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# Plastic Production in Canada: Impacts, Subsidies and Industry Influence

## Introduction & Background

In the context of negotiations toward a global treaty to end plastic pollution, Indigenous Nations, frontline and fenceline communities, and environmental and human health organizations from around the world are calling for a global reduction target for plastic production.

Reducing the production and use of plastic polymers is essential to address the global plastic pollution crisis that is causing an environmental and human health crises, including filling human bodies with microplastics and chemical additives, and undermining efforts to reduce climate emissions and comply with the 1.5C target.

Primary plastic polymers, also known as virgin plastics, are large synthetic or semi-synthetic molecules composed of smaller units called monomers that are bonded together with chemicals and used to create plastic products.[1] In Canada, petrochemical producers now have the capacity to produce approximately 5 million tonnes of primary plastic polymers each year, in part due to financial support - ranging from millions to billions of dollars - provided by federal, provincial and local governments.

## Call to Action

We are calling on Canada to show global leadership in reducing plastic production by taking these immediate measures:

- Supporting an ambitious, binding global reduction target on the production of primary plastic polymers in the proposed Global Plastics Treaty with associated obligations on states to reduce primary polymer production. The target should be based on independent science and Indigenous knowledge, set against a baseline reflecting current production levels, reflect urgency and align with the 1.5C climate target.
- Expanding the Federal Plastics Registry requirements to include reporting on actual production, import and export of primary plastic polymers (including resins and fibres);[2] and,
- Ending subsidies (eg. grants, loan guarantees, tax credits) to petrochemical production (and expansion) as globally, plastics make up the largest proportion of petrochemicals.[3]

[1] Centre for International Environmental Law (2024) Legal models to control primary plastic polymers.
[2] The federal registry only requires resin producers/importers to report on production and imports for the domestic market but does not include reporting on exports.
[3] Reducing uncertainties in greenhouse gas emissions from chemical production | Nature Chemical Engineering.

Impacts of plastics life-cycle on Indigenous Peoples and frontline communities in so-called Canada

Aamjiwnaang First Nation is an Anishinaabe community located next to the “Chemical Valley” in Sarnia, Ontario, where 40 per cent of the chemical facilities in so-called Canada are operating. Public subsidies to oil and gas and petrochemical production reinforce the reality that Aamjiwnaang is an environmental and health sacrifice zone and show callous disregard for the well-being of the people of Aamjiwnaang. Community members’ constant exposure to harmful emissions and contaminants from industrial operations results in some of the highest morbidity and mortality rates for cancers and respiratory and neurological diseases in so-called Ontario. The community also disproportionately faces respiratory illness and rare cancers.[4]

Aamjiwnaang is one of Canada’s worst examples of environmental racism, with the people and lands becoming sacrifice zones.[5]

After visiting Aamjiwnaang in 2019, the Special Rapporteur of Toxics and Human Rights referred to the ”environmental injustice” experienced by the Nation as an ”ongoing tragedy” and a legacy of land use planning that would not be allowed today.[6] He also stated:

> The situation of the Aamjiwnaang First Nation in Sarnia is profoundly unsettling. Deeply connected with their land, the residents on the reserve have been invaded by Industry.... They are now almost entirely surrounded by over 60 industrial facilities whose presence creates physiological and mental stress among community members because of the risk of impending explosions or other disasters and because of chronic exposure to unquestionably poisonous substances.[7]

Petrochemical and plastics production is also a growing issue in the province of Alberta, due in part to the government subsidies being provided, as detailed below. Major nodes exist in Lacombe County (on the boundary between Treaty 6 and Treaty 7 territory, midway between

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[4] The Ontario government released the findings of the Sarnia Area Environmental Health Project (SAEHP) earlier this year: Sarnia Area Environmental Health Project, Air Exposure Review: Assessment Report: Final Report (March 2024), online (pdf): <www.cleanairsarniaandarea.com/resources/documents/saehp/SAEHP-Air-Exposure-Review-Assessement-Report.pdf>. The findings show that industrial pollution is seriously threatening the health of local people, and the worst impacts are on the Aamjiwnaang First Nation; See also: 1d30117a-greenpeacereport_plasticrecyclingthatsnotathing.pdf.

[5] David R Boyd & McKenna Hadley-Burke, “Sacrifice Zones: 50 of the Most Polluted Places on Earth”, online (pdf): UN Special Rapporteur to Human Rights and the Environment <www.srenvironment.org/sites/default/files/Reports/2022/Sacrifice%20Zones%20-%20Final%20Report-2.pdf>.

[6] End-of-visit statement by the United Nations Special Rapporteur on toxics and human rights, Baskut Tuncak on his visit to Canada, 24 May to 6 June 2019 | OHCHR.

[7] *Ibid*.

Calgary and Edmonton) and northwest of Edmonton in and around Fort Saskatchewan (Treaty 6 territory). These expanding activities likely contribute to industrial air pollution and cancers in local populations in those areas,[8] which are also the traditional territories of several First Nations and Métis people.

Plastic Production Capacity in so-called Canada

According to a Deloitte report commissioned by the Government of Canada in 2019, total Polypropylene (PP) and Polyethylene (PE) capacity in Canada sits at about 5 million tonnes, of which PE represents 4.5 million.

**Alberta**

Alberta hosts several large refineries and natural-gas processing facilities that provide feedstock to nearby petrochemical plants.

Three manufacturers dominate polymer resin production in Alberta currently: Nova Chemicals Corporation, Dow Chemical Canada ULC, and Heartland Polymers (a subsidiary of Inter Pipeline):

- NOVA Chemicals' Joffre manufacturing facility near Red Deer, Alberta, is one the largest ethylene and polyethylene production complexes in the world. The site consists of five manufacturing facilities: three for ethylene production (4.8 billion pounds or 2165 kilotonnes annually and five for polyethylene (2.2 billion pounds annually, which is shipped via rail and road to North American customers and by ship for offshore destinations).[9]
- Dow Chemical's Path2Zero facility is currently under construction and will produce 3.2 million metric tonnes of polyethylene and ethylene derivatives.[10] It will also require a natural gas pipeline to be built to fuel its production.[11]
- Heartland Polymers has a capacity of 525,000 tonnes of polypropylene per year with rail shipments leaving the facility daily.[12]

[8] See an analysis of industrial emissions in the Fort Saskatchewan area from 2010: https://pmc.ncbi.nlm.nih.gov/articles/PMC4326008/
[9] Joffre, AB, Canada | NOVA Chemicals.
[10] Dow Fort Saskatchewan Path2Zero Expansion - Alberta Major Projects.
[11] Yellowhead-Mainline-Brochure.pdf (atco.com).
[12] Heartland | Inter Pipeline.

**Ontario**

Ontario's "Chemical Valley," on the territory of the Aamjiwnaang First Nation, is the country's oldest petrochemical production centre and includes the following facilities:

- Nova Chemicals, the largest polymer producer in Canada, recently expanded capacity through federal and provincial subsidies to now have the capacity to produce more than 1 million tonnes of polyethylene resins from the ethylene it produces in Chemical Valley.[13]
- Imperial Oil, which is two-thirds owned by Exxon, has a polyethylene capacity of 470,000 tonnes per year.
- Suncor's Sarnia facility which produces propylene - homes of some members of Aamjiwnaang First Nation are separated from this facility by just a chain link fence.[14]
- Shell Canada's Sarnia Manufacturing Centre which produces ethylene and propylene.[15]
- Ineos Styrolution's styrene production facility has been the subject to numerous environmental and human health violations due to benzene emission exceedances. Ineos recently announced a permanent shutdown after regulatory measures were imposed by the provincial and federal governments.

Capacity versus actual production levels

Stated capacity does not necessarily equal production levels in petrochemical plants and there is evidence of oversupply and overcapacity in the world's petrochemical industry.[16] In the context of a global plastics treaty that aims to reduce plastic production to "sustainable" levels, it is important to pin down the actual amount of polymers being produced in a given year in each producing country. A baseline and reduction targets must be based on actuals, which are likely lower than reported capacity figures, including those cited above for Canada.

The new Plastics Registry, announced in April 2024[17] will require plastic producers and importers to report the amounts and types of polymers they produce or import for the Canadian market starting in 2026. While reporting is unfortunately not yet required for exports, the Registry will provide an important data point to create a baseline for domestic primary polymer production.

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[13] NOVA Chemicals completes Corunna Cracker Expansion Project - CPECNCPECN.
[14] Sarnia refinery at a glance | Suncor
[15] Sarnia Manufacturing Center | Shell Canada
[16] https://ieefa.org/sites/default/files/2024-09/REVISED_UN%20Plastics%20Briefing%20Note.pdf and https://www.reuters.com/markets/commodities/survival-fittest-petrochemical-makers-battle-global-glut-2024-08-09/
[17] https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/reduce-plastic-waste/initiative-regulation/federal-plastics-registry.html

Petrochemical and Plastics Subsidies in so-called Canada

| Level of Government | Total Amount of Subsidies (CAD) (2013-2023) |
|---|---|
| Provinces | **~$2.35 Billion** |
| Government of Canada (Domestic + International) | **~$1.5 Billion** |

***Ontario:***

- 2017: CAD $100 million investment to Nova Chemicals through the Jobs and Prosperity Fund to build a new polyethylene facility in the Sarnia-Lambton region, expand its ethylene manufacturing plant, and conduct research and development.[18]

***Alberta:***

- The Alberta Petrochemicals Incentive offers grants of up to 12 per cent of a project's eligible capital costs.[19] These grants range from several tens of millions to several hundreds of millions, and for one plant expansion under consideration could exceed USD 1 billion.
- Subsidized projects include:
    - 2019: $80 million in royalty credits to Nautical Energy to build a methanol plant.[20]
    - 2019: Canada Kuwait Petrochemical Corp's propane-to-polypropylene project received $300 million[21] in royalty credits from the Alberta Government Petrochemical Diversification Program, and $49 million[22] from the Strategic Investment Fund. However, after the outbreak of COVID-19 the project was suspended indefinitely.[23]
    - 2021: $408 million grant to the Heartland (Inter Pipeline) propane-to-polypropylene plastic resin facility.[24]

[18] https://news.ontario.ca/en/release/47448/creating-new-jobs-in-ontarios-chemical-manufacturing-sector
[19] Government of Alberta, 'Alberta Petrochemicals Incentive Program', accessed at https://www.alberta.ca/albertapetrochemicals-incentive-program.
[20] Province invests $80M in royalty credits in methanol plant near Grande Prairie | CBC News.
[21] "CKPC reaches FID for PDH-PP complex in Alberta", Oil and Gas Journal, 5 Feb 2019
[22] "Government of Canada helps to attract new investment in production of highly recyclable plastics", Government of Canada, 26 April 2019.
[23] Bloomberg, "Pembina suspending $4.5B Alberta petrochemical project indefinitely, BNN Bloomberg, 14 December 2020.
[24] Inter Pipeline lands $408-million grant for Heartland Petrochemical Complex | Globalnews.ca.


  - 2022: $32 million grant to Dow Canada to support a CAD $300 million expansion of its ethylene production facility in Fort Saskatchewan.[25]
  - 2023: Up to $1.8 billion (12 per cent of project costs) to be paid to Dow and its partner companies to expand its petrochemical facility's capacity and install carbon capture and storage (CCS) equipment.[26] This is despite an Alberta commissioned report by Deloitte that questioned the economic viability and reliability of CCS projects.[27] That is in addition to up to $400 million worth of investment tax credits offered under a Canadian Federal Government programme.[28]
- Under an additional scheme, the Heartland Incentive Program, participating Alberta municipalities can provide tax exemptions valued at 1–2.5 per cent of a project's total eligible capital cost for new projects or expansions within the energy value chain.[29] To date, both the Heartland (Inter Pipeline) and Dow Path2Zero expansion have accessed the HIP.[30]
- The County Council of Strathcona also has a new Industrial Area Incentive Program that allows new projects and expansion projects within the energy sector within the Strathcona Industrial Area to apply for a tax exemption equivalent to up to 1 per cent of total eligible capital costs.'[31]

[25] *Supra* note 20.
[26] Lisa Johnson, "Dow's Alberta petrochemical megaproject to get billions in government support", The Edmonton Journal (29 November 2023), online: <edmontonjournal.com/business/dows-alberta-petrochemical-megaproject-to-get-billions-in-government-support>.
[27] Deloitte, "Potential Economic Impact of the Proposed Federal Oil and Gas Emissions Cap" (March 27, 2024), accessed at https://open.alberta.ca/dataset/f9b8dd81-2fc1-4e73-a75f-bedf55463841/resource/bba401be-cab6-4ce1-a0f6-7a8da2da7e5b/download/epa-tbf-potential-economic-impact-of-the-proposed-federal-oil-and-gas-emissions-cap.pdf
[28] Quaker United Nations Office and Eunomia, Plastic Money: Turning off the Subsidies Tap (August 2024) Eunomia Report (quno.org) at 33.
[29] Heartland Incentive Program, 'incentives: Learn about stackable incentives', https://industrialheartland.com/invest/incentives/.
[30] *Ibid*.
[31] *Supra* note 26 and Shane Jones, 'Tax breaks add to county's energy sector attraction plans', Sherwood Park News, 29 June 2021, https://www.sherwoodparknews.com/news/local-news/tax-breaks-add-to-countys-energy-sector-attraction-plans.

***Federal:***

- 2013 (International): Export Development Canada provided $117 million in loans and loan guarantees to a petrochemicals production complex in Saudi Arabia.[32]
- 2013-2015 (International): Canada provided $108 million in export credits to petrochemical plants in India.[33]
- 2014-18 (International): Canada provided loans and guarantees to several monomer and polymer manufacturing facilities in the United States, including approximately CAD $550 million in export credits.[34]
- 2018 (Domestic): $35 million to Nova Chemicals for a new polyethylene plant next to Aamjiwnaang First Nation in Chemical Valley, Ontario.[35]
- 2019 (Domestic): $49 million grant to Inter Pipeline, in addition to the $408 million from the Alberta government, for the new polypropylene plant. The Inter Pipeline plant also arguably subsidizes tar sands operations, since it is built in part to take waste gas from bitumen upgrading, thereby providing a market to some tar sands waste.
- 2023 (Domestic): $400 million in tax credits promised to Dow Chemical for expanding capacity of its Alberta Heartland polyethylene production facility through the Carbon Capture, Utilization, and Storage investment tax credit and Clean Hydrogen investment tax credit.
- 2023 (Domestic): Export Development Canada provided $300 million to NOVA Chemicals Corporation.

<u>Plastic Industry Lobby in Canada</u>

Research commissioned in January 2024 found that lobbying by the fossil fuel and petrochemical industry has increased in recent years, with lobbying of the federal government especially spiking in advance of, and during, Plastics Treaty negotiations.[36]

The growth in plastics lobbying is mainly attributable to three actors: Dow Chemical, Imperial Oil, and the Chemistry Industry Association of Canada (CIAC). The federal government spent the equivalent of a month of time in direct conference with these organizations in 2023.

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[32] *Supra* Note 28 at 44, Table 5-11.
[33] *Supra* note 28 at Table 5-7.
[34] *Supra* note 28 at Table 5-14.
[35] Mia Rabson, “Feds gave Nova Chemicals $35-million grant before urging G7 to reduce plastics”, The Globe and Mail (15 February 2018), online: <www.theglobeandmail.com/news/politics/feds-gave-nova-chemicals-35-million-grant-before-urging-g7-to-reduce-plastics/article37997645/>.
[36] Office of the Commissioner of Lobbying. (2024). Monthly Communication Reports [description: relational database of "oral and arranged" communications between lobbyists and federal Designated Public Office Holders (DPOH) since July 2, 2008, updated daily] Retrieved from [https://lobbycanada.gc.ca/en/open-data/]

Despite the efforts of the plastics lobby, global polling shows strong support for reducing global plastic production as a means to protect biodiversity and align with the 1.5C climate target of the Paris Agreement. In Canada, over 7 out of 10 respondents say they are concerned about the health effects of plastic on their kids and support a Global Plastics Treaty that cuts production. This support mirrors calls from Indigenous Peoples, frontline and fenceline communities, environmental and health organizations and scientists - and even progressive governments and a growing number of businesses - for a legally binding Treaty that addresses harms associated with plastic across its life cycle, starting at the primary plastic polymer production stage.[37]

[37] https://ikhapp.org/material/primary-plastic-polymers-urgently-needed-upstream-reduction/ and https://championsofchange.breakfreefromplastic.org/endorsers/.