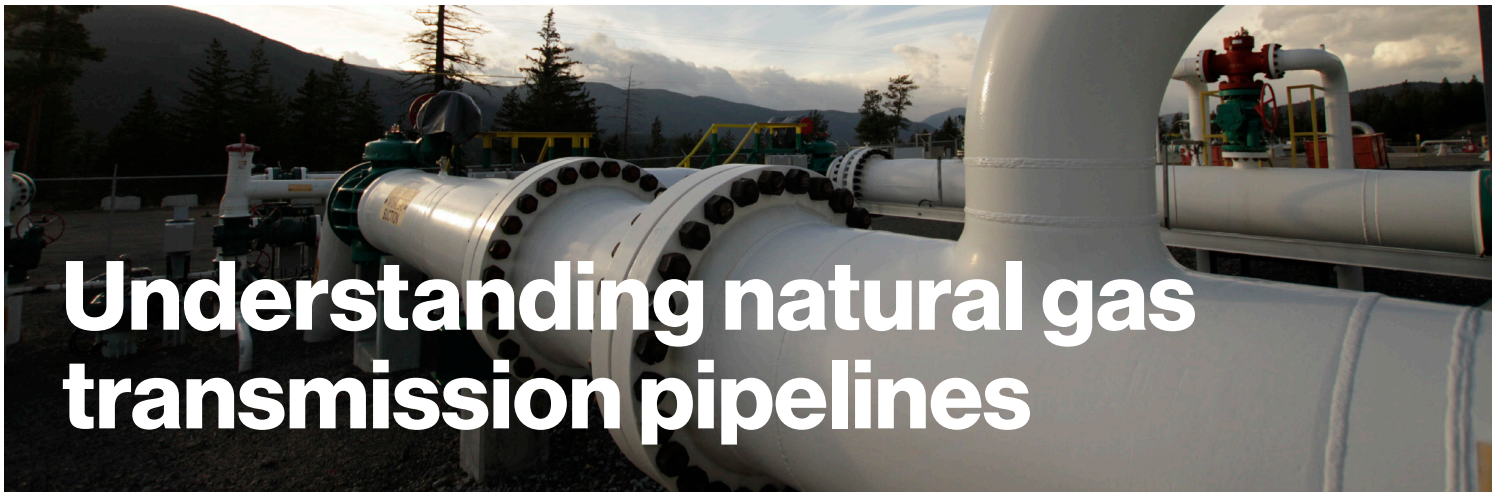


Understanding natural gas transmission pipelines

Since 1957, the Westcoast pipeline system has been the backbone of the natural gas industry in British Columbia (BC). Owned and operated by Westcoast Energy Inc., an Enbridge company, this pipeline system has been transporting natural gas that heats homes, businesses, hospitals and schools. This abundant and affordable energy source is also used to generate electricity and produce hundreds of products that improve our daily lives.



The Westcoast pipeline is a natural gas transmission pipeline system spanning over 2,900 kilometres. It stretches from Fort Nelson in northeast BC and from Gordondale near the BC-Alberta border, south to the Canada-U.S. border at Huntingdon/Sumas.

Regulated by the Canada Energy Regulator, this pipeline system can move up to 3.6 billion cubic feet of natural gas per day. The northern section of this system (known as Transmission North or T-North) acts as the central hub, collecting natural gas sourced mostly from northeast BC and distributing it to multiple delivery points within the province and Alberta. The southern section of this system (known as Transmission South or T-South) transports natural gas from T-North to markets across the province, including the Lower Mainland, and the U.S. Pacific Northwest.

Transmission pipelines

Transmission pipelines are the safest and most efficient way to deliver large volumes of natural gas to local distribution companies. These companies then deliver the natural gas to homes and businesses where it's used for heating, and to industries for manufacturing products, and to power plants for electricity production.

These pipelines are constructed from high-strength carbon steel and are coated with a high-tech sealant to protect them from corrosion. Each pipeline is rigorously tested and inspected to ensure its integrity both before and after being placed underground. Installing pipelines underground helps protect them from third-party damage, weather and other elements.

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Pipeline loops

As energy demand increases, so does the demand for natural gas. To meet this demand and ensure reliable energy delivery, pipelines may need to be expanded.

This expansion can be achieved through pipeline loops, which are additional pipeline segments installed parallel to and connected to an existing system.

Pipeline looping can be thought of as adding an extra section of lane to a slow part of a highway where there is a bottleneck. This improves the flow of traffic, without having to build a new highway.



Similarly, by adding a parallel pipeline to a part of existing pipeline system with a bottleneck, natural gas transportation capacity can be increased without needing to construct an entirely new pipeline system. This method minimizes impacts to the environment, as it normally follows the existing pipeline.

Crossovers



To connect two pipelines together, a crossover assembly is often installed. This allows natural gas to flow between pipelines.

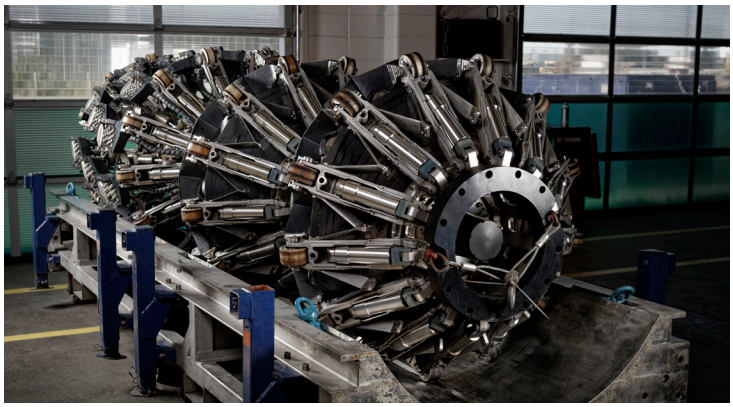
Crossovers can also be used to re-route natural gas to an adjacent pipeline, enabling maintenance work on a section of pipeline without interrupting service.

This ensures people continue receiving the energy they need without disruption.

Ensuring pipeline safety

To keep our pipelines operating safely and reliably, a team of highly trained professionals undertake regular inspection and maintenance activities.

One key tool in these efforts is the use of inline pipeline inspection tools, known as “smart pigs”. These state-of-the-art monitoring devices are inserted into a pipeline at designated launch sites and use sophisticated scanning equipment. Using MRI or ultrasound technology, pigs scan pipelines inch-by-inch, detecting anomalies, such as metal loss, corrosion or unwanted movement.



When potential issues are identified, maintenance teams may perform an integrity dig to inspect the affected section of pipe more closely. Repairs or additional maintenance are carried out as needed to ensure a pipeline continues to operate safely and reliably.

The entire pipeline system is also monitored around the clock by highly trained staff using advanced computerized analysis. If necessary, operations staff can remotely shutdown a section of the pipeline and re-route the flow of natural gas to ensure uninterrupted energy service.

We also work closely with first responders to familiarize them with our operations and ensure they can promptly assist the community in the event of an emergency.

These efforts, combined with routine maintenance and constant vigilance, make pipelines the safest and most reliable way to transport energy.

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For more information, visit **enbridge.com/BC** or scan the QR code.