

New Carbon Capture Will Use Pulp and Paper Emissions to Grow Vegetables

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Image credit: Serres Toundra

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Last week, a Canadian carbon capture technology firm announced a new project that will trap carbon dioxide emissions from a pulp and paper plant and transfer them to a nearby greenhouse. [CO2 Solutions](#), based in Quebec, says the CAD\$7.4 million (US\$5.8 million) project will prevent up to 30 tons of carbon emissions from being released into the atmosphere a day. Instead, that carbon dioxide produced at the [Resolute Forest Projects](#) mill will be consumed by plants at a greenhouse managed by [Serres Toundra](#).

According to all parties participating in this project, the capture of up to 11,000 tons of CO₂ is about more than taking action against climate change. In fact, the recipient of these carbon gases can make the case that this is an economic multiplier. The greenhouses at Serres Toundra, which bills itself as Quebec's largest grower of cucumbers, says it gained over US\$77.8 million in private investment since it launched three years ago. The CO₂ emissions from the nearby paper mill will allow this 114-acre greenhouse project to employ up to 400 local residents and reduce Quebec's dependence on imported fresh food by the time it is fully operational in 2019. Serres Toundra is a partnership between Resolute, the city of Saint-Félicien (a town of 10,000 people 300 miles north of Montreal) and an undisclosed group of private investors.

The project will start with a six-month testing and demonstration period, after which Serres Toundra has agreed to purchase the CO₂ emissions from the Resolute mill for 10 years.

CO2 Solutions expects to reap at least CAD\$400,000 (US\$312,000) annually during the course of this project. The company, which uses an [enzyme-based technology](#) to capture carbon emissions from industrial projects, also has test carbon capture and storage (CCS) projects in the Alberta oil sands region and at pilot-scale power plants and gas liquefying facilities in North America. According to CO2 Solutions, its enzyme technology has the potential for providing CO2 capture at less than US\$40 per metric ton, making it far more cost effective than other technologies used in what is still a struggling technology and market.

Energy companies have long touted [carbon capture and storage \(CCS\) projects](#) as a way to mitigate the impact that conventional electricity and carbon-heavy industries have on the environment, but despite the hype, few projects have been constructed worldwide. Most of the [current projects](#) underway, such as a massive one in [Abu Dhabi](#), are actually built to enhance oil recovery. Environmental groups, including [Greenpeace](#), insist that the costs, technological projects and the point of using this process to secure even more fossil fuels are among the reasons why CCS is not a viable option.

Nevertheless, carbon capture and **reuse**, as in this Quebec project, offers a viable alternative to pumping greenhouse gasses in the atmosphere. And the reuse of CO2 gases by greenhouses is hardly a novel concept. In the [Netherlands](#), hundreds of thousands of tons of carbon dioxide flow from a Shell refinery in Rotterdam to greenhouses across the country.
