Enbridge’s Energy Infrastructure Projects

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Crude Oil and Liquids Pipelines

Line 3 Replacement Program

Construction of the $5.3-billion Canadian portion of the Line 3 Replacement Program is complete and began commercial service in December 2019.

The $2.9-billion U.S. portion of the Line 3 Replacement Program, known as the Line 3 Replacement Project, consists of replacing existing 34-inch pipe with new 36-inch pipe for 13 miles in North Dakota, 337 miles in Minnesota, and 14 miles in Wisconsin. The Wisconsin portion was completed in 2018. The North Dakota segment was completed in the fall of 2020, while construction in Minnesota began in December 2020 after receiving all necessary permits.

In December 2020, construction began on the 337-mile Minnesota portion of the project, the only segment of Line 3 yet to be replaced with new state-of-the-art pipe.

- Type: Crude oil and liquids pipeline
- Status: Complete (Canada, North Dakota and Wisconsin); under construction (Minnesota)
- Length: 1,031 miles (1,660 km)
- Expected in-service date: December 2019 (Canada); 4Q 2021 (U.S.)
- Expected initial capacity: 390,000 barrels per day
- Expected to transport: Light, medium and heavy crude
- Estimated capital cost: C$5.3 billion in Canada, US$2.9 billion in the United States
Natural Gas Transmission Pipelines

Atlantic Bridge


The first phase of Atlantic Bridge, providing 40,000 dekatherms per day of incremental firm transportation service, began operating in November 2017.

The project facilities in New York were placed into service in the fall of 2019, and allowed for the full project capacity to be available from New Jersey to Massachusetts. The Atlantic Bridge project was placed into full service in January 2021, following completion of the Weymouth Compressor Station, which will facilitate delivery of much-needed natural gas to project customers in Maine and Atlantic Canada.

- Type: Natural gas pipeline
- Status: Complete
- Peak day capacity: 132,700 dekatherms per day (Dth/d)
- Expected to transport: Natural gas
- Initial in-service date: November 2017
- Full in-service date: January 2021
- Ownership: Algonquin Gas Transmission, LLC; Maritimes & Northeast Pipeline, LLC (U.S.); Maritimes & Northeast Pipeline Limited Partnership (Canada)
- FERC docket number: CP16-9-000
Cameron Extension Project

The Cameron Extension Project will provide firm natural gas transportation supply to Venture Global LNG's Calcasieu Pass LNG export terminal in southwestern Louisiana.

Once in-service, the project will provide 750,000 dekatherms per day (Dth/d) of firm natural gas transportation supply to the Calcasieu Pass LNG facility in Cameron Parish.

- Type: Natural gas pipeline
- Status: Under construction
- Peak day capacity: 750,000 dekatherms per day (Dth/d)
- Expected to transport: Natural gas
- In-service target date: 2021
- Ownership: Texas Eastern Transmission, LP
- FERC docket number: Docket No. CP19-512-000
Middlesex Extension Project

The Middlesex Extension Project will enhance the reliability of service to an existing power generation facility which provides electricity to New Jersey, and will strengthen the region’s energy infrastructure by providing access to alternative, often lower cost, natural gas supplies.

The Middlesex Extension Project will connect Texas Eastern Transmission, LP’s (Texas Eastern) existing Line 20 Mainline pipeline to the existing Transcontinental Gas Pipe Line (Transco) pipeline facilities, including its Mainline E and Woodbridge Lateral.

Project facilities will include an approximately 1.5-mile, 20-inch diameter natural gas pipeline, a new metering and regulating station, pipe inspection and tie-in facilities, and interconnecting piping.

- Type: Natural gas pipeline
- Status: Under construction
- Peak day capacity: 264,000 dekatherms per day (Dth/d)
- Expected to transport: Natural gas
- In-service target date: Second half, 2021
- Ownership: Texas Eastern Transmission, LP
- FERC docket number: Docket No. CP20-30-000
PennEast Pipeline Project

The PennEast Pipeline Project will provide Enbridge Inc. with a strategic opportunity to leverage existing assets by directly connecting northeast Pennsylvania Marcellus shale production to the Texas Eastern Transmission and Algonquin Gas Transmission systems, and will allow Enbridge Inc. to further strengthen its relationship with some of its biggest customers.

The PennEast Pipeline will reliably meet growing energy demand in New Jersey and Pennsylvania while providing environmental and economic benefits to the region, and will transport enough clean, affordable and abundant natural gas to serve 4.7 million homes.

- Type: Natural gas pipeline
- Status: Under review
- Length: 118 miles
- Peak day capacity: 1.1 billion cubic feet per day (Bcf/d)
- Expected to transport: Natural gas
- Expected in-service date: November 2021 (Phase One); 2023 (Phase Two)
- Ownership: Enbridge Inc. (20%). Other partners include: Southern Company Gas; NJR Pipeline Company, a subsidiary of New Jersey Resources; South Jersey Industries; and UGI Energy Services (UGIES), a subsidiary of UGI Corporation.
- Operator: UGI Energy Services
- FERC docket number: CP15-558-000
- Project website: Click here
Ridgeline Expansion Project

Enbridge is proud to be working with the Tennessee Valley Authority (TVA) on a project that would provide affordable and cleaner energy for the utility’s customers.

We are proposing to design, construct and operate the Ridgeline Expansion Project (Ridgeline), an expansion of Enbridge’s existing East Tennessee Natural Gas (ETNG) system.

The purpose of this proposed project is to provide natural gas to serve one of the power generation options that TVA is currently considering to replace the Kingston Fossil Plant. Replacing coal-fired generation at the Kingston Fossil Plant with natural gas would provide Tennesseans with a lower-carbon, cleaner-burning energy source as we transition toward the future.

The proposed scope includes the installation of approximately 117 miles of 30-inch pipeline looping, an approximately 8-mile 24-inch lateral and one electric-powered compressor station. The majority of the route for the proposed pipeline would be located within the existing system’s right-of-way where possible to minimize impacts to landowners and the environment.

Ridgeline is in the preliminary phase of project development. All necessary regulatory authorizations from the Federal Energy Regulatory Commission (FERC) and other federal and state agencies are required before construction of the project can commence. Pending a positive final investment decision and the approval and receipt of all necessary permits, construction would begin in 2025 with a target in-service date of fall 2026.

- **Type:** Natural gas pipeline
- **Status:** Under review
- **Expected to transport:** Natural gas
- **In-service target date:** Fall 2026
- **Ownership:** Enbridge Inc. (100%)
**Rio Bravo Pipeline Project**

The Rio Bravo Pipeline Project is designed to transport up to 4.5 billion cubic feet per day of natural gas from the Agua Dulce supply area to NextDecade’s Rio Grande LNG project in Brownsville, Texas.

Enbridge entered into a definitive agreement on Feb. 13, 2020 whereby Enbridge would acquire Rio Bravo Pipeline Company, LLC (RBPL) from NextDecade for a cash purchase price not to exceed $25 million, with $15 million paid at closing and the balance paid upon NextDecade’s reaching a positive final investment decision (FID) on its Rio Grande LNG export facility in the Port of Brownsville, Texas.

Enbridge and NextDecade in September 2019 had announced a Memorandum of Understanding (MOU) to jointly pursue the development of the Rio Bravo Pipeline (Rio Bravo) and other natural gas pipelines in South Texas to transport natural gas to NextDecade’s Rio Grande LNG project located in Brownsville, Texas.


Enbridge now owns 100% of RBPL and is responsible for the development, financing, construction, and operations of the Rio Bravo Pipeline. NextDecade will continue to be responsible for the development, financing, construction, and operations of its Rio Grande LNG export facility.

[Read the Feb. 13, 2020 news release.]

- **Type:** Natural gas pipeline
- **Status:** Proposed
- **Peak day capacity:** 4.5 Bcf/d (billion cubic feet per day)
- **Expected to transport:** Natural gas
- **Ownership:** Enbridge (100%)
Spruce Ridge Program

The Spruce Ridge Program involves adding two new sections of pipeline and additional compression to existing facilities on the natural gas transmission system in northeastern British Columbia.

The new sections of pipe—known as loops—will be constructed as separate segments that largely parallel the existing pipeline. The two new pipeline loops—Aitken Creek and Chetwynd—and accompanying compression upgrades will increase the transportation capacity of the system to accommodate customer demand in a safe and reliable way.

Collectively, these projects will increase transportation capacity by up to 402 million cubic feet per day (MMcf/d).

The Spruce Ridge Expansion Program received regulatory approval on December 10, 2018.

For the Aitken Creek Loop portion of the project, clearing began in January 2020 and was completed in March 2020. Pipeline construction is anticipated to begin in November 2020. For Compressor Station 2, facility construction was anticipated to begin in July 2020. For Compressor Stations N5 and 16, Enbridge is still evaluating when to begin construction on these facilities and will provide an update once the schedule is finalized. For the Chetwynd Loop portion, Enbridge was planning to begin clearing activities in October 2020, with construction commencing once that work is complete.

- **Type**: Natural gas pipeline
- **Status**: CER approved
- **Peak day capacity**: Up to 402 MMcf/d
- **Expected to transport**: Natural gas
- **Expected in-service date**: Q4 2021
- **Ownership**: Enbridge Inc. (100%)
- **Operator**: Enbridge Inc.
T-South Reliability and Expansion Program

Enbridge is undertaking upgrades and a number of reliability enhancements on the southern portion of its natural gas transmission system (T-South) which stretches from south of Chetwynd, British Columbia, to the southernmost point at the Canada/U.S. border at Huntingdon/Sumas.

This work, known as the T-South Reliability and Expansion Program, will involve: replacing old compressor station units with new, more reliable and efficient units; adding an additional compressor station unit; and undertaking smaller upgrades and operational maintenance at various facilities along the system.

These upgrades are being done as part of operating a safe natural gas pipeline system, and to accommodate an incremental 190 MMcf/d of firm capacity.

- Type: Natural gas infrastructure
- Status: Preliminary work (clearing) began in late 2019; main construction started in spring 2020; commissioning and startup are underway
- Peak day capacity: Up to 190 MMcf/d
- Expected in-service date: Late 2021
- Ownership: Enbridge Inc. (100%)
- Operator: Enbridge Inc.
Natural Gas Distribution

**London Lines Replacement Project**

Enbridge Gas is replacing a section of natural gas pipeline across Lambton and Middlesex Counties in Ontario in order to improve the integrity of the pipeline network and to increase system flexibility.

The London Lines Replacement Project (LLRP) includes the construction of approximately 82 kilometers (km) of a combination of 4 and 6 inches in diameter high pressure natural gas pipeline. This will replace the two current pipelines known collectively as the London Lines. The LLRP will also include the construction of 8.4 km of a secondary 6-inch pipeline which will reinforce the new pipeline from a source near the community of Strathroy.

This project has been approved by the Ontario Energy Board and construction is underway. Construction is expected to be complete by the end of 2021.

**Sarnia Industrial Pipeline Reinforcement Project**

Demand for natural gas from industries in the Sarnia area is increasing. As a result, Enbridge Gas is constructing a new natural gas pipeline between our existing Dow valve site and Bluewater interconnect transmission stations in the Township of St. Clair.

The pipeline will be 20 inches in diameter, and approximately 1.2 km in length.

The project has been approved by the Ontario Energy Board (OEB). Construction has begun, with an in-service date of fall 2021.

[Learn more at the Enbridge Gas website.](#)
Windsor Pipeline Replacement Project

In Windsor, Essex County and Chatham-Kent, Ontario, there is a need to ensure our natural gas pipelines and infrastructure continue to deliver natural gas reliably. With that in mind, Enbridge Gas Inc. is replacing the Windsor Line natural gas pipeline. Our project involves replacing approximately 64 km of the existing Windsor Line, which is a combination of 8 inch and 10-inch diameter pipelines, with a new 6-inch diameter pipeline that will be constructed in the vicinity of the existing pipeline.

The project has been approved by the Ontario Energy Board and construction has begun. The project is expected to be complete by the end of 2021.

Learn more at the Enbridge Gas website.
Offshore Projects

SPOT

Enbridge, through the Seaway Pipeline System, has ownership in two existing docks, that are fully capable of importing and exporting crude oil on the Gulf coast at Freeport and Texas City.

Freeport has a draft of 42 feet and can load at 20,000 barrels per hour and Texas City has a draft of 45 feet and can load at 35,000 barrels per hour. In addition, Enbridge has negotiated an option to purchase an equity interest in Enterprise’s Sea Port Oil Terminal (SPOT).

SPOT will provide direct loading capabilities into VLCCs, which will provide a more efficient export solution. With a design loading rate of 85,000 barrels per hour, SPOT will be able to load a VLCC in 24 hours. SPOT is expected to receive permits in 2021 with an estimated in-service date of 2023.
Whitetail Peaking Station

Enbridge’s proposed Whitetail Peaking Station would involve construction of a 186-megawatt (MW) natural gas-fired simple cycle power generation facility about 16 miles (25 kilometers) northeast of Peace River, AB. The proposed project would use four turbine generator packages with dry low-emission technology, four continuous emission monitoring systems, four step-up transformers, and a two-km natural gas pipeline connecting the facility to the NOVA Gas system.

- Type: Natural gas-fired power generation facility
- Status: Planned
- Expected in-service date: 2022
- Expected capacity: 186 megawatts
Power Transmission

East-West Tie (EWT) Transmission Project

The East-West Tie Transmission Project (the Project) in northwestern Ontario will consist of a new, approximately 280-mile (450-km), double-circuit, 230-kilovolt (kV) transmission line.

The Project generally parallels an existing double-circuit, 230-kV transmission line that connects the Wawa Transformer Station to the Lakehead Transformer Station near Thunder Bay, ON, including a connection midway in Marathon, ON. The project is being built by NextBridge Infrastructure (NextBridge), a partnership between affiliates of Enbridge, NextEra Energy Canada and OMERS Infrastructure.

Construction of the project began in September 2019 and is targeted to be complete by March 2022.

- Type: Power transmission line
- Status: Under construction
- Length: 280 miles (450 km)
- Capacity: 230 kV
- Expected in-service date: March 2022
Wind Energy

Calvados Offshore Wind Project

Enbridge and its partners, EDF Renewables and wpd, are developing the Calvados Offshore Wind Project off the Bessin, France coastline.

Enbridge and its partners, EDF Renewables and wpd, are developing the Calvados Offshore Wind Project off the coast of Bessin, France.

The 448-megawatt (MW) wind farm will feature 64 7-MW Siemens Gamesa Renewable Energy (SGRE) turbines to be manufactured in France. The turbines will come from the same Quai, Joannes Couvert plant where SGRE will make turbines for our Fécamp offshore wind project.

Turbines will be located 10 kilometres off the Bessin coast, and deployed in an area of about 45 square km.

Enbridge has a 21.7% ownership stake in the Saint-Nazaire Offshore Wind Project, which is expected to enter service in 2024.

Visit the project website for more information.

- **Type**: Wind energy project
- **Status**: Under construction
- **Location**: Courseulles sur Mer, about 10 km off Bessin’s coast
- **Expected in-service date**: 2024
- **Expected capacity**: 448 MW
- **Expected number of turbines**: 64
- **Expected equivalent homes served**: 300,000
Fécamp Offshore Wind

Enbridge and its partner EDF Renouvelables are developing the Fécamp Offshore Wind Project off France’s northwest coast, not far from Dieppe.

The 497-megawatt (MW) wind project will feature 71 Siemens Gamesa Renewable Energy 7 MW turbines to be manufactured in France. The project will generate electricity equivalent to the power needs of more than 416,000 homes.

Turbines will be located between 13 and 22 kilometres off Fécamp’s coast, at depths around 30 metres, and deployed in an area of about 60 square km.

Enbridge has a 35% ownership stake in the Fécamp Offshore Wind Project, which is expected to enter operation in 2023.

Visit the project website for more information.

- **Type**: Wind energy project
- **Status**: Under Construction
- **Location**: English Channel, about 13 to 22 km off France’s northwest coast, just south of Dieppe
- **Expected in-service date**: 2023
- **Expected capacity**: 497 MW
- **Expected number of turbines**: 71
- **Expected equivalent homes served**: 416,000
Saint-Nazaire Offshore Wind Project

Enbridge and its partner EDF Renouvelables are developing the Saint-Nazaire Offshore Wind Project in the Loire-Atlantique region in coastal France.

The 480-megawatt (MW) wind farm will feature 80 GE Haliade 160-6MW turbines to be manufactured in France. According to GE, each Haliade turbine powers 5,000 homes; the project is expected to generate the equivalent of 20% of the Loire-Atlantique’s electricity consumption.

Turbines will be located between 12 and 20 kilometres off the Loire-Atlantique coast, at depths ranging from 12 to 25 metres, and deployed an area of about 78 square km.

Enbridge has a 50% ownership stake in the Saint-Nazaire Offshore Wind Project, which is expected to enter service in 2022.

Visit the project website for more information.

- **Type**: Wind energy project
- **Status**: Under construction
- **Location**: Bay of Biscay, about 12 to 20 km off France’s Loire-Atlantique coast
- **Expected in-service date**: 2022
- **Expected capacity**: 480 MW
- **Expected number of turbines**: 80
- **Expected equivalent homes served**: 400,000