

CLEAN RESOURCES

CLEAN TECHNOLOGY

HYDROGEN

FUNDING DETAILS

Alliance Pipeline System Hydrogen Blending and Extraction Study

Alliance Pipeline’s 3,848-kilometre system delivers about 1.6 Bcf/day of liquids rich natural gas from the Western Canadian Sedimentary Basin (approximately 1.0 Bcf/day from Alberta) and the Williston Basin to the Chicago area. This project will study the feasibility of blending hydrogen with natural gas, delivering the blend to Chicago, and recovering the hydrogen for sale. Phase I of the Study will involve a qualitative evaluation of hydrogen extraction technologies. Phase II of the Study will involve an engineering assessment determining whether the pipelines and compressor stations can operate safely and (if so) at what levels of hydrogen-natural gas blends.



RECIPIENT:

Alliance Pipeline Limited Partnership



PARTNERS:

Enbridge and Pembina Pipeline



TOTAL BUDGET:

\$2 million



AI HCOE FUNDING:

\$1 million



PROJECT DATES:

MAR 2023 – JUN 2024



PROJECT TRL:

Start: 6
End: 7



APPLICATION

The Study will examine the opportunity for Alberta to export hydrogen as a blended component in a natural gas pipeline to Chicago. The hydrogen would be separated from the natural gas and sold in the Chicago region.



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PROJECT GOALS

- Phase I of the Study will involve a qualitative evaluation of hydrogen extraction technologies. Alliance Pipeline will also define the scope of necessary facilities, develop a preliminary equipment list, estimate high-level capital and operating costs, and undertake a qualitative evaluation of potential impacts downstream of the Aux Sable straddle plant, located near Channahon, Illinois.
- Phase II of the Study will involve an engineering assessment determining whether the System’s pipelines and compressor stations can operate safely and (if so) at what levels of hydrogen-natural gas blends, including capital and operating estimates for system modifications, as well as a material testing program to support a materials integrity assessment.

BENEFITS TO ALBERTA

- Establishing the feasibility of transporting hydrogen (at a 5% blend, up to a 20% blend) via the System could play a critical role in unlocking Alberta’s hydrogen export potential.
- If blending and extraction proves feasible and affordable, the System could help meet growing demand for Alberta-produced clean hydrogen in the U.S. Midwest, creating jobs and economic opportunities in Alberta while lowering North American greenhouse gas emissions.



8 Project Jobs



100 Future Jobs



1 New Product/Service



Up to 3.5 Mt/yr Future GHGs

CURRENT STATUS

MAR 2023

The project team is reviewing the available technologies for hydrogen extraction.