [be] used to support and evaluate the performance of environmental policy?

Country	Yes	No	Comments on PRTR results and the evaluation of environmental policy
Australia	✓		Please refer to response in IV, B, 1 above.
Austria			
Belgium Fl.	✓		
Canada	✓		One of the stated uses of the Canadian PRTR is to track progress in reducing the risks posed by the release of chemicals.
Czech Republic	✓		By the Ministry of Environment and other sectoral ministries, industries, and NGOs.
Denmark	✓		
Finland	✓		
Hungary	✓		
Ireland	✓		
Italy	✓		The Waste Register results are currently being used, and the EPER results will also be used.
Japan	✓		Possible
Korea	✓		The PRTR database will be used to conduct assessment of possible risk to support environmental policies, such as establishing or enforcing emission standards.
Mexico	✓		The information provided by the PRTR will allow the government to establish priorities in the following issues: environmental performance of reporting facilities, enforcement of environmental law, assessment of environmental risk, pollution prevention, environmental management and international certification, air quality management, water and wastewater management.
Netherlands	✓		Monitoring results by target groups and environmental policy performance.
Norway	✓		

Country	Yes	No	Comments on PRTR results and the evaluation of environmental policy
Slovak Republic	✓		
Sweden			
Switzerland			
UK	✓		
USA	✓		The US PRTR data are used to show to the public the steady improvement in the releases and other waste management of toxic chemicals. With over 640 chemicals and chemical categories, the US PRTR provides a broad picture of industrial chemical waste generation. National data: The US PRTR data track national trends for all the listed toxic chemicals. Hazardous Air Pollutants: There are 188 chemicals on the US PRTR list that have been classified as hazardous air pollutants. The US PRTR data are used to track progress in the reduction in air releases of these chemicals. Ozone-depleting chemicals: The US PRTR also includes all ozone-depleting chemicals manufactured or used in the US, allowing the public to track the progress of, and the national commitment to, the elimination of these chemicals. Chesapeake Bay Watershed: In an effort to improve the health of the Chesapeake Bay, facilities that are situated along the river systems feeding the bay have been asked to reduce their discharges of certain toxic chemicals. The US PRTR data are used to track this progress Persistent, Bio-accumulative, Toxics (PBTs): When the reporting thresholds for chemicals identified as persistent, bio-accumulative and toxics are lowered, it will be possible to track the releases and other waste management of those chemicals. The reduction and/or elimination of the generation of these chemicals are a national priority. The resulting information will feed into the US EPA's PBT reduction strategies. 33/50 Programme: The 33/50 Programme was a voluntary initiative that built on the data available from the US PRTR. Using 1988 PRTR data as a baseline, the US EPA asked companies to meet two national goals: (1) a 33% reduction in the releases and transfers, as reported to the PRTR, of 17 PRTR chemicals by 1992 and (2) a 50% reduction by 1995. The US PRTR data was used to track the reductions.

3. Are there environmental programmes where PRTR data are integral to the implementation of those programmes? For example, are PRTR data being used to monitor pollution reduction milestones in a national environmental strategy or voluntary agreement, etc.?

Country	Yes	No	Comments on PRTR data
Australia			Not applicable since the first reporting year is not yet completed.
Austria			
Belgium Fl.	Air	Water	For air, the acification strategy of the environmental policy plan, 1997-2001, and for other objectives found in Annex 4 to the regulations. Water: not at this stage.
Canada		✓	Not at this stage; however, the situation is evolving to place greater reliance on PRTR data
Czech Republic	✓		The need for PRTR is identified in the new State Environmental Policy (currently being prepared). It is also involved in NEHAP, approved in December, 1998.
Denmark	✓		The water "emissions inventory" is used to monitor the goals in the Danish Aquatic Environment Plan and is a part of the strategy.
Finland	✓		National water protection programme to the year 2005, national waste plan.
Hungary			
Ireland	✓		Summary per information is used in the state of the environment reports and discussion documents on national environmental indicators.
Italy			
Japan	✓		Not specifically identified
Korea	✓		
Mexico	✓		
Netherlands	✓		For state of the environment reports, monitoring performance of environmental policy.
Norway	✓		For example, the North Sea Convention for monitoring pollution reduction targets, etc.
Slovak Republic			
Sweden			
Switzerland			
UK	✓		
USA	✓		The 33/50 Programme is a national initiative to reduce the releases and waste management of a subset of the US PRTR chemicals. The US EPA selected 17 chemicals from the PRTR list and then identified all facilities that had submitted a PRTR report for any of those chemicals. The companies that owned these facilities were asked to participate voluntarily in the 33/50 Programme. Using the 1988 PRTR data as a baseline and a method of monitoring progress, the goal of the 33/50 Programme was to achieve national reductions of 33% for these 17 chemicals by 1992 and 50% by 1995. The US EPA asked companies to focus on pollution prevention to achieve these reductions. The result was an increased rate of reduction for the 17 33/50 Programme chemicals. The 50% reduction goal was achieved in 1994, a year early. Compared to the 1996 PRTR data, the PRTR data for the 17 chemicals showed a 56% decrease since 1988, a rate faster than the 46% reduction for all PRTR chemicals.

C. INTERNATIONAL COMPARISON OF PRTR DATA

1. Are [will] PRTR data [be] shared and compared across borders?

Country	Yes	No	Comments on sharing PRTR data
Australia		✓	
Austria			
Belgium Fl.	Air Water		Data will be shared among the 3 regions in Belgium and with the Netherlands.
Canada	✓		Canadian and the US PRTR data are used to compare across borders in a number of instances. The Commission for Environmental Co-operation publishes a yearly report that contains US and Canada PRTR data.
Czech Republic	✓		Building blocks of PRTR have been proposed to make the comparison possible.
Denmark	✓		The EPER will be shared and compared with the other EU countries.
Finland	✓		HELCOM, OSPARCOM, CORINAIR, UNECE.
Hungary			
Ireland	✓		Within EU Member states under the reporting requirements of the IPPC Directive.
Italy			EPER data will be shared and compared with EU countries.
Japan			Not yet discussed
Korea			
Mexico		✓	Since 1997 was our first year of reporting, it is still very early to have any quality data to be compared with that of other countries. In the near future, however, Mexico plans to compare data of the Mexican PRTR with the USA's TRI and Canada's NPRI data.
Netherlands	✓		To be shared through CORINAIR, OSPARCOM, EEA, EUROSTAT, and the European Union.

Country	Yes	No	Comments on sharing PRTR data
Norway		✓	It is expected that Norway will participate in the EPER and therefore share its data with EU Member states.
Slovak Republic	✓		We plan to share the English version of the PRTR via Internet.
Sweden			European Union
Switzerland	✓		For several decades, emissions of major air polluting substances (e.g. SO , Nox, VOC, CO, NH , HCl, HF, dust, Pb, Zn, Cd, Hg, PCDD/PCDF, CFC, CH , N O) have been collected in Switzerland. The main sources of emissions, such as traffic, industry/trade, agriculture and households, are taken into account. These data are useful for a future Swiss PRTR and are currently made available for international inventories (e.g. CORINAIR, OSPARCOM).
UK	✓		Used to provide requirements of a PRTR under the IPPC directive to the European Environment Agency (the EPER).
USA	✓		The US EPA recognises that a critical aspect of Right-to-Know is the ensuring the public's access to international PRTR information. Using the US PRTR data, the public can compare the release and other waste management activities of local facilities with data from similar facilities elsewhere in the US. It is important that the public also be able to compare the trends at local facilities with data from other countries. This information can help the public understand the environmental actions of local and other facilities in the US. In addition, increasing the public's access to PRTR data from other countries can inform the US public about environmental trends at a more global level. Many chemicals, especially those that are persistent, can travel from around the world and impact the US environment. For the US-Canada border, an area of particular concern is the Great Lakes. The areas around the Great Lakes are highly industrialised, resulting in high releases. The US PRTR data are used with the Canadian PRTR data to determine, in part, the releases of toxic chemicals in the area. Efforts are underway to minimise these releases, and thus improve the environmental health of the lakes. For the US-Mexico border, there is a co-operative effort to improve the environment in this rapidly industrialising area. One goal is to increase public awareness about the presence of toxic chemicals. US PRTR data are available for the US side of the border. As Mexican PRTR data becomes publicly available, this information also will be used in this effort.

2. Are PRTR data from your country compared in a regional context (e.g. North America, Europe, etc.)?

Country	Yes	No	Comments on regional comparisons of PRTR data
Australia		✓	
Austria			
Belgium Fl.	Air	Water	Air: By the European Environment Agency (CORINAIR inventory) with other countries in Europe and by EMEP / LRTAP with EU-15, USA, Canada and others.
Canada	✓		The Commission for Environmental Co-operation publishes a report on the PRTRs on a North American basis. There have also been cross-border studies of shared ecosystems, particularly around the Great Lakes.
Czech Republic	✓		
Denmark	✓		The EPER will be shared and compared with the other EU countries
Finland	✓		
Hungary			
Ireland		✓	
Italy			
Japan		✓	
Korea			
Mexico	✓		Mexican PRTR data will soon be compared in a regional context with data from Canada and the USA (North American Pollutant Release Inventory).
Netherlands	✓		CORINAIR, OSPARCOM, EEA, EUROSTAT, the European Union.
Norway		✓	There is a programme within the EU (EPER) according to the IPPC-directive which foresees a reporting to the EU in a short time. This data will be shared between EU members.
Slovak Republic		✓	
Sweden			
Switzerland			
UK	✓		The European reporting arrangements will be handled by the European Environment Agency in assessing world-wide impacts.
USA	✓		The US EPA presently shares and compares PRTR data with Canada. There are plans also to share and compare the US PRTR data with Mexico, when that country has facility-specific and chemical-specific release and other waste management data. This work is carried out by the Commission for Environmental Co-operation (CEC), an organisation created at the time of the passage of the North American Free Trade Association (NAFTA).

3. Has the PRTR system been specifically designed to permit the comparability of PRTR results? Are there elements in your system which allow for easy comparability?

Country	Yes	No	Comments on comparability of PRTR results
Australia		✓	Nevertheless, the transparency of the process used to establish and administer the NPI may facilitate comparison with other countries' data.
Austria			
Belgium Fl.		✓	Because the emission inventory contains not only data about the emissions, it is possible to compare with other things, based on the additional information.
Canada	✓		The Canadian PRTR is similar to that in the US so that there is a large body of comparable data available. However, direct comparisons requires inclusion of only those data which are directly comparable (same substances, same industry sectors). Canada included US SIC codes in its system to permit cross-border studies of PRTR data.
Czech Republic	✓		The Czech PRTR is designed to be comparable. At this stage, it is rather difficult to evaluate the easiness of the co-operative process.
Denmark	✓	✓	Aquatic Environment Plan: No The EPER will be shared and compared with the other EU countries: Yes
Finland	✓		Method of measurements have been identified and standardised.
Hungary			
Ireland	✓		The PER information is collated in an in-house database. Information is saved by substance, by IPC facility, and by year. Queries can therefore be generated with respect to substance type, sector, location, and year.
Italy	✓		For the Waste Register the EWC allows for easy comparability.
Japan			Not specially designed.
Korea			The data disseminated to the public will include the total national release according to chemical species, media and others.
Mexico	✓		A project is currently being developed among Canada, USA and Mexico, sponsored by the CEC, to enhance the comparability of the three North American PRTRs. The proposed set of actions on which the parties agreed to co-operate includes industrial classification of reporting facilities, standardisation of off-site transfer locations, and standardisation of parent company name.
Netherlands	✓		CORINAIR, OSPARCOM, EEA, EUROSTAT, DAXI, etc.

Country	Yes	No	Comments on comparability of PRTR results
Norway	✓		As far as possible we use international nomenclature in the system (e.g. NACE to sort types of enterprises).
Slovak Republic		✓	However, the PRTR contains information on the chemical (or group of chemicals), its amount, the location of point source and information on the environment compartment where the chemical is released (air, water).
Sweden	✓		Proposal will take the future EPER reporting into account.
Switzerland	✓		For many years, emissions of major air polluting substances (e.g. SO , NOx, VOC, CO, NH , HCl, HF, dust Pb, Zn, Cd, Hg, PCPP/PCDF, CFC, CH , N O) are being collected in Switzerland. The sources of emissions such as traffic, industry/trade, agriculture and households are taken into account. These data are useful for a future Swiss PRTR and are currently made available for international inventories (e.g. CORINAIR, OSPARCOM).
UK	✓		The Pollution Inventory has used widely recognised pollutants of concern and taken specific substances (e.g., B(a)P for PAHs) that act as a key marker.
USA	✓		While there have been no efforts to change the US PRTR to increase comparability with PRTRs in other countries, the information available from other countries has provided the US EPA with valuable information for decision-making. The Canadian PRTR, for example, collects data from industries that originally did not report to the US PRTR. Evidence about the releases and other waste management of toxic chemicals from these Canadian industries pointed to the amount of information not available to the US public about similar US based facilities. In 1997, the US EPA added seven of these industries to the US PRTR.

FUTURE DIRECTIONS

Please describe any future plans or proposed new directions for your national PRTR that are not described above. (For those with systems under development, please indicate the anticipated date of completion).

Country	Comments
Australia	The NPI is still in its early development stages. Under the NEPM, a review of the NEPM is due to begin in October 1999. The review will consider issues such as whether to include transfers, whether substances should be added to or deleted from the reporting list, and whether any changes should be made to the thresholds.
Austria	
Belgium Fl.	A continuous process is going on to optimise the emission inventory (better data, better statistics, emission factors, etc.) and to fine tune the system and harmonise with the developments in the international context.
Canada	Canada is considering the addition of persistent, bio-accumulative toxics and for lower reporting thresholds for the year 2000. Lower thresholds will be considered for substances that are toxic as defined by the Canadian Environmental Protection Act and other substances that pose hazards even at low release rates.
Czech Republic	SCHEDULE OF ACTIVITIES Legislation date: Act Theses, Dec. 1999, full text June 2000 Regulation date: June 2000 Ordinance date: January 2001
Denmark	
Finland	Inclusion of emissions from agriculture and other diffuse sources.
Hungary	The legal basis for the PRTR will be provided in 2000. The first reporting year is expected to be 2001.
Ireland	
Italy	
Japan	Main regulations including a list of chemicals and industry sectors to report will be developed and promulgated within 9 months from the date the PRTR law is enacted. The first PRTR report will be published in mid or late 2002 for the data of release and transfer in 2001 fiscal year.
Korea	A project was undertaken to develop a programme to enable the automatic estimation of the amount released from different industries. This programme, once developed, will help facilities estimate the amount they release over the past year. From 2001, the government is planning to strengthen the criteria for reporting and expand gradually the number of chemicals subject to reporting, based on the result of a survey on the amount of chemicals in commerce by the MOE between May 1999 and October 1999.

Country	Comments
Mexico	Mexico believes that a more comprehensive approach is needed for the Mexican PRTR system. A complete inventory system should embrace emissions from point sources as well as from non-point sources. Future actions in the Mexican PRTR system will be the inclusion of non-point sources (mining, transportation, agriculture and services) and a linkage between environmental themes (climate change, ozone depletion, toxic substances, hazardous waste, common air contaminates) and pollutant releases.
Netherlands	
Norway	Currently, we are working to make the data reported to the Authority easily accessible on the Internet. We expect to release the data during the year 2000. Further information on this system is on http://www.sft.no
Slovak Republic	Anticipated date of completion is June 1999.
Sweden	Structure of a system that will allow an increased public awareness of the use and emissions of hazardous substances will be prepared be the end of 1999. The implementation date is not yet decided.
Switzerland	
UK	Reporting of IPPC Processes not subject to IPC Control in 2000 for 2001 reporting. Reporting of Sewage Treatment Works to commence in 2000 for 2001 reporting and to be fully implemented by 2002 for 2003 reporting (proposed). Reporting of landfill sites to commence in 2000 for 2001 reporting and to be fully implemented by 2001 for 2002 reporting (proposed). Reporting of smaller industrial processes to commence in 2000 for 2001 reporting (proposed).
USA	The US EPA has several actions underway to increase the public's access to toxic chemical information**.** Facility expansion: The US EPA is considering a request from an environmental organisation to add airports to the list of industries that must report to the US PRTR. Chemical expansion: The US EPA has proposed the addition of more chemicals to the PRTR list. These chemicals have been determined to be persistent, bio-accumulative and toxic. The addition of these chemicals increases the number of chemicals that the US EPA has classified as PBTs. Future chemical expansions may include the addition of chemicals that are endocrine disrupters. The US EPA also may review several chemicals that originally were reviewed for addition in 1995, but were set aside for further consideration. Lower thresholds: The US EPA has proposed lower reporting thresholds for chemicals that are PBTs. For dioxin and dioxin-like compounds, the new reporting threshold would be 0.1 grams. For chemicals that are considered highly persistent, bio-accumulative and toxic, the lower threshold would be 10 pounds (4.5 kilograms). For other PBT chemicals, the lower threshold would be 100 pounds (45.5 kilograms). Pollution prevention information: The US EPA is reviewing the types of pollution prevention data collected on the PRTR report. The goal is to clarify the types of information for which facilities should report, thereby improving the public's access to information about pollution prevention actions taken by the facilities.

ADDITIONAL COMMENTS

Country	Comments
Denmark	In this questionnaire the PRTRs described relate to industry and water purifying plants **only.** We have had some difficulty in understanding the term "transfer." If transfer is waste, e.g. hazardous waste, then, yes transfer data are being collected.
Ireland	
Norway	The Norwegian PRTR system is called: **INKOSYS** from **IN**dustri **KO**ntroll **SYS**tem.
Slovak Republic	To continue in the preparation of PRTR in Slovakia in the future it will be necessary to have funding.
USA	CRITERIA FOR US PRTR CHEMICALS, (From the EPCRA Section 313 legislation establishing the US PRTR) (See Part III.A. Question 2). *Acute Human Toxicity §313(d)(2)(A)* The chemical is known to cause or can reasonably be anticipated to cause significant adverse acute human health effects at concentration levels that are reasonably likely to exist beyond facility site boundaries as a result of continuous, or frequently recurring, releases. *Chronic Human Toxicity §313(d)(2)(B)* The chemical is known to cause or can reasonably be anticipated to cause cancer in humans: I. cancer or teratogenic effects, or II. serious or irreversible i. reproductive dysfunctions ii. neurological disorders, iii. heritable genetic mutations, or iv. other chronic health effects. *Environmental Toxicity §313(d)(2)(C).* The chemical is known to cause or can reasonably be anticipated to cause because of: i. its toxicity, ii. its toxicity and persistence in the environment, or iii. its toxicity and tendency to bio-accumulate in the environment, which is a significant adverse effect on the environment of sufficient seriousness, in the judgement of the Administrator, to warrant reporting under this section.