carbon removal canada

January 7, 2025

Ministry of Natural Resources and Forestry
Development and Hazard Policy Branch
300 Water Street
Peterborough, Ontario K9J 8M5

RE: Enabling the Development of Commercial-Scale Geologic Carbon Storage in Ontario

Carbon Removal Canada would like to thank the Government of Ontario for the opportunity to comment on the issue of geologic carbon storage projects in the province. While there are a variety of permanent carbon removal approaches, technologies such as direct air capture will be materially impacted by forthcoming carbon storage frameworks. The government must be careful in ensuring that these discussions are broad enough to incorporate carbon removal in addition to carbon capture, utilization, and storage.

We would first like to commend the government for pursuing the development of the *Geologic Carbon Storage Act*. Both carbon capture, utilization, and storage (CCUS), and permanent carbon removal technologies, will benefit greatly from a strong framework that provides business certainty in approvals and lifetime obligations for these multi-million dollar investments. Both CCUS and permanent carbon removal are key pathways to achieving net-zero in Ontario. In addition, the government's stated goal of harmonizing its carbon storage framework with other provincial frameworks is essential. This will help develop consistent expectations for project developers and ensure a whole-of-Canada approach.

Who is Carbon Removal Canada?
Carbon Removal Canada is an independent non-profit focused on the rapid and responsible scale-up of carbon removal solutions needed to meet Canada's climate goals. We are not an industry association, rather we are a technologically-agnostic group focused on finding carbon removal solutions that work across Canada.

What is Permanent Carbon Removal
Carbon removal is an essential tool in the clean transition and must be used in addition to – and not in place of – reducing emissions. Imagine that our atmosphere is a bathtub and CO2 is water flowing into it. While ongoing emission reduction efforts are trying to reduce the water flowing into the tub, something must be done to address the water already spilling out. Carbon removal can act as a drain for the bathtub, removing CO2 from the atmosphere and turning back the clock on some of the damages from climate change. It is critical that permanent carbon removal technologies are developed in jurisdictions like Ontario, as it will be needed to offset the residual emissions of emissions-intensive industries like steel, agriculture, mining, and energy.

A First Mover Advantage for Ontario in Permanent Carbon Removal
Given Ontario's interest in developing legislation for carbon capture and storage, in addition to its existing clean energy and industrial supply chain advantages, permanent carbon removal technologies present a first-mover advantage. Further clarification and business certainty around carbon storage projects will help attract permanent carbon removal companies to locate their companies and projects in Ontario. Given the nascent state of the industry, attracting these initial projects will also likely attract subsequent investment.

Our analysis demonstrates that an at-scale carbon removal sector, in 2050, capable of removing 300 megatonnes of CO_2, could create 89K jobs, add $143B to GDP, and provide $27B in demand for other manufacturers like construction and steel. If Ontario takes a leadership role, it will bring the environmental and economic benefits of the sector to the province.

Primary Recommendations
Carbon Removal Canada urges the Government of Ontario to integrate the policy items into the forthcoming *Geologic Carbon Storage Act:*

- **Define the minimum storage duration at 100 years:**
  Currently, the Government of Ontario has not defined the minimum storage duration requirement in the regulation or legislation. In Alberta, the minimum is 100 years, and Carbon Removal Canada recommends Ontario pursue a similar approach. This will ensure flexibility for corporate actors, while upholding a high-level of integrity and responsibility. Regardless of the duration ultimately chosen, corporations seeking to store carbon in Ontario should have the certainty that a minimum storage duration presents.

- **Codify safety concerns and standards within the legislation:**
  Carbon Removal Canada recommends that the Government of Ontario bring back safety considerations that were included in previous carbon storage frameworks, including: (1) an 800m minimum depth requirement, (2) provisions for leakage management, and (3) the addition of a buffer zone around drinking water sources.

- **Ensure the long-term financial sustainability of the Carbon Storage Stewardship Fund:**
  As has been observed in other sectors, such as oil and gas in Alberta, there are a number of orphaned wells that have yet to be addressed, regardless of a centralized fund. This Orphan Well Fund has also not historically scaled alongside the size of the liability that these orphan wells present. Ontario should not leave taxpayers on the hook for future liabilities, and must ensure that the Carbon Storage Stewardship Fund is appropriately sized and can meet its obligations for the foreseeable future. This will likely mean that the larger the storage, the more that funds are contributed.

General Questions
Carbon Removal Canada encourages the Government of Ontario to consider the following questions as it develops the *Geologic Carbon Storage Act*:

1. How will 'research' be defined across various stages of a project, such as a testing, pilot, or demonstration phase? All of these stages have various risk profiles and may need to be considered separately. Within the legislation, there is a minimum amount of carbon dioxide stored to meet the requirements of a general license, but this amount is not specified. These questions may need to be considered in tandem.

2. How will the Minister define a 'minimum' amount of carbon dioxide and a 'minimum' number of industrial emitters that are able to access pore space?

Sincerely,

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