

DESIGNING THE KEY FEATURES OF A NATIONAL POLLUTANT RELEASE AND TRANSFER REGISTER SYSTEM

2020 | Series 2

Welcome to UNITAR's Guidance Series for Implementing a National Pollutant Release and Transfer Register (PRTR) Design Project

Based on the lessons learned through ongoing activities supporting PRTR development worldwide, UNITAR has developed the following documents in a guidance series intended to facilitate the design and implementation of Pollutant Release and Transfer Registers (PRTRs):

- Implementing a National PRTR Design Project: A Guidance Document
- Series 1: Preparing a National PRTR Infrastructure Assessment
- **Series 2: Designing the Key Features of a National PRTR System**
- Series 3: Implementing a PRTR Pilot Reporting
- Series 4: Structuring a National PRTR Proposal
- Series 5: Addressing Industry Concerns Related to PRTRs
- Series 6: Guidance for Facilities on PRTR Data Estimation and Reporting
- Series 7: Guidance on Estimating Non-Point Source Emissions

To access **additional resources** on various aspects of PRTR design and implementation, see:



UNITAR's PRTR Platform highlights the activities of the UNITAR Chemicals and Waste Management Programme in support of the implementation of PRTRs. The site includes a library of Resources from UNITAR and other international organizations focused on supporting the development of PRTRs. The PRTR Platform also provides access to video training modules on different aspects of the development and implementation of national PRTRs through PRTR:Learn <http://prtr.unitar.org>

For additional information, please contact:
Chemicals and Waste Management Programme
United Nations Institute for Training and Research (UNITAR)
email: cwm@unitar.org

Table of Contents

| | |
|--|-----------|
| 1. Introduction..... | 5 |
| 2. Defining the Scope of the National PRTR System | 7 |
| 2.1 <i>The List of Chemicals</i> | 7 |
| 2.2 <i>The Inclusion of Point vs. Non-Point Emission Sources</i> | 8 |
| 2.3 <i>Sectors to be Covered</i> | 10 |
| 2.4 <i>Reporting Thresholds</i> | 10 |
| 2.5 <i>Exemptions from Reporting Requirements</i> | 11 |
| 2.6 <i>Data Elements to be Collected</i> | 11 |
| 3. Addressing Legal Implementation Issues..... | 15 |
| 3.1 <i>Mandatory vs. Voluntary Reporting</i> | 15 |
| 3.2 <i>Legal Basis for PRTR Reporting</i> | 16 |
| 3.3 <i>Ensuring Compliance</i> | 16 |
| 3.4 <i>Potential Linkages to Other Reporting Requirements.....</i> | 17 |
| 3.5 <i>Data Confidentiality Issues.....</i> | 17 |
| 4. Developing Data Collection and Management Procedures..... | 19 |
| 4.1 <i>Governmental Roles</i> | 20 |
| 4.2 <i>PRTR Reporting System.....</i> | 21 |
| 4.3 <i>Data Processing and Database Hosting</i> | 22 |
| 4.4 <i>Reporting Instructions and Guidance Materials</i> | 22 |
| 4.5 <i>Data Estimation Techniques.....</i> | 23 |
| 5. Developing Data Analysis and Data Dissemination Procedures | 25 |
| 5.1 <i>Types of Analyses</i> | 25 |
| 5.2 <i>Presentation of the Data</i> | 26 |
| 5.3 <i>Data Access and Dissemination</i> | 26 |
| 6. Conclusion | 28 |
| <i>Annex : Sources of Additional Information</i> | 29 |
| <i>Defining the scope of the National PRTR System</i> | 29 |
| <i>Addressing Legal Implementation Issues</i> | 30 |
| <i>Developing Data Collection and Management Procedures</i> | 31 |
| <i>Developing Data Analysis and Data Dissemination Procedures</i> | 31 |
| Sources | 33 |

List of Acronyms

| | |
|---------------|---|
| CAS | Chemical Abstract Service Number |
| GIS | Geographic Information System |
| NCT | National Coordinating Team |
| OECD | Organization for Economic Cooperation and Development |
| PRTR | Pollutant Release and Transfer Register |
| UNITAR | United Nations Institute for Training and Research |
| US EPA | United States Environmental Protection Agency |

1 Introduction

This guide is the second in a series of supplements to the main guidance document in the UNITAR Guidance Series for Implementing a National PRTR Design Project (see box on the first page). The guidance series provides countries with a suggested step-wise approach for undertaking the design of a national PRTR system. The documents in this series provide in-depth guidance on UNITAR's suggested approach for implementing a national PRTR design project. The guidance is not meant to be prescriptive and should be adapted by countries in a flexible manner according to their specific needs and circumstances.

The 6 suggested stages of a national PRTR design project are the following:

1. Identifying the Goals of the National PRTR System
2. Assessing the Existing Infrastructure Relevant to a National PRTR
3. **Designing the Key Features of a National PRTR System**
4. Conducting a PRTR Pilot Reporting
5. Finalizing the National PRTR Proposal
6. Organizing a National PRTR Implementation Workshop

This document provides specific guidance on implementing Stage 3 of the suggested PRTR design process. For each of the main features of the PRTR system to be designed by the National Coordinating Team (NCT), the guide introduces key decisions that need to be made and provides references to other documents and resources where additional information in Annex I.

DEFINING THE SCOPE OF THE NATIONAL PRTR SYSTEM



2 Defining the Scope of the National PRTR System

After having established the specific objectives of the national PRTR system in collaboration with relevant stakeholders, the National Coordinating Team (NCT) will make a series of decisions that will determine the scope of the PRTR system. The challenge is to consider practical issues such as feasibility and resources while ensuring that the PRTR will yield the types, quality, and detail of information needed to serve the objectives of the national PRTR.

Decisions to be made include, for example, which chemicals will be reported to the PRTR, whether non-point source and/or point source emissions data will be included, the economic sectors to be covered, and whether any exemptions to reporting will be made for specific categories of pollutant sources (e.g. smaller businesses). Defining the data elements to be reported is also closely related to the scope of the PRTR. Some of the core data elements include identification of the facility or pollutant source (e.g. type of facility or activity), identification of the specific chemicals (e.g. common name and Chemical Abstract Service (CAS) number), and the elements that describe the nature and quantity of the release or transfer (e.g., tons of emissions to air, water, land). Additional data elements to consider include information on chemical use, levels of energy or water use, information on recycling, pollution prevention efforts, etc.

The decisions made by the NCT on all of these issues should be directly linked to the national objectives for the PRTR system. For example, if the goal is to get a comprehensive picture of all pollutant emissions at the national level, then the NCT may decide to collect data for both point and non-point emission sources. If the goal of the PRTR is to provide information on specific sectors, such as manufacturing industries, then it may not be necessary to include non-point sources in the PRTR. Similarly, in regard to the chemicals list, if there are specific chemicals or chemical categories that are of concern in the country, the NCT will want to ensure that these are included on the list of substances to be reported.

The following section lists key considerations/questions that need to be taken into account in defining the scope of the PRTR system.

2.1 The List of Chemicals

The list of chemicals determines what specific substances will be reported to and tracked through the PRTR. The final selection should reflect the priorities and particular objectives that the country envisions for its national PRTR. The following are some factors to consider in developing the PRTR chemicals list:

1

What are the chemicals in current use and/or main pollutants of concern in the country? Would it be more feasible to start with a shorter list of higher priority chemicals/pollutants, with a process to consider expansion of the list over time?

2 What pragmatic criteria can be used to develop an initial list of chemicals for the national PRTR? Criteria to consider include: toxicity, persistence, bioaccumulation, carcinogenicity, mutagenicity, reproductive or developmental effects, neurotoxicity, toxicity to biota and ecosystems, pathways of exposure, whether or not the substance is currently regulated, etc. What criteria would be applicable in the future to determine whether emerging chemicals and pollutants should be added to the PRTR list, as the program evolves?

3 To increase harmonisation of the information collected with PRTRs around the world, have commonly reported chemicals been considered for inclusion? By including these chemicals, new PRTRs will benefit from being able to contribute to and learn from comparative global analyses of chemical releases across PRTRs. OECD has published a “short list”¹ of chemicals commonly included in PRTR reporting around the world. This list may serve as a starting point when developing the chemical list for a new PRTR.

4 How might existing national and international lists of chemicals (e.g., lists of regulated chemicals, substances targeted for risk reduction, chemicals on prioritization lists such as Japan’s Priority Assessment or the EU Water Framework, chemicals listed under international treaties such as the Stockholm Convention or UNFCCC, etc.) be used as a starting point in developing the list of chemicals for the national PRTR?

5 Are there any chemicals currently collected by other levels of government in the country than can be used to develop an initial list of chemicals for the national PRTR?

2.2 The Inclusion of Point vs. Non-Point Emission Sources

A PRTR system can include point sources of emissions and/or non-point (diffuse) emission sources. An industrial facility emitting pollutants to air and/or water or generating wastes is an ex-

¹ [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/jm/mono\(2014\)32&doclanguage=en](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/jm/mono(2014)32&doclanguage=en)

ample of a point source. Fertilizer or pesticide run off from agricultural activities and emissions from transportation are examples of non-point source pollution. From international experiences, a PRTR system which includes both point source and non-point sources, will be able to provide Governments and interested stakeholders with a more comprehensive assessment of a country's sources of pollutions.

Depending on a country's priorities and the particular nature of its major pollutant sources, the PRTR could include either one or a combination of both point and non-point source emissions.

Key considerations in approaching this decision are:

- Are the priority concerns related to the chemicals on the PRTR list mainly associated with point sources or non-point source activities?
- If non-point source emissions are to be included in the PRTR, does the government currently collect statistics/data that would enable authorities to estimate pollutant contributions from these non-point sources? To avoid duplication of effort, confirm that non-point source emissions are not already estimated through existing government programs. If non-point source emissions are already estimated through existing programs, could the resulting estimates be incorporated in, or linked to, the PRTR instead of being re-estimated under the PRTR program?



Picture by Anumal Rezwan

2.3 Sectors to be Covered

The decision regarding what specific industrial sectors and other economic activities will be included under the national PRTR system is an important element in determining the scope of the national PRTR system.

Key considerations in approaching this decision are:

- What industrial sectors and other areas of economic activity are responsible for the most significant pollutant emissions and transfers in the country?
- Which of these sectors have or could develop the capacity to estimate their emissions/transfers of pollutants and report PRTR data? Of the sectors for which direct reporting would not be feasible, which should be included in the PRTR through government-generated estimates of chemicals emissions and transfers?
- For harmonisation of the information collected with PRTRs around the world, have sectors commonly subject to reporting by PRTRs been considered? OECD has published a “short list”² of sectors commonly included in PRTR reporting around the world. This list may serve as a starting point when developing the sector list for a new PRTR. By including these sectors, new PRTRs will benefit from being able to contribute to and learn from comparative global PRTR analyses.

2.4 Reporting Thresholds

PRTR reporting thresholds are the criteria that determine whether a facility or other pollutant source must file a PRTR report. Examples of reporting thresholds that might be used include facility size, number of employees, release/transfer or manufacture/use of more than x number of tons of a listed chemical per year, etc.

Key considerations in approaching this decision are:

- How might the reporting thresholds be defined so that they are easily understood and applicable to all potential reporters?

² [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/jm/mono\(2013\)5&doclanguage=en](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/jm/mono(2013)5&doclanguage=en)

- Should the thresholds be linked to the amount of listed chemicals manufactured, processed, used or transferred, or to the number of employees working full time at the facility? What other criteria or combination of criteria should be considered?
- Should more potent toxic chemicals, such as dioxin, PCBs etc., have lower reporting thresholds than less hazardous emissions?
- For harmonisation of the information collected with PRTRs around the world, have standard thresholds (e.g., those from the Kiev Protocol) been considered? The OECD document on harmonising sectors across PRTRs³ also includes comparative information on the thresholds for several PRTRs that may serve as a starting point when developing the thresholds for a new PRTR. By establishing thresholds that are consistent with those in other PRTRs, new PRTRs will benefit from being able to contribute to and learn from comparative global PRTR analyses.

2.5 Exemptions from Reporting Requirements

There may be specific pollutant sources or activities that the NCT will decide to exempt from reporting under the national PRTR system for pragmatic reasons.

Key considerations in approaching this decision are:

- For which types of facilities or pollutant sources might reporting exemptions be justified? On what grounds should such exemptions be made?
- Are there other feasible ways to collect emissions information from such facilities?
- Will there be a process to evaluate exempted sources or activities over time, to determine whether their inclusion may be warranted in the future as the PRTR evolves?

2.6 Data Elements to be Collected

The extent and content of the information collected through the PRTR will be determined by the data elements included in the PRTR. Therefore, it is critical to choose data elements that will

³ [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/jm/mono\(2013\)5&doclanguage=en](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=env/jm/mono(2013)5&doclanguage=en)

capture all the information needed to support the applications and uses planned for the PRTR data. PRTR data elements can be grouped into five general categories:

- 1 Data elements that identify the facility or pollutant source (e.g. name and address of the facility, owner/operator, contact information, geographical coordinates);
- 2 Chemical identification (e.g. common names and CAS numbers);
- 3 Sector identification (e.g. nine-digit International Standard Industrial Classification of All Economic Activities (ISIC) codes);
- 4 Data elements that describe and quantify the releases/transfers of listed chemicals;
- 5 Additional (possibly optional) data elements pertaining to energy and water use, emissions reduction measures, recycling methods, pollution prevention activities, methods of estimation, chemical use information, and other information that can provide context about chemical use and release (e.g. concentrations in water releases), and changes in releases, etc.

The following are some relevant questions when deciding on the data elements to be included in the PRTR reporting format:

- 1 What specific types of data are needed in order to meet the national objectives established for the PRTR system? What types of data are needed to allow governments and other data users to understand and make use of the PRTR system?

2

What specific data elements are required for facility or source identification, chemical identification, releases/transfers description and quantification, and any other information to be collected through the PRTR?

3

How can appropriate units of measurement for the various data elements (e.g., tons, kilograms, tons/year, flow measures, concentrations, etc.) be defined according to local usage and still allow for international comparisons of data?

4

What categories and/or sub-categories will be used to collect the reported information? For example, will air releases be reported as a total, or under sub-categories such as stack, point, and fugitive? Will releases from spills, fires or other accidents be reported as part of total emissions or as a separate sub-category? Will reporting include quantities disposed of, transferred for treatment or transferred for recycling?

5

How can the amount of requested information and any redundancies be minimized so that reporting is made as simple and efficient as possible?

6

How can overlaps with existing reporting requirements be avoided? How useful is the information currently being collected through existing reporting requirements? Can this information be collected through the PRTR report to avoid duplicating reporting efforts?

ADDRESSING LEGAL IMPLEMENTATION ISSUES



3 Addressing Legal Implementation Issues

At this stage of the PRTR design project, the National Coordinating Team should consider the various legal issues related to the national PRTR system. These include establishing the legal authority for collecting PRTR data from industrial facilities and other sources, particularly for mandatory reporting. The new PRTR reporting requirements may need to be integrated with existing legally mandated environmental reporting requirements. Ensuring that the PRTR reporting scheme is not unnecessarily duplicative of existing requirements is also important. In some cases, the development of the PRTR system may in fact provide an opportunity to consolidate or rationalize existing environmental reporting requirements, thereby reducing reporting burden and administrative costs for both industry and government. Other important legal issues are the procedures for handling data confidentiality claims and the enforcement mechanisms to be used to ensure compliance with PRTR reporting requirements.

The following sections list key considerations/questions that need to be taken into account to ensure an adequate legal foundation for the PRTR system.



3.1 Mandatory vs. Voluntary Reporting

- Will PRTR reporting be mandatory or voluntary? Given local conditions and existing government-industry relations, what are the potential advantages and drawbacks of each?
- If PRTR reporting will be voluntary, is there likely to be a sufficiently high level of reporting so that an adequate database of releases and transfer of pollutants will be achieved? How will potentially non-reporting sources be accounted for in estimating overall releases, and be communicated to the public?

3.1 Mandatory vs. Voluntary Reporting

- Will other report types such as closures, sales, ceasing to meet thresholds (does not meet criteria reports) be reported?

3.2 Legal Basis for PRTR Reporting

- If PRTR reporting will be mandatory, is there sufficient legal authority under existing laws to require industry to submit PRTR data? If not, will a new law or regulation need to be created?
- What government agency or agencies are empowered under existing laws to implement a PRTR system?

3.3 Ensuring Compliance

- If reporting will be mandatory, how will it be enforced? What mechanisms or linkages with existing regulations could government authorities use to enforce compliance with PRTR reporting? What penalties for non-compliance should be considered?
- If reporting will be voluntary, what strategies or incentives will be used to encourage facilities to report?
- How to deal with late reports? How to deal with missing reports after 1 year? Are extension requests to submit reports after deadline due to extenuating circumstances be granted?

3.4 Potential Linkages to Other Reporting Requirements

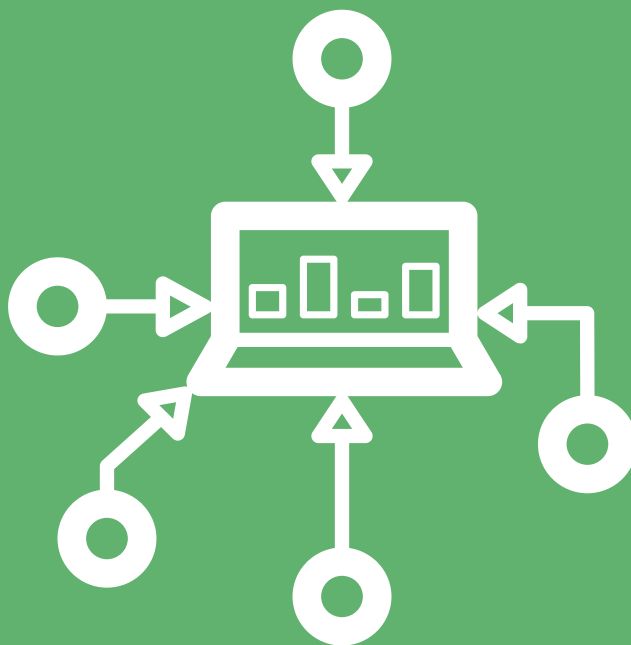
- How will the new PRTR system relate to existing reporting requirements? How might duplication of requirements be avoided or minimized in the design of the PRTR system?
- Are there opportunities to rationalize and streamline environmental reporting requirements through the PRTR system? What potential is there to integrate current reporting on releases to separate environmental media into a single PRTR reporting system and database covering releases and transfers across all media?

3.5 Data Confidentiality Issues

- What will be considered legitimate data confidentiality claims?
- What procedures will be used to handle data claimed as confidential that will adequately protect business interests while maintaining the integrity of the PRTR database and its intended uses?



DEVELOPING DATA COLLECTION AND MANAGEMENT PROCEDURES



4 Developing Data Collection and Management Procedures

In designing the data collection and management procedures of the PRTR system, the National Coordinating Team will address a set of design tasks involving technical and administrative decisions. These tasks include specifying the reporting system, designing reporting instructions and guidance, and developing procedures for database management, data quality control, data sharing, protection of confidential data, and publication.

The NCT will need to decide which government agency will host the reporting system, oversee the reporting process, and host the database. As part of this effort, the NCT will identify the resources that will be needed for its operation including both upfront capital costs and recurring costs. Information technology costs are associated with staff time to develop and maintain the IT architecture and IT infrastructure for reporting, IT project management, data processing, database hosting, and data retrieval. Costs also include physical IT infrastructure, including hardware, software licences, and networks. Precise data handling procedures must be established for every stage of the data flow, from data capture (where a facility submits data via file transfers or data entry forms, through data are validated and storage in an authoritative PRTR database. A data flow model should be created which outlines all of the data management procedures for every stage of what will be recurring PRTR reporting and publication.

In addition to the IT components of the reporting system, resources should be allocated for activities to promote compliance and quality reporting. For example, activities to ensure potential reporters are aware of the requirements, and to provide guidance and help-desk support to reporters to ensure they understand the reporting requirements and process, will result in more comprehensive and better quality data being reported.

Other PRTR data management features to be developed by the NCT include developing mechanisms to check the quality of the data submitted. With online reporting systems, a key method to efficiently improve data quality is to develop data validation that is embedded in the online reporting system. Implementing automated data validation allows facilities to correct many potential issues prior to submitting their data to the PRTR. This approach saves time and resources for the government and for the facility in that much higher quality data are received initially. Additional data quality procedures should be implemented after the government receives the data to review outlier values that may have been submitted in error. If the government's post-submission data quality check procedures suggest errors in reporting, there should be an established mechanism by which the authorities will contact the reporter and correct the problem (e.g., standard email template). Additionally, a process should be established where facilities can correct previously submitted data, ideally through the online reporting system (e.g., an update option).

The treatment of PRTR data claimed as confidential is another data management issue that needs

to be addressed. Clear and concise guidance must be provided to reporters on the conditions for claiming data as confidential, including instructions on how to submit data flagged as confidential and how to make a confidentiality claim. Procedures for handling the data once it is submitted and for reviewing confidentiality claims should be clearly laid out. A procedure should be developed for incorporating masked confidential information into the PRTR database, which ensures integrity and completeness of the database.

The following section lists key questions that need to be taken into account in developing data collection and data management procedures for a national PRTR system.



4.1 Governmental Roles

- 1 Will other report types such as closures, sales, ceasing to meet thresholds (does not meet criteria reports) be reported?
- 2 Are there government resources available to support the development and continued operation of the PRTR data management system into the future ?
- 3 What role will regional and local authorities play in reviewing the PRTR data prior to publication? What will be the role of the central government?

4.2 PRTR Reporting System

- What type of data capture makes most sense for reporters and the PRTR programme? Commonly used strategies include: specifying a file format for facilities to prepare and upload (the PRTR programme may distribute formatted spreadsheets or other distributed software that will generate the upload files) or developing a web-based application that requires user registration and entry of data field by field in web-forms or a web application.
- Is developing an online reporting system feasible? If not, what format (electronic file transfer, e.g., eXtensible Markup Language (XML), Excel files with a user interface and pre-compiled calculation formulas) will be used to report PRTR data?
- Will the reporting system build on an existing environmental reporting system in the country? Are there existing governmental authentication methods for user sign-in? Can reporting to the PRTR and to other programs that similar reporters be integrated through a single system ?
- What assistance from countries with PRTR systems could be utilized in developing the reporting system for the national PRTR system? Can existing systems in other countries be adapted to perform the required functions in the most cost-efficient manner?
- What features are required for the national PRTR system in order to achieve the planned objectives and applications (e.g., geographic information system (GIS) compatibility, online servicing of PRTR data to various government agencies, etc.)? Ensure features are in place to adapt to changes in the reporting requirements year after year (e.g., change to substance list).
- What data validation can be embedded in the system to ensure the quality of the PRTR data is sufficient to meet all intended end uses? (e.g. ensuring consistency within a form submitted, checking that no text is entered into a numeric field, checking that all required fields are complete, establishing parameters for entries “out of range”, etc.)?
- What type of validation will be needed before a facility can submit data (e.g., will a “certifying official” at the facility be required to sign off to confirm the submission is accurate and correct)?

4.3 Data Processing and Database Hosting

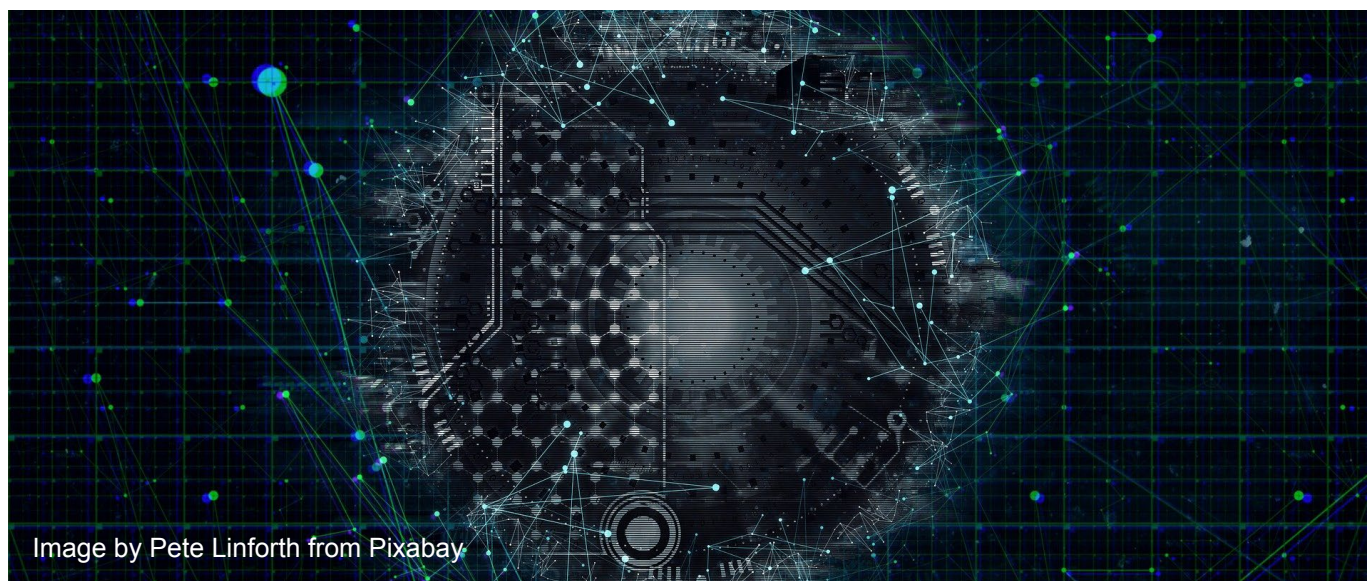
- What are the characteristics of the PRTR database for which the PRTR program must develop an information technology solution? What is the expected size of the national PRTR database? What level of security will be needed to house the data, including or excluding confidential data submitted to the program? What will be the process for revising data previously submitted? What version controls are needed to accommodate revisions to data? Who will have editing rights? Is the data structure conducive to the reporting system and the formats for data publication?
- Will the PRTR program create data and metadata about reports and reporting facilities? Will this data be generated manually or automatically?
- Will the PRTR program stand up and maintain a server themselves or use cloud solutions?
- Will there be communication with PRTR reporters? If so, are there existing (commercial or governmental) web/email services that can support the PRTR programme's communication needs?
- What ancillary web services or IT infrastructure is required to implement the types of analyses, applications and other uses of PRTR data that are planned? What level of security is required to host and transfer the data?

4.4 Reporting Instructions and Guidance Materials

- Given that PRTR reporting requires industry staff to estimate the emissions from their respective facilities, what type of reporting instructions and guidance materials are needed to ensure accurate reporting?
- What sources of local and international expertise can be tapped in preparing guidance materials to assist PRTR reporters in correctly estimating their emissions? Are there materials developed by other PRTR programs that could be used ?
- What data elements to be included in the reporting format will require additional explanation? What terms (e.g., emission, transfer, units of measurement, chemical identification codes, etc.) will need to be explicitly defined?
- How can guidance be distributed ahead of or embedded into the reporting process?

4.5 Data Estimation Techniques

- Will guidance materials on release estimation techniques need to be adapted for each industry sector (e.g., one estimation guide for emissions in the painting industry, a different guide for the electroplating industry, etc.) ? How can existing national and international materials be adapted to meet these needs?
- Will emission factors, already developed at international level, need to be adapted for national estimations?
- What types of support will be provided to industry to assist them in estimating their PRTR data?
- What are the training needs of government personnel who will handle industry questions and provide assistance on PRTR data estimation?



DEVELOPING DATA ANALYSIS AND DATA DISSEMINATION PROCEDURES



5

Developing Data Analysis and Data Dissemination Procedures

In the process of designing a national PRTR system, the National Coordinating Team will have to address various decisions related to PRTR data analysis and dissemination. The NCT will need to plan for and develop appropriate data aggregation and analysis methodologies, so that useful information can be quickly extracted from the raw PRTR data to serve the objectives set forth for the national PRTR system. Examples of common and useful information summaries that could be derived from PRTR data include: regional or national estimates of the total releases for specific pollutants, trends in chemical-specific emissions which can indicate the level of response to policy actions, geographic distribution of pollutant emissions and proximity of releases to sensitive ecosystems or population centres, etc.

A national policy for dissemination of PRTR data will need to be agreed upon by the NCT with input from reporters and potential users of PRTR data. Decisions need to be made regarding the form and mechanisms through which the PRTR data will be made available to the public as well as to other interested parties.

The issue of data dissemination is very important because the incentive for improved environmental performance depends in part on the degree of transparency and public availability of the emissions data provided through the PRTR. Thus, the national PRTR system should be designed to promote information transparency and increase accountability for releases/transfers of pollutants as a means for ensuring its effectiveness as a policy instrument and to spur risk reduction efforts.

The following section lists key issues related to data analysis and dissemination:

5.1 Types of Analyses

- What types of analyses will need to be conducted with the PRTR data to achieve the stated objectives for the national PRTR system (e.g., aggregation of chemical-specific pollutant releases and transfers by industrial sector, region, and/or environmental media, identification of trends, interactive maps of pollution sources, etc.)?
- What procedures will be used to handle data claimed as confidential that will adequately protect business interests while maintaining the integrity of the PRTR database and its intended uses?

5.2 Presentation of the Data

- For expert and technical users, in what form will the raw PRTR data be made available to interested parties? Will the full data set available for download from the PRTR website, including facility level data, or will the data be aggregated by sector or region? Are there any data pieces that should be excluded from the public dataset?
- For general users, will data access tools be developed so that users without technical expertise can search the database for information on a facility, sector, chemical, or geographic area? Will an interactive mapping tool be developed so users can search on information in their area?
- In addition to raw data files, what interpretive products will be developed and made available through the PRTR website, e.g., summary information in an annual PRTR report or factsheets?

5.3 Data Access and Dissemination

- Through which mechanisms will the PRTR programme conduct outreach to inform potentially interested parties of the availability of the data? Interested parties may include other government ministries and agencies, public interest groups, industry, research institutes, etc.?
- In addition to the PRTR website, what other access or formats are needed for public dissemination of PRTR data (e.g. hard copies of summary materials available upon request)?
- What is the desired accessibility and openness of the data? Are there existing governmental platforms for the dissemination of the data? Can data users access the data without resorting to proprietary software?

CONCLUSION



6 Conclusion

This document has outlined the various components involved in the design of a national PRTR system, including some of the key decisions to be made by the NCT in completing each of the design tasks such as:

- Defining the scope of the PRTR system (e.g., what chemicals, sectors, sources, thresholds, exemptions, and data elements to include);
- Considering the PRTR legal issues (e.g., establishing the legal authority for collecting PRTR data, determining if reporting will be mandatory, developing mechanisms to ensure compliance);
- Developing data collection and management procedures (e.g., determining if online data collection is possible, developing the data collection, storage systems and data quality review procedures, developing reporting guidance); and
- Developing data analysis and dissemination procedures (e.g., the types of analysis, the formats, and how the data and information products will be disseminated).

This document is meant to be a starting point for NCTs. The members of the NCT are encouraged to consult the references indicated in the Sources of Additional Information section to obtain more in-depth information and guidance on the substantive issues related to each aspect of PRTR design.

Annex : Sources of Additional Information

Defining the scope of the National PRTR System

The list of chemicals

- OECD, [Global PRTR Proposal for a Harmonised List of Pollutants](#). Paris, 2014.
- OECD, [Guidance Document on Elements of a PRTR: Part I](#). Paris, 2014. Section 2.2.3.
- OECD, [Pollutant Release and Transfer Registers \(PRTRs\): A Tool for Environmental Policy and Sustainable Development: Guidance Manual for Governments](#). Paris, 1996. Chapter 2 (pp. 26-57).

The inclusion of point vs. non-point emission sources

- OECD, [Guidance Document on Elements of a PRTR: Part 1](#). Paris, 2014. Section 2.2.1.
- OECD, [Pollutant Release and Transfer Registers \(PRTRs\): A Tool for Environmental Policy and Sustainable Development: Guidance Manual for Governments](#). Paris, 1996. Chapter 3 (pp. 65-68; 75).

Sectors to be covered

- OECD, [Guidance Document on Elements of a PRTR: Part 1](#). Paris, 2014. Section 2.2.2.
- OECD, [Global PRTR Proposal for a Harmonised List of Reporting Sectors](#). Paris, 2013.
- OECD, [Pollutant Release and Transfer Registers \(PRTRs\): A Tool for Environmental Policy and Sustainable Development: Guidance Manual for Governments](#). Paris, 1996. pp. 17; 39-43; 65.

Reporting thresholds

- OECD, [Guidance Document on Elements of a PRTR: Part 1](#). Paris, 2014. Section 2.2.4.
- OECD, [Global PRTR Proposal for a Harmonised List of Reporting Sectors](#). Paris, 2013.

Exemptions from reporting requirements

- U.S. EPA, [Toxic Chemical Release Inventory Reporting Form and Instructions](#). Washington DC, 2016.

Data elements to be collected

- OECD, [Guidance Document on Elements of a PRTR: Part 1](#). Paris, 2014. Section 2.2.5.
- OECD, [Pollutant Release and Transfer Registers \(PRTRs\): A Tool for Environmental Policy and Sustainable Development: Guidance Manual for Governments](#). Paris, 1996. Chapter 3 (pp. 61, 76-80).

Addressing Legal Implementation Issues*Mandatory vs. voluntary reporting*

- OECD, [Pollutant Release and Transfer Registers \(PRTRs\): A Tool for Environmental Policy and Sustainable Development: Guidance Manual for Governments](#). Paris, 1996. pp. 19-20.

Legal basis for PRTR reporting

- OECD, [Guidance Document on Elements of a PRTR: Part II](#). Paris, 2015. Section 2.2.
- UNITAR, [PRTR:Learn](#). PRTR Legal Implementation.
- UNITAR, [Preparing a National PRTR Infrastructure Assessment: Series 1](#). 2020.

Ensuring compliance

- OECD, [Guidance Document on Elements of a PRTR: Part II](#). Paris, 2015. Section 4.2.

Potential linkages to other reporting requirements

- UNITAR, [Preparing a National PRTR Infrastructure Assessment: Series 1](#). 2020.
- OECD, [Guidance Document on Elements of a PRTR: Part II](#). Paris, 2015. Section 3.3.

Data confidentiality issues

- OECD, [Guidance Document on Elements of a PRTR: Part 1](#). Paris, 2014. Section 2.4.2.
- OECD, [Pollutant Release and Transfer Registers \(PRTRs\): A Tool for Environmental Policy and Sustainable Development: Guidance Manual for Governments](#). Paris, 1996. p. 62.

Developing Data Collection and Management Procedures

Data collection and management

- UNITAR, [PRTR:Learn](#). Online Reporting Systems.
- OECD, [Guidance Document on Elements of a PRTR: Part II](#). Paris, 2015. Section 3.3.
- OECD, [Pollutant Release and Transfer Registers \(PRTRs\): A Tool for Environmental Policy and Sustainable Development: Guidance Manual for Governments](#). Paris, 1996. Chapter 1 (p. 18-19); Chapter 3.

Data estimation techniques

- OECD, Resource Compendium of PRTR Release Estimation Techniques. [Part 1: Point Source](#) (2013); [Part 2: Diffuse Source](#) (2003); [Part 3: Transfers](#) (2017); [Part 4: Products](#) (2017). Paris.
- OECD, [Framework for Selecting and Applying PRTR Release Estimation Techniques](#). Paris, 2005.
- UNITAR, [PRTR:Learn](#). Release Estimation Techniques.
- UNITAR, [Guidance for Facilities on PRTR Data Estimation and Reporting](#). 2020.
- UNITAR, [Guidance on Estimating Non-Point Source Emissions](#). 2020.
- OECD, [Guidance Document on Elements of a PRTR: Part 1](#). Paris, 2014. Section 2.3.

Developing Data Analysis and Data Dissemination Procedures

- UNITAR, [PRTR:Learn](#). Communication & Dissemination of Data.
- OECD, [Framework on the Role of Pollutant Release and Transfer Registers \(PRTRs\) in Global Sustainability Analyses](#). Paris, 2017.
- OECD, [Guidance Document on Elements of a PRTR: Part II](#). Paris, 2015. Section 3.5.
- OECD, [Guidance Document on Elements of a PRTR: Part 1](#). Paris, 2014. Section 2.5.

- OECD, [Application, Use and Presentation of Pollutant Release and Transfer Registers \(PRTR\) Data](#). Paris, 2013.
- OECD, [Use of PRTRs data and tools for their presentation](#). Paris, 2019.
- OECD, [Presentation and Dissemination of PRTR Data: Practices and Experiences](#). Paris, 2000.
- OECD, [Pollutant Release and Transfer Registers \(PRTRs\): A Tool for Environmental Policy and Sustainable Development: Guidance Manual for Governments](#). Paris, 1996. Chapter 3.

Sources

Cover page:

Photo by Markus Distelrath from Pexels

Icons:

Page 6 - Chemical icon by Maxim Kulikov from the Noun Project

Page 18 - Data management icon by H. Alberto Gongora from the Noun Project

Page 14 - Balance icon made by Monkik from Flaticon

Page 24 - Data analysis icon by Adrien Coquet from the Noun Project

Page 27 - Pen drawing a line icon by glyph.faisalovers from the Noun Project