



For carbon capture and storage (CCS) projects, the carbon dioxide (CO<sub>2</sub>) captured from an industrial site is typically transported by pipeline to an injection site after being compressed into a liquid-like state. There are already thousands of kilometers or miles of CO<sub>2</sub> pipelines operating across North America, including 720 kilometres in Canada and 5,000 miles in the United States. Enbridge is a world leader in pipeline safety and will apply the same high standards to any new CO<sub>2</sub> pipelines we build and operate.

### **A world-leader in pipeline safety**

Enbridge safely transports about 30% of the crude oil produced in North America on an extensive, 28,661 km (17,804 miles) network. We also transport nearly 20% of the natural gas consumed in the U.S. via a system that spans 118,763 km (73,796 miles). Enbridge is working with industry, governments and communities to advance innovative CCS solutions across North America, including plans to build, own and operate new purpose-built CO<sub>2</sub> pipelines.

### **The safe transportation of CO<sub>2</sub>**

For CCS projects, captured CO<sub>2</sub> from industrial sites is typically transported by pipelines (or occasionally by truck or rail) to suitable injection and storage locations. CO<sub>2</sub> is captured, dried and compressed to a liquid-like state at or near the industrial site where it has been captured. It is then moved via new, purpose-built pipelines to an injection site. During transportation, CO<sub>2</sub> must remain under pressure to maintain its liquid-like state.

Pipelines containing CO<sub>2</sub> are monitored in a number of ways to ensure safety:

- Computers will measure data from pressure sensors along the CO<sub>2</sub> pipelines to ensure any drops in pressure are recorded and identified.
- Our CO<sub>2</sub> pipelines will be monitored as part of Enbridge's Pipeline Integrity Program to identify any changes that may indicate a possible leak. This program includes use of in-line inspection tools, as well as periodic patrols.

## There are thousands of kilometres/miles of CO<sub>2</sub> pipelines in Canada and the U.S. today

CO<sub>2</sub> has been transported via pipelines in the U.S. since 1972 and in Canada since 2000. Pipelines are the primary mode of CO<sub>2</sub> transport, with more than 5,000 miles (8,046 km) of CO<sub>2</sub> pipelines operating today in the U.S. and 720 km (447 miles) in Canada.

Transporting CO<sub>2</sub> via pipeline is similar to the pipelining of other commodities like oil and natural gas, except that CO<sub>2</sub> is not ignitable and does not burn.

Safety is paramount at Enbridge. As a company, we are committed to ensuring all our assets are operated in a safe manner. This includes new CO<sub>2</sub> transportation infrastructure we build, own and operate.



> CO<sub>2</sub> pipeline at the Weyburn facility in southern Saskatchewan. In 2023, the Weyburn oilfield surpassed a milestone of 40 million tonnes of stored CO<sub>2</sub> from capture facilities in North Dakota and Estevan, Saskatchewan.

## Planning and communicating to ensure safety

It is important to identify risks associated with any pipelines and develop strong emergency response plans to mitigate and reduce any impacts on people and the environment from an incident.

First responders, regulators and local officials along a CO<sub>2</sub> pipeline route will be consulted to have input into these plans. The most important aspects of safety are continuous pipeline monitoring and clear and robust public communications. Safety and protecting the environment are Enbridge's top priorities.



**Enbridge is developing extensive CO<sub>2</sub>-specific emergency response plans that have as their cornerstone direct public engagement and communication.**

## Open Access Wabamun Carbon Hub

For Enbridge's Open Access Wabamun Hub project (being developed west of Edmonton. CO<sub>2</sub> will be transported via new, purpose-built steel pipes along routes designed to minimize impacts to land, water, communities, and the legal and constitutional rights possessed by Indigenous peoples.

Pipeline routings for the Wabamun Hub are still to be determined and will be informed by data and analysis collected during the evaluation stage of the Wabamun Hub's development.

*Enbridge is advancing CCS projects across North America as a key enabler to reaching national and international emissions reduction goals. This is one of a series of Enbridge fact sheets intended to provide an overview of the many facets of CCS.*