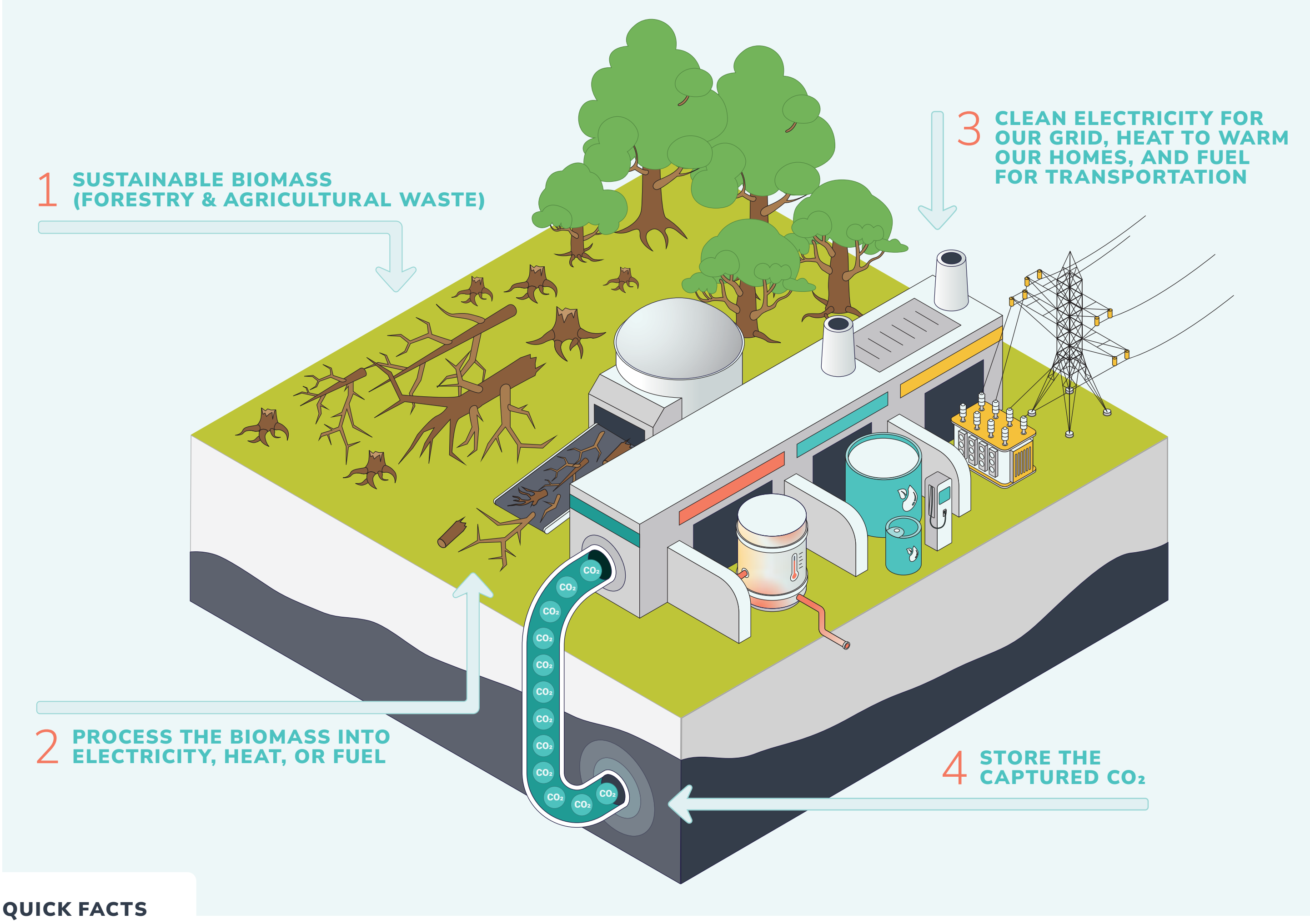
Carbon removal is Bioenergy with Carbon Capture and Storage

carbon removal canada

Powering Canadian cities with plants



QUICK FACTS

- Future Estimated Cost: \$15 - \$400 per tonne of CO_2
- Potential 2050 Global Capacity: 500M - 11B tonnes of CO_2 per year

What is carbon removal?

Carbon removal is the process of cleaning up carbon dioxide (CO_2) *already in the atmosphere* and storing it away for centuries or longer. Even if we cut emissions significantly, Canada cannot reach net-zero without also scaling carbon removal solutions to counterbalance any residual emissions. Beyond net-zero, carbon removal can help tackle historical emissions and turn back the clock on the worst impacts of climate change.

Carbon removal's potential in Canada

Carbon removal isn't just climate action, it's also an economic opportunity. Our research shows it will create jobs, position Canadian industries to compete globally, and make net-zero dramatically more affordable.

\$80B economic boost to Canadian GDP

\$13B in annual investment catalyzed across Canadian industries

40% - 70% cost savings on Canada's path to net-zero

How does Bioenergy with Carbon Capture and Storage work?

Think of: Capturing the smoke from a campfire.

Plant materials like dead trees, crop leftovers, and agricultural waste naturally absorb CO_2 as they grow. Bioenergy with carbon capture and storage (BECCS) means that instead of letting this organic matter rot and release that carbon back into the air, we can burn it to produce electricity, heat, or fuel.

Normally, burning anything for energy adds CO_2 to the atmosphere. However, carbon capture technology can prevent these emissions from being released. Because these organic materials absorb carbon from the atmosphere through photosynthesis while growing, capturing the emissions released during their combustion removes carbon from the atmosphere permanently.

We can leverage Canada's forestry and agricultural industries to keep the lights on, feed our families, and clean up the atmosphere.

Why Canada?

1. **ABUNDANT AGRICULTURAL AND FORESTRY WASTE**
   Canada's $92B agricultural and $24B forestry sectors generate substantial biomass.

2. **ESTABLISHED ENERGY INFRASTRUCTURE**
   Existing power plants and transmission lines can integrate bioenergy facilities.

3. **GEOLOGICAL STORAGE CAPACITY**
   Canada has extensive geological sequestration potential, with up to 389B tonnes currently explored across Canada, and significant amounts expected offshore.

Co-benefits from BECCS

ENERGY SECURITY
BECCS generates renewable energy that can supply reliable, continuous baseload power.

WILDFIRE RISK REDUCTION
BECCS turns a wildfire hazard into an energy resource, as it removes and utilizes forest waste that would otherwise intensify fires and threaten communities.

INDUSTRIES SUPPORTED

Farming · Construction · Forestry

Project snapshot

Project North Star is Canada's first majority Indigenous-owned carbon removal project, using forestry waste to generate clean electricity for the local power grid.

CARBON ALPHA & MEADOW LAKE TRIBAL COUNCIL
Meadow Lake, SK.
Planned.

HYDROGEN NATURALLY
Red Earth Creek, AB.
Planned.

VARME ENERGY
Strathcona County, AB.
Planned.

VARME ENERGY
Innisfail, AB. *Planned.*

Canada's carbon removal capacity across technologies

106K	12.4M
Current	Planned

12M TONNES OF CARBON REMOVAL CAPACITY IS EQUIVALENT TO:

- Taking 3.6M cars off the road
- Completely decarbonizing all domestic air travel

Canada is ready for removal

Visit the Carbon Console to explore more projects, technologies, and companies