



Canada's National Pollutant Release Inventory

Jennifer Underhill



Outline

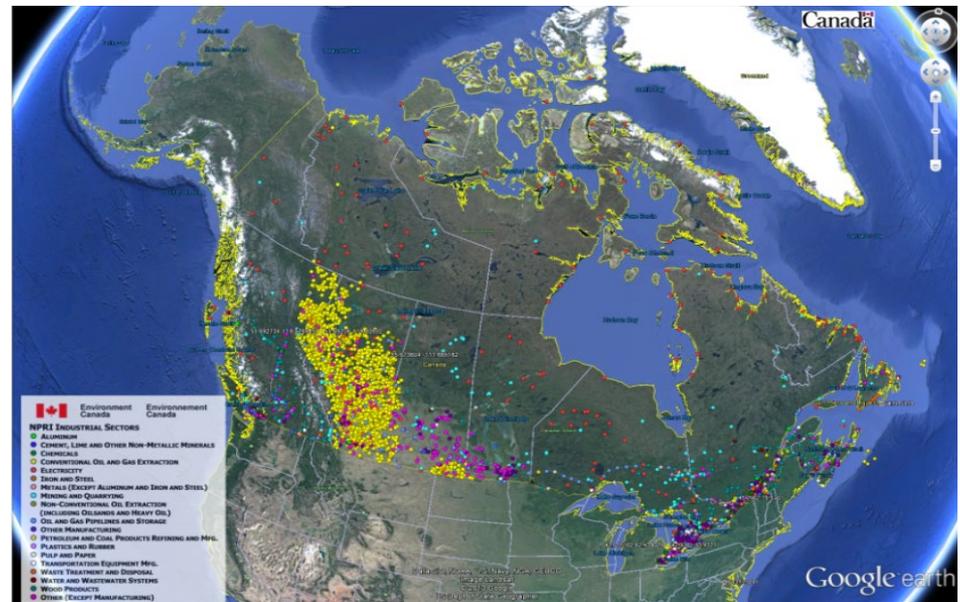
- What is the National Pollutant Release Inventory?
- NPRI reporting requirements
- How to report: Single Window System
- Annual cycle
- How to make changes to NPRI
- Accessing NPRI Data and Products
- Communication and Outreach



ESTABLISHED IN 1993, THE NPRI IS...

Canada's legislated, publicly-accessible inventory of pollutant releases (directly to air, water and land), disposals (e.g. underground injection, landfill) and transfers for recycling.

- Information collected from ~7,500 facilities on 343 substances under the Canadian Environmental Protection Act (mandatory annual reporting)



WHY THE NPRI EXISTS

- The NPRI and publication of data collected is mandated under CEPA.
- The NPRI is a key resource for identifying and monitoring sources of pollution in Canada.
- Public “right-to-know” is a fundamental underlying principle of the NPRI.
- The NPRI data is published on the ECCC website and is used by governments, academia, industry, non-government and international organizations and media, among others.



Basic Reporting Requirements

- NPRI reporting requirements are published in Part I of the *Canada Gazette*. In summary:
 - Facilities are subject to the requirements if they:
 - Have a certain number of employees (10 FTEs / 20 000 hours)
 - Carry out certain specified activities (e.g. incineration, municipal wastewater treatment, stationary combustion)
 - Individual substances are reportable if:
 - Thresholds are exceeded for:
 - Quantity manufactured, processed or otherwise used
 - Quantity released (for air pollutants)
 - Certain activities occur (e.g. incineration for dioxins/furans and hexachlorobenzene)

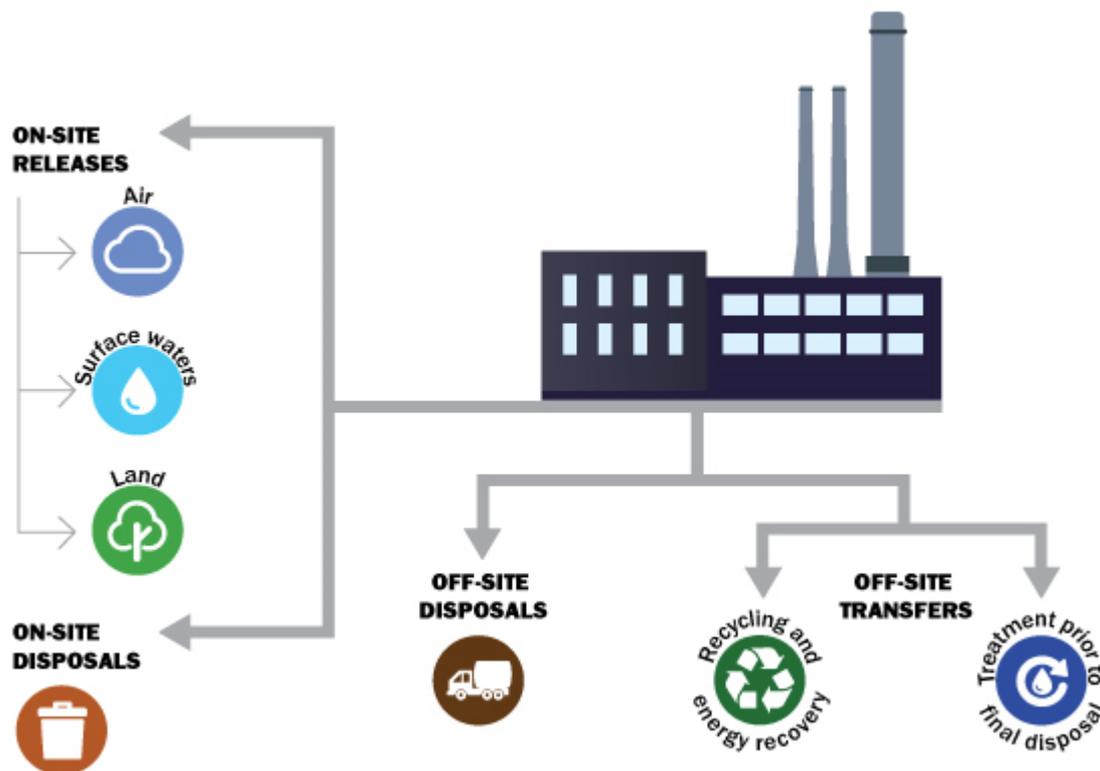


NPRI Substances

Part 1A	Core substances [10 tonnes manufactured, processed or otherwise used (MPO)]
Part 1B	Alternate threshold substances [MPO, with lower mass thresholds]
Part 2	Polycyclic aromatic hydrocarbons [50 kg released or transferred]
Part 3	Dioxins, furans and hexachlorobenzene [specified activities]
Part 4	Criteria air contaminants [quantity released to air]
Part 5	Individual volatile organic compounds [1 tonne released to air]



WHAT IS REPORTED TO THE NPRI?



Quantities

Releases: air, surface water, and 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)

Other information

Facility information: location, industry type, contacts

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

Pollution Prevention activities

Reasons for changes compared to quantities reported from previous years.



WHO CURRENTLY REPORTS TO THE NPRI?

Industrial sectors:

- Oil and gas extraction, chemical pulp mills, petroleum refineries, mining, metal manufacturing, chemical manufacturing

Treatment facilities:

- Waste treatment and disposal, sewage treatment facilities

Services facilities:

- Electric power generation, airports, cargo handling, research and development facilities, hospitals

Government facilities:

- National Defence, Correctional Services



HOW IS THE INFORMATION REPORTED IN?

Bienvenue / Welcome

Guichet unique d'Environnement et
Changement climatique Canada



Environment and Climate Change Canada
Canada's Single Window

Français

English

[Avis](#)

[Terms and conditions](#)

Canada 

ec.gc.ca

Home

Choose a secure Sign-In Method

You must sign in to access the Environment and Climate Change Canada ("ECCC") service you requested.

[Continue to Sign-In Partner](#)

- Use the same sign-in information you use for other online services (e.g. online banking).
- None of your information (e.g. financial, banking) will be shared with ECCC. Your Sign-In Partner will not know which government service you are using.
- You will temporarily leave the ECCC web site to use your Sign-In Partner.

[View the full list of Sign-In Partners](#)



[Continue to GCKey](#)



Environment and
Climate Change Canada

Environnement
Changement

NPRI ONLINE MODULE

National Pollutant Release Inventory (NPRI) and Partners

Home | Submission Management | Help | My Profile: Jennifer Underhill | Logout | Ec.gc.ca

SWIM > Reporting Dashboard

Reporting Details
Reporting Dashboard

Reporting Dashboard

Welcome to the NPRI reporting module. We have made some changes to the Reporting Dashboard. Click "Help" then "Toggle In-Context Help" for more information. ✕

ATTENTION! Changes have been made to the NPRI reporting requirements for the 2018 reporting year. For more information, [click here](#)

ATTENTION! Changes have been made to the ON MECP TRA reporting requirements for the 2018 reporting year. For more information, [click here](#)

Report(s)

Company List

Year

Report Category

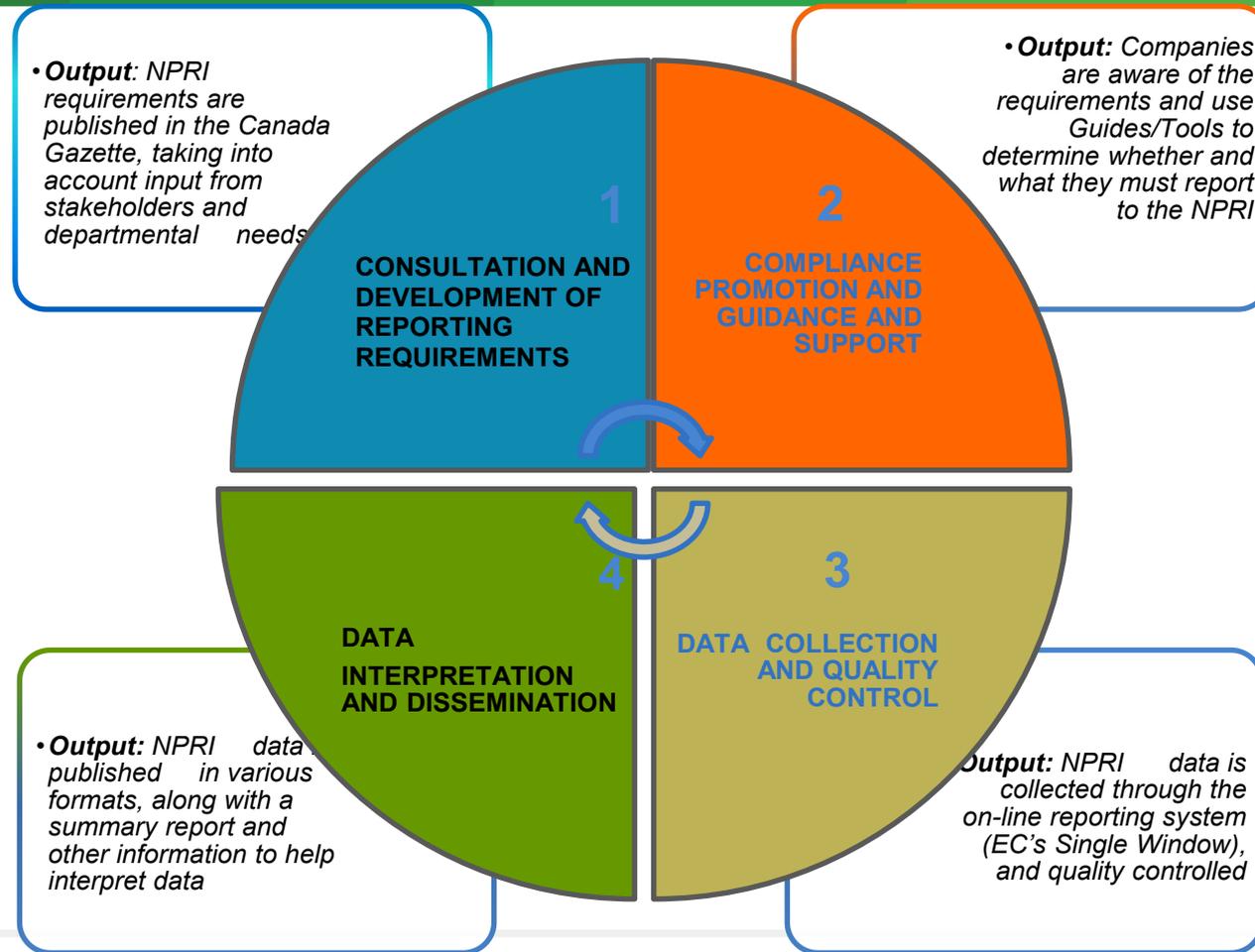
Status	Facility Name	Report Type	Status	Actions
	▶ ON TRA	Inventory	<div style="width: 80%; height: 10px; background-color: green;"></div> (8/15)	
	▶ 2011 TRA Plan Summary report	Inventory	<div style="width: 80%; height: 10px; background-color: green;"></div> (18/23)	
	▶ Environment Canada	Inventory	Ready to Submit	
	▶ TRA Only	Inventory	<div style="width: 50%; height: 10px; background-color: green;"></div> (4/8)	

Version: 3.15.0

Environment and Climate Change Canada

Environnement et Changement climatique Canada

ANNUAL NPRI REPORTING CYCLE



TYPICAL NPRI TIMELINES

Every two years:

- Winter: Publish notice with reporting requirements in *Canada Gazette* for the 2 upcoming reporting years

Each reporting year (every year):

June: Deadline for facilities to report releases for previous calendar year

July: Publication of preliminary (unreviewed) data on the NPRI website

June-September: Quality control of submitted data and follow-up with facilities

October-December: Preparation of annual Summary Report

December: Publication of the Summary Report and of reviewed data in various formats



CAN THE NPRI REQUIREMENTS BE CHANGED?



Anyone can propose changes to the NPRI reporting requirements.

Example of changes:

Deletions of listed substances

Additions of new substances

Changes in reporting thresholds

First step is to contact the NPRI to discuss options and timing.

Once a formal proposal has been prepared, consultation takes place through the NPRI Multi-Stakeholder Work Group as well as with other identified stakeholders and the public.



DECISION FACTORS FOR MODIFYING THE NPRI



Addition or deletion of substances:

Is the substance manufactured, processed or otherwise used (M,P,O) in Canada?

Is the substance of health and/or environmental concern?

Do facilities contribute significant releases of the substance?

Does inclusion of the substance support one or more of the objectives of the NPRI?

Identify priorities for action

Encourage voluntary action to reduce releases;

Allow tracking of progress in reducing releases;

Improve public understanding; or

Support targeted regulatory initiatives.

<https://www.canada.ca/en/environment-climate-change/services/national-pollutant-release-inventory/publications/process-proposing-considering-changes/chapter-3.html>



COMPLIANCE PROMOTION & SUPPORT TO REPORTING FACILITIES

2

COMPLIANCE
PROMOTION AND
GUIDANCE AND
SUPPORT

Support is provided to reporting facilities to assist them in meeting reporting requirements.

General guidance to explain the requirements

Summary of the NPRI Reporting Requirements

Annual Guide for Reporting to the NPRI

Questions and Answers through Helpdesk (phone and email)

NPRI Toolbox:

Technical guidance (e.g. info on estimation methods)

Estimation tools and calculators

Links to external resources (e.g., U.S. EPA)

Compliance promotion

E-mails to known reporters at the launch of reporting and near the deadline.

Targeted sectorial compliance promotion activities, based on identified priorities, to inform potential non-reporting facilities of the requirements.

Enforcement action is sometimes necessary

Some sectors of focus every year.



ENSURING NPRI DATA QUALITY

NPRI data quality control activities occur annually between June and September.

As soon as data is received, identification of outliers and follow-ups with facilities take place. This process continues until the reviewed data is ready for publication.

The largest impact is typically the result of unit errors such as reporting of a substance in kilograms instead of tonnes.

Some RM sectors verify the data submitted by facilities in their sector.

Examples: Forest Products, Oil and Gas, Metals and Mineral Processing, Plastics and Rubber, Chemical Manufacturing.



CONSIDERATIONS FOR USING AND INTERPRETING NPRI DATA

•Key factors that need to be considered when using, analyzing and interpreting NPRI data:

- The NPRI includes information on a select list of over 300 substances.
- Not all facilities in a given industrial sector may meet the NPRI reporting requirements.
 - Different estimation methods are used by facilities to quantify releases and transfers.
- The degree of risk and hazard associated with the pollutants varies – it is dependent on inherent toxicity, media of release/disposal, fate in the environment, quantity released, nature and level of exposure, etc.
 - There have been changes made to NPRI reporting requirements over time.
- Some substances are reported in different units than others; this affects comparability.
 - Treatment of substances vs substance groups (potential double counting).

•The *Guide for Using and Interpreting National Pollutant Release Inventory (NPRI) Data* is available on the NPRI website:

<https://www.canada.ca/en/environment-climate-change/services/national-pollutant-release-inventory/publications/guide.html>



NPRI DATA PRODUCTS – TYPES AND FORMATS

alone to the NPRI On-line Facility Data Search. Use this query tool to search detailed information on pollutant releases (to air, water and land), deposits and transfers for recycling reported by facilities to the National Pollutant Release Inventory (NPRI) from 1994 to 2017.

Search:

Custom Queries

Select a reporting year:

Facility

Please select no more than one of the following facility query options:

Company or Facility Name:

NPRI ID:

Substance

Please select no more than one of the following substance query options:

Substance Name:

Please choose a substance:

SAS number:

Please choose a substance:

Location

Please select no more than one of the following location query options:

Province or Territory:

Postal Code (Enter 1 to 3 characters):

NPRI ID	Facility Name	Company	NACCS	Co Province	ICAS	Name	Substance	Substance Group	Env Group	Env Category	Category	Quantity	U				
2015	11	Hexion Can	25210	AB	108-95-2	Phenol (as Phenol)	Releases	Releases	Stack	P	Relets de c	4.002	g				
2015	11	Hexion Can	25210	AB	108-95-2	Phenol (as Phenol)	Releases	Releases	Stack	P	Relets de s	0.241	g				
2015	11	Hexion Can	25210	AB	108-95-2	Phenol (as Phenol)	Releases	Releases	Stack	F	Relets de c	0.259	g				
2015	11	Hexion Can	25210	AB	NA	M16	Volatile Oil Composites	Releases	Releases	Stack	P	Relets de c	20.4	g			
2015	11	Hexion Can	25210	AB	NA	M16	Volatile Oil Composites	Releases	Releases	Stack	F	Relets de c	12.40	g			
2015	11	Hexion Can	25210	AB	NA	M16	Volatile Oil Composites	Releases	Releases	Stack	F	Relets de s	6.48	g			
2015	11	Hexion Can	25210	AB	50-00-0	Formaldehyd	Formaldehyd	Releases	Releases	Stack	P	Relets de c	0.060	g			
2015	11	Hexion Can	25210	AB	50-00-0	Formaldehyd	Formaldehyd	Releases	Releases	Stack	F	Relets de c	1.475	g			
2015	11	Hexion Can	25210	AB	50-00-0	Formaldehyd	Formaldehyd	Releases	Releases	Stack	F	Relets de s	0.322	g			
2015	11	Hexion Can	25210	AB	67-56-1	Methanol	Methanol	Releases	Releases	Stack	F	Relets de c	0.169	g			
2015	11	Hexion Can	25210	AB	67-56-1	Methanol	Methanol	Releases	Releases	Stack	F	Relets de s	6.216	g			
2015	11	Hexion Can	25210	AB	67-56-1	Methanol	Methanol	Releases	Releases	Stack	F	Relets de c	20.534	g			
2015	11	Hexion Can	25210	AB	NA	18	Ammoniac	Ammoniac	Total All Media	Relets à la fois	Relets à la fois	0.056	g				
2015	11	Hexion Can	25210	AB	80-05-7	Ethylène	Ethylène	Releases	Releases	Stack	F	Relets de c	6.01	g			
2015	11	Hexion Can	25210	AB	107-21-1	Ethylène glycol	Ethylène glycol	Releases	Releases	Stack	F	Relets de s	0.0003	g			
2015	15	BAYCOAT	Baycoat LI	332810	ON	NA	M16	Volatile Oil Composites	Releases	Releases	Stack	P	Relets de c	19.173	g		
2015	15	BAYCOAT	Baycoat LI	332810	ON	91-20-3	Naphtalène	Naphtalène	Total All Media	Relets à la fois	Relets à la fois	0.289	g				
2015	15	BAYCOAT	Baycoat LI	332810	ON	108-88-3	Toluène	Toluène	Total All Media	Relets à la fois	Relets à la fois	0.243	g				
2015	15	BAYCOAT	Baycoat LI	332810	ON	78-03-3	Methyl ethyl Méthylol	Releases	Releases	Stack	P	Relets de c	1.462	g			
2015	15	BAYCOAT	Baycoat LI	332810	ON	71-36-3	n-Butyl acé	Butyl acé	Releases	Releases	Stack	P	Relets de c	1.103	g		
2015	15	BAYCOAT	Baycoat LI	332810	ON	95-63-0	1,2,4-Triox	1,2,4-Triox	Releases	Releases	Stack	P	Relets de c	2.503	g		
2015	15	BAYCOAT	Baycoat LI	332810	ON	1330-20-7	Xylène (ou	Xylène (ou	Releases	Releases	Stack	P	Relets de c	1.513	g		
2015	15	BAYCOAT	Baycoat LI	332810	ON	100-11-4	Ethylène Ethylène	Releases	Releases	Stack	P	Relets de c	0.261	g			
2015	15	BAYCOAT	Baycoat LI	332810	ON	111-76-2	2-Butyléth	Releases	Releases	Stack	P	Relets de c	2.61	g			
2015	15	BAYCOAT	Baycoat LI	332810	ON	1194-03	Nitrogen ox	Nitrogen ox	Releases	Releases	Stack	P	Relets de c	20	g		
2015	15	BAYCOAT	Baycoat LI	332810	ON	67-64-1	Acétone	Acétone	Releases	Releases	Stack	P	Relets de c	0.096	g		
2015	15	BAYCOAT	Baycoat LI	332810	ON	108-16-1	Methyl isop	Méthylol	Releases	Releases	Stack	P	Relets de c	0.126	g		
2015	21	Bolton Plur	Bolton Shee	331210	ON	7047-01-0	Hydrochloric	Acide chlor	Releases	Releases	Stack	F	Relets de c	0.3175	g		
2015	21	Bolton Plur	Bolton Shee	331210	ON	NA	14	Zinc (and Z	Releases	Releases	Stack	F	Relets à la fois	0.0358	g		
2015	21	Bolton Plur	Bolton Shee	331210	ON	NA	M09	PM10	PM	Releases	Releases	Stack	P	Relets de c	0.1183	g	
2015	26	CORNWALL BASF	Can	225190	ON	4351-8	Carbon Monoxide	Releases	Releases	Stack	P	Relets de c	1.4	g			
2015	26	CORNWALL BASF	Can	225190	ON	NA	M08	PM	Total	PM	Releases	Releases	Stack	P	Relets de c	0.68	g
2015	26	CORNWALL BASF	Can	225190	ON	NA	M16	Volatile Oil Composites	Releases	Releases	Stack	P	Relets de c	2.26	g		
2015	26	CORNWALL BASF	Can	225190	ON	NA	14	Zinc (and Z	Releases	Releases	Stack	F	Relets à la fois	0.0358	g		



Online queries
NPRI Data Search

Tabular (CSV & XLSX)
Single year tabular data
Five year release data
Bulk data

Map Layers
Virtual Globe including Google Earth™
Open Mapping services

ACCESSING NPRI DATA PRODUCTS – NPRI WEBSITE

National Pollutant Release Inventory

Guidance and tools on reporting to the inventory, accessing, analyzing and downloading data.



Services and information

two clicks

[Reporting to the NPRI](#)

Facilities, reporting requirements, deadlines, guidance, legal requirements, toolbox, Single Window.

[Pollution data and reports](#)

Summary report, Fact sheet, reviewed data, facility.

[Using and interpreting NPRI data](#)

Understand data, annual, analyze, understand, risks, calculation methods, quality, factors.

[Video tutorials](#)

Data users, how to use, map layers, tabular data, excel format, access NPRI data, query site.

[Data quality](#)

Accuracy, consistency, comprehensive, data users, data needs, quality.

[Consultations](#)

Stakeholders, current, past, consultations, proposals for changes, engagement framework, working group.

[Substance lists](#)

Current substance list, changes over time, substance information, Canada Gazette, NPRI notices

[About the National Pollutant Release Inventory](#)

Canada's public inventory of pollutant releases, disposals and transfers.

Most requested

- [Log into Single Window for 2018 reporting](#)
- [Instructional videos for reporting to the NPRI](#)
- [Reporting guide for the NPRI](#)
- [NPRI toolbox](#)
- [Substance list by threshold](#)
- [Access data from the NPRI](#)

direct link

Contributors

- [Environment and Climate Change Canada](#)



Accessing NPRI Data

- Sector Overviews – [aluminum](#), [electricity](#), [metal ore mining](#) and [wastewater](#)

NPRI Sector Overview: Aluminium

Aluminium is part of the Release Inventory's (RIS). This sector overview covers releases, disposed and aluminium and summarizes what factors environmental impact.

Since 2008, the industry has taken key actions to reduce releases. Highlights:

- Aluminium production and industrial releases in Canada;
- Polycyclic aromatic hydrocarbons (PAHs)

NPRI Sector Overview: Electricity

Substances From Electricity Generation

Air pollutant emissions resulting from the combustion of fuels for electricity generation can negatively impact air quality, the environment and human health:

- Sulphur dioxide (SO₂) and nitrogen oxides (NO_x) are substances that dissolve in water vapor to form different types of acids, such as acid rain, which may cause respiratory problems in humans and animals, and damage vegetation;
- Particulate matter (PM) are small particles emitted through combustion. They are linked to respiratory diseases such as asthma, bronchitis and emphysema, and to various forms of heart disease. Particulate matter (PM) can also have adverse effects on vegetation and buildings, and contributes to visibility deterioration and regional haze; and
- Mercury (Hg) is hazardous to human and animal health, and may lead to neurological impairments such as decreased movement speed and dexterity, vision problems, and memory issues.



NPRI Sector Overview: Wastewater

Sludge and biosolids

As part of the treatment process, wastewater facilities generate semi-solid residues called sludge. Once treated and dried, the sludge is called biosolids and can be used as fertilizer.

According to the Canadian Council of Ministers of the Environment, more than 660,000 dry tonnes of biosolids are produced per year across the country. As requirements for wastewater treatment become stricter, this number is expected to increase.

Biosolids can be disposed or recycled. The option chosen will generally depend on their quality and the regulations in the province or territory where it will be used.

They are most commonly disposed of or recycled by:

- Burying them in a landfill;
- Incinerating them;

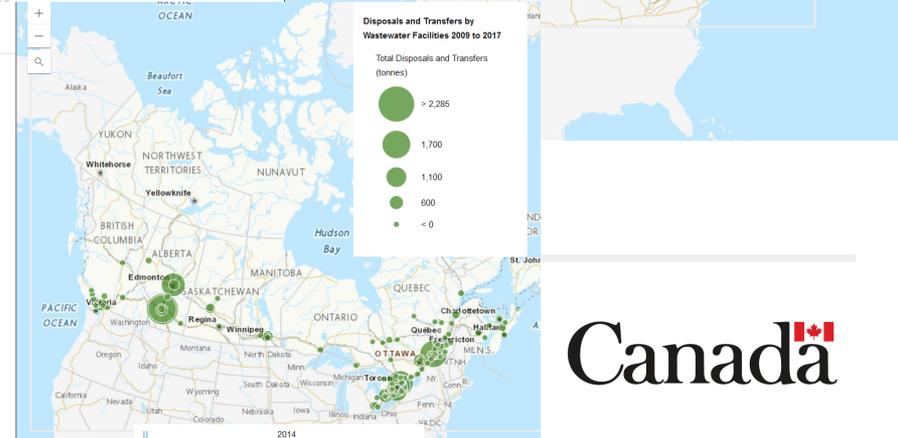
NPRI Sector Overview Series - Metal Ore Mining

Where Metal Ore Mining Facilities are Located

Most of the metal ore mining facilities that report to the NPRI are located in either the Canadian Shield or the Western Cordillera region of British Columbia. The geology of these two areas makes them the leading sources for base and precious metals in Canada.

In 2017, 101 metal ore mining facilities reported on 56 substances to the NPRI.

Metal and Diamond Mining Effluent



NPRI ONLINE DATA SEARCH

Quick, easy to find information on a particular facility, substance, location, sector

National Pollutant Release Inventory online search

Welcome to the new NPRI On-line Facility Data Search. Use this query tool to search detailed information on pollutant releases (to air, water and land), disposals and transfers for recycling reported by facilities to the National Pollutant Release Inventory (NPRI). Explore the most recent years of NPRI data. More years are progressively added. To search for data of past reporting years, please visit our [printout page](#).

Search criteria

Reporting year from to

Company or facility name or NPRI ID

Advanced search

Substance name: Enter at least two characters to display the options.

Release/disposal/transfer category:

Province:

Community:

Postal code:

Key industrial sector:

NAICS:

Downloadable datasets

Download NPRI datasets and maps, including the complete NPRI database. Recommended for advanced NPRI data users.



COMMUNICATION AND OUTREACH: PRESENCE ON SOCIAL MEDIA

Promote key milestones of the NPRI and increase its visibility:

Reporting deadlines and data publication;
Release of Sector Overview and Data Integration Series;
Partnership with Canada Agriculture and Food Museum; and
Participation in science festivals and events.



COMMUNICATION AND OUTREACH: PRESENCE ON SOCIAL MEDIA

Follow us on social media!



[Environment and Climate Change](#)
[Environnement et Changement climatique](#)



[@environmentca](#)
[@environnementca](#)



[Environment and Climate Change Canada](#)
[Environnement et Changement climatique](#)
[Canada](#)

APPROACH TO IMPROVING NPRI DATA PRODUCTS

Continuous Improvement of annual publications

Informed by user feedback and web analytics

Implemented based on technical feasibility and availability of IT resources

NPRI's Data Quality Management Framework: defines data quality in terms of seven elements

Canada's 2018-2020 National Action Plan on Open Government and Canada's Open Data Principles



Thank you!

Jennifer Underhill

Program Integration Division

Science and Risk Assessment Directorate

Science and Technology Branch

Environment and Climate Change Canada

E-mail: jennifer.underhill@canada.ca

