

APPROACH TO INNOVATION

CE's in-depth understanding of the DAC process enables our experts to strategically develop and target cost down pathways. These achievements are reflected across 170+ pending and issued patent applications, across three key development pathways:

Iterate

These advancements include introducing new versions of materials that yield continuous improvements — like improved air contactor geometry that results in fewer or more efficient air contactors — and can be rolled out to commercial facilities as they become available.

Evolve

Evolutionary DAC pathways leverage the current generation components in new or different ways. Think streamlined material flows and lessons that can only be learned through full integration of our Innovation Centre.

Revolutionize

From alternative energy inputs to new technologies, we're listening to the market and finding new innovations and efficiencies to bring down the cost of capture.

The DAC Process

DAC captures CO_2 by pulling in atmospheric air then, through a series of chemical reactions, extracts the CO_2 from it while returning the rest of the air to the environment. This is what plants and trees do every day as they photosynthesize, except DAC technology does it at scale much faster, with a smaller land footprint.

15+ Years

CE was founded at the University of Calgary in 2009. In 2015, CE moved to Squamish (S $\underline{k}w\underline{x}$ wú7mesh), British Columbia and constructed the original demonstration pilot where we captured CO $_2$ from the air for the first time.

The Innovation Centre

The Innovation Centre in Squamish (Skwxwú7mesh) is at the heart of CE's research and development. Built in 2021, this dedicated DAC research and development platform provides a fully integrated plant to test, analyze and validate advancements and new pathways for this critically important technology. In 2024, CE purchased additional land in Squamish for new facilities to support research & development initiatives.

One Team, One Goal

CE officially united with Oxy as a wholly owned subsidiary in 2023. While CE continues to advance in the core DAC technology, 1PointFive, CE's sister company, deploys plants at commercial scale. Both leverage decades of carbon management and project delivery expertise as wholly owned subsidiaries of Oxy.

Among Squamish's Largest Employers

CE employs over 185 innovators, with 2/3 of our team based in Squamish. This includes engineers, scientists, researchers, project management professionals, plant operators, technicians as well as several procurement and business support functions.

CE Technology at Scale

The first commercial facility to use CE's technology – named STRATOS – is being constructed by 1PointFive in the United States with start up planned in 2025. Designed to capture up to 500,000 tonnes of CO_2 annually once fully operational, STRATOS is expected to be the largest DAC facility in the world.

Good Neighbour Commitment

CE has called Squamish (Skwxwú7mesh) home for over a decade and is committed to supporting our growing community. CE's community engagement program supports 10+ local organizations each year, aligned with Oxy's focus areas and tailored to serve local needs and contexts.

We gratefully and respectfully acknowledge that CE operates on the traditional, ancestral and unceded territory of the $S\underline{k}w\underline{x}$ wú7mesh Úxwumixw (Squamish Nation).

BENEFITS OF CARBON ENGINEERING'S TECHNOLOGY

Closed Loop Operation

CE's liquid-based approach to DAC uses closed-loop chemistry in a continuous operation-meaning we can reuse materials in the process to minimize cost and waste.

Modular Where It Matters

The capture system is built in modular trains, taking advantage of all the benefits of mass manufacturing, while regeneration equipment is large to take advantage of volumetric scaling laws.

Scalable Standard Design

Using equipment with industrial precedent and existing supply chains in a "design one, build many" approach allows for the near duplication of plants adjusted for location-specific considerations.

Transparent and Verifiable

The output of CE's process is a near pure stream of atmospheric CO_2 that can be easily measured using common equipment, like flow meters, according to existing standards.



