

To: National Pollutant Release Inventory, Environment and Climate Change Canada

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NGO PROPOSAL TO UPDATE THE NPRI QUERY TOOL

The following is a proposal for activity inclusion in the *Work Plan for Work Group Activities from 2022 to 2024 (WP)*—specifically the updating of the NPRI Query Tool (Dashboard) to improve the ease of use, provide more relevant results and fulfill the goals of the NPRI in providing understandable and accessible information to civil society. All the ENGO members of the NPRI Multi-Stakeholder Work Group are dissatisfied, indeed often frustrated, with the NPRI Query Tool and the NPRI website. Unfortunately, revisions to the website have sometimes made the site even more difficult to use. The body of this proposal details some of the experiences of one of our members – Judi Krzyzanowski – in using the site. The rest of us have had similar and additional problems as well.

The following summarises recommendations in the order they arise as a user trying to navigate the site to find information regarding pollutant sources in their community. When finding the NPRI by Google search, the user is taken to a page entitled '[National Pollutant Release Inventory](#)'. Two different links on this page appear as though they may be appropriate: '[Explore Data page](#)' in the Note³ and '[Pollution data and reports](#)' under Services and Information. It turns out that the 'Explore Data' page is the more relevant of the two and contains links to what is referred to as the '[NPRI Dashboard](#)' for searching release data from 1994 to 2019. As a member of the general public with an interest in pollutant sources nearby, the link to '[Search for facility-level data by location and/or sector](#)' was chosen rather than a search by facility name or NPRI ID, as these are not often known to data users.

The tool has you select a province, a city (optional), and industrial sector (also optional) in step 1, and then provides a list of facilities to choose from for data. It would be useful to include the ability to search by substance here. For instance, what if someone smells ammonia, or knows they have been exposed to cadmium but have no idea who may emit it? In addition, the type of release (air, land, water, on-site, off-site) may be useful in narrowing the search results. The previous tool allowed the user to choose between, or combine, data regarding releases to air, land and water, and on- versus off-site releases would be helpful, particularly from a

³ The Note exclaims that data from the Explore Data page are now available 'up to the year 2019!', but seeing as this is 2022, it seems slightly outdated. Is there any way to have data available in a timelier manner? Also, the Note, which carries onto other pages (including 'Explore...' and '...Reports') switches between treating data (correctly) as plural (data are) and singular (data is). It is suggested that this be corrected for the purposes of consistency and accuracy.

community-health perspective. The user can see this information, but only on an individual facility-basis after choosing a specific facility. A bulk data download tool, where for example, all releases of PM_{2.5} to air in the city of Edmonton, could be viewed and downloaded at once, would be particularly helpful for an Edmonton resident with respiratory problems. However, this Dashboard does not provide detail at the neighbourhood level, despite that a source 20km away may not significantly impact your morning run.

In addition, while the Dashboard provides detailed facility information for cities such as Edmonton, or even Spruce Grove, smaller communities such as Calahoo are not listed in the Dashboard query. If you go further north to say Fort MacKay, although the community is listed, the only source is a single crude oil pipeline, and there are certainly other pollutant sources influencing that community. It isn't clear what spatial scale and relevance the search tool uses. Does it list all communities that have a reporting facility located within their jurisdictional boundaries? What happens to sources located just outside of communities; how are they found? Furthermore, First Nations communities are not listed in the "cities" dropdown selection and this oversight should be corrected.

In addition, although there are buttons near the top to the data (facility results) page on Dashboard to go 'Back to search by location' or 'Back to search by facility' they are not within the page view of the data tables you are automatically taken to. If the user clicks 'back' on their browser, they are returned to the ['Explore NPRI data'](#) page, rather than the Dashboard query page they were just on (which can be frustrating). The simplification of the dashboard over the previous query tool is refreshing. The level of detail and instructions to 'choose only one' or 'choose at least one' when the categories were unclear, lead to errors and incorrect data results; however, the restraints imposed by only being able to view a single facility at a time should not be ignored.

When you choose all of Canada and do not select a city or sector, the list presumably includes every facility reporting to the NPRI. When you chose a sector for all of Canada, it would again be good to have a bulk download option. It is reasonable to conclude that data users, be they the general public, health professionals or academic researchers, would likely want to compare sector releases across space or releases to a specific area/region across sectors. The same is true of substances (SO₂ releases across Canada, for example).

From the ['Explore NPRI data'](#) page under downloadable data you can look at [Single Year Tables](#), summaries, etc. But, if you download the excel file NPRI-INRP_DataDonnées_2019.xls you get data for 58,093 facilities and are presented with the opposite problem of the single facility results from the dashboard—too much information for most people to reasonably manage or work with.

The maps are particularly helpful from a spatial and community perspective; however, there is still no ability to bulk download data by substance, community or sector. You can download the maps, but for [‘Maps of reporting facilities – criteria air contaminants’](#) for instance, there is no legend indicating what is meant by the colour or size of facility markers.

Another critical analysis capability is the ability to examine release trends for a substance, community or industry across time. Reviewing Trends year to year and accessing previous year data is very difficult on the dashboard. There is an assumption that the user knows what facilities should be selected. For instance, examining how SO₂ releases have varied in Alberta over the past decade; or how emissions from concrete production have varied for each province in the past 3 years. It appears that the only way such an analysis could be completed using the current tools available, would be to download the full Nationwide Dataset for every year in question (see below), and extract the necessary/desired information using pivot tables or macros—something that is certainly a hindrance to the NPRI being accessible to all Canadians. Furthermore, because substance reporting, thresholds, etc. can vary every three years (between reporting cycles) data may show artificial trends that are merely an artefact of changes to reporting. It would be ideal to have tool for temporal analyses that contains an embedded (and transparently described) algorithm, macro or correction factor that accounts for changes in reporting and makes NPRI data comparable across time—such that increases in reporting can be distinguished from increases in emitting (and vice versa).

Therefore, the ENGO members of the NPRI Multi-Stakeholder Work Group recommend that improvement of the NPRI Query site be added to the workplan for 2022-2024. As a first step in the work, the NPRI site should be tested by existing and potential users and stakeholders to come to a better understanding of ways in which it is fulfilling and failing to fulfil the needs of the community; can be easily used by indigenous and remote/rural communities, researchers, health professionals and civil society as a whole; and of what changes need to be made. While NPRI datasets are accessible through OPEN source data, very few people have the capacity to work with large datasets and rely on the accessibility to the NPRI data through a well-designed query function on the site. A sub-committee of the NPRI-Stakeholder Work Group should be set up to work with NPRI experts of web design to address the issues raised. Before a revised site is released, it should be tested with the stakeholder workgroup members as well as with random members outside of the NPRI community.

Submitted by: NGO members of the NPRI Multi-Stakeholder Working Group