



Government
of Canada

Gouvernement
du Canada

Canada's National Pollutant Release Inventory (NPRI)

**GEF/UNEP/UNITAR Project Steering Committee
Meeting and Inception Workshop on PRTR
Spain, November 26-28, 2015**

Canada The wordmark for Canada, with a small red maple leaf icon above the letter 'a'.

Outline

1. Why the NPRI Exists
2. Overview of the NPRI Cycle and Requirements
3. Where NPRI is Heading
4. The Canadian PRTR Experience

1. The NPRI

Established in 1993, the NPRI is...

- Canada's legislated, publicly-accessible inventory of pollutant releases (to air, water and land), disposals (e.g. underground injection, landfill) and transfers for recycling.
- The NPRI includes:
 - Information collected from ~7,500 facilities on over 300 substances under the *Canadian Environmental Protection Act, 1999* (mandatory annual reporting)



Why the NPRI Exists

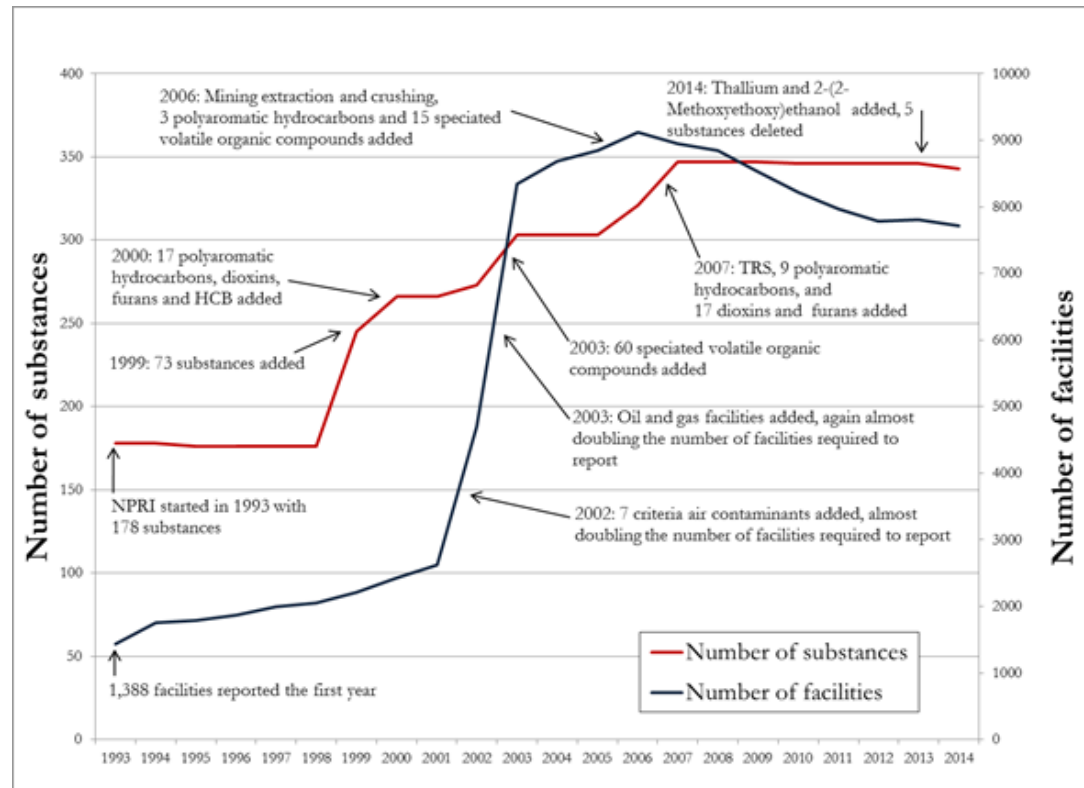
- The NPRI is a key resource for identifying and monitoring sources of pollution in Canada. It exists to:
 - Support priority setting and monitoring of environmental performance measures
 - Contribute to the compilation of pollution patterns and trends
 - Provide environmental information in the public interest
 - Fulfill international reporting obligations
- NPRI data are used by governments, academia, industry, non-governmental organizations, international organizations, financial institutions and media.
- Publication of the NPRI is mandated under the *Canadian Environmental Protection Act, 1999* (CEPA 1999).

Origins of the NPRI

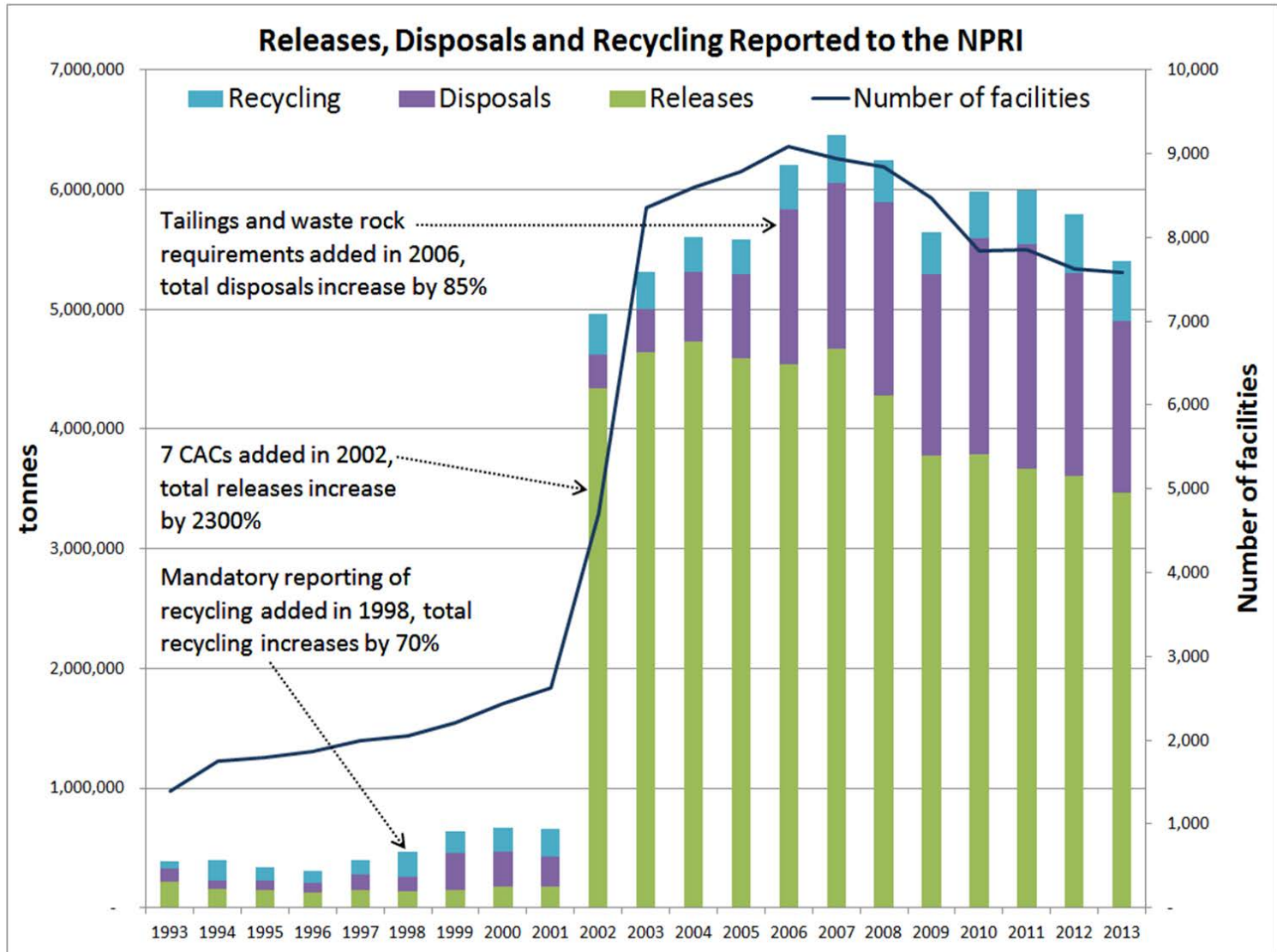
- Origins: Put in place after the Government of Canada's commitment to establish a PRTR
 - Canada's Green Plan (1990):
 - "To develop a better understanding of the nature and quantity of toxic substances being released in Canada, the Government will develop a national database for hazardous pollutants being released from industrial and transportation sources. "The reporting requirements for industry will be established by 1992, with the first reports scheduled for public release no later than 1994.
- Initial Development: NPRI Multi-Stakeholder Advisory Committee (1991-92)
 - Representatives from industry and labour, environmental groups and provincial and federal governments
 - Primary tasks:
 - Establish list of substances
 - Establish reporting criteria
 - What information is to be collected
 - Methodologies for reporting
 - Recommendations to the Minister on implementing the NPRI

The NPRI has expanded since its inception...

- Initially based on US TRI
- Since 1993, the first year of the NPRI, EC has:
 - Added over 150 substances, including toxic substances and air pollutants
 - Reduced thresholds or established different reporting criteria for certain substances and activities
 - Added sectors
- A list of changes to NPRI requirements over time is available at: www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=35CEDD11-1

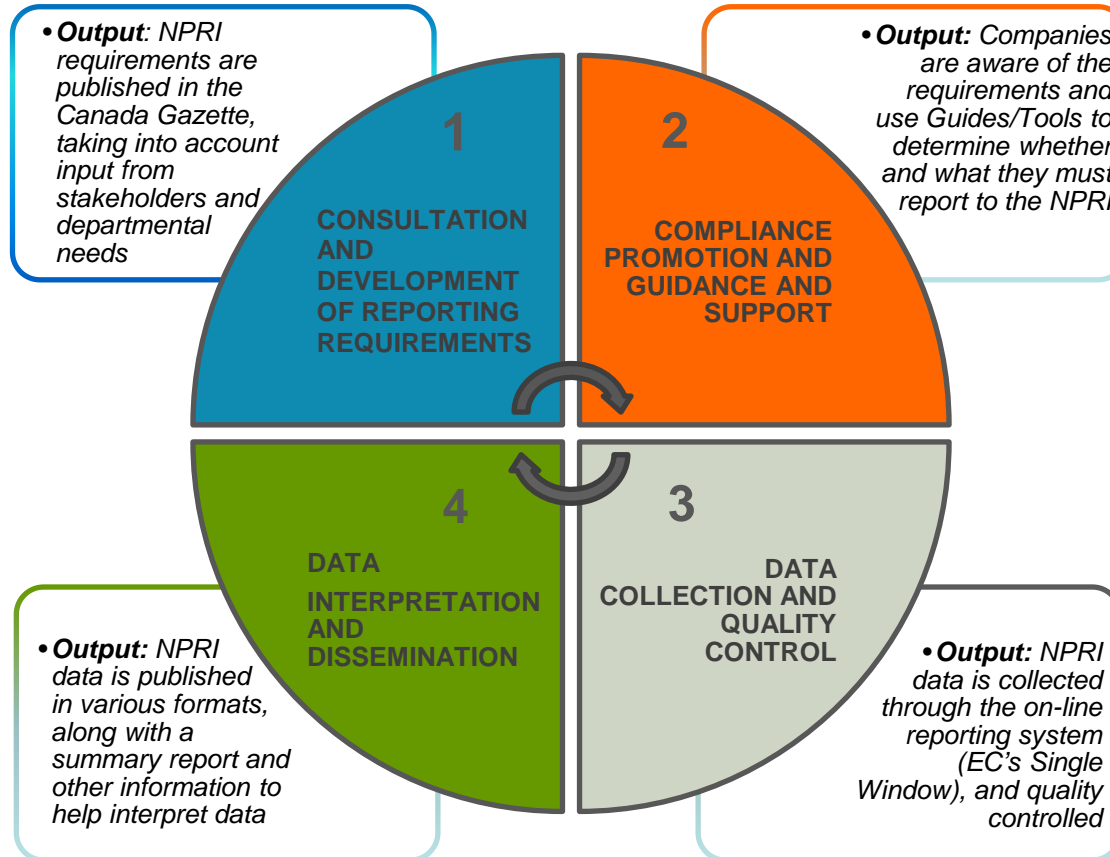


Changes in Reported Quantities Over Time



2. Overview of the NPRI Cycle and Requirements

Annual NPRI reporting cycle

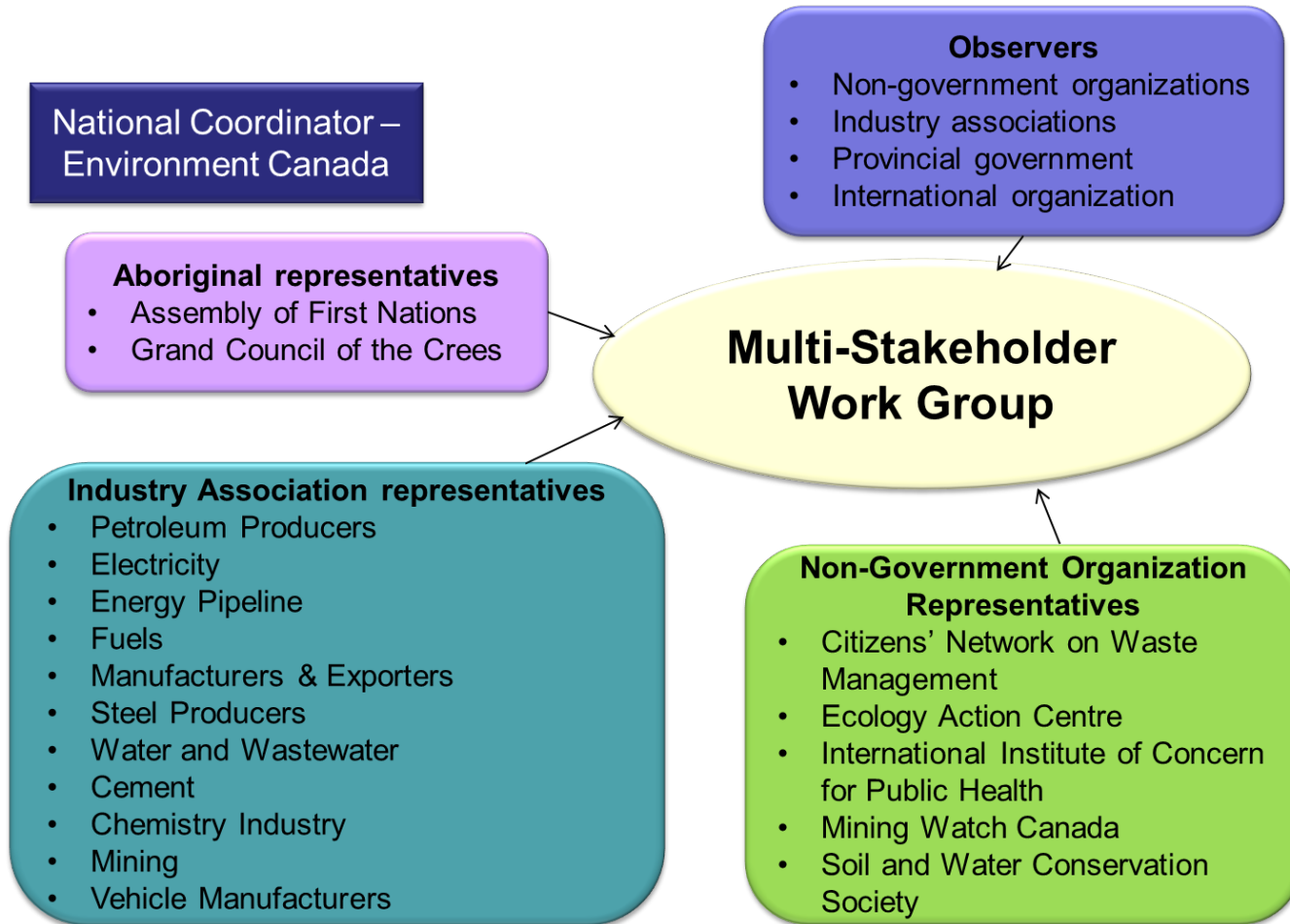


Stakeholder and Data User Engagement



- Proposals for changes to NPRI requirements come from external sources or from within Environment Canada (adding or removing substances, changing thresholds, exemptions or other criteria or requirements)
 - The process for considering changes is described on the NPRI website at: <http://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=EF5F32DD-1>
- The NPRI Multi-Stakeholder Work Group (industry, environmental and aboriginal representatives) is the main mechanism for consultation
 - Proposals are also posted on the web to allow public comments, and sent to other known stakeholders that may be affected
- Also engagement of external and internal users of NPRI data
- The consultation and engagement activities for NPRI are described in a Consultation and Engagement Framework: <http://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=5FA7E914-1>
- The consultative process used to develop the NPRI and for annual changes is key to NPRI's success

NPRI Multi-Stakeholder Work Group (2015)



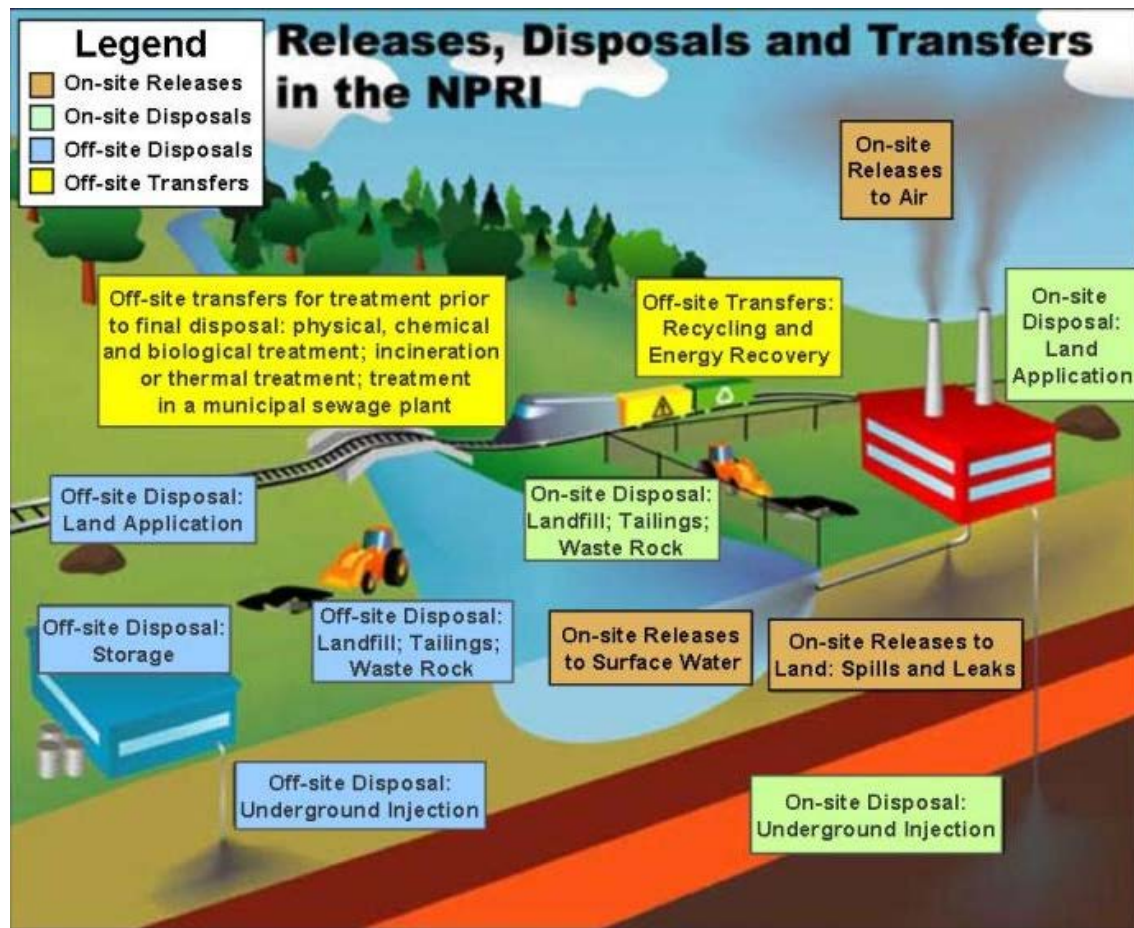
Basic Reporting Requirements

- NPRI reporting requirements are published in Part I of the *Canada Gazette*, the official newspaper of the Government of Canada. Every two years, a Notice is published with detailed reporting requirements.
- In summary:
 1. Facilities are subject to the requirements if they:
 - Have a certain number of employees (10 FTEs / 20 000 hours);
or
 - Carry out certain specified activities (e.g. incineration)
 2. Individual substances may be reportable if:
 - Thresholds are exceeded for:
 - Quantity manufactured, processed or otherwise used
 - Quantity released (for air pollutants)
 - Certain activities occur (e.g. dioxins/furans and hexachlorobenzene)

NPRI Substances

- Over 300 substances are listed on the NPRI, including CEPA-toxic substances, air pollutants and other substances of concern.
- They are listed in parts, each with its own reporting criteria:
 - Part 1A – **Core Substances** [10-tonne manufactured, processed or otherwise used (MPO), at >1% concentration except by-products]
 - Part 1B – **Alternate Threshold substances** [MPO, with lower mass and/or concentration thresholds]
 - Part 2 – **Polycyclic Aromatic Hydrocarbons (PAHs)** [50 kg released, disposed or recycled for group, 5 kg for individual reporting]
 - Part 3 – **Dioxins, Furans & Hexachlorobenzene** [specified activities]
 - Part 4 – **Criteria Air Contaminants (CACs)** [quantity released to air]
 - Part 5 – **Individual Volatile Organic Compounds (VOCs)** [1 tonne released to air, if Part 4 criteria for Total VOCs is met]

What is Reported to the NPRI?



Quantities

Releases: air, surface water, land

Disposals (on- or off-site): landfill, land application, tailings & waste rock, underground injection

Transfers (off-site): treatment, recycling or energy recovery (including the destination of the transfer)

Supporting information

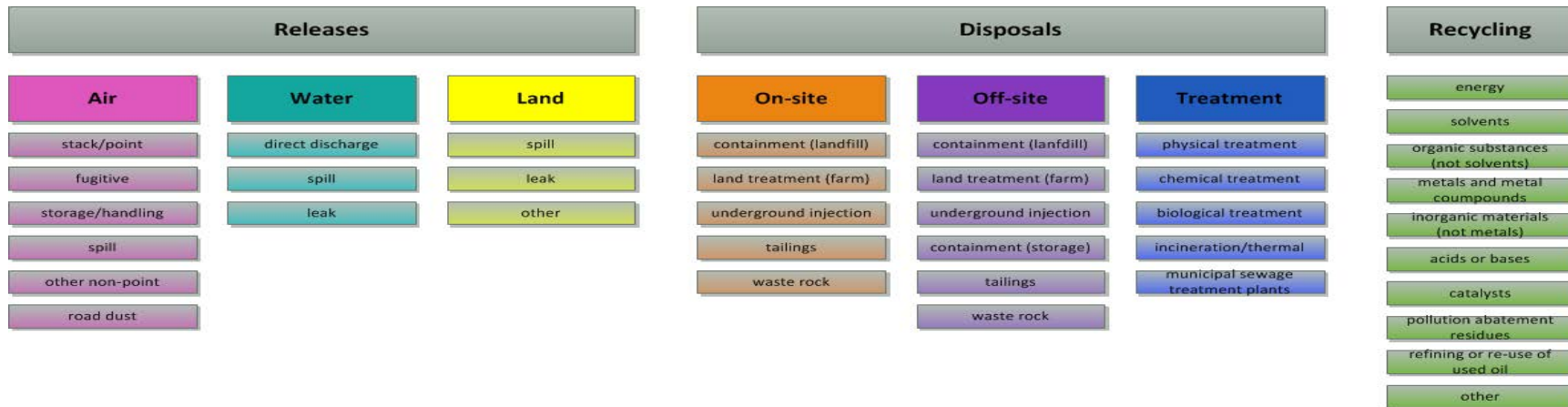
Facility information: location, industry type, contacts

Type of use: e.g. for sale, by-product; additive

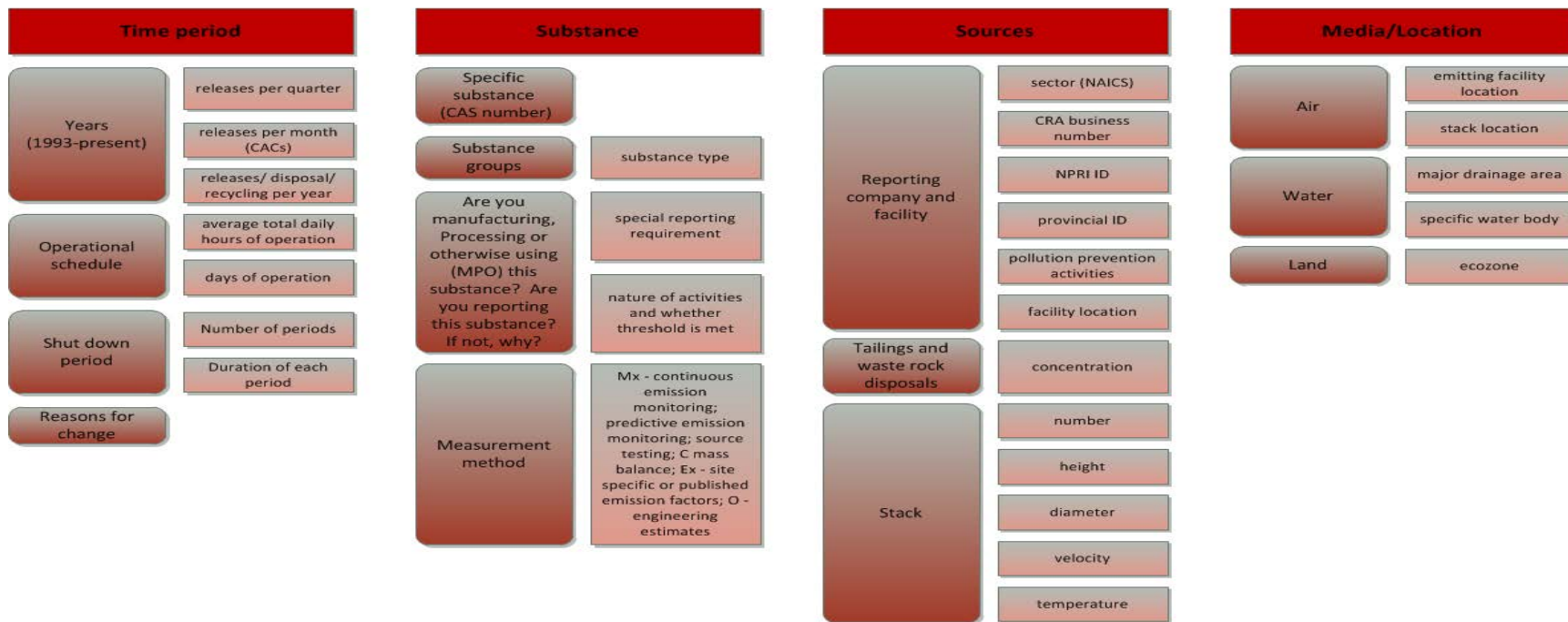
Pollution Prevention

Reasons for changes

NPRI Data Fields



Supporting Information



Compliance Promotion & Guidance / Support



- **Compliance promotion:**

- E-mails to known reporters at the launch of the reporting period and near the reporting deadline (June 1st of each year)
- Targeted sectorial compliance promotion activities, based on identified priorities, to inform potential non-reporting facilities of the requirements

- **Guidance, reporting tools and estimating emissions:**

- General guidance to explain the requirements, and the “NPRI Toolbox” containing technical guidance (for example on estimation methods), estimation tools and calculators, and links to external resources (e.g., U.S. EPA)
- Under CEPA 1999, information must be reported if the owner/operator possesses the information or may reasonably be expected to have access to the information.
- The following estimation methods may be used, alone or in combination, and the primary method used is reported for each quantity:
 - Monitoring (e.g., continuous emission monitors) or source testing;
 - Mass balance;
 - Emission factors (published or site-specific); and
 - Engineering estimates

Data Collection and Quality Control



- **NPRI data collection and help desk support**
 - NPRI provides phone and email helpdesk support to the reporting community.
 - NPRI receives data submissions through Environment Canada’s Single Window reporting system, an online reporting system (including inventory reports, and other submissions such as “Does Not Meet Criteria” and facility closure/ownership change/sale notifications).

- **Quality control and data publication following the reporting deadline:**
 1. Preliminary data is made available on the NPRI website soon after collection (approximately 1 month if possible). The reporting community is encouraged to review their submissions and correct/update them as necessary.
 2. The NPRI program reviews reported data for inaccuracies and reporting errors, and contacts facilities as necessary to verify their reports. If required, facilities re-submit their reports with corrections.
 3. Reviewed data is made available late in the year (within 6 months if possible).

Latest Facility-Reported Data

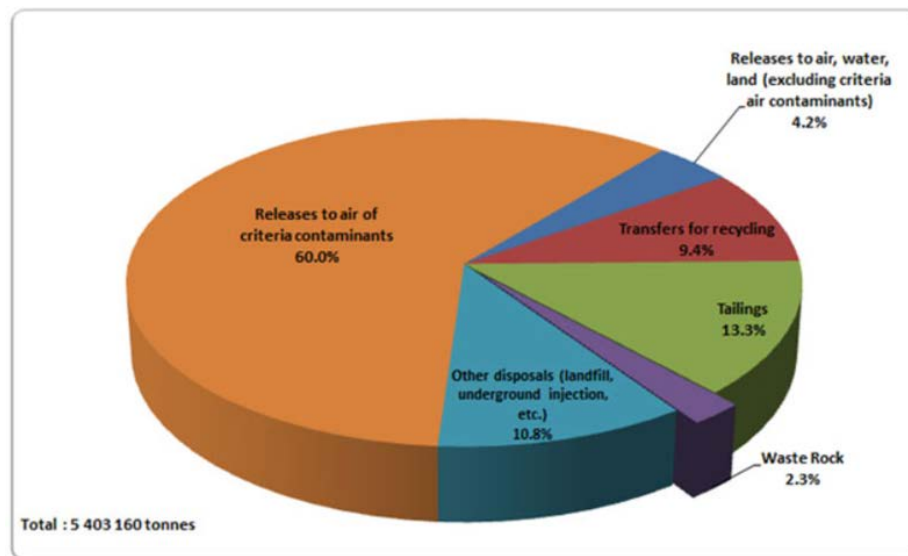
- Latest reviewed data available is for 2013 (Released on December 11, 2014)

- Highlights include:

- 7,582 facilities submitted reports for at least one substance
- Releases to air of air pollutants that cause smog and acid rain (i.e., criteria air contaminants) make up 60% of total reported quantities
- 346 substances or substance groups were listed on the NPRI for the 2013 reporting year

- A *Summary Report* analyzing reviewed data and trends is published each year on the NPRI website, along with the data itself.

Total releases, disposals and recycling (off-site) reported to the NPRI for 2013

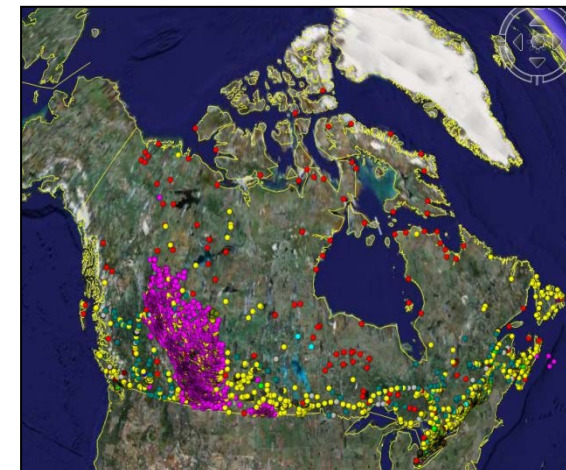


Accessing NPRI data

Data is available from: Government of Canada Open Data Portal; NPRI website

1. NPRI online data search (Quick, easy to find information on a particular facility)
2. Microsoft Excel flat file (Most common fields in a simplified spreadsheet format)
3. NPRI database – available in Microsoft Access format (Useful for custom analysis for “technical” users such as sector-level analysis, time trends, etc.)
4. NPRI Map Layers for use in Google Earth (Allow users to “explore” NPRI data in an intuitive and visual way)

REPORT	NPRI ID	CAS NUMBER	UNITS	EDIT	UNITS_STOR	DISPOSAL	DISP_ON	DISP_OFF	DISP
2006	0000000001	10049-04-4	tonnes		tonnes	0	0	0	0
2006	0000000001	11104-93-1	tonnes		tonnes	0	0	0	0
2006	0000000001	118-74-1	grams		grams	0	0	0	0
2006	0000000001	120-80-9	tonnes		tonnes	0	0	0	0
2006	0000000001	129-00-0	kg		kg	-1	-1	0	0
2006	0000000001	191-24-2	kg		kg	-1	-1	0	0
2006	0000000001	192-97-2	kg		kg	0	0	0	0
2006	0000000001	193-39-6	kg		kg	-1	-1	0	0
2006	0000000001	198-55-0	kg		kg	0	0	0	0
2006	0000000001	206-82-3	kg		kg	0	0	0	0
2006	0000000001	206-99-2	kg		kg	-1	-1	0	0
2006	0000000001	206-44-0	kg		kg	-1	-1	0	0
2006	0000000001	207-09-9	kg		kg	0	0	0	0
2006	0000000001	208-96-8	kg		kg	0	0	0	0
2006	0000000001	218-01-9	kg		kg	-1	-1	0	0
2006	0000000001	463-59-1	tonnes		tonnes	0	0	0	0
2006	0000000001	50-32-6	kg		kg	-1	-1	0	0
2006	0000000001	53-70-3	kg		kg	-1	-1	0	0
2006	0000000001	56-55-3	kg		kg	-1	-1	0	0
2006	0000000001	630-08-0	tonnes		tonnes	0	0	0	0
2006	0000000001	67-56-1	tonnes		tonnes	0	0	0	0
2006	0000000001	71-43-2	tonnes		tonnes	0	0	0	0
2006	0000000001	7446-09-5	tonnes		tonnes	0	0	0	0
2006	0000000001	75-07-0	tonnes		tonnes	0	0	0	0



NPRI data users & uses

- **Data users:**

- Governments and International Organizations:
 - Environment Canada programs e.g. regulators, risk assessors, indicators and inventory developers, air quality modellers, researchers, etc.
 - Other federal departments and other Canadian governments (provincial, territorial, municipal)
 - International organizations (e.g. Commission for Environmental Cooperation, OECD), other countries' governments
- Industry associations, individual companies, and financial institutions
- Public: Canadians, NGOs, community groups, academics, educators & students, media

- **How the data is used:**

- Within Environment Canada, NPRI information is used:
 - as an input to risk assessment;
 - as a supplement or replacement for other information gathering activities;
 - to inform the development, implementation and evaluation of risk management instruments;
 - to complement monitoring data (i.e. air and water quality monitoring), for example by identifying the sources of pollutants;
 - to support air quality modeling and forecasting; and
 - to support inventory development and international reporting.
- External data users use NPRI information to establish priorities, monitor or track pollutant releases, voice concerns, establish baselines, research, inform, make decisions, make comparisons, and so on.

Considerations for using and interpreting NPRI data



- A *Guide for Using and Interpreting National Pollutant Release Inventory (NPRI) Data* is available on the NPRI website.
- Key Factors that need to be considered when using, analyzing and interpreting NPRI data:
 - Changes to NPRI reporting requirements over time (e.g. changes to reporting thresholds; addition of new substances; increase in number of reporting facilities, etc.);
 - Facilities may use different estimation methods, or may not report on certain sources if there are no estimation methods;
 - Degree of risk and hazard associated with the pollutants varies – dependent on inherent toxicity, media of release/disposal, fate in environment, amount released, nature and level of exposure, etc.;
 - Some substances of concern are not reported to the NPRI;
 - Treatment of substances vs substance groups (potential double counting);
 - Not all facilities in a given industrial sector meet the NPRI reporting requirements (reporting coverage not necessarily 100%);
 - Some substances are reported in different units than others; etc.
- The latest reviewed (quality-controlled) data—rather than preliminary information—should be used for trend analysis purposes and inclusion in reports.
- Data users can contact the NPRI Help Desk to enquire about NPRI data or provide feedback on their data user experience so that the program can remain relevant to their needs.







3. Where NPRI is Heading

NPRI Focussed on Improving Data Quality

Current NPRI efforts are focussed on improving “data quality”, in a broad sense, encompassing six dimensions.



The NPRI Data Quality Management Framework

- The primary objective of the NPRI Data Quality Management Framework is to ensure that NPRI data achieves and maintains a high level of quality and meets the needs of data users
- Ongoing activities are related to each of the following dimensions of data quality:
 - **Relevance**  Stakeholder & data user consultation; Review of the NPRI Substances List
 - **Accuracy/reliability**  Annual QA/QC process (sectoral engagement); Uncertainty analyses; Tools
 - **Completeness**  Sector and Substance Coverage Analysis; Compliance Promotion
 - **Understandability**  Guide for using and interpreting NPRI data; FAQs; Contextual information
 - **Accessibility**  NPRI data available in a variety of formats (database structure improvement)
 - **Timeliness**  Annual publication of NPRI data (preliminary and reviewed)
- As the NPRI program continues to evolve, these activities are adjusted to address new challenges and opportunities for continuous improvement
- Available at: <http://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=23EAF55A-1>

4. The Canadian PRTR Experience

Lessons learned

- Keep objectives in mind when developing requirements
- More complex reporting requirements can affect the quality of reported data
- Work with reporting facilities to improve data quality and ensure reporting from those that meet requirements
- Consult with stakeholders during program inception and throughout program management
- Share technology and experiences between countries
- Use/adapt international materials (guidance, release estimation techniques)
- Consider both technical and non-technical audiences for information from PRTR

Questions / Comments?

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General contact information for the NPRI:

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Tel: 1-877-877-8375

E-mail: inrp-npri@ec.gc.ca

NPRI Website:

www.ec.gc.ca/inrp-npri

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Pollution and Waste

Pollutants

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Substance Lists

Glossary

Related Links

FAQ

Contact the NPRI

Site Map

National Pollutant Release Inventory

Tracking Pollution in Canada

The National Pollutant Release Inventory (NPRI) is Canada's legislated, publicly accessible inventory of pollutant releases (to air, water and land), disposals and transfers for recycling. It is a key resource for:

- identifying pollution prevention priorities;
- supporting the assessment and risk management of chemicals, and air quality modelling;
- helping develop targeted regulations for reducing releases of toxic substances and air pollutants;
- encouraging actions to reduce the release of pollutants into the environment; and
- improving public understanding.

Pollution Data and Reports



Resources for accessing, analyzing and interpreting information on pollutant releases and transfers in Canada.

Reporting to the NPRI



NPRI Data Search

Find out about pollutant releases and transfers in Canada

Search By Company or Facility Name:

Facility Name

Send

Search By Postal Code: (First 1-3 Characters)

Postal Code

Send

More Search Options (+ Other Reporting Years)

NPRI Highlights

- Quality Control of the Preliminary 2012 NPRI Data - call-out for corrections or updates by September 13, 2013
- 2011 NPRI Reviewed Facility Data Now Available
- 2011 Air Pollutant Emissions Summaries
- Archive...

NPRI Map Layers for use with Google Earth™

To learn more

Thank you!