

## GLOSSARY

°C	The symbol for degree Celsius.
<	The symbol for less than.
>	The symbol for greater than.
%	The symbol for percent.
µg/m <sup>3</sup>	The metric symbol for micrograms per cubic metre.
<b>abandonment and reclamation</b>	The act of permanently stopping operations, discontinuing service, removing facilities and restoring land to a productive state.
<b>active layer</b>	A surface layer of ground or soil above permafrost that is alternately frozen each winter and completely thawed each summer, i.e., seasonally frozen ground surface above the permafrost.
<b>adverse effect</b>	The impairment of, or damage to, the environment or health of humans, or damage to property, or loss of reasonable enjoyment of life or property.
<b>aeolian</b>	Materials eroded, transported or deposited by wind action, usually including poorly graded, well-sorted medium to fine sand and coarse silt that is sorted and noncompacted.
<b>airshed</b>	The geographic area associated with movement of air and emissions. An area over which model predictions are made and within which emissions from different facilities interact. Emissions from one airshed are not considered to interact with emissions from other airsheds.
<b>ambient air quality</b>	The quality of any unconfined portion of the atmosphere, open air or surrounding air.
<b>ambient sound</b>	The all-encompassing, background sound associated with a given site, usually a composite of sounds from many sources, near and far, with no particular sound being dominant.
<b>anchor fields</b>	The three natural-gas fields (Taglu, Parsons Lake and Niglintgak), whose production will provide the initial volume of gas shipped in the project pipelines.

---

<b>APG</b>	The abbreviation for Aboriginal Pipeline Group.
<b>A-weighting</b>	Adjusting sound levels measured to account for the frequency content of the measured sound based on a frequency response similar to that heard by the human ear.
<b>baseline</b>	A surveyed condition that serves as a reference point to which later surveys or assessments are coordinated or correlated.
<b>Bcf</b>	The symbol for a billion cubic feet.
<b>biodiversity</b>	All aspects of biological diversity, especially species richness, genetic variation and the complexity of ecosystems.
<b>biophysical</b>	Referring to the air, noise, aquatic (groundwater, hydrology, water quality and fisheries) and terrestrial (soils, landforms, permafrost, vegetation and wildlife) conditions in the project area.
<b>bog</b>	Peatlands consisting primarily of sphagnum mosses, with poor nutrient status and acidic conditions.
<b>borrow site</b>	An area that could be excavated to provide material, such as gravel or sand, to be used, where required, by the project.
<b>BTEX</b>	The abbreviation for benzene, toluene, ethylbenzene and xylene.
<b>CASA</b>	The abbreviation for the Clean Air Strategic Alliance.
<b>CEA</b>	The abbreviation for cumulative effects assessment.
<b>channel</b>	A natural or artificial waterway that periodically or continuously contains moving water, has a definite bed, and has banks that confine the water at low to moderate streamflow.
<b>climate</b>	The prevailing weather conditions of an area. Climate is a measure of the long-term averages, i.e., normals, of key atmospheric variables, such as temperature, precipitation and wind.
<b>climate change</b>	The change in long-term climate normals.
<b>climate normals</b>	Long-term average conditions of temperature and precipitation.
<b>compliance monitoring</b>	Monitoring to ensure that: <ul style="list-style-type: none"><li>• the environmental mitigation outlined in the environmental protection and reclamation plan is implemented</li><li>• work proceeds in compliance with regulations and the proponents'</li></ul>

---

	environmental policies
<b>compressor station</b>	A facility containing equipment that is used to increase pressure to compress natural gas for transportation in a pipeline.
<b>CO</b>	The chemical symbol for carbon monoxide.
<b>coniferous forest</b>	Typically, evergreen trees or plants that are cone bearing, such as pine trees.
<b>Construction Phase</b>	The phase of a project preceding the Operations Phase, during which project facilities and infrastructure are assembled and installed, and connected and tested to ensure that they operate as designed.
<b>critical habitat</b>	The habitat that is necessary for the survival or recovery of a listed wildlife species and that is identified as the species' critical habitat in the recovery strategy or in an action plan for the species, according to the <i>Species at Risk Act</i> .
<b>cumulative effects</b>	Changes to the environment caused by an action, including projects and activities, in combination with other past, present and future human actions.
<b>dBA</b>	The abbreviation for A-weighted decibel.
<b>decommissioning</b>	The act of taking a processing plant or facility out of service and isolating equipment, to prepare for routine maintenance work, suspending or abandoning.
<b>delineation drilling</b>	Evaluating a reservoir by placing several wells in various parts of a reservoir to learn its extent and characteristics.
<b>delta</b>	An area of alluvial deposits, usually triangular in shape, at the mouth of a river or stream.
<b>delta channel</b>	A watercourse flowing through a delta.
<b>denning site</b>	A location where a bear creates its den.
<b>discontinuous permafrost</b>	A zone of permafrost containing patches of unfrozen ground, such as beneath large rivers and lakes.
<b>downstream</b>	In the direction of flow of a watercourse.

---

<b>ecological zone</b>	A regional ecological area used on the Mackenzie Gas Project to describe regional vegetation differences based on changes in climate, physiography, terrain, soil and permafrost with increasing latitude along the Mackenzie Valley. Also known as <i>ecozone</i> .
<b>ecozone</b>	A regional ecological area used on the Mackenzie Gas Project to describe regional vegetation differences based on changes in climate, physiography, terrain, soil and permafrost with increasing latitude along the Mackenzie Valley. Also known as <i>ecological zone</i> .
<b>EIS</b>	The abbreviation for environmental impact statement.
<b>EL</b>	The abbreviation for exploration licence.
<b>environment</b>	The components of the earth, including: <ul style="list-style-type: none"><li>• land, water and air, including all layers of the atmosphere</li><li>• all organic and inorganic matter and living organisms</li><li>• the interacting natural systems that include all components referred to in the previous bullets</li></ul>
<b>environmental effect</b>	For a project, any change that the project might cause in the environment. Also, any change to the project that might be caused by the environment.
<b>environmental impact assessment</b>	The process of evaluating the biophysical, social and economic effects of a proposed project.
<b>environmental impact statement</b>	A report containing the environmental impact assessment.
<b>erosion</b>	The wearing away of the land surface by running water, wind, ice or other geological agents, including such processes as gravitational creep.
<b>esker</b>	A winding ridge of irregularly stratified sand, gravel and cobbles, deposited under a glacier by a rapidly flowing glacial stream.
<b>facilities</b>	Structures of the gathering and gas pipeline systems, including compressor and pump stations, block valves, pigging facilities, heater stations and meter stations.
<b>fen</b>	Low land, such as peat land, that is wholly or partly covered by water, especially in the upper regions of old estuaries and around lakes. These areas do not drain naturally.

---

<b>fur-bearer</b>	An animal whose coat, when dressed as a pelt, is of value in the marketplace.
<b>gas conditioning facility</b>	A facility located at each anchor field, which collects raw gas from the wells, and dehydrates and conditions the product for transport through the gathering system.
<b>gas pipeline</b>	The proposed gas pipeline that would extend from the Inuvik area facility, parallel to the NGL pipeline along the Mackenzie River to Norman Wells, and continue south to connect to an extension of the existing Alberta system south of the Northwest Territories–Alberta boundary. Also known as the Mackenzie Valley Pipeline.
<b>gathering system</b>	A system of pipelines and associated facilities that include four gathering pipelines, the Inuvik area facility, the NGL pipeline and related facilities, such as valves, pig launchers and receivers.
<b>gene flow</b>	The passage and establishment of the characteristics of one breeding population into the gene pool of another population.
<b>glaciofluvial material</b>	Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice.
<b>graminoid</b>	A plant with a grass-like growth form, including rushes, grasses and sedges, which are members of the Cyperaceae and Poaceae families.
<b>greenhouse gas</b>	Any of various gases, e.g., CO <sub>2</sub> , CH <sub>4</sub> , NO <sub>2</sub> , that are more transparent to incoming solar radiation than to reflected radiation from the earth and that contribute to the heating of the earth's surface and lower atmosphere.
<b>groundwater</b>	Subsurface water that is recharged by infiltration and enters streams through seepage and springs.
<b>ha</b>	The metric symbol for hectare.
<b>habitat</b>	The place or environment where a plant or animal naturally and normally lives and grows.
<b>home range</b>	The area within which an animal lives. A home range can be described by season, by year, or by an animal's lifetime.
<b>hydrology</b>	The science dealing with the waters of the earth, including their properties, circulation, distribution and reaction with the environment.

---

<b>icing</b>	A mass or sheet of ice formed on the ground surface during the winter by successive freezing of sheets of water that seep either from the ground, a river or a spring.
<b>INAC</b>	The abbreviation for Indian and Northern Affairs Canada.
<b>infrastructure</b>	Basic facilities, such as transportation, communications, power supplies and buildings that enable an organization, project or community to function.
<b>inundation</b>	Flooding, or to be covered with standing or flowing water.
<b>Inuvik area facility</b>	The processing facility to be located near Inuvik where gas and liquids will be processed and separated, then delivered to the gas and NGL pipelines.
<b>invertebrate</b>	Large group of lower animals that lack a spinal column.
<b>IPCC</b>	The abbreviation for the International Panel on Climate Change.
<b>kame</b>	A low, long, steep-sided mound of glacial drift, commonly stratified sand and gravel, deposited by a subglacial stream as an alluvial fan or delta at the terminal margin of a melting glacier.
<b>karst topography</b>	The landscape surface that forms over limestone, dolomite or gypsum, by dissolving or solution, characterized by sinkholes, caves and underground drainage.
<b>keq/ha/a</b>	The metric symbol for kiloequivalents per hectare per year.
<b>key indicator</b>	A factor used to measure the status of a valued component.
<b>kg/ha/a</b>	The metric symbol for kilograms per hectare per year.
<b>KI</b>	The abbreviation for key indicator.
<b>KIBS</b>	The abbreviation for Kendall Island Bird Sanctuary.
<b>km</b>	The metric symbol for kilometre.
<b>km<sup>2</sup></b>	The metric symbol for square kilometre.
<b>km/km<sup>2</sup></b>	The metric symbol for kilometres per kilometre squared.
<b>lateral</b>	A gathering pipeline that connects the production area facilities to the Inuvik area facility.

---

<b>LSA</b>	The abbreviation for local study area.
<b>m</b>	The metric symbol for metre.
<b>m/s</b>	The metric symbol for metres per second.
<b>m<sup>3</sup>/d</b>	The metric symbol for cubic metres per day.
<b>Mackenzie Gas Project</b>	A project that will develop three onshore natural gas anchor fields in the Mackenzie Delta and transport natural gas by pipeline to market in northwestern Alberta by 2009. The project comprises the anchor fields, wells, gathering pipelines and associated facilities, work camps, material stockpiling and shipping sites, roads, borrow sites, and other associated infrastructure.
<b>mainstem channel</b>	The principal, largest or dominating stream or channel in any given area or drainage system.
<b>mean</b>	The sum of observations, or items, in a sample divided by the number of observations in the sample.
<b>median</b>	The value or location of the central number or individual in a population, i.e., set of numbers, arranged in order of size.
<b>migratory bird</b>	Any migratory bird as referred to in the <i>Migratory Birds Convention Act</i> , including the sperm, eggs, embryos, tissue cultures and parts of the bird.
<b>mitigation</b>	The elimination, reduction or control of a project's adverse effects, including restitution for any damage caused to the environment by such effects through avoidance, replacement, restoration, compensation or other means.
<b>monitoring</b>	Periodic inspection to meet the following objectives: <ul style="list-style-type: none"><li>• observe and report on compliance with approval conditions</li><li>• confirm effectiveness of approved protection measures</li><li>• verify the accuracy of impact predictions</li><li>• identify any effects not predicted in the impact assessment</li></ul>
<b>moult</b>	The process, often seasonal, of an animal shedding hair, feathers, shell, horns or an outer layer.
<b>mm</b>	The metric symbol for millimetres.
<b>Mm<sup>3</sup></b>	The metric symbol for a million cubic metres.

---

<b>muskeg</b>	A peat bog or tussock meadow, with variably woody vegetation, often occurring in areas of permafrost.
<b>natural gas</b>	A compressible mixture of hydrocarbons with a low specific gravity that occurs naturally in a gaseous form.
<b>natural gas field</b>	A term used to describe a gas reservoir and all above-ground components directly related to that reservoir.
<b>natural gas liquids</b>	Hydrocarbons that are gaseous in the reservoir, but that will separate out in liquid form at the pressures and temperatures at which separators normally operate. The liquids consist of varying proportions of butane, propane, pentane and heavier fractions, with little or no methane or ethane.
<b>natural variability</b>	The variability that is inherent or natural to the media, objects, or people being studied.
<b>NGL</b>	The abbreviation for natural gas liquid.
<b>NGL pipeline</b>	The pipeline connecting the Inuvik area facility with the Enbridge Pipeline facilities at Norman Wells.
<b>NGTL</b>	The abbreviation for NOVA Gas Transmission Ltd.
<b>Niglintgak field</b>	The anchor field to be developed by Shell Canada Limited, which includes three well pads, one gas conditioning facility, flow lines and supporting infrastructure. The gas conditioning facility might be barge-based or land-based.
<b>Niglintgak lateral</b>	The gathering pipeline connecting the Niglintgak gas conditioning facility to a connection point on the Taglu lateral at the Taglu gas conditioning facility.
<b>NO<sub>2</sub></b>	The chemical symbol for nitrogen dioxide.
<b>nutrient</b>	An environmental substance, i.e., element or compound, such as nitrogen or phosphorus, which is necessary for the growth and development of plants and animals.
<b>Operations Phase</b>	The phase of a project during which the pipeline and associated facilities are operated.
<b>PAI</b>	The abbreviation for potential acid input.

<b>Parsons Lake field</b>	The anchor field to be developed by ConocoPhillips Canada (North) Limited and ExxonMobil Canada Properties. Initially, the field will consist of the north pad, which will have one pad for the well sites and gas conditioning facility. A second well pad will be developed five to 10 years after the north pad
<b>Parsons Lake lateral</b>	The gathering pipeline connecting the Parsons Lake gas conditioning facility to a connection point at the Storm Hills pigging facility.
<b>patterned ground</b>	A collective term for the regular surface features, such as stone polygons, frost boils and stone stripes, characteristic of ground that is subject to intensive freeze–thaw action.
<b>peat</b>	An organic deposit consisting of decayed or partially decayed, humified plant materials that have decomposed in wet or waterlogged, anaerobic environments.
<b>peatland</b>	An organic wetland with accumulations of more than 40 cm of peat.
<b>percentile</b>	The proportion of values in a distribution that a specific value is greater than or equal to.
<b>permafrost</b>	Perennially frozen ground, occurring wherever the ground temperature remains below 0°C for two or more consecutive years.
<b>phenology</b>	The science of studying periodic biological phenomena in relation to climate, especially seasonal changes.
<b>pig</b>	An in-line scraper, i.e., brush, blade cutter or swab, that is forced through a pipeline by fluid pressure. The pig is used to remove scale, sand, water and other foreign matter from the interior surfaces of the pipe. In hydrostatic testing, the pig is used inside the line to push air ahead of the test water and to push water out after the test.
<b>pig launcher</b>	A facility on a pipeline for inserting and launching a pig
<b>pig receiver</b>	A piping arrangement whereby an incoming pig can be diverted into a receiving cylinder, isolated and then removed.
<b>PIL</b>	The abbreviation for project inclusion list.
<b>pipeline corridor</b>	The 1-km-wide area that generally centres on the combined right-of-way for the gas and NGL pipelines, from the Inuvik area facility south to the NGTL interconnect facility in Alberta, defined for the purpose of the EIS biophysical baseline and effects assessment studies.

---

<b>pingo</b>	An ice-cored hill, forced up by frost-heaving hydrostatic pressure in an area underlain by permafrost. It usually forms in drained or partially drained lake basins.
<b>plant community</b>	A distinct grouping of plant species often associated with a particular set of environmental conditions such as terrain, soil, permafrost and water. Also known as <i>vegetation community</i> .
<b>PM<sub>2.5</sub></b>	Respirable particulate matter with a nominal diameter smaller than 2.5 µm.
<b>polygonal ground</b>	A ground surface consisting of polygonal arrangements, i.e., polygons, of rock, soil, and vegetation, formed on a level or gently sloping surface by frost action.
<b>potential acid input</b>	The sum of the wet and dry deposition of sulphur and nitrogen compounds that have the potential to contribute to acidification of the receiving environment.
<b>production area</b>	The area that encompasses all project components located north of the Inuvik area facility, including the Niglintgak, Taglu and Parsons Lake fields, the gathering pipelines and associated facilities, infrastructure, and the 1 km-wide buffer area surrounding each of these project components, defined for the purpose of the EIS biophysical baseline and effects assessment studies.
<b>project, the</b>	The abbreviation for the Mackenzie Gas Project.
<b>project proponents</b>	The five organizations (Imperial Oil Resources Ventures Limited, the APG, ConocoPhillips Canada (North) Limited, Shell Canada Limited and ExxonMobil Canada Properties) that are undertaking the Mackenzie Gas Project.
<b>project-specific effect</b>	An effect caused by the project. Such effects are sometimes referred to as direct effects as they only include the project's contribution to the effect (as opposed to cumulative effects, in which case other projects would contribute to the effect).
<b>reclamation</b>	The process of re-establishing a disturbed site to a former or other productive use, not necessarily to the same condition that existed before disturbance. The land capability might be at a level different, i.e., lower or higher, than that which existed before the disturbance, depending on the goal of the process. Reclamation includes the management of a disturbed site and revegetation where necessary.

<b>residual effects</b>	Environmental or socio-economic effects that remain after mitigation. Effects that are present after mitigation has been applied.
<b>right-of-way</b>	The pipeline easement in which the pipeline will be installed and operated. The pipeline right-of-way width for the project will vary from 30 to 50 m, depending on pipe size and the number of pipes to be installed in the trench.
<b>riparian</b>	Situated or dwelling on the margin of a river or other waterbody.
<b>RSA</b>	The abbreviation for regional study area.
<b>runoff</b>	The water from rain and snow that flows over land to streams, ponds or other surface waterbodies. Also, the water from precipitation that does not infiltrate into the ground or evaporate.
<b>scour</b>	Localized erosion of substrate from the streambed by flowing water, when water velocity is high.
<b>SDL</b>	The abbreviation for Significant Discovery Licence.
<b>sediment</b>	Fragmented material from weathered rocks and organic material that is suspended in, transported by and eventually deposited by air, water or ice.
<b>slope</b>	The percentage of vertical rise relative to the horizontal distance, e.g., a level site of 0° has a 0% slope, and 45° is equivalent to a 100% slope.
<b>slump</b>	Mass sliding of semi-consolidated sediment downslope under the influence of gravity.
<b>SO<sub>2</sub></b>	The chemical symbol for sulphur dioxide.
<b>socio-economic effect</b>	For a project, any effect on a social or economic element, including direct effects as well as effects resulting from a change in the environment.
<b>spawning</b>	Fish reproduction process characterized by females and males depositing eggs and sperm into the water simultaneously or in succession so as to fertilize the eggs.
<b>species at risk</b>	An extirpated, endangered or threatened species or a species of special concern, as defined in the <i>Species at Risk Act</i> .

---

<b>spring breakup</b>	The time of year when the temperature rises sufficiently to thaw ice, causing it to break up in rivers and lakes.
<b>Storm Hills lateral</b>	The gathering pipeline connecting the Storm Hills pigging facility to a connection point at the inlet of the Inuvik area facility.
<b>study area</b>	The area within the spatial boundaries of the scope of the environmental and socio-economic effects assessment.
<b>Taglu field</b>	The anchor field to be developed by Imperial Oil Resources Limited, consisting of one site that will include the well pads, gas conditioning facility, flow lines and supporting infrastructure.
<b>Tcf</b>	The symbol for a trillion cubic feet.
<b>thaw depth</b>	The depth to which the ground thaws in the summer. It is generally the maximum extent of the active layer, the portion of the ground that freezes and thaws at various depths depending on daily, seasonal and yearly cycles.
<b>thermokarst</b>	The melting of permafrost by heat transfer from waterbodies, either streams or lakes.
<b>traditional knowledge</b>	Cultural knowledge that is based on direct observation or information passed on orally from other community members, developed from centuries of experience of living off the land.
<b>tundra</b>	A vast treeless zone between the ice cap and the tree line of North America and Eurasia, characterized by a short growing season and permanently frozen subsoil. Tundra refers both to the region and to the vegetation growing in it.
<b>upstream</b>	Direction from which a river or stream flows.
<b>valued component</b>	Characteristic or feature that represents important environmental conditions identified by assessment specialists, communities or stakeholders.
<b>VC</b>	The abbreviation for valued component.
<b>vegetation community</b>	A distinct grouping of plant species often associated with a particular set of environmental conditions such as terrain, soil, permafrost and water. Also known as <i>plant community</i> .

<b>waterbody</b>	A body of water up to the high-water mark, including canals, reservoirs, oceans and wetlands, but not including sewage or waste treatment lagoons.
<b>watershed</b>	A region or area draining into a particular stream or river.
<b>wetlands</b>	A broad group of wet habitats where the water table is usually at or near the surface, or the land is covered by shallow water.

