

\$40 billion in low-carbon projects at stake in Alberta-federal MOU

Technical backgrounder

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In their November 2025 Memorandum of Understanding (MOU), the Government of Alberta and Government of Canada pledged to negotiate agreements on the future of energy and climate policies and projects.

Much of the discussions around the policies in the MOU have centered on the emissions impacts. These are real and important. But while its outcome will have important implications for the climate, it also has the potential to enable investment in low-carbon projects. These are outlined in our infographic, *\$40 billion in low-carbon projects at stake in Alberta-Federal MOU*.

The low-carbon projects mentioned here are aligned with global trends, where two out of every three dollars globally are going to clean energy, not fossil fuels.

Successfully kick-starting low-carbon investment in Alberta depends on ensuring that key provincial and federal policies are both aligned and durable. This backgrounder describes how we assessed the potential low-carbon projects and how they are affected by the policies in the MOU. Getting these policies right is crucial to ensure these projects are able to proceed, though is not necessarily the only obstacle to their advancement.

How projects are affected

Project type	Notes
Renewables and local transmission \$11.7 billion	The lowest cost path to growing Alberta's grid while getting to net-zero involves building 4.8 GW of wind and solar by 2035. This buildout would unlock \$9.2 billion in investment, which would lower electricity bills, bring much-needed tax revenue to rural municipalities, and reduce emissions. Replacing the federal Clean Electricity Regulations with a strengthened TIER system is not enough to enable this build. It is also essential to restore investor confidence in Alberta's renewables market by mitigating the impacts of the ongoing policy, regulatory and market changes the government is imposing on its electricity sector concurrently. Our report "Path of Most Resistance" has detailed the numerous and significant barriers in place. ¹ A first step to addressing the barriers to renewables would be for the province to proceed with \$2.5 billion in transmission projects in Southern Alberta which would enable new development of renewables and other electricity generation, and reduce curtailment of existing renewables.
Interties and energy storage	Collaboration between Alberta, B.C., and the federal government could enable a \$3 billion investment in interprovincial electricity transmission, supported by \$1.6

¹ Will Noel, *Path of Most Resistance: Can Alberta build a credible alternate plan to reduce electricity emissions?* (Pembina Institute, 2026). <https://www.pembina.org/pub/path-most-resistance>

\$4.6 billion	billion in energy storage projects. This would improve reliability and increase trade, while preparing our grid to power new industries.
Industrial carbon capture and storage projects \$23.8 billion	Companies have proposed \$23.9 billion in industrial projects with carbon capture and storage to reduce emissions from the oilsands and expand Alberta's production of in-demand low-carbon products, such as cement and hydrogen. A strong, stable TIER carbon pricing system and finalized Alberta Carbon Capture Incentive Program (ACCIP) are needed to enable these projects.
Methane More jobs and small businesses	Existing rules have helped support 136 companies across Canada that provide equipment and services to reduce methane emissions from the oil and gas sector. Unlocking continued growth in this sector will require resolving policy uncertainty and ensuring Alberta implements strong, credible regulations that are based on accurate data and achieve the same outcomes as the federal regulations.

Assessment of low-carbon projects

Project	Investment	Status
Wind and solar	\$9.2 billion	On hold
Transmission in Southern Alberta	\$2.5 billion	Exploring concept. At risk of cancellation due to ongoing changes in Transmission Regulations.
Alberta-B.C. transmission intertie	\$3 billion	Exploring concept
Energy storage	\$1.6 billion	Exploring concept, details of procurement forthcoming
Pathways oilsands CCS	\$16.5 billion	Early design; no final investment decision made by companies
Heidelberg cement CCUS	\$1.4 billion	Working towards final investment decision
Air Products hydrogen facility with CCS	\$3.3 billion	Under construction, but ongoing economic viability likely to be impacted by MOU outcomes on future of industrial pricing
Strathcona oilsands CCS	\$1 billion	Working towards final investment decision
Varme Waste to energy with CCS	\$200 million	Working towards final investment decision
Methanex CCS	\$100 million	Early design
Methane	Continued investment in methane abatement companies, associated technology development and jobs	Negotiating equivalency agreement

Methodology

Wind and solar

Potential investment in wind and solar (\$9.2 billion) were estimated using the installed capacity forecasts from the increased trade scenario in a 2023 study by the Pembina Institute and University of Alberta, which examines the lowest cost pathways to achieve a net-zero grid in Alberta, combined with capital cost forecasts from Clean Energy Canada and Dunsky.² The modelling shows that the lowest cost pathway to a net-zero grid in Alberta requires an additional 4.8 GW worth of renewables by 2035. The increased trade scenario was used because it assumes a doubling of transmission capacity between Alberta and B.C., which is aligned with discussion of a new transmission line between these provinces in the MOU.

The cost of reinforcing existing transmission in the Southern region of Alberta (\$2.5 billion) — a growing hotspot for transmission congestion and related curtailment of wind and solar generation — is outlined in the AESO 2025 Long-term Transmission Plan.³ Due to ongoing changes in Alberta’s Transmission Regulations, these transmission reinforcements may not proceed as they would have under the previous zero-congestion planning mandate. Alberta should move forward with these transmission investments, as part of its efforts to ensure the fair treatment of renewables projects in the province and improve investor confidence. Alberta taking steps such as this that help ensure wind and solar can start to be built at scale again should be a key element of the MOU negotiations around how Alberta will still meet the emissions goals of the Clean Electricity Regulations (even if those regulations remain suspended in the province).

Transmission interties

The cost of a new intertie between Alberta and British Columbia was taken from our previous estimates, and the need for additional fast frequency response (FFR) in the form of battery storage to enable this new intertie is based on findings from the 2023 AESO Reliability Requirements Roadmap.⁴

² Installed capacity in megawatts; capital cost forecasts in dollars per kilowatt. Will Noel and Binu Jeyakumar, *Zeroing In: Pathways to an affordable net-zero grid in Alberta* (Pembina Institute, 2023).

<https://www.pembina.org/pub/zeroing-in>

Clean Energy Canada, *A Renewables Powerhouse* (2023). <https://cleanenergycanada.org/report/a-renewables-powerhouse/>

³ AESO, *Long-term Transmission Plan* (2025), 71. <https://www.aeso.ca/assets/2025-AESO-Long-Term-Transmission-Plan.pdf>

⁴ *Zeroing In*, 66.

AESO, *Reliability Requirements Roadmap* (2023), 29. <https://www.aeso.ca/assets/Uploads/future-of-electricity/AESO-2023-Reliability-Requirements-Roadmap.pdf>

The cost of procuring FFR for the new intertie was calculated using the Clean Energy Canada/Dunsky forecasts, assuming it will all be met by battery energy storage.⁵

Where necessary, investment numbers were converted to the same baseline year using the Bank of Canada's inflation calculator.⁶

CCS projects

Carbon capture and storage projects are, by nature, very capital intensive, regardless of the sector they're being applied to. Therefore they are always contingent on government policies and frameworks that underpin their economics. Overall in Canada as of now, the main underpinning policies are:

1. Industrial carbon pricing and carbon markets that allow operators of carbon capture facilities to generate and sell credits
2. The federal investment tax credit (ITC) for CCUS, which offers a 50% tax credit on the upfront capital cost of building an eligible project
3. The Alberta Carbon Capture Incentive Program, which offers a further 12% grant on the upfront capital cost, and is contingent on the federal ITC (although notably this program has not yet been finalized).

Earlier in 2026, the Government of Canada extended the federal ITC to include projects that commence construction before 2035 (instead of 2030). The MOU made reference to the ACCIP also being extended as part of these negotiations.

Projects detailed below were examined for their financial exposure under impacted policies (mainly, TIER and ACCIP), and cost estimates were retrieved from the Alberta Major Projects Office website and related project websites.

Pathways CCS project: The large scale oilsands CCS project, which involves 14 proposed separate capture facilities and a proposed carbon pipeline, was first launched almost five years ago in June 2021. Progress on the project has been slow. The federal government contributed funding to a front end-engineering design project in 2023.⁷ There have been few updates since then from the project proponents. The MOU commits to a trilateral negotiation and agreement among Alberta, the federal government, and the project proponents (the companies that comprise the Oilsands Alliance, formerly known as the Pathways Alliance) to advance the

⁵ *A Renewables Powerhouse.*

⁶ Bank of Canada, "Inflation Calculator." <https://www.bankofcanada.ca/rates/related/inflation-calculator/>

⁷ Natural Resources Canada, "Oil Sands CCUS: Pathways Alliance." <https://natural-resources.canada.ca/funding-partnerships/oil-sands-ccus-pathways-alliance>

project in a phased manner. This project is likely to be impacted by both the availability of the ACCIP, and the strength of TIER.

Heidelberg CCUS project: Heidelberg announced it was conducting a feasibility study on using CCUS at its cement plant in 2019 and has since completed early design work and installed a pilot plant.⁸ The project received funding from the federal government in 2025 and is working towards a final investment decision.⁹ There have been no public updates on the project since then.

Air Products hydrogen facility with CCS: This blue hydrogen project was announced in 2021 and received funding from Alberta and the federal government in 2022.¹⁰ It is currently under construction. The facility was initially expected to come online in 2024, but that has now been delayed to 2027 or 2028, according to an investor call in 2025.¹¹ In that same investor call, the project was labelled as financially underperforming. The financial performance of this project will likely be impacted by the strength of TIER, because it will receive revenues by generating and selling carbon credits.

Strathcona oilsands CCS: In July 2024, the Canada Growth Fund announced an initial investment of \$0.5 billion towards the capital costs of the Strathcona oilsands CCS project, representing 50% of the capital costs.¹² Under the arrangement, this investment could grow to \$1 billion. The 2024 announcement indicated that the target date for a final investment decision was mid-2025. There have been no major public updates since. The economic viability of the project is likely impacted by the strength of TIER because it will receive revenues by generating and selling carbon credits.

⁸ Heidelberg Materials, “Heidelberg Materials North America and MHI Are Working Toward First Full-Scale Carbon Capture, Utilization and Storage Solution for Cement Industry,” news release, August 14, 2023. <https://www.heidelbergmaterials.us/home/edmonton/news-edmonton>

⁹ Government of Canada, “Canada partners with Heidelberg Materials to drive cement industry decarbonization,” news release, March 7, 2025. <https://www.canada.ca/en/innovation-science-economic-development/news/2025/03/canada-partners-with-heidelberg-materials-to-drive-cement-industry-decarbonization.html>

¹⁰ Air Products, “Air Products Announces Multi-Billion Dollar Net-Zero Hydrogen Energy Complex in Edmonton, Alberta, Canada,” news release, June 9, 2021. <https://www.airproducts.com/company/news-center/2021/06/0609-air-products-net-zero-hydrogen-energy-complex-in-edmonton-alberta-canada>

Air Products, “Air Products to Receive Approximately \$475 Million (CAD) in Funding for Alberta, Canada Net-Zero Hydrogen Energy Complex from Government Energy Transition Programs,” news release, November 8, 2022. <https://www.airproducts.ca/company/news-center/2022/11/1108-air-products-receive-475-million-cad-net-zero-hydrogen-complex-funding>

¹¹ Shawn McCarthy, “Canada’s risky gamble on carbon capture and storage,” *Corporate Knights*, December 17, 2025. <https://corporateknights.com/clean-technology/canadas-risky-gamble-on-carbon-capture-and-storage/>

¹² Strathcona Resources Ltd., “Strathcona Resources Announces up to \$2 Billion Carbon Capture Partnership with Canada Growth Fund,” news release, July 10, 2024. <https://www.strathconaresources.com/strathcona-resources-announces-up-to-2-billion-carbon-capture-partnership-with-canada-growth-fund/>

Varme waste to energy: This waste to energy project is designed to produce electricity from landfill waste and includes CCS. The proponent signed a partnership in 2024 with Gibson Energy and the Canada Growth Fund (CGF) which involves the CGF providing certainty on future carbon credit prices through an offtake agreement.¹³ The project has completed early design work and is expecting a final investment decision in 2026.¹⁴ The economic viability of the CCS project is likely impacted by the availability of ACCIP.

Methanex: This CCS project on a methanol facility was announced in 2024; there have been no public updates since then.¹⁵

The Pembina Institute acknowledges that the work we steward and those we serve span across many Nations. We respectfully acknowledge the space our organization is headquartered in as the traditional and ancestral territories of the Blackfoot Confederacy, comprised of the bands Siksika, Piikani, and Kainai, the Îyârhe Nakoda Nations, including the bands of Goodstoney, Chiniki, and Bearspaw, and the Tsuut'ina Dené. These Lands are also home to the Métis Nation of Alberta — Region 3 whose Peoples have deep relationships with the Land.

These acknowledgements are some of the beginning steps on a journey of several generations. We share them in the spirit of truth, justice, reconciliation, and to contribute to a more equitable and inclusive future for all of society.

¹³ Varme Energy, “Varme Energy announce strategic partnership with Canada Growth Fund and Gibson Energy,” news release, June 11, 2024. <https://www.varme.ca/news/varme-energy-announce-strategic-partnership-with-canada-growth-fund-and-gibson-energy>

¹⁴ Varme Energy, “Industrial Heartland.” <https://www.varme.ca/projects/industrial-heartland>

¹⁵ Methanex, “Methanex and Entropy Partner to Reduce Emissions in Methanol Production,” news release, July 17, 2024. <https://www.methanex.com/news/release/methanex-and-entropy-partner-to-reduce-emissions-in-methanol-production/>