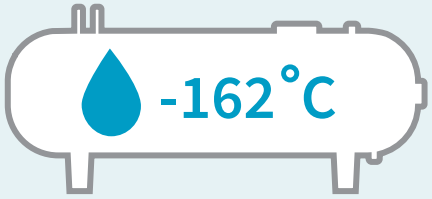
Regulating LNG in British Columbia

What is LNG?

LNG is an acronym for liquefied natural gas. When natural gas is cooled to -162 degrees Celsius it condenses into a liquid form.

Once condensed, LNG is about 1/600th the volume of natural gas.



Because it takes up a fraction of the space, LNG can be loaded into containers designed specifically to safely house it during storage and transport.

Where does LNG come from?

Natural gas activities have been taking place in British Columbia since the early 1950s. The northeast region of the province is where most natural gas resources can be found – predominantly from the Montney Basin and Horn River Basin. Once produced, the natural gas from these basins may then be shipped via connecting pipelines to LNG facilities for processing.

How are LNG Projects Approved?

Permits to construct and operate an LNG facility are required from the BC Energy Regulator (BCER) before construction can begin. Applicants must provide the BCER with detailed project descriptions, construction schedules, design and safety studies and risk assessments demonstrating how they meet or exceed levels of protection as outlined in regulation. Our role as regulator is to ensure their plans meet all applicable requirements in the Liquefied Natural Gas Facility Regulation and any associated Energy Resource Activities Act (ERAA) approvals meet specific conditions in order to be in compliance with their permit, if approved.

We oversee the full life cycle of energy resource activities including facilities that process natural gas to produce LNG.

What Happens at LNG Facilities?

Before cooling and condensing natural gas to a liquid state, impurities such as water, carbon dioxide and other materials are removed. In the next stage, the natural gas is cooled to separate out other liquids, such as propane and butane. The final step further cools the natural gas to -162 degrees Celsius, condensing it to the LNG state where it is then stored at near atmospheric pressure.

LNG facilities for peak-shaving have been operating in British Columbia since the early 1970s.

Peak-shaving is the process of liquefying natural gas and storing it during months of low natural gas consumption. This allows for distribution to consumers during times of limited gas supply and efficiently levels out peaks in natural gas use.

This information is published by the BC Energy Regulator and is available online at www.bc-er.ca.

BCER
BRITISH COLUMBIA ENERGY REGULATOR

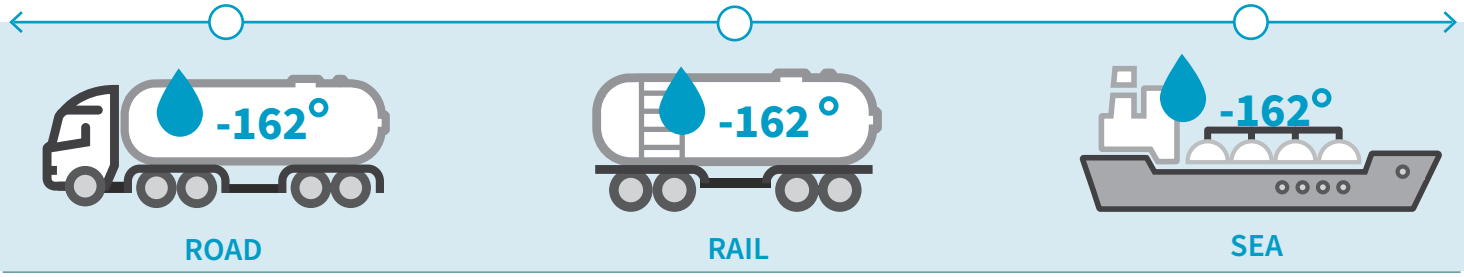
Public Concerns and Complaints
1-250-794-5200 (24-hour public number)
1-877-500-BCER (2237) (24-hour toll free)
Report concerns such as odours, spills or noise.

Incident Reporting for Industry
1-800-663-3456 (24-hour emergency number)
Report oil and gas related incidents.

March 2024

How is LNG transported?

From an LNG storage area, LNG may be reheated to vapourize it for immediate use, or it may be transported for use elsewhere. LNG is not moved via pipeline - it is loaded into LNG containers that can be transported by road or rail to areas not serviced by natural gas pipelines or the electric grid. LNG may also leave B.C.'s coast on vessels built specifically to carry LNG cargo. Once the LNG reaches its end destination, it may then be vapourized for use.



LNG transportation by road, rail and sea is regulated by the Federal Government via Transport Canada.

An export licence from the Canada Energy Regulator is required to export LNG outside of Canada.

LNG Export Facilities

Larger LNG facilities are required to undergo an environmental assessment in B.C. The Environmental Assessment Office follows a clearly defined process in the Environmental Assessment Act to conduct these assessments. This process, including reports and consultation details, is available to the public on the Environmental Assessment Office's project site. Depending on the project, a federal impact assessment may also be required by the Impact Assessment Agency of Canada.

There are several LNG related major projects underway in B.C. A map is available on our website listing these larger projects and their application status, including permits issued by the BCER under the Energy Resource Activities Act.

How is LNG used in B.C.?

LNG produced across B.C. is currently used in Canada to satisfy energy demands while meeting greenhouse gas emissions targets and reducing air polution. **Currently in B.C., we are helping to support:**

Virtual pipelines

Transporting LNG by road allows for the creation of virtual pipelines to Canada's northern communities not connected to natural gas pipelines.

Diesel reduction

LNG is being used as marine fuel for ferries and road transportation, and is helping to displace diesel usage in remote northern comunties for heating and power.

Peak-shaving

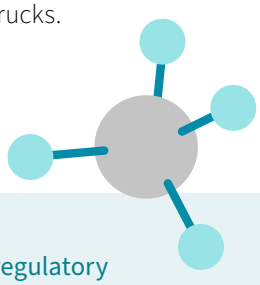
Energy is stored in the form of LNG for winter use when more natural gas is required for heating, maximizing usage of existing natural gas pipelines.

Overseas export

LNG is exported overseas in vessels built specifically to carry LNG cargo. LNG can also be exported in containers that can be loaded onto rail or trucks.

Potential Future Uses

In addition to the use on ferries, it is expected more ocean going vessels will transition to LNG as a fuel as the international requirements for reducing air pollution from ships become more stringent.



Energy Transition & Low-Carbon Economy

We work collaboratively across government and industry to share policy and technical expertise, provide operational leadership, and evolve our regulatory model to support B.C.'s energy transition, low-carbon economy, and meet future global energy needs.

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