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**Subject: Input on Request for a Regional Assessment of a Western Energy Corridor**

Thank you for meeting with Natural Resources Canada (NRCan) on September 8, 2022. In this letter we are responding to the questions from the presentation the Impact Assessment Agency of Canada provided at that meeting to support your analysis of the request for a Regional Assessment of a Western Energy Corridor.

NRCan is committed to improving the quality of life of Canadians by ensuring the country's abundant natural resources are developed sustainably, competitively, and inclusively. Through its broad mandate, relevant expertise at NRCan includes supporting information and knowledge related to natural gas markets and infrastructure, oil and gas technology and policy relating to the oil and gas, electricity and hydrogen sectors.

Attached is an annex with NRCan's response to questions from the "Regional Assessment Request: Western Energy Corridor, Federal Authority Briefing" deck. In general, this annex provides additional information that could inform your recommendation to the Minister of Environment and Climate Change on whether to conduct a Regional Assessment of the Western Energy Corridor.

If you have any questions, please do not hesitate to contact me at <email address removed>

Sincerely,

<Original signed by>

Peter Unger  
A/Director, Impact Assessment Division  
Office of the Chief Scientist

Enclosure:

Annex 1 – NRCan's Input on Request for a Regional Assessment of the Western Energy Corridor



## Annex 1 – NRCan’s Input on Request for a Regional Assessment of the Western Energy Corridor

Questions taken from and numbered according to Slide 12 – Focus of Advice / Involvement from the “Regional Assessment Request: Western Energy Corridor, Federal Authority Briefing” deck.

### 1. Whether and how the RA would inform future federal impact assessment decisions – including if large-scale development, including potential designated projects under the IAA, are expected in the next 5-10 years in the region.

Table 1. Large scale developments expected in the next 5-10 years near the corridor

Project Name	Company/Proponent	Province	Location	Status 2022
SinoCan Global Upgrader and Petrochemical Facility	SinoCan Global	AB	Lamont County	Announced and Planning
ITOCHU/Petronas/Interpipe (Brookfield Infrastructure) Blue Ammonia Production Facility	ITOCHU Corporation, Petronas Canada	AB	Fort Saskatchewan   Strathcona County	Announced and Planning
Heartland Upgrader	Value Creation Inc.	AB	Strathcona County	In Review
NGL Storage Cavern Development Program	Keyera Corp.	AB	Edmonton / Fort Saskatchewan	Under Construction
Dow Net-Zero Polyethylene and Ethylene Derivatives Facility	Dow Chemical Canada	AB	Fort Saskatchewan	Announced and Planning
Grizzly Bear Creek Wind Project	Enel Green Power	AB	Counties of Minburn and Vermilion River	Commissioning expected by the end of 2022
Tempest Wind Power Project	TransAlta Renewables	AB	Flagstaff County	Commissioning expected by December 2024
Sol Aurora Solar Project	Alpin Sun	AB	Sturgeon County	Construction planned to begin in early 2023 with commissioning expected by mid-2024
Yellowhead Power Station Expansion	SaskPower	SK	North Battleford	Expected to be in-service in December 2025
Portel	Cariboo	AB/SK	Calgary and SK	Expected to be in-service in December 2025 – potential to move hydrogen and clean fuels in to Churchill MB



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NRCan is aware of several projects that are expected in the next 5-10 years overlapping with or surrounding the Western Energy Corridor, as shown in Table 1. There are also a few Indigenous-led projects that may develop in the next 5-10 years:

- Indigenous led wind project in Lloydminster, AB
- James Smith Cree National Hydro-electric facility in Saskatchewan
- Prince Alberta Grand Council has a few projects in the assessment stage, but nothing concrete

In addition, several mining projects may be expected within 5-10 years in Alberta, Manitoba, and Saskatchewan:

- Vista Coal Project (Vista Test Underground Mine and Vista Mine Phase II Expansion Projects) by Coalspur Mines (Operations) Ltd.; Primary Commodity: Thermal Coal
- Snow Lake Project by Rockcliff Metals Corp.; Primary Commodity: Gold
- Jansen Project by BHP; Primary Commodity: Potash\*
- Lynn Lake Gold Project by Alamos Gold Inc.; Primary Commodity: Gold
- Wynyard Potash Project by Karnalyte Resources Inc; Primary Commodity: Magnesium\*, Potash\*
- Esterhazy K3 project by Mosaic Potash; Primary Commodity: Potash\*
- Star-Orion Diamond Project by Star Diamond Corp./ Rio Tinto Exploration Canada; Primary Commodity: Diamond
- Clear Hills Project by PRISM Diversified Ltd.; Primary Commodity: Iron ore
- Patterson Lake South Mine Project by Fission Uranium Corp.; Primary Commodity: Uranium\*
- Vanguard Projects by Gensource Potash Corp.; Primary Commodity: Potash\*
- Aries Project by Ram River Coal Corp.; Primary Commodity: Metallurgical Coal
- Titanium and Zircon Extraction Facility by CVW CleanTech; Primary Commodity: Titanium\*, zircon
- Rook I Project by NexGen Energy Ltd.; Primary Commodity: Uranium\*
- Wheeler River by Denison Mines Corp.; Primary Commodity: Uranium\*
- Wanipigow by Canadian Premium Sand; Primary Commodity: Silica
- McIlvenna Bay Project by Foran Mining Corp.; Primary Commodity: Copper\*, Zinc\*, Gold, Silver, Lead
- Tent Mountain Mine Redevelopment Project by Montem Resources Alberta Operations Ltd.; Primary Commodity: Metallurgical Coal

\*Indicates the primary commodity is a critical mineral

For additional exploration into project-related data, NRCan maintains the Major Projects Inventory. The inventory details major natural resource projects and expansions that are currently under construction or for which construction is planned for the next 10 years. These



data are broken down by industry, and so forecasted development can be analyzed for given industries that are present in the region. The most recent report describing major projects planned and under construction from 2022 to 2032 can be found here:

<https://www.nrcan.gc.ca/science-and-data/data-and-analysis/major-projects-inventory/22218>

The major projects can be viewed on Open Maps here:

<https://search.open.canada.ca/openmap/f5f2db55-31e4-42fb-8c73-23e1c44de9b2>

## **7. Whether an existing or planned initiative would adequately address the issues raised in the request.**

NRCan released Canada's Hydrogen Strategy in December 2020, which outlines a framework for actions that will cement hydrogen as a tool to achieve Canada's net-zero emissions goals. It is possible for the private sector to announce future hydrogen production, storage, or transportation projects located within the area of the proposed corridor, which could be supported by existing and potential hydrogen-related federal and provincial programs (such as the Clean Fuels Fund and proposed Clean Tech tax credit, and the Capture Utilization and Storage investment tax credit. Additional information is available here:

<https://www.nrcan.gc.ca/climate-change-adapting-impacts-and-reducing-emissions/canadas-green-future/the-hydrogen-strategy/23080>

Through implementation of the Hydrogen Strategy, the department is aware of several projects planned along the AB/SK border for clean hydrogen and clean fuel production, for export to the EU via Churchill, Manitoba.

The Western Energy Corridor's submission suggests that it could support the transportation of clean energy to northern, remote communities. This is also an objective of NRCan's Clean Energy for Rural and Remote Communities program, available here:

<https://www.nrcan.gc.ca/reducingdiesel>

On August 21-23, 2022, Germany's Chancellor, Olaf Scholz, and Vice-Chancellor, Robert Habeck, visited Canada to discuss, including with Prime Minister Justin Trudeau, liquefied natural gas (LNG) and hydrogen trade opportunities between Canada and Germany. During these conversations, Germany expressed two requests. First, to facilitate LNG to Europe within 3-5 years to diversify energy supply away from Russia. Second, to transition fuels exports over time from LNG to hydrogen to support net-zero goals. Establishing a viable business case and navigating perceived high regulatory risks are the two main challenges in way of fulfilling these requests, which will determine whether the project's economics could support final investment decisions by proponents. NRCan is actively working with stakeholders and regulators on these issues. It is possible that a Western Energy Corridor could potentially impact the business case and reduce the regulatory risks of these potential, future projects.



Within the Public Safety Geoscience Program, NRCan has a landslide monitoring initiative on the rail corridor in the Assiniboine Valley on the Saskatchewan/Manitoba border, which could help inform this regional assessment.

The Targeted Geoscience Initiative has a study within the Western Energy Corridor region (straddles the northern margin right at the western Manitoba border, north of Le Pas). “Methods for accurate 3D geological modelling and inference: Uncovering the potential for strategic minerals in the Flin Flon Belt” is an NRCan-Geological Survey of Canada activity in partnership with the Saskatchewan and Manitoba Geological Surveys and Hudbay Minerals. The principal focus of this project is to advance methods for deep exploration by developing integrated 3D modelling approaches that employ multi-parameter geophysical surveys and subsurface geological data. This activity ultimately aims to build the first 3D model of a greenstone belt in Canada that could be used to predict prospective areas within the greenstone belt. The approximate study locations are shown in Figure 1. The associated open file publication can be found here, <https://doi.org/10.4095/330304>.

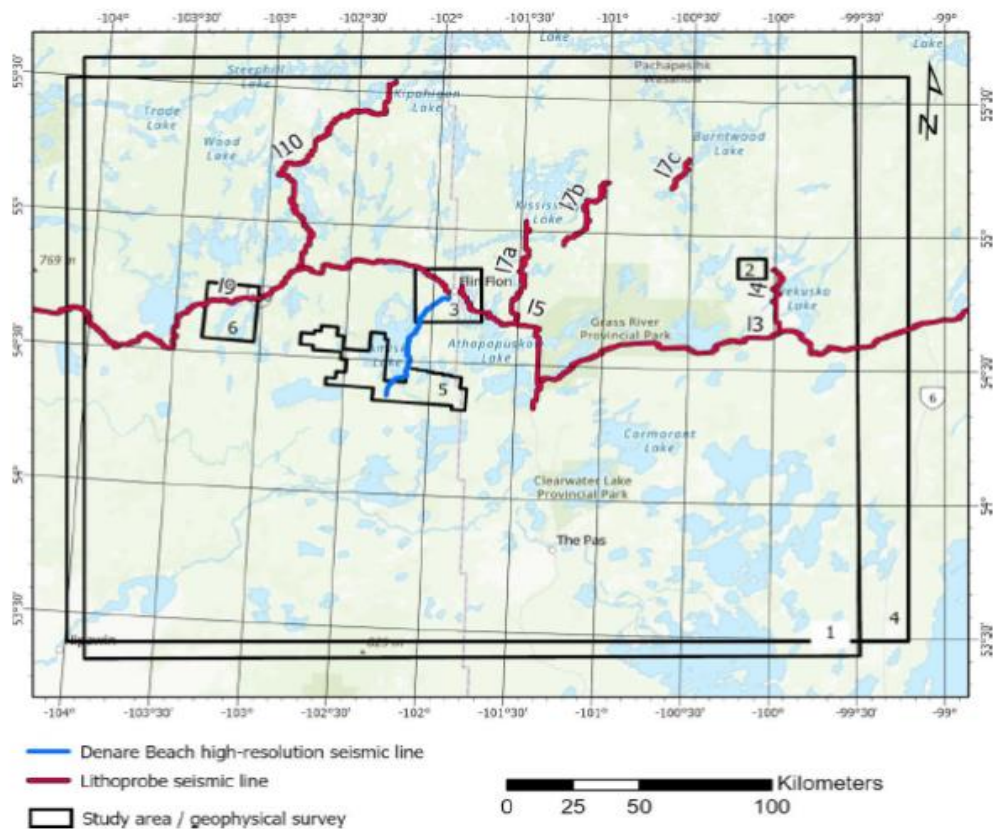


Figure 1. Outlines of study areas and geophysical surveys reported on in the study of potential for strategic minerals in the Flin Flon Belt: 1 = regional potential field inversion, 2 = Lalor MT inversion, 3 = harmonized drillhole-bedrock compilation, 4 = preliminary crustal model, 5 = airborne gravity survey, 6 = airborne EM survey. The regional MT inversion was conducted along LITHOPROBE lines 3, 5 and 9.