
**Carbon capture and storage: overview, reservoir options,
and future possibilities**

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Climate change is of significant concern in the world today. Anthropogenic sources are adding to the amounts of Green House Gases (GHGs) in our atmosphere, which in turn, are leading to an increased warming of the planet. A notable option for mitigating the effects that humans are having on the planet is Carbon Capture and Storage. In order to select reservoirs for potential storage, multiple criteria must be considered. These reservoirs provide different kinds of storage and each poses various obstacles. Potential areas for Carbon Capture and Storage in Nova Scotia include the Joggins Fossil Cliffs, Sydney Basin Carboniferous strata, and the North Mountain Basalt. The reservoir with the highest long-term storage potential is basalt formations, due to the fact that their minerals have the ability to react with the injected CO₂ and convert it into a solid carbonate material. Importance also lies in the pore sizes, which affect porosity and permeability of a material, which in turn can determine the storage capabilities of reservoirs (Sydney Carboniferous strata and its reservoir potential due to its lithology type). Overall, Nova Scotia has multiple opportunities for Carbon Capture and Storage that should be further investigated in future studies.