Oil Sands & Pollution Prevention NPRI Reporting: An Analysis from ENGOs
March 21, 2026

From: John Jackson, Citizens' Network on Waste Management and Fe de Leon, Canadian Environmental Law Association

Submitted to: Jody Rosenberger, NPRI, Environment and Climate Change Canada

Introduction

Our purpose is to assess the reporting of pollution prevention plans and activities by Oil Sands facilities to the NPRI.

In March 2024, we submitted a paper to ECCC entitled "Pollution Prevention & NPRI – ENGO Assessment."[1] In that paper we pointed out that a major flaw in the NPRI reporting system is that it includes pollution control in the definition of pollution prevention. As we said, "The goal in pollution prevention is always to eliminate the use and creation of toxic substances. In pollution control, reduction is the goal – not elimination."[2]

In making our assessment of the oil sands reporting to NPRI, we have distinguished between pollution prevention and pollution control activities. In the categories that the NPRI uses, only 20% are true pollution prevention methods: Materials or Feedstock Substitution, Product Design or Reformulation of Equipment or maybe Process Modifications. Almost 80% would be considered pollution control methods.

> This is not to say that it isn't excellent that control actions are being carried out. Both P2 and pollution control are important activities, but they should be reported separately in the NPRI because their goals are very different and the problems they are addressing are quite different.[3]

Methodology:

In preparing this report, we reviewed the pollution prevention reporting for oil sands facilities in NAICS 211141-In-situ oil sands extraction, and. NAICS 211142-Mined Oil Sands Extraction. We focused on the timeframe between 2020-2024.

---

[1] https://cela.ca/wp-content/uploads/2024/04/Pollution-Prevention-NPRI-%E2%80%93-ENGO-Assessment.pdf
[2] Ibid., p.2.
[3] Ibid., p. 4.

In 2024, 21 facilities in In-situ oil sands extraction (see Table 1) and 2 facilities in Mined Oil Sands Extraction (see Table 2) reported on pollution prevention activities but no facilities reported preparing pollution prevention plans

Table 1: NAICS 211141-Facilities reporting Pollution Prevention activities, 2024

NPRI ID	Facility	Company
2128	CNUL Peace River Complex	Canadian Natural Upgrading Ltd
4136	Wolf Lake 10-08-066-05 W4M	Canadian Natural Resources Limited
6620	Pioneer 1 Liquids Extraction Plant	Inter Pipeline Offgas Ltd
6625	Christina Lake SAGD Bitumen Battery	Cenovus FCCL Ltd.
6627	Foster Creek SAGD Bitumen Battery (with Cogen)	Cenovus FCCL Ltd.
15778	North Tangleflags Facility	Canadian Natural Resources Limited
21548	Tucker Thermal	Strathcona Resources Ltd.
22141	Surmont SAGD Commercial Battery	ConocoPhillips Surmont Partnership
22267	Jackfish 1 10-28-075-06 W4M	Canadian Natural Resources Limited
22378	Long Lake	CNOOC Petroleum North America ULC
22493	Orion Facilities	Strathcona Resources Ltd.
22750	Pod One	Connacher Oil and Gas Limited
24188	Algar	Connacher Oil and Gas Limited
24465	Jackfish 2 07-27-075-07 W4M	Canadian Natural Resources Limited
26109	Kirby South 13-21-73-7W4	Canadian Natural Resources Limited
28033	Jackfish 3 14-24-075-07 W4M	Canadian Natural Resources Limited
29025	Sunrise Thermal	Cenovus Energy Inc.
29066	LINDBERGH SAGD 04-25	Strathcona Resources Ltd.
29349	Pioneer 2 Liquids Extraction Plant	Inter Pipeline Offgas Ltd
30830	BlackGold SAGD Sec14-76-07W4	Harvest Operations Corp.
31766	Kirby North 01-06-075-8 W4M	Canadian Natural Resources Limited

Source: NPRI, March 20 2026

Table 2: NAICS 211142 – Facilities reporting Pollution Prevention activities, 2024

NPRI ID	Facility Name	Company Name
6647	Canadian Natural Upgrading Limited Muskeg River Mine and Jackpine Mine,	Canadian Natural Upgrading Ltd
23275	Horizon Oil Sands Processing Plant and Mine,	Canadian Natural Resources Limited

Source: NPRI, March20, 2026

On the other questions, where we had to look in detail at facility reports, we explored facilities under in-situ oil sands extraction and Mined Oil Sands Extraction reporting between 2020 and 2024 on pollution prevention activities. We randomly sampled facilities reporting pollution prevention activities but used the priority pollutants identified in the Oil Sands Data Quality Action Plan to assess reporting. It would have taken a substantial

amount of time if we examined all facilities and pollutants for pollution prevention activities.

Between 2020-2024, 23 facilities in NAICS 211141-In-situ oil sands extraction reported P2 activities (total of 96 reports for P2 activities submitted during this time) (see Table 3), while 4 facilities in NAICS 211142-Mined Oil Sands Extraction reported P2 activities (total of 11 reports for P2 activities submitted) (See Table 4).

Table 3: Facilities reporting Pollution Prevention Activities at least once between 2020-2024

NPRI ID	Facility	Company
442	Cold Lake	Imperial Oil Resources Limited
2128	CNUL Peace River Complex	Canadian Natural Upgrading Ltd
4136	Wolf Lake 10-08-066-05 W4M	Canadian Natural Resources Limited
6620	Pioneer 1 Liquids Extraction Plant	Inter Pipeline Offgas Ltd
6625	Christina Lake SAGD Bitumen Battery	Cenovus FCCL Ltd.
6627	Foster Creek SAGD Bitumen Battery (with Cogen)	Cenovus FCCL Ltd.
15778	North Tangleflags Facility	Canadian Natural Resources Limited
21548	Tucker Thermal	Husky Oil Operations Limited
22141	Surmont SAGD Commercial Battery	ConocoPhillips Surmont Partnership
22267	Jackfish 1 10-28-075-06 W4M	Canadian Natural Resources Limited
22378	Long Lake	CNOOC Petroleum North America ULC
22493	Orion Facilities	Strathcona Resources Ltd.
22750	Pod One	Connacher Oil and Gas Limited
24188	Algar	Connacher Oil and Gas Limited
24465	Jackfish 2 07-27-075-07 W4M	Canadian Natural Resources Limited
26109	Kirby South 13-21-73-7W4	Canadian Natural Resources Limited
27866	Hangingstone Expansion Project	Japan Canada Oil Sands Limited
28033	Jackfish 3 14-24-075-07 W4M	Canadian Natural Resources Limited
29025	Sunrise Thermal	Husky Oil Operations Limited
29066	LINDBERGH SAGD 04-25	Strathcona Resources Ltd.
29349	Pioneer 2 Liquids Extraction Plant	Inter Pipeline Offgas Ltd
30830	BlackGold SAGD Sec14-76-07W4	HARVEST OPERATIONS CORP.
31766	Kirby North 01-06-075-8 W4M	Canadian Natural Resources Limited

Source: NPRI, date March 21 2026

NPRI ID	Facility	Company
2230	Suncor Energy Inc. Oil Sands	Suncor Energy Oil Sands Limited Partnership
6647	Canadian Natural Upgrading Limited Muskeg River Mine and Jackpine Mine	Canadian Natural Upgrading Ltd
23275	Horizon Oil Sands Processing Plant and Mine,	Canadian Natural Resources Limited
27506	Canadian Natural Resources Limited	Imperial Oil Resources Limited

Source: NPRI, March 21,2026

Our findings are focused on true pollution prevention actions – excluding pollution control activities.

Findings

1. None of the companies in the Mixed Oil Sands Extraction category and in the In-situ oil sands extraction category had PP plans as they were not required to do so under the Canadian Environmental Protection Act. Grizzly Oil Sands [NPRI ID 28590] in Fort McMurray originally listed themselves as having a voluntary plan targeted at "substance conservation." This plant has been closed since April 2015.

2. With one exception, all facilities reported that they had "PP activities". The one exception was Orion Facilities [NPRI ID 22493] (Strathcona Resources Ltd). The reason given was that "the Orion facility is mandated to have our pollution abatement equipment properly functioning."

3. Overwhelmingly, reported PP activities were actually pollution control activities – not pollution prevention. For example:
   a. "Improved operating efficiencies, implemented basic improvements in work procedures, and provided regular staff training. Improvements resulted in more efficient procedures and better staff awareness in recognizing pollution prevention opportunities." [Canadian Natural Upgrading Limited Muskeg Mine & Jackpine Mine [NPRI ID 6547], Fort McMurray reported in 2020.
   b. In 2021 Cold Lake [NPRI ID 442] (Imperial Oil Resources Limited) had a substantial report under mercury for PP activities:
      i. "Vapour recovery units are installed on tanks to eliminate venting emissions
      ii. Process water is recycled, reducing operations freshwater usage requirements. Solvents used in the process are recovered and reused to minimize solvent needs.

iii. Environmental training is provided to ensure awareness of environmental aspects and site requirements to minimize environmental impact (i.e., use of secondary containment, equipment inspection and incident reporting). An Operations Integrity and Management (OIMS) system is in place to provide a systematic, structured, and disciplined approach to identify risk and manage environmental performance.

iv. A leak detection and repair program (LDAR) is in place to detect gas emissions and complete repairs within a timely fashion. Environmental protection plans are in place to minimize releases to the environment. The plans include requirements such as: using secondary containment when transferring products, regular inspection of equipment, immediate reporting of any releases, completion of incident investigations and implementation of corrective actions. Operational process are in place to minimize the likelihood of releases to the environment. Examples of these processes include: routine operator rounds, automatic equipment shutoffs, equipment alarm systems."

These are important improvements, which probably contributed to reduced emissions of mercury to the air from 11.09 kg in 2020 to 7.8 kg in 2024 (the most recent reporting year). But they did not go further because they were all pollution control measures – not pollution prevention. With highly toxic and persistent mercury, seemingly insignificant quantities build up over the years to have dramatic toxic impacts on a community. Small quantities can be significant.

v. The Rimbey Gas Plant [NPRI ID 1372] (Keyera Corp) had a quite similar lengthy list of actions, which are all pollution control actions – not pollution prevention actions.

c. The Surmont SAGD Commercial Battery facility [NPRI ID 22141] (Canadian Natural Resources Limited) at Wolf Lake reported a so-called pollution prevention activity for mercury: "good operating practice or training." Again, this is a pollution control action.

d. In 2024, the Wembley Gas Plant [NPRI ID 536] (NuVista Energy Ltd) reported two primary actions: "Good Operating", and "Practice or training." These are both pollution control types of activities. They were one of the rare companies that filled in the "Measurable reduction" column. They said they would fill this column in in future years.

e. Alberta-Pacific Forest Industries Inc, at Athabasca, took a broader perspective in responding to the NPRI Pollution Prevention questions. In 2024, it said its primary activity was "inventory management or Purchasing Techniques." In their comments, they said: "Promoted Corporate Social Responsibility – aligned raw material procurement that considers the environment and society based on Hokuetsu Group Policy for Raw Material Procurement. Ensure all vendors consider Environmental Social Governance. Building a sustainable supply chain."
This is aligned very closely with the true Pollution Prevention approach. This was focused on particulate emissions. We look forward to seeing the results of this program and the annual reports on progress. Between 2020 and 2024, PM2.5 emissions to air reduced from 101 tonnes to 70.09 tonnes.

4. Some companies put the following comment in the column related to PP. One example was: "Substance, process or technology alterations are unknown and unavailable" [Suncor Energy Inc Oil Sands [NPRI ID 2230], Tar Island, Fort McMurray; & Imperial Oil Resources Limited Oil Sands Processing Plant and Mine [NPRI ID 27506], Fort McMurray]

5. Some of the substances that we looked at are highly toxic in low quantities. That is why they are reported to NPRI in kilograms instead of tonnes. Considering their serious impacts, they have significant releases reported under NPRI – especially to on-site landfill. For example,
   a. Canadian Natural Upgrading [NPRI ID 6647] put 128,645.50 kg of arsenic in the on-site landfill; 285,678.59 kg of cobalt into the on-site landfill, and 258,639.60 kg of lead into on-site Landfill in 2020.
   b. Suncor Energy Inc Oil Sands [NPRI ID 2230] put 129.6 kg of arsenic into the air, and 128,645 kgs of arsenic into off-site transfer,
   c. Kearl Oil Sands Processing Plant and Mine [NPRI ID 27506] (Imperial Oil Resources Limited): In 2024, released into air: 4.00 kg of arsenic; 4,767.14 kg to on-site landfill.
   d. As of 2024, at Cold Lake [NPRI ID 442] Imperial Oil Resources Limited was releasing 7.8 kg of mercury into the air at its Cold Lake facility every year, reduced from 11.09 kg in 2020. See section 3 b. above for a description of their PP plan.

Conclusion:

We urge the oil sands companies to put more emphasis on true pollution prevention activities in their reporting to NPRI. This has the potential to substantially improve their relationships with the communities affected by their activities. We urge them to report items even if they are voluntary in the NPRI form, e.g., measured reductions.

In March 2024, we presented to ECCC our report "Pollution Prevention & NPRI – ENGO Assessment."[4] As a result ECCC has included in their workplan for 2025 through 2027, an item described as "Pollution Prevention: increasing the visibility and usability of the NPRI's pollution prevention (P2). ECCC will review recommendations made by ENGOs and is planning to make updates to the NPRI Dashboard." In Apr 2026 to Jun 2026, "to update and respond to proposal, including presentation of dashboard, at Jun 2026 CWG meeting."[5]

Our investigation of oil sands pollution prevention in the NPRI has deepened our understanding of the importance of the changes we recommended earlier improving NPRI reporting and accessibility that. We wish to repeat here a few of the recommendations that we made in March 2024.

Recommendation to NPRI: Pollution Prevention and Pollution Control should be reported to the NPRI separately, with the Pollution Prevention definition being kept very strictly focused on methods that attempt to eliminate the use and generation of toxic substances.

Recommendation to NPRI: Facility reporters should be required to fill in <u>all</u> parts in the NPRI P2 module.

Recommendation to the NPRI: Facilities reporting P2 activities should indicate what impact P2 activities have had on the reported data.

Contact:

John Jackson, Citizens' Network on Waste Management, jjackson@web.ca

Fe de Leon, Canadian Environmental Law Association, deleonf@cela.ca

[4] Op. cit.
[5] ECCC, "Detailed Work Plan for the NPRI Consultative Work Group for 2025, 2026, 2027."