ENGO Survey: Assessing Accessibility and Usability of Canada's National Pollutant Release Inventory

Prepared for NGO members of the National Pollutant Release Inventory Work Group

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Table of Contents

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Part 1 – Introduction

Canada's National Pollutant Release Inventory (NPRI) is a prime tool to provide for the public's right to know about the release of pollutants into our communities. This helps us fulfil our responsibility to educate others on pollution issues and to work for the reduction of the release of pollutants.

The environmental non-government members of the NPRI Multi-Stakeholder Work Group carried out this project. Our purpose was to gain information on the experience or non-experience with the NPRI by non-government and non-industry people who we expect could likely gain value in their activities from using NPRI data. A prime purpose was to help us carry out our role of advising Environment Canada and Climate Change (ECCC) on how to make the NPRI more effective as a tool for people concerned about environment, health, and pollution issues. We hope that ECCC will gain ideas from this survey on how to make the NPRI better suit the needs of these critically important NPRI users and to implement the corresponding improvements.

The NPRI is an inventory mandated by the *Canadian Environmental Protection Act* that requires certain facilities to report on specified pollutants that they release to the environment. As of the 2020 reporting year, there were 320 pollutants on the NPRI list. Over 7,100 facilities from across the country reported 4.98 million tonnes of pollutants for 2020. These polluting facilities included places even in the most remote parts of the country. Facilities must report on: 1) their release of pollutants to air, surface waters, and on land; 2) their disposal on-site such as in landfills, land application, deep well injection, and to mining tailings and waste rock; 3) their off-site transfer for treatment and disposal; and 4) their off-site transfers for recycling.

Some of the NPRI's valuable features are: 1) it provides the public with facility-specific data for each pollutant; 2) the data is reported by each polluter annually; 3) the polluters are required by law to report and can be charged if they fail to do so; and 4) the data is available to the public through the NPRI website.

The environmental non-government organizations (ENGO) members of the government's NPRI Multi-Stakeholder Work Group when this survey was carried out as of November 2022 were: Fe de Leon (Canadian Environmental Law Association, Toronto, Ontario), Leif Helmer (Ecology Action Centre, Halifax, Nova Scotia), John Jackson (Citizens' Network on Waste Management, Kitchener, Ontario), Jamie Kneen (Mining Watch Canada, Ottawa), Judi Krzyzanowski (Canadian Association of Physicians for the Environment, Roslin, Ontario), Crystal Stamp-Cardinal (Keepers of the Water, Calgary, Alberta), and Anna Tilman (Watershed Sentinel Educational Society, Aurora, Ontario).

One hundred and twenty people filled in this survey at some point between December 1, 2022 and January 18, 2023. It is important to note the people who received the survey were those on mailing

lists of groups such as the ENGO members of the NPRI Work Groupee and of le Réseau canadien de l'environnement/Canadian Environmental Network. These are people much more likely than the average person to know of or use NPRI. Of those who filled out the survey, 33% identified themselves as part of an ENGO, 22% as citizen action groups, 21% as individual citizens, and 6% as part of Indigenous groups. The remaining 19% were scattered among six other self identifications. [See Q 25 results in Appendix 1.

Our immense thanks to each of those who took the time to provide their thoughtful responses to the questions. We also thank ECCC for providing us with funding to help us carry out this survey.

If you have any questions or comments on the survey, please contact John Jackson at jjackson@web.ca.

Part 2 - Non-Users

Why are they non-users?

In the cover e-mail that we sent with this survey, we urged people not currently aware of NPRI and/or non-users of NPRI to fill out the survey: "We want you to complete parts of this survey even if you have never heard of or used the National Pollutant Release Inventory (NPRI). For those who have used NPRI, the survey will lead you to a different set of questions."

We wanted to hear from non-users of the NPRI to gain some understanding of why they don't use the system and their thoughts on what could be done to get them involved in the NPRI.
As we pointed out in the Introduction, the people we reached out to with our survey were much more likely than the average person to know of or use NPRI, so the numbers below should not be interpreted as being similar to the data for the country as a whole.

The response to Q 1 "have you heard of the NPRI before this?" was 57.5% "no". The response to Q 2 "If you have heard of the NPRI before today, have you ever tried to use it?" was 54.1% "no". This means that approximately 80% of the people who filled out the survey were either unaware of NPRI or were not NPRI users even if they were aware of it.

To gain some insight into the low level of use even among those aware of NPRI, we asked Q 5, an open-ended question: "Why didn't you try to use NPRI even though you were aware of its existence?

#	RESPONSES
1	I was concerned about a particular substance so i found direct information and did not consider NPRI would have more.
2	It was years ago, and was just researching for an issue related to an old dump.
3	Didn't think it had resolution for Edmonton
4	I'm a retired former ADM at Environment Canada responsible for CEPA implementation. I now am focused mostly on biodiversity issues. I do have a question about GHGs that I recall were listed as CEPA toxic during my tenure. I note that they were discussed but not added to NPRI in 2003. I wonder why if they were listed as toxic - not feasible given heavy resistance to the simple listing?
5	I live 26 km from the nearest community and 3 km from my nearest neighbour in the middle of an area that is all organic farming. I know that isn't probably a good reason but it has decreased my concerns.
6	was interrupted
7	Tried to use it, found it confusing to use, also hard to interpret data. Had other people that understood it better that were able to find info and explain it to me.
8	I use it when I can and I need it

9	1.open burning is the greatest source of pM2.5 and should be banned nationally. it is the smallest sacrifice4greatest reward. 2. crematoria must be forced to remove amalgam fillings which are 70%Hg, before cremating human cadavers
10	Too many surveys. Concentrating little time on current issues.
11	too difficult and technical
12	i had no issues
13	Not fully engaged or ever needed to get information from the inventory.
14	Someone else had done so and told me of the results.
15	I assumed there were no local pollution sources, other than cars, in my residential neighbourhood.
16	I was working with a community group that was actively working on pollution concerns. I heard of NPRI through this community, but I never conceptualized a need for NPRI in my project work.
17	Did not know how I would make use of the data present. For instance, how would I engage with reporting facilities in my community to work for reductions? It might be helpful for "green" realtors to be aware of this and include it as part of neighbourhood profiles.
18	don't know what it does or what I would use it for
19	I tried, it didn't have the information I wanted
20	I think it's for people who see pollutants in their community. I haven't seen anything.
21	I thought that I lived too far away from any industrial site for its pollution to affect me.

The recurring responses here were "not aware it would be useful even if they found the data"; "too technical and difficult"; "assuming there weren't any polluting facilities in their area."

What might interest them in using NPRI data?
We asked our non-users to answer Q 6: "The following are some ways in which people often use NPRI data. Please tick off all of these that you think might be of value to you."

CHOICES OFFERED

Know about sources of possible chemical threats to your health and the environment

Look up data on a particular facility in your community

Look up data for all facilities within your postal code

Look up data on a particular pollutant

Gather information on substances that could endanger your health

Gather information that could help you affect government decisions, e.g., toxics laws and regulations, landuse planning matters, permits for release of pollutants by facilities

Stimulate community engagement on issues related to pollutants

Engage with reporting facilities in your community to work for reductions and eliminations of their pollutants

Use data to support the need for regulatory and legislative changes on pollution matters

Assess where progress is and is not being made by seeing the trends over time for pollution releases

Educate people about specific pollution sources

Educate people about possible pollutant sources of health impacts that they are experiencing
 Oher (please specify):

Q 6: "The following are some ways in which people often use NPRI data. Please tick off all of these that you think might be of value to you."
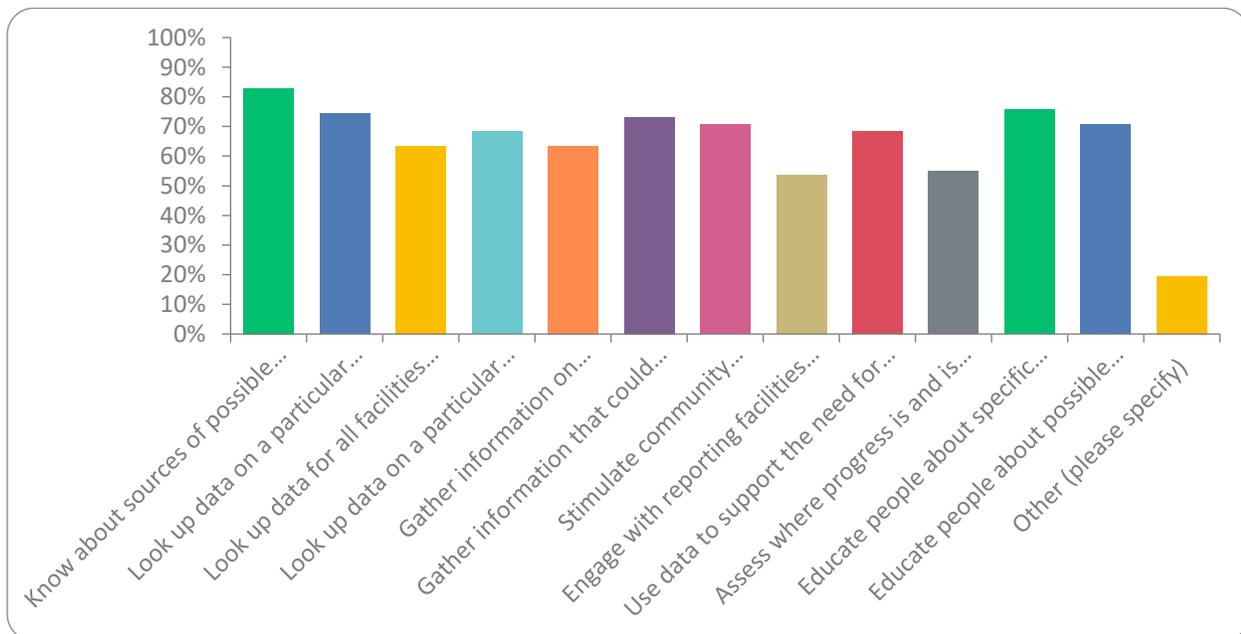
As shown in this table, the uses that the non-users were interested in was wide with even the lowest two being listed by 50% of those who answered: "Engage with reporting facilities in your community to work for reductions and eliminations of their pollutants (53%)" and "Assess where progress is and is not being made by seeing the trends over time for pollution releases (54%)".

The highest ranked uses were:
1. "Know about sources of possible chemical threats to your health and the environment (83%)"
2. "Educate people about specific pollution sources (75%)"
3. "Look up data on a particular facility in your community (74%)"
4. "Gather information that could help you affect government decisions, e.g., toxics laws and regulations, landuse planning matters, permits for release of pollutants by facilities (73%)

5. "Stimulate community engagement on issues related to pollutants (71%)" and "Educate people about possible pollutant sources of health impacts that they are experiencing (71%)".

In the other category, the following uses were listed by non-users:

1	Impacts to Treaty rights
2	Pesticide use for agriculture & forestry & roadside spray
3	Help reduce pesticides?
4	The emissions released from air flights 747 for any size of flying planes that releases definition such as das fuel and other chemicals
5	Include different forms of air pollution and radiation from wireless technologies as a pollutant
6	I'm particularly interested in the Ottawa River and proposed nuclear waste disposal and research activities at the Chalk River
7	Learn more about agricultural chemicals and their entrance to the aquifer from which I draw my water.
8	sources of chemical threats not being reported i.e. mercury from logging operations and hydro dam drawdowns affecting shorelines and mercury release from them
9	Use information to apply for summer student grant to address climate change
10	In projects for students to research
11	Compare Canada to other countries and compare the survey to exposure assumptions of the Institute for Health Metrics and Evaluation's mortality and disability estimates
12	link data to pollution mitigation and bioaccumulation reduction strategies
13	Increase government transparency and accountability for oversight.
14	All of the above
15	As a health care provider, use the information to assess effect on a person's/patient's health i don't see nuclear manufacturing, post-use, and decommissioning waste mentioned in your text: it should be part of NPRI's job

This is a wide spreading list showing items that, in some cases would require addition of substance types to the NPRI list, e.g., pesticides, radionuclides. In many of the others, what is needed is to help people understand how they can use NPRI data to increase their understanding of and possible solutions to an issue that they are concerned about, e.g., human health.

What could be done to increase use of NPRI?

We then asked the non-users: "What could be done to make it more likely that you would use NPRI? Please rank by the level of your preference (1 for most important and 5 for least important)." The options listed were:

1. Hold "how-to" webinars with people, e.g., community activists, indigenous communities, health professionals, teachers, media, environmental advocates. Who would be using NPRI for a similar purpose, e.g., people concerned about a specific substance, people concerned

about a specific sector (e.g., sewage treatment facilities, mines, incinerators, chemical industry, oil and gas industry, etc.

2. Put together a series of "how-to" guides specific for different types of uses.
3. Put together examples of how NPRI data has been used by others, showing how they did it and types of effects that they had.
4. Make it easier to use NPRI.
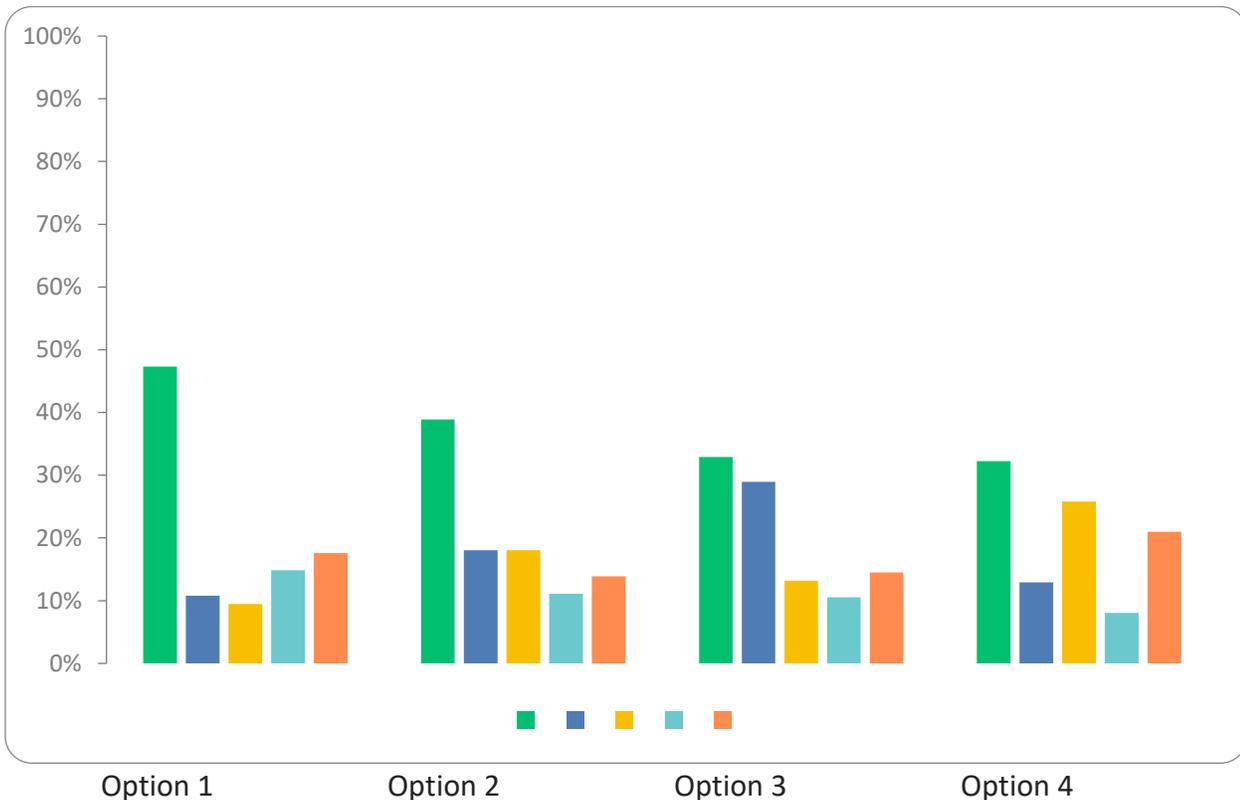
The length of the green bar for an option shows the amount who had it as most preferred option and orange bar length within the same option shows it as least preferred.
Option 1 was the most preferred option. Option 2 was the second most preferred option. Options 3 & 4 had almost the same preference level at the bottom of the list.

On the "how-to" Guides, we asked whether they would prefer to have the guides in electronic form, paper form, or in both forms. Fifty-one percent said they wanted electronic format only; 3 percent said they wanted paper format only. Forty-six percent said they wanted the "how-to" guides to be available in both electronic and paper format.

We concluded the "non-users only " section of the survey We further with two open-ended question "what you would like to be changed to make it easier to use NPRI (Q 9), and (Q 10, "If you have any other answers on what could be done to make it more likely that you would use NPRI data, please list them below." These were the responses:

1	more explanation of what the data is showing, and larger screen font size
3	Video promotions on how to use downloadable step by step guides
4	Show ranking 1 to 5 in the options because the current version is meaningless, useless and confusing
5	bring community leaflets to avoid pesticide spraying for my neighbourhood
6	Just heard of it today so I have no idea how to make it easier.
7	Simplify the language. Most guides can be pared down, though I haven't checked the site yet.
8	i dont know it currently so can't comment
9	Provide a lot more easy to understand, public information about the inventory and examples of how it has been used.
10	Never used it so don't know how difficult it is to use.
11	I went to the NPRI website and did not find it difficult to use. I have no excuse except that I've not made it a priority
12	target polluters in my area i.e., South Bruce
13	Good website - easy to navigate and find information, download reports, etc.
14	Webinars with important information
15	Public awareness of this resource
16	Easier to navigate to maps, to see relevant information Not totally sure as I'm not sure how likely I'd be to use it -- I would not likely search on my own as I would need assistance from someone to know which substances to look for, what the numbers mean
17	direct access via a better web platform (improving the web access and the snail mail access shorter
18	open burning, burn barrels, yard fires are reckless wastes of clean air. to convince the hundreds of local governments that it should be done is an egregious waste of effort. national ban of open burning is a huge positive step toward a liveable future
19	I really don't know because I have no experience with NPRI
20	I would start with developing an informative and interesting website
21	I did not have previous knowledge of the survey -how might I have known about it?
22	Please note that the 1 to 5 numbers did not show in Q7, I assumed that 1 was leftmost and 5 Right most to answer.
23	Lots of prompts or bubbles when the cursor is above something.
24	I haven't used it before, so I cannot comment on ease of use.

25	I believe a advertising campaign would make people aware that this tool, web site was available to them.
26	Tracking a particular substance as to the facilities reporting in current year and in past years
	In addition to their filing with NPRI, companies should be required to issue a news release to media serving the greater communities and surrounding areas in which the pollutants are located the contents of their filings and a link to the registry.
28	Raise Public awareness Common masses should be aware of NPRI
29	Raise awareness and target seniors
30	Couldn't see any numbers for Q7, assumed left side was #1 Most important for me was - Put together examples of how NPRI data has been used by others, showing how they did it, and types of effects that they had
31	The how-to webinars might be useful for specific professionals such as doctors, community hubs, realtors. It would be good to see a course at high-schools or university classes include a project for using the NPRI. Project-based learning is the most effective.
32	make it more well-known to Canadians how it can be used
33	Reminders that it is there, as I completely forgot after I tried to use it
34	more graphic data be provided to explain to grassroots people, and less technical jargon.
35	Access
36	The site is overwhelming. You need at least one full day just to learn how to use it. There should be a real person who you can phone to help negotiate the pages.
37	Start by informing Canadians it exists, use multiple SM platforms, link short how-to videos! Add radionuclides to list of toxins.
38	Hard question to answer when I've never used it - how would I know how to make it "easier".

39   i don't see nuclear manufacturing, post-use, and decommissioning waste mentioned in your text: it should be part of NPRI's job

Show link to NPRI with a few examples to show how it might be used

More public awareness as you are doing now, thank you.

You need to better promote the NPRI to all Canadians. Right now, I would guess that less that 10% of Canadians have any idea about it.

send email of the results in our area after one signs up to receive

None

Hg readings in estuarine sediments near crematoria would be useful I love tuna sandwiches but cannot eat them any more.a crime2knowingly release

Need to translate into some indigenous language if necessary

Presumably, data case be downloaded to a spreadsheet. If visualizations of data look professional, I could reporduce them in a magazine article, journal article, or book chapter. Also, presumably there is a recommended citation and a permanent home for the results of this and future surveys.

Make the search easy to access either by a pollutant, location, etc and be able to see trends over time. So if one goes on the site, just enter a pollutant and then be able to get list of emitters.

Being aware of a local contaminant. Could some of the data be made available as an app with an option for receiving notifications about pollutant releases, disposals, releases etc?

|	
11	put more info in a table format
12	We wish to inform coastal communities. Not technical/professional people.
13	Local regional government agencies should be involved to explain what all the data mean in terms of health effects.
14	Increase awareness of NPRI
15	I didn't know that I could use it to look for info on my community, I thought it was only to report something.
16	List radionuclides. All of them not just radon. i don't see nuclear manufacturing, post-use, and decommissioning waste mentioned in your text: it should be part of NPRI'
	This huge list of very specific suggestions by the non-users who answered our survey provides an amazing wealth of ideas and methods that could be used to dramatically increase the use of and value of NPRI data. ECCC's NPRI office should mine this list in consultation with the NPRI Multi-stakeholder Work Group and develop and implement a multi-year work plan. ECCC should be creative in developing and implementing each component of the plan. Critical to the success of the workplan will be that ECCC include representatives from those who would be using each component directly in the design and development of the component.

Part 3 - Users

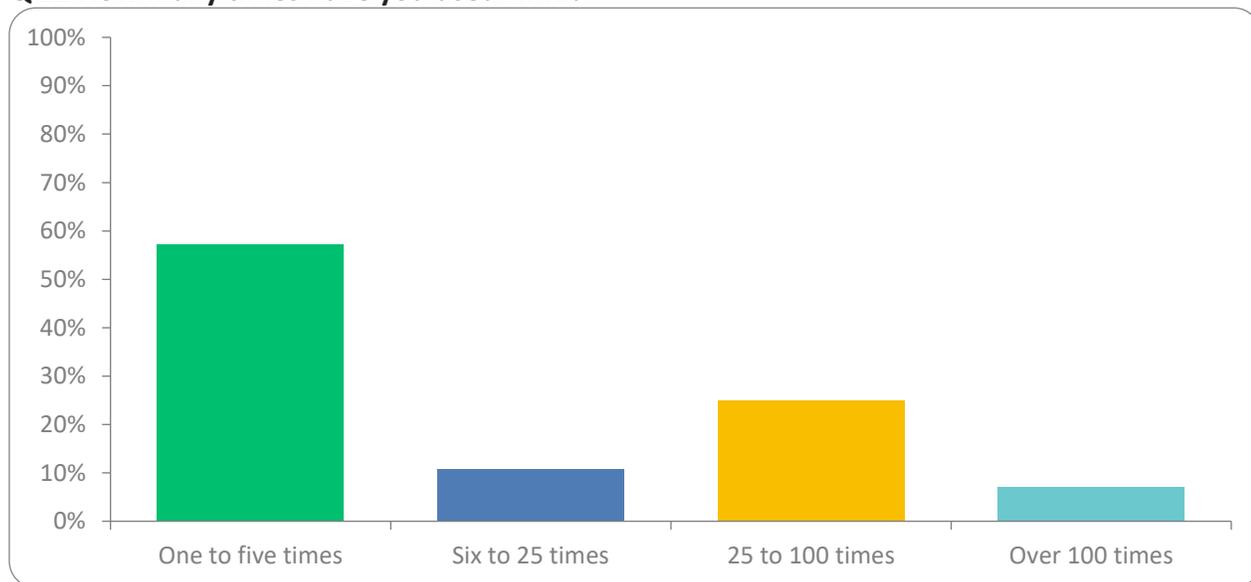**How often use NPRI and Satisfaction with this?**

Of the 120 people who completed our NPRI survey, 28 identified themselves as NPRI users.

The next two tables show their estimates of how long they have been using NPRI and how often they have been using NPRI.

Q 11 How long have you been using NPRI?
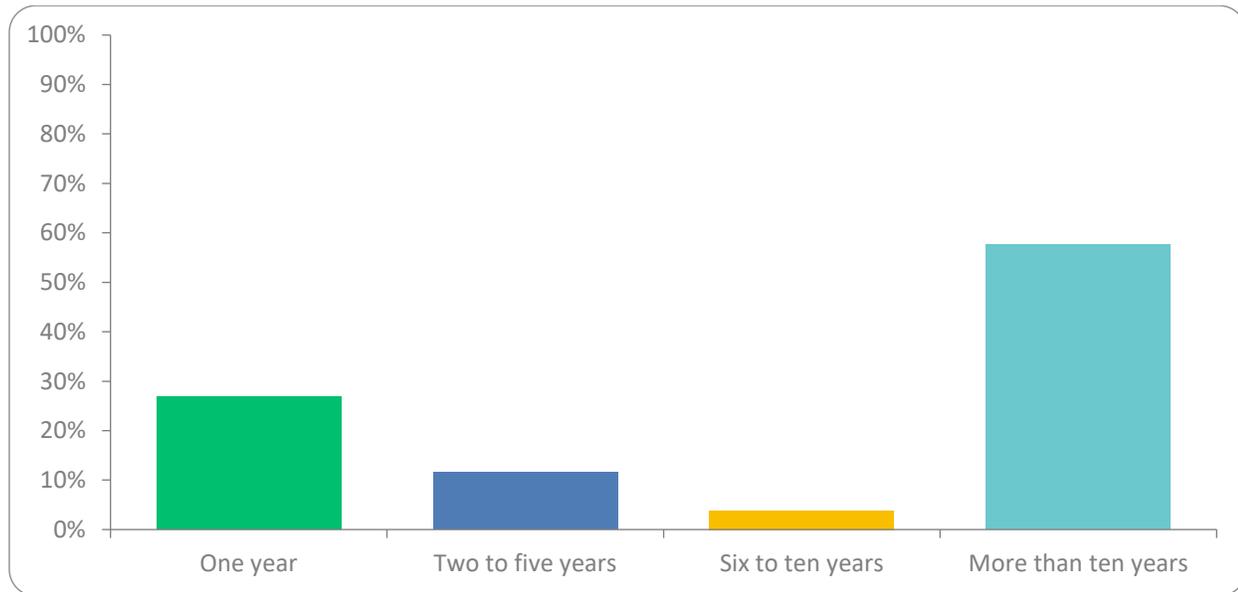
Q 12 How many times have you used NPRI?

Q 13 was an open-ended question asking: "Why do you use NPRI as frequently as you do?"

Not sure

To find out who pollutes where in Canada and in Québec

Related to my occupation

I just now tried out the website and searched a couple of crop pesticide/fungicides.

for work

I do not use it often, it is not easy to navigate.

I work with the CEC's North American PRTR Initiative, which compiles and integrates data from the NPRI, US TRI, and Mexican RETC to provide a regional picture of releases and transfers.

Important to follow chemicals for northerners

Research and client work

1) large industrial complexes require multiple visits 2) mulling results may trigger additional searches 3) researching different regions requires multiple searches

As a former employee of a reporting organization, I used it to see how it was reported.

I research mining and water quality impacts in BC. Usually BC's EMS system provides what I need to know, but sometimes in can help to use NPRI.

curiosity

In Elmira, ON, we were dealing with the Uniroyal Chemical factory releasing multiple pollutants to air and water.

we used to live downstream of a pulp and paper company

I used it as part of a job but have not used it for 20 years.

part of NPRI stakeholder advisory committee Looking for info on a community that someone calls me about

To check out quantities of a pollutant emitted from a facility or facilities to track a trend.

I have not had cause to personally use it as others I work with have done so.

I put some time into trying to understand what I was seeing on the site (it isn't that easy to use). I was hoping to read about reporting by local industry, but even if there were outputs listed, much of the time I wouldn't understand what the amounts really meant in terms of dispersion and concentration. I realize that the website isn't really meant for non-industry, nonscience focused individuals (not for general members of the public). The industry that is particularly concerning to me, Pounder Emulsions, owned by Husky Oil, doesn't make reports and I couldn't

find out why. The only industry of the same kind that I could find on the NPRI was in Saskatchewan, and when I looked at their listed outputs, it didn't tell me a lot about what the outputs would mean to anyone nearby or down wind of the site.

It's part of my job.

To know who is polluting and what are the pollutants emitted

research and analysis, support programs and policy reform regarding pollution releases and transfers.

Q 14 was also an open-ended question asking: "Why don't you use NPRI more frequently?"

Just learned about it.

Because I am still learning more about how to help others with adaption strategies

Don't believe it tells me about non point source stuff which is sad. Need more information of pesticides. Do the manufacturers release data on dioxins?

I could if it were more user friendly

I use it as frequently as relevant to matters I am working on.

Not a priority

do not need more then that for now

little local or regional kootenay coverage.

I do not use it often, it is not easy to navigate. The Dashboard is too complex. Need a point 'click and go' to the area information.

I use it as needed.

too technical and difficult to navigate

Because it's not all I do

1) criteria for records can be frustratingly high threshold 2) lots of emissions remain under reporting thresholds

I don't use NPRI more frequently because I am no longer in the industry and I am not involved in any organizations, personally or professionally, that would use the information.

Missed the training webinar so I would need to teach myself, and usually BC EMS (which I am more familiar with) has the data I need.

don't know what purpose it would be for personal use since the government and businesses each have obligations to report and enforce and I have no control over any of that.

Many of the problems have been solved in Elmira, so I haven't used it in about a decade.

was in legal hell with an abuser over custody of children. it went on for more than 8 years.

Too hard to use Frequently doesn't have information on the facilities or pollutants that I am trying to find out about.

Becoming more awkward and complicated- especially if you do not use the site regularly. It used to be much simpler to use.

I think I would be tempted to go there if I thought I could make sense of what I was reading and if I didn't find myself frustrated by not being able to quickly get to the information I'm looking for (local to me). Ultimately, I'd be most interested in using it if I could know how I would find the information useful.... Would I confront the industry if I felt that they were not doing enough to minimize outputs? How would I know if their outputs are "appropriate" and if yes or no, under what "guidelines?" I remember once reading that a local industry had not made any attempts to make improvements and I wondered why.... I have just had a look at the site and I see that it was just updated as of 2022, which is great. Still, I wasn't able to make a quick search for an industry near me (I clicked around and around on the pages to see if I could search for a specific industry and I couldn't).

Forget to check.

Only use it when I have to look for answers

I use it when needed

Some searches are not as useful. Example, does not aggregate data

Is NPRI improving?

When NPRI users were asked whether they have seen improvements in NPRI over time, (Q 15), 46% said "yes" and 53% said "no".

When asked "what improvements have you seen?," the responses were as follows:

Public strategies

It is still hard to get data, but off-site transfers are at least there to be found

N/A

The site is more user friendly and an important improvement is the ability to download complete datasets.

The addition of smaller oil and gas sources, a user interface

not enough knowledge of current NPRI to form opinion

I don't feel I have used it enough to comment on changes over time.

Haven't looked at it for several years so can't honestly comment on this.

Can't say

More substances Lowered reporting thresholds in some cases Removed exemptions for certain types of facilities

The pages that I was just looking at (just quickly) were outlining impacts to air, water and soil which is great - but it wasn't specific to my region. Also, it was something to see the multitudes of oil and gas industrial sites in Alberta, as shown on the map - the province is just covered in yellow dots (makes you wonder if there is room for people to live there).

It's become very complicated

Better waste off facility reporting

addition of different search features and availability of maps.

The responses to "What deterioration have you seen over time? (Q 18) were:

The link to dangerous facilities under CEPA is no longer easy. This is not acceptable because what make a facility dangerous is the chemical and processes that make is so. Chemical release under NPRI should be linked to the dangerous facility list that the feds now keep secret following chemical industry lobbying during the Harper gvrt time that has NOT be changed by the Trudeau gvrt.

More difficult to obtain trends information

N/A

N/A

The new user interface is even harder to search in some ways

i think the frequency of blank fields increases over time. Do companies learn there is no penalty for leaving reporting fields blank?

not enough knowledge of current NPRI to form opinion

Same as above - it's been long since I looked at it to comment

Can't say

it is harder now to find information on NPRI website than it used to be

Not deterioration but more complicated.

I said "NO" that I haven't seen deterioration - but I don't think I can fairly say that I would know what deterioration would look like. I feel like the graphics - though they're pretty, make it look like the site is trying to look more approachable to the general public, like me - but I think that it may be a front - to keep the masses placated (as if there is nothing concerning to see or learn). The site looks different from the last time I was on there, and in just the few moments that I was clicking around, I wasn't able to get to reports from a specific industry - so from a "deterioration" point of view - perhaps that is a sign of things having gone downhill on the site!

Lack of independent verification of reporting, more and more use of emission factors vs real emission measurements

easy access to data. Data updates are done periodically without notice to users (becomes a liability for the user not facilities).

What do you use NPRI for?

We asked users "What did you use NPRI for? Multiple answers are fine. Q 19." The following answers were the stated choices:

Know about possible chemical threats to your health and environment

Look up data on a particular facility in your community

Look up data for all facilities within your postal code

Look up data on a particular pollutant

Gather information on substances that endanger your health

Gather information that could help you affect government decisions, e.g., toxics laws and regulation, landuse planning matters, permits for release of pollutants by facilities

Stimulate community engagement on issues related to pollutants

Engage with reporting facilities in your community to work for reductions and elimination of their pollutants

Use data to support the need for regulatory and legislative changes on pollution matters

Assess where progress is and is not being made, by understanding trends over time for pollution releases

Other (please specify)
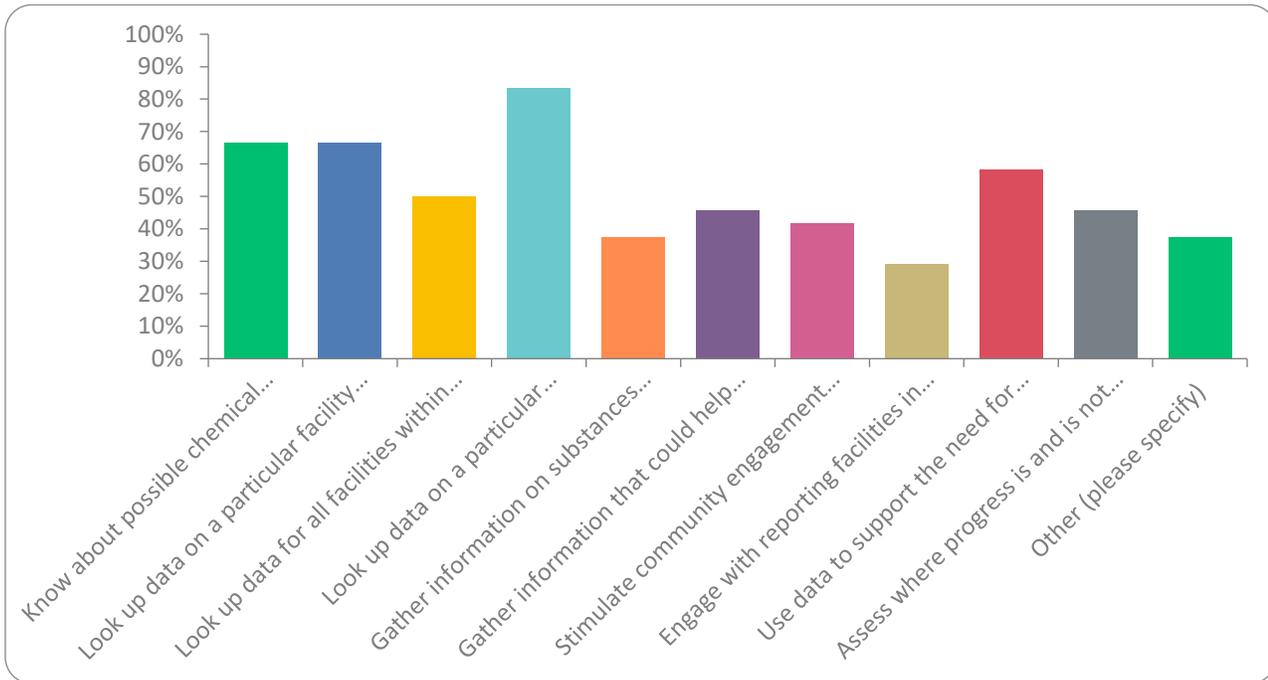
The other answers that they gave were:

To see where the pollution goes. Link releases to georeferenced -area based cancer registries and morbidity data.

JUst looked to respond to this questionnaire.

To compare against the US and Mexican data for similar facilities, sectors.

Look up data in others' postal codes and communities, academic research

seeking information about the magnitude of multiple pollutants emitted in a region

Interest in how the data were reported by NPRI

to gather information to use in a university class

Compare reporting to measured values form emitters - look at health outcomes in local population relating to facility emissions

for regional perspective beyond province/territories - for mapping purposes at the Great Lakes level or at the federal ridings level

Then they were asked: "Which objectives in Q 19 did you find the NPRI to be most effective in helping you achieve your goal and what made it so effective? Q 20.

Gathering data for decision making influence.

All of them have a use in my work to fight pollution

Engage with communities

none applicable

If you know the particular pollutant, is useful.

I don't think this question applies as much to me (the CEC) as it might to other stakeholders.

using data to support regulatory changes

The "other"

One useful aspect is the national scope. So, wondering how serious an emission may be might be informed by comparing the subject emitter to notoriously large emitters

looking up total loading released by a certain facility of a certain pollutant

Informative but never even considered NPRI as an actionable resource

Data on facility-specific pollutants—what they were and what effects

information on pollutants in my area, info on particular pollutants...

show need for regulatory changes

Search by a particular pollutant

The only thing it did for me in the past was show me that one industry was not reporting and that another was being honest about not trying to make any pollution prevention plans. Now, I don't know if I will even be able to find this information - but I probably have to spend some time at the newly revised site.

The mapping feature was effective. However, it looks as though not all forms of industry are reporting possible air or water pollution.

Could not find the info I wanted

Look up data within a region or company site.

Information on loadings and transfers (wastes), association between health outcomes and chemical emissions

Postal code riding a different way to look at your community. stimulate country wide discussions on what the pollution data means. separate reporting to environmental media is very useful in guiding discussions on regulatory and legislative changes on pollution matters.

When asked the opposite question: "Which of the objectives in Q 19 did you find NPRI to be least effective in helping you achieve your goals and why was it less effective?", we received the following answers.

These are all important.

Because of self reporting in NPRI and the use and misuse by polluter of emission factor in computing releases, I will always question the validity of releases being reported by polluters. EC and HC should to release audits and prosecute polluters that have under reported their releases.

Understanding trends for specific facilities when names or ownership changes

Difficult to manipulate to my postal code

none applicable

Need a laymays 'click and go' map, where concerned citizens can go directly to the map and find the pollutants

I don't think this question applies as much to me (the CEC) as it might to other stakeholders.

with the right people it can be an effective tool, just not for everyone

Trends over time

too many reported values are determined from desktop calculations designed to underestimate

When I last looked at NPRI reporting results (>15 years ago) I was disappointed about the lack context provided about the pollutants being reported on.

n/a since goal was just information

Can't say

info to support legislative change

info on particular community and substances often showed up know results even though you know there is pollution coming from certain facilities

Finding about health and environmental threats

In the past, I wasn't able to interpret what I found on the site, or what it meant for people locally in terms of air degradation and health.

Use data to support the need for regulatory and legislative changes on pollution matters. Assess where progress is and is not being made, by underdstanding trends over time for pollution releases

Info I wanted was not there , or in a format I could understand.

It's aggregate annual and there are too many pages to flip back and forth. I remember a map but can't find it now. The site is overwhelming.

There is little community engagement with NPRI done by EC. Also no interface with emergency preparations on large catastrophic realeases of NPRI chemicals

Access to data does not provide for aggregation unless the user is well knowledgeable in using excel, etc to produce the numbers. Raw data accessible to user could lead to errors that would undermine the intent of use of the data (e.g. conversion of volume units to common unit not always available with the search function. Aggregating data and not being able to selection more than one release on the search query is a significant flaw of the search query.

Which NPRI tools do you use?

We then explored the various tools that NPRI has. "How often do you use the following NPRI tools? On left (green colour) it means rarely if ever, and on the right (orange) it means use this tool most often" Q 22).
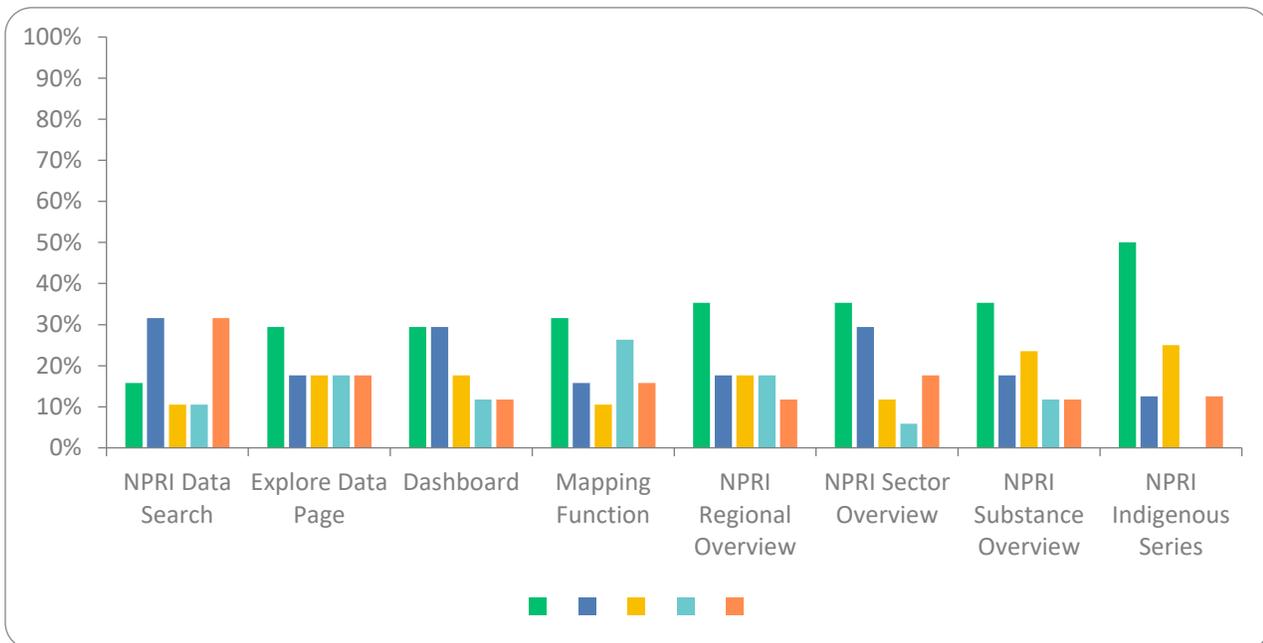
The tool used most often was the NPRI data search. The others were all used much less frequently than the data search (height of green columns for least frequent use). In all cases the green column was over twice as high as the NPRI Data Search.

The next question was: "How satisfied are you with the use of the following NPRI tools? On left (green) it means very dissatisfied and on the right (orange) it means very satisfied" Q 23.
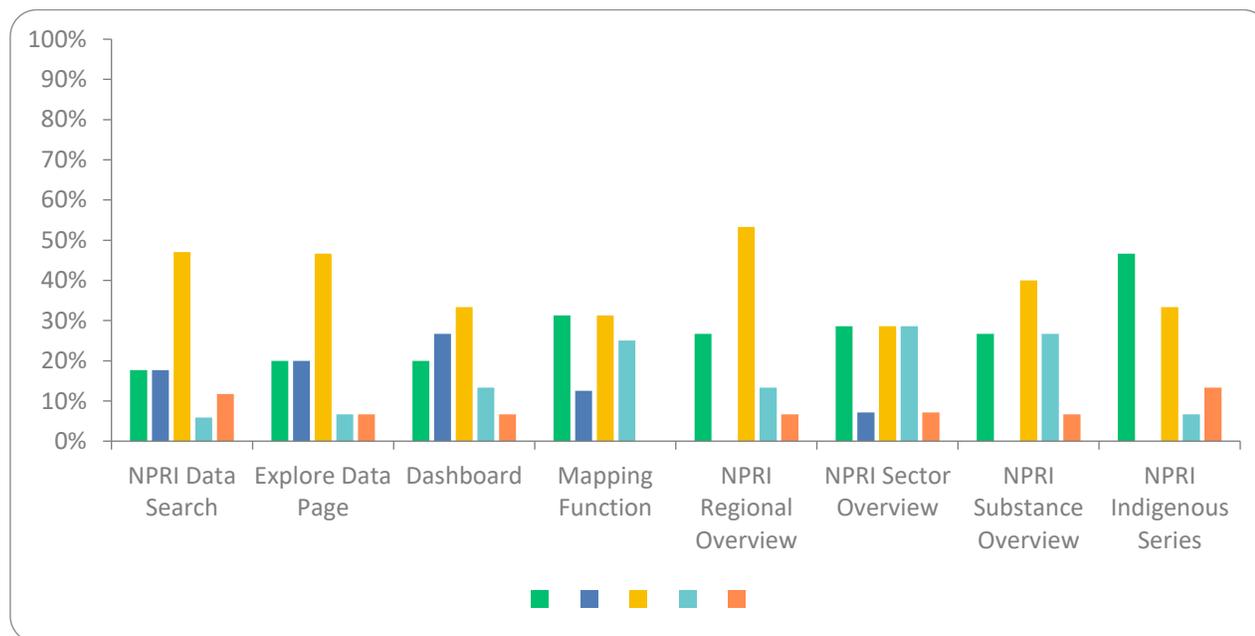
The striking things about this chart is that in all cases except indigenous and NPRI Sector Overview, the yellow bar is highest – meaning that most of the users are neither satisfied nor dissatisfied with the tool. In all cases with the exception of NPRI Substance Overview, the combined satisfied (olive) and very satisfied (orange) columns was much smaller than the very dissatisfied (green) column and the dissatisfied (blue) column. For the mapping function no one said they were "very satisfied." This is a very disappointing assessment of these NPRI tools.

The answers given for being satisfied or dissatisfied with NPRI tools (Q 24) were:

Query function not flexible for misspelling of facility and chemical name. More detailed mapping of facility and area with some meteorological (wind direction and speed) and hydrological data (flow direction and speed) is needed to be better able to Access where to pollution in going to.

N/A

none applicable

I have not thoroughly reviewed all of the new tools, but find them interesting for the information they provide.

just not made for easy understanding

I am ambivalent because unless I go to the NPRI to have a look, I don't recall what those tools are.

data search is too hard to do

Too complicated with changes that have been recently made. This means that I am reluctant or even nervous about using the site.

To be fair, I've selected low satisfaction because I didn't know how to use what I found to make a difference in my community.

I wanted to know the mass release into the environment, by watershed, of different classes of pesticides, their impact as individuals and in combination, their persistence in the environment and their post decay elements and residual harms and bioaccumulations and impacts to flora and fauna by species. What I needed was not there, or I do not have enough knowledge to extract it.

I can't find the mapping or indigenous series on the page.

Need to have better ESRI -shape file or GDB- compatibility with NPRI.

Search functions - hard to read, too many clicks to get to the end and does not provide an final aggregate number for the search. Does not allow for searches on multiple environmental releases (air and water, or air, air and land releases only). Volume units are not always same but the results page does not provide adequate warning that units are not the same.

How to improve use of NPRI?
"What could be done to help you improve your use of NPRI data?" Please rank by the level of your preference [1 (green) most important and 5 (orange) for least important" Q 25.]

The options listed were:

1. Hold "how-to" webinars with people, e.g., community activists, indigenous communities, health professionals, teachers, media, environmental advocates. Who would be using NPRI for a similar purpose, e.g., people concerned about a specific substance, people concerned about a specific sector (e.g., sewage treatment facilities, mines, incinerators, chemical industry, oil and gas industry, etc.
2. Put together a series of "how-to" guides specific for different types of uses.
3. Put together examples of how NPRI data has been used by others, showing how they did it and types of effects that they had.
4. Make it easier to use NPRI.

Option 1 was the most preferred option. Option 2 was the second most preferred option. Options 3 had the lowest most preferred level and the second highest least preferred level. Option 4 was the third most preferred preference level but also by far the highest least preferred status.

On the "how-to" Guides (option 2), we asked whether they would prefer to have the guides in electronic form, paper form, or in both forms. Fifteen percent of users wanted the guide in electronic format only, and 85% said they wanted the "how-to" guides to be available in both electronic and paper formats.

Part 4 - NPRI Agenda Preferences

NPRI Non-Users and Users Combined

The NPRI office develops three-year workplans to decide on changes that they may make to the NPRI at the end of that three-year period. We asked both non-users and users of NPRI to answer the following question:

Q 28: "This question lists some topics that are on the NPRI Multi-Stakeholder Work Group work plan for April 2022 to March 2024 or topics that we are exploring. Please let us know which of these workplan areas you would like us to keep you informed of and/or that you would like to give us input on. Please tick the box before each item that you are interested in. Multiple answers are fine".

This is the list of item that were given in the question.

- Reporting of radionuclides through linkages of NPRI data with Canadian Nuclear Safety Commission data.
- Review ways to improve Pollution Prevention data reporting through the NPRI.
- Review whether current exemptions for hydraulic fracturing removed th require reporting for fracking.
- Review whether current exemptions for drilling should be removed to require reporting for drilling.
- Including requirement for facilities to report transfers off-site in products or as products.
- PFAS.
- Analyze current NPRI data for oil and gas extraction sector.
- Substances in the Chemicals Management Plan.
- Review ways to improve NPRI data quality, especially in the oil sands sector.
- Review of data on disposal and transfers to assess whether improvements need to be made.
- Improving data search tools in the NPRI website
- VOCs: Determination of whether additional VOCs should be added and changes made needed to reduce duplication.
- Asbestos
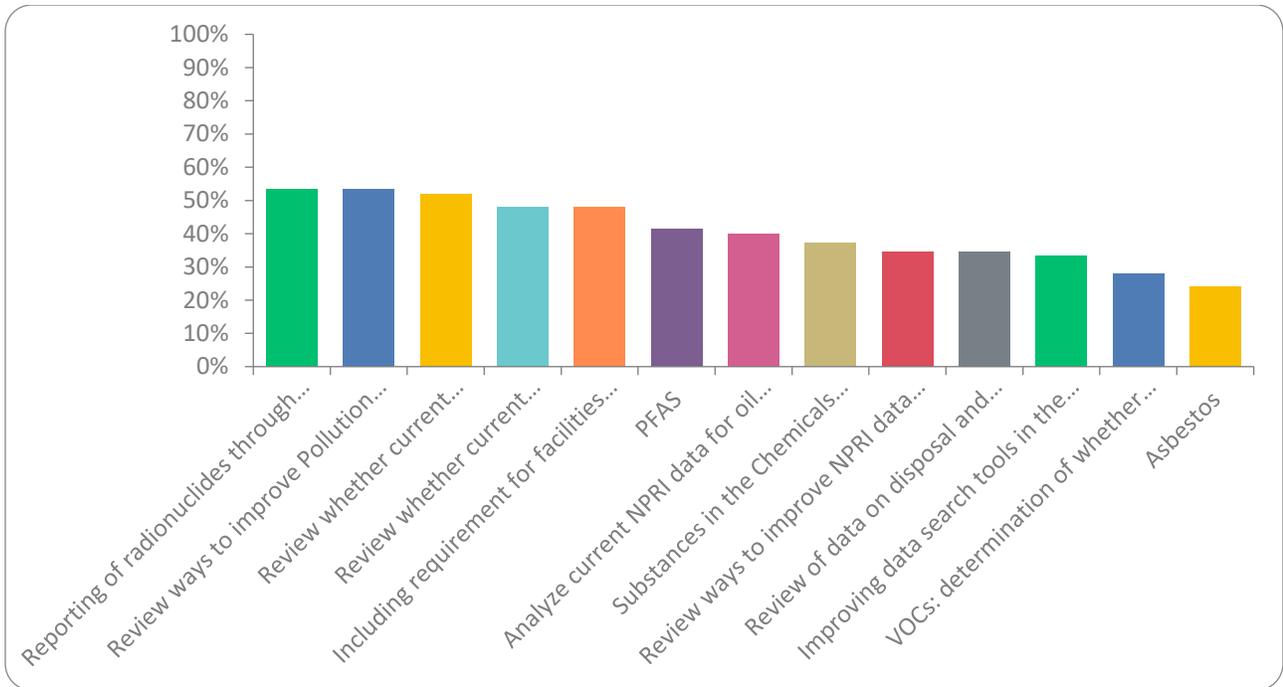
The support for each of these agenda items where within a close range of a high of 53% for radionuclides and also 53% for Pollution Prevention. The lowest was 24% for Asbestos.

We also asked "Are there any other topics related to NPRI that you would like to have put into the NPRI workplan? If so, please specify."

RESPONSES
I am in Alberta, and am concerned aout the management/treatment and disposal of produced water from fracking operations. I also see the need to report test flaring emission data after a frack
Why we "recycle" many pastics which re ultimately incinerated??
The whole issue of selenium contamination in B.C and Alberta. In my mind oil wells, fracking, orphan wells all fall way behind when we are trying to prevent selenium contamination of our precious water.
Pesticides
Meteorological and hydrological data and health outcome data- as mentioned above- related to specific and area, regional releases.
1. Air pollutants such as PM2.5 particles from transport, industry, commerce, gas-fired home tools (lawnmowers, etc), wood burning fireplaces. 2. Radiation from wireless technologies - eg. cell phones, cell towers, wifi in homes, workplaces, schools, etc

Are pesticides included? If not, I think they should be. I would like to know how much is being applied in my community and on the farms supplying food.

Spread of agricultural chemicals in soil and aquifers

The nuclear industry should be included in NPRI.

sources of chemical threats not being reported i.e. mercury from logging operations and hydro dam drawdowns affecting shorelines and mercury release from them

review drinking water samples in an area and provide input to municipalities on what should their water testing consist of including radionuclides in the water . Most community testing of the drinking water do not test for these pollutions

sewage sludges monitoring (transfert, dumping etc...)

Report on hydro power issues.

Pollutants related rivers, lakes and ocean.

Yes what will happen as the use of electric cars and therefore, lithium batteries that are spent?

Reporting quality: how do we know that the reporting is accurate? Is data independently checked?

Lead; any contaminants than might be found in foods. Avo articial (food and textile) dyes. If pesticides are included in these surveys, it would be interesting to compare them to reports to Health Canada.

18	I would like the emissions from Cement companies to be monitored. I also believe that historic sites of contamination in environment need to be monitored. For example the Black Tar deposit in the Thames River in London Ontario. I also believe that Breweries need to be monitored when the release the steam into the air. The smell is foul, is the steam a health hazard?
19	Re linkages with radionuclides -has to be made simpler to access the information. Also, is there a reporting level required?
20	Indication should be made on the site of when the outputs to the air are outside of acceptable levels (based on proximity to population, typical wind patterns - to indicate the amount of dispersion that could make outputs "acceptable" or not. So, I guess what I'm looking for is an explanation for what the reporting actually indicates for health to those living in the region (when I say region - I mean LOCAL region, because outside of that, I have very little that I feel I can do to make a difference - if I can make a difference at all. I'd also like an explanation as to why an industry would or wouldn't report, and also, why they would or wouldn't make a pollution prevention plan (explain as to why/why not they are required to). I'm not sure that the rolling together of outputs (into regions, or into a total for the whole of Canada) really does much for me. I think I want to see what the impacts are right where I live and I want to be able to put pressure on the industries to do better. I just don't know why an industry would report - it would be

hard to "feel proud" of output levels, and I can see how industry would rather not deal with the public or any governing body telling them that they have to do better - because this kind of thing will hit into their profit margin. I don't know how we (humans) can keep dumping and expect to have anywhere that we can live with clean air, water and soil....

The use of toxic chemicals on lawns

sales records of pollutants in Canada or import records

compensation to affected coastal communities...immediate, intermediate, and long term. Capacity training.

Radioactive and sewage release info

I would like to know where the company stands in terms of meeting regulations and where they did not.

Health outcomes from various epi data bases and emissions. Use of cancer registries with GIS format and association with certains know cancer-causing NPRI chemical. More data on tranfers to WWPT via sewers. Use of trajectory modeling to establish point of impact of emissions from NPRI facilities

NPRI should seek inclusion of radionuclides as a subject of reporting for the U.S. -Canada Great Lakes Treaty Commission

Forestry: release of mercury and affects of widespread spraying of glysophate Mining: affects if acid mine drainage discharges

Bring in Health Canada. For example, the CNSC can not be trusted to adequately report to Canadians on exposure to radionuclides. Oil and Gas regulators are likely similarly corporatecaptured.

no, the reporting on radionuclides covers it

recycling and what this means for circular economy framework being promoted by government

As has been shown by the open-ended questions throughout this survey, the survey respondents here have once again brought forth a wide range of important ideas.

Part 5 - Summary Reflections

ECCC's webpage entitled "About National Pollutant Release Inventory" reads:

> The information that facility owners and operators must report to the inventory:
> - helps Canadians understand pollutants releases in their communities
> - encourages actions to reduce pollution
> - helps track progress.

Environmental non-government organizations, citizen action groups, concerned individual citizens, and indigenous groups must play critically important roles if these goals of the NPRI program are to be achieved. For this reason, we carried out this survey focused on people in those groups.

The responses from the survey from both non-users and users showed that the NPRI program falls far short. Major recurring themes included:
- most people in the groups chosen don't know about the NPRI;
- even among those who do know of the NPRI, most have not used the NPRI;
- those who are users of the NPRI also showed considerable similar frustration with the program;
- recurring reasons for the unhappiness included:
    - NPRI program is too hard to use, not set up in a way that information can easily be found or used to generate calculations by someone who doesn't work on the NPRI program a lot of the time.
    - The users of the NPRI site gave very low ratings to the NPRI tools. In all cases, the percentage that were satisfied or very satisfied were less than 40% of the users. In six of the eight cases, the satisfied or very satisfied percentages were less than 25%.
    - Much information is missing in the NPRI program that would provide them with the information that they need to learn about and address the pollution problems they are concerned about, e.g., pesticides, climate change gases, radionuclides, releases from fracking operations, etc.
   - Not aware of how the NPRI data could be useful for their community.

The survey had many open-ended questions that allowed both users and non-users to give reasons for their satisfaction or dissatisfaction with the NPRI program and to give suggestions for improvement that would make the NPRI program work better for them.

The huge list of specific suggestions for improvements by users and non-users provides an amazing wealth of ideas and methods that could be used to significantly increase the use and value of the NPRI program.

The NPRI office with the NPRI Multi-Stakeholder Work Group should mine the wealth of suggestions in the NPRI ENGO Survey and develop and implement a multi-year workplan. Critical to the success of this workplan would be that ECCC include representatives from those who would be using each component directly in the design and development and implementation of each part of the workplan.
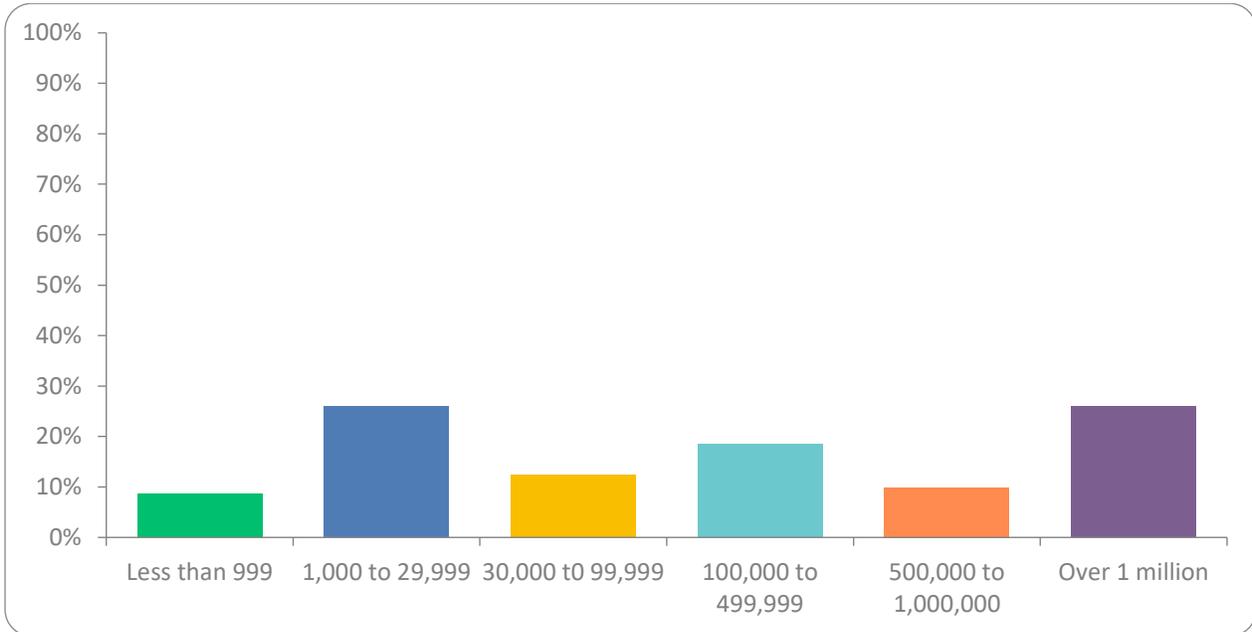
Appendix 1: Demographics

Q 32: Age
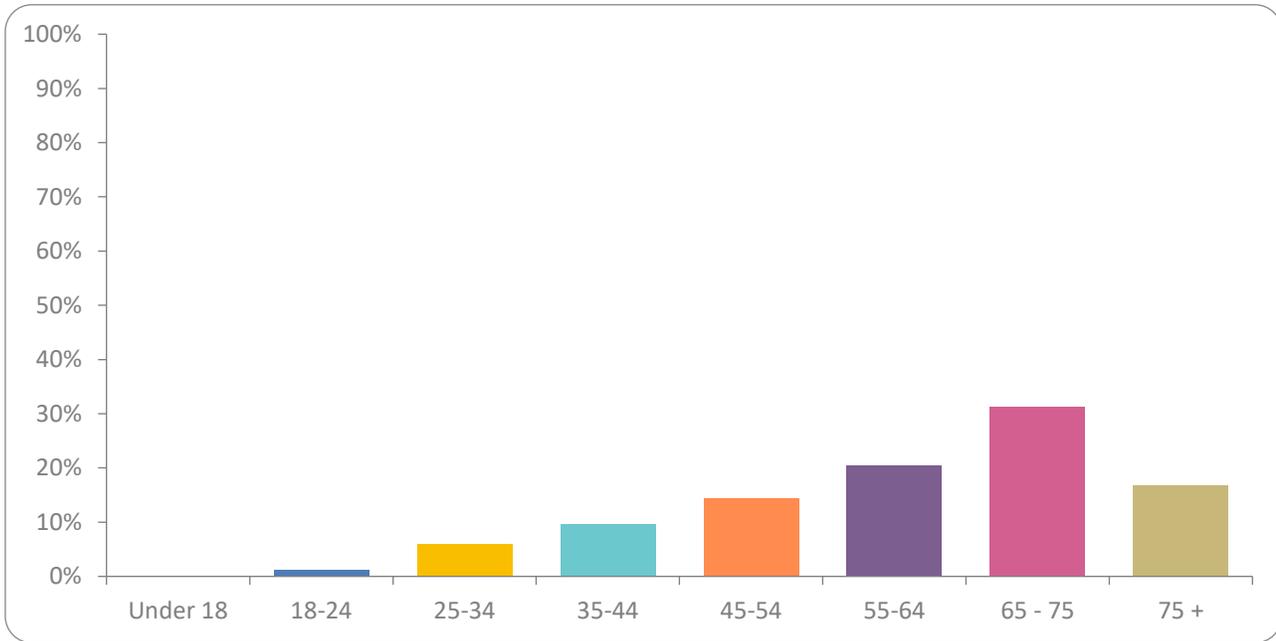
Q 33: Province or Territory
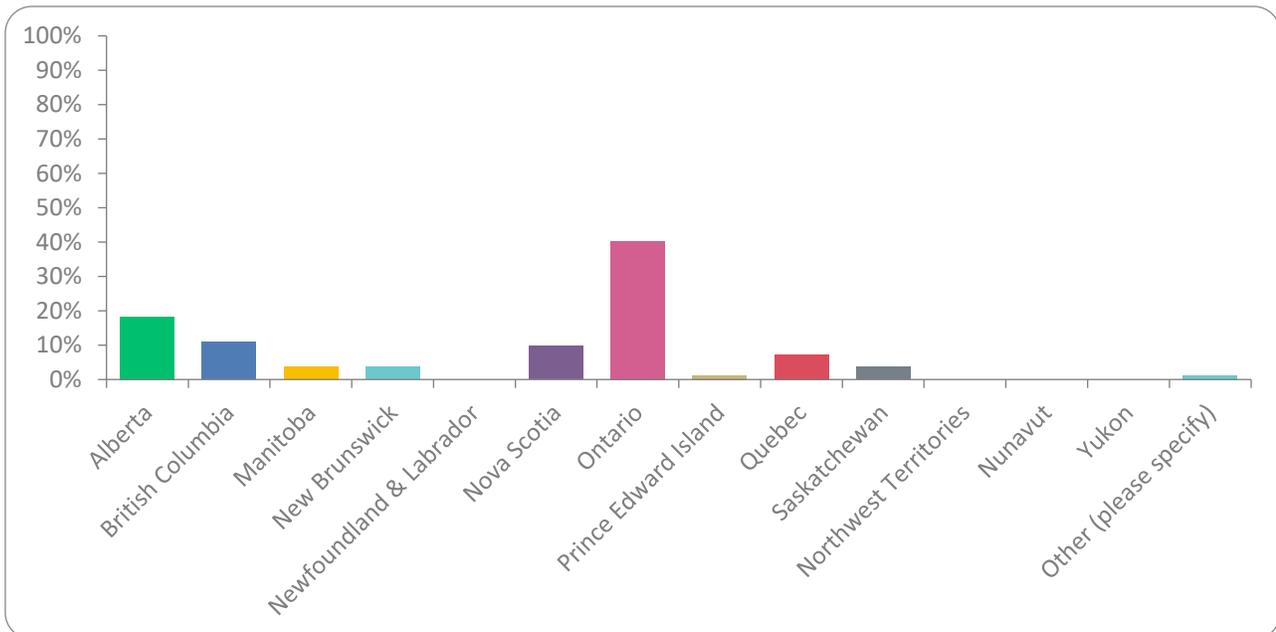
Q 34: Municipal Population

Q 35: Type of Organization you are or would be primarily affiliated with when Using NPRI