What are Petroleum Products Used For?

- Electricity/Power generation
- Heating
- Cooking fuel
- Gas for cars, snowmobiles, ATV, boats, etc..
- Jet fuel
- Petrochemical Industry
- Construction materials and tools

- Paints and solvents
- Preservatives in food
- Clothes (polyesters, GoreTex, etc.)
- Outdoor gear (runners, skis)
- Medical industry
- Beauty products (Vaseline, creams and body lotions, etc)
- And much more

Offshore Oil and Gas Cycle

- At all stages of the oil and gas cycle, environment, health, and safety are priorities.
- For offshore activities, usually exploration starts with a seismic survey, then exploration drilling, and finally delineation drilling.
- If the exploration phase of a project is successful, engineers and geoscientists determine the best location to develop the resources, and start the development phase.

- During the production phase, the resources are taken out of the ground and transported to market.
- During decommissioning, the installations are removed, and companies are obligated to leave the site in its original state to the extent possible.
- The petroleum company will be responsible for ongoing monitoring of the site, even after the project is over.

Strategic Environmental Assessment (SEA)

Oil and gas activity could bring great revenue to the territory and benefit Nunavummiut, but some risks exist as well. There are important challenges when it comes to Arctic Offshore Oil and Gas activity, notably the remoteness and harsh climate, and the risk of an oil spill that could damage the environment.

The SEA will help identify and document potential issues related to oil and gas development in the region before any parcels are opened for licences to petroleum companies.

The Nunavut Impact Review Board was appointed by Indigenous and Northern Affairs Canada with the task of leading this important study and writing a report.

NIRB's report will inform the INAC minister's decision regarding the oil and gas moratorium in Canadian Arctic waters to be reviewed in 2021.

The Government of Nunavut is one of the official partners for the study, along with NTI, QIA, and INAC.

Based on your feedback, the GN will provide Nunavummiut with information to help everyone better understand the industry, as well as the impacts and benefits of developing Nunavut's petroleum potential.

Stages of an Oil and Gas Field



Exploration —>

Seismic

Exploration Drilling

Delineation Drilling



Development —> Production

Engineering Fabrication/

Construction Transportation to Market **Drilling Well**



Decommissioning

Completion of the project

Removal of Installations Get involved, participate, and give feedback!

For More Information On

Nunavut's Strategic Environmental Assessment process: info@nirb.ca

Impacts of petroleum activity on marine life:

www.dfo-mpo.gc.ca

Mitigation measures used by the petroleum industry and commercial fisheries in the Atlantic: www.oneocean.ca

Oil and gas industry: www.capp.ca

Operation regulations and licenses: www.neb.ca

How other jurisdictions manage their oil and gas offshore resources:

Newfoundland and Labrador: www.C-NLOPB

Nova-Scotia: www.C-NSOPB

Greenland: www.govmin.gl

For more information or to talk to someone, email or call:

Annie Cyr-Parent Department of Economic Development and Transportation ACyr-Parent@GOV.NU.CA (867)975-7800



Recovering

Resource



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in Nunavut

Department of Economic Development and Transportation Pivalliayuliqiyikkut Ingilrayuliqiyitkullu Ministère du Développement économique et des Transports

History of Nunavut Oil and Gas Production

Bent Horn oil field, on Cameron Island, began producing oil in 1986 and was capable of producing 1000 barrels per day. Bent Horn is estimated to hold another 3 million barrels or more.



Pictures above: Bent Horn Oil Production Well on Cameron Island, and the M/V Arctic. Source: Panarctic Oil Ltd. annual summaries.

- Three million barrels from the Bent Horn field were shipped on the icebreaker M/V Arctic until production ended in 1996.
- Changes in the petroleum market forced the closure of the Bent Horn oil field in 1996.

Nunavut Petroleum Potential and Interesting Facts

Estimates of undiscovered and discovered conventional resources range from 18 to 267 billion barrels of oil and 180 to 1228 trillion cubic feet of gas.

Nunavut remains vastly under-explored.



This map shows the different areas in Canada's North and their petroleum potential. The fields' colours indicate the different potential for petroleum resources, with dark green representing high, dark yellow medium, and pale yellow low potentials. Source: Indigenous and Northern Affair Canada.



The blue field shows Nunavut's petroleum potential put in perspective against the rest of Canada (Meyerhoff, 1982) (Srivastava et al, 1982) (Okulutch, 1988) (Trettin, 1989) & (Harrison et al, 2006).

Petroleum exploration began in 1962 and

occurred throughout the territory until the

Yukon, 1%

Northwest

Territories,

22%

Nunavut,

35%

East

Coast,

13%

Western

Canada, 29%

last exploration well was drilled in 1986.

- Natural oil seeps exist in several locations throughout Nunavut waters and the most prominent seep is located in Scott Inlet.
- Oil seeps indicate the presence of an active petroleum system in an area.
- Preliminary studies have identified large slicks in Scott Inlet (near Clyde River) exceeding 250 square kilometers in size.
- · The Geological Survey of Canada is studying seep occurrences in the region.
- The GN will study the seeps from the oil slicks seen from satellite images.
- More research is needed on the petroleum systems of the Davis Strait/ Baffin Bay area, as well as in the whole territory to better understand the oil and gas systems present.



Source: www.whoi.edu.

Active Petroleum System in the Baffin Bay/Davis Strait Area



Oil coated rock sampled from the bottom of Scott Inlet, Nunavut. Source: P.N. Noir et al., 2011, Natural Oil seeps on the Baffin Shelf, Nunavut, Canada: Geology and Geochemistry of the Scott Inlet Seep, poster presentation.

How Does Natural Seepage Work?