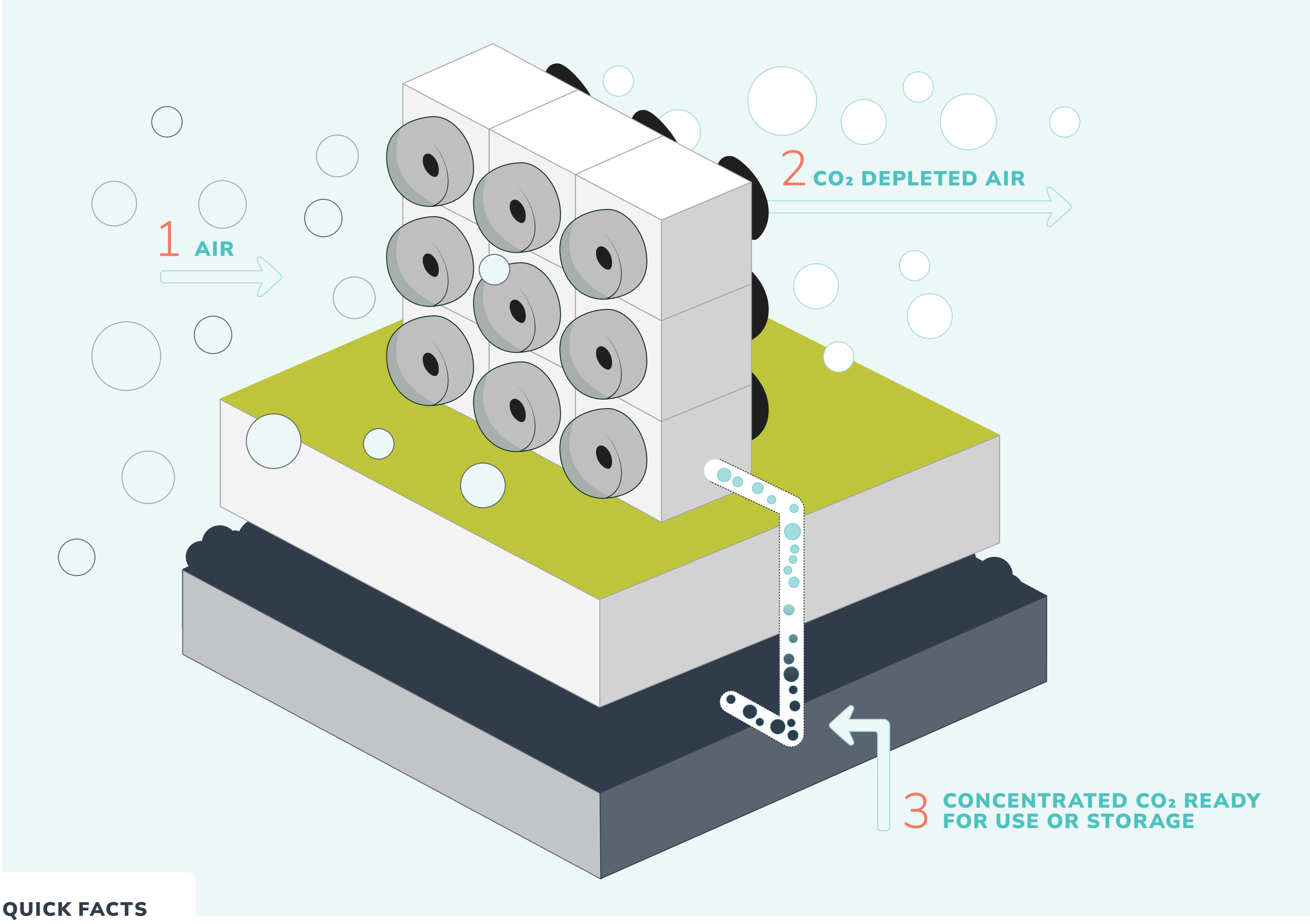
Carbon removal is Direct Air Capture

carbon removal canada

Pulling CO2 straight from the sky



QUICK FACTS

- Future Estimated Cost: \$100 - \$300 per tonne of CO_2
- Potential 2050 Global Capacity: 5 - 40B 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 Direct Air Capture work?

Think of: A gigantic air purifier.

Direct air capture (DAC) facilities pull air through special filters that grab CO_2 molecules and separate them from the rest of the air.

That CO_2 needs somewhere to go, and Canada has world-class options. It can be permanently stored deep underground in geological formations, similar to technology the oil and gas sector has used for decades, but in reverse. Alberta and Saskatchewan have some of the best geological storage capacity on the planet.

Alternatively, the CO_2 can be sold as feedstock for industrial products that companies already need: sustainable aviation fuel, stronger concrete, synthetic fuels, or even carbonated beverages. This creates revenue streams that help offset the cost of removal.

DAC leverages Canada's clean energy and geological storage advantages to establish a new industrial sector. By building on existing energy infrastructure and generating new revenue streams, Canada is positioned to capture a significant market share in the expanding carbon removal economy.

Why Canada?

1. **ABUNDANT RENEWABLE ENERGY RESOURCES**
Canada's hydroelectric, wind, solar, and nuclear energy resources can power DAC facilities with clean electricity.

2. **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 DAC

RENEWABLE FUEL PRODUCTION
DAC can produce renewable fuels as it removes carbon, creating sustainable aviation fuel for airlines and hydrogen for transportation and industry.

RURAL COMMUNITY JOB CREATION
DAC has flexibility in site location, which makes it ideal for rural economic development, creating jobs in communities across Canada.

INDUSTRIES SUPPORTED

Construction

Renewable Fuels

Project snapshot

Carbon Engineering's Direct Air Capture Innovation Centre, is the largest employer in Squamish, BC.

CARBON ENGINEERING
Squamish, BC.
Operational.

GAIA REFINERY
Halifax, NS. *Planned.*

PHLAIR
Alberta. *Planned.*

TERRAFIXING
Fermont, QC. *Planned.*

DEEP SKY
Manitoba. *Planned.*

DEEP SKY ALPHA TESTING FACILITY
Innisfail, AB. *Operational.*
Currently testing: Airbus, GE Vernova, Airhive, Mission Zero, Skyrenu, DACMA, Skytree

Canada's carbon removal capacity across technologies

106K Current — **12.4M** 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