

FROM INDUSTRY TO SKY: EFFICIENT CO₂ CAPTURE

RepAir Carbon is redefining CO₂ capture with the only solid-state electrochemical system purpose-built for diluted sources (0–5%).

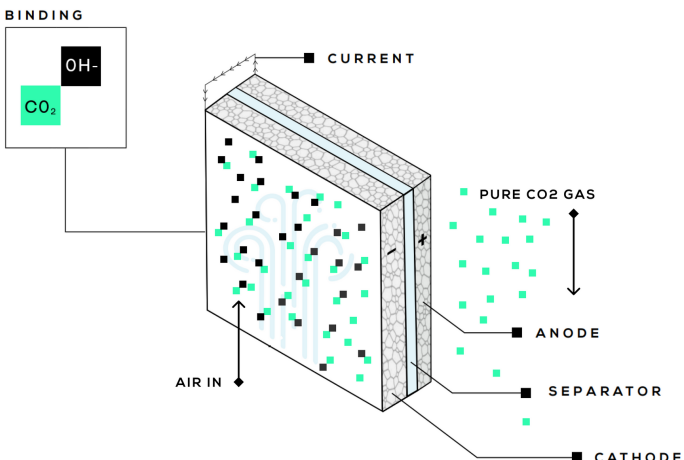
Our solvent and liquid-free technology enables a straightforward, energy efficient, cost-effective approach to carbon capture. RepAir cuts energy use by 70% and delivers high purity CO₂ for permanent storage and utilization. At scale, our system achieves under \$100 per tonne, zero thermal inertia, and strong resilience to industrial impurities.

With multiple pilots already in operation, we are now scaling toward full commercialization.

HOW REPAIR CAPTURES CO₂

At the core of RepAir’s technology is a proprietary electrochemical cell architecture designed to capture CO₂ from low-concentration flue gas and atmospheric air.

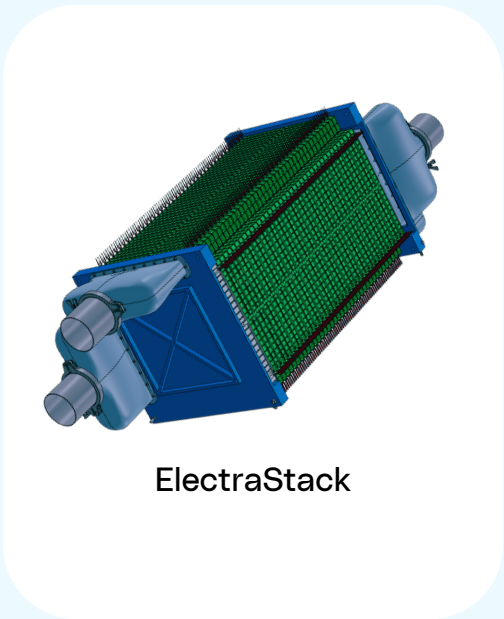
Like a fuel cell, the system consists of two electrodes separated by a selective membrane. It operates purely on electricity—requiring no heat or water—and features a solid-state design that retrofits seamlessly into existing industrial systems.



As flue gas flows through the cathode compartment, hydroxide ions (OH-) react with CO₂ to form bicarbonate and carbonate ions. These ions are transported across the membrane to the anode, where a controlled electric potential causes them to recombine into pure CO₂. The CO₂ is then released, ready for compression, storage, and/or utilization.

The system maintains continuous operation by regularly reversing cell polarity, enabling constant capture cycles with minimal energy loss.

VALIDATED RESULTS, COST- EFFECTIVE SCALE-UP

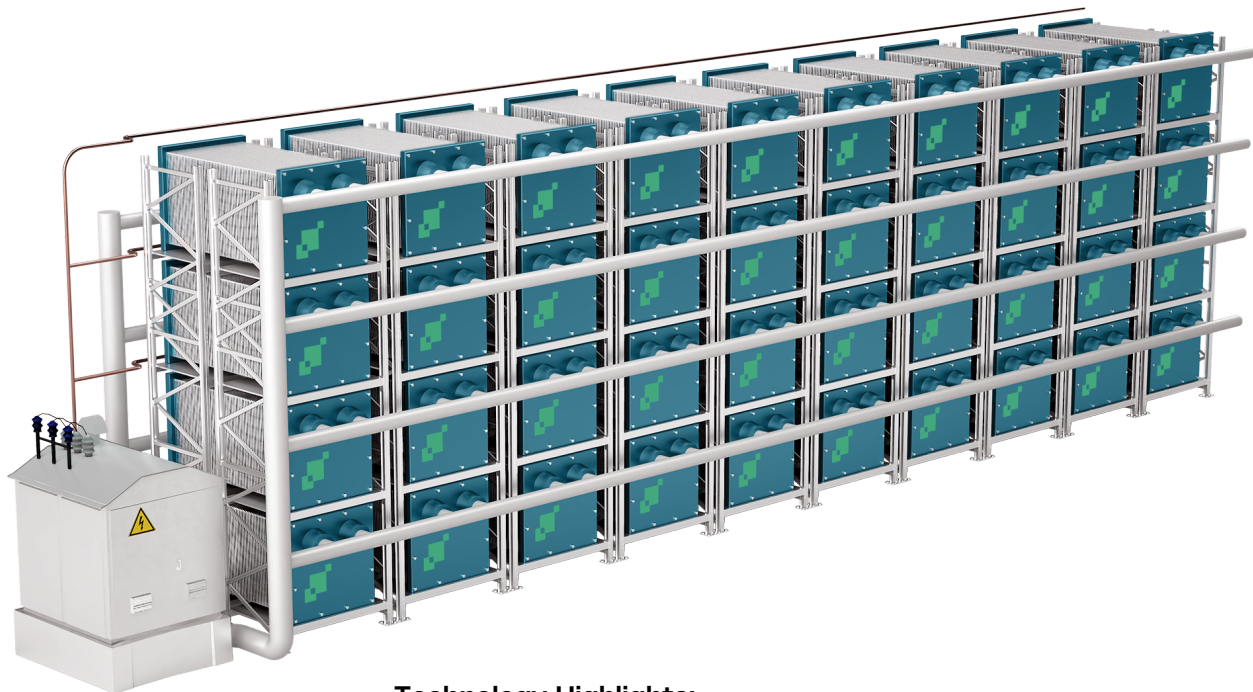


	DAC 420 ppm	Point Source 1 to 5 %
CO ₂ capture efficiency [%]	65 - 70	> 85
CO ₂ purity [%]	> 97 (low vacuum)	> 99 (no vacuum)
Energy consumption [MWh/tCO ₂]	~ 0.6	~ 0.4
Cost at scale [\$ /t]	< 90	< 70
Impurities	No performance loss	

TRUSTED & TESTED

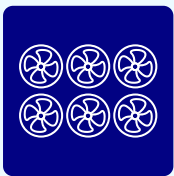
- Multiple patent portfolios covering core technology and system architecture
- EU EIC and US DOE-backed technology development
- Successfully tested both in the lab and on-site (outdoor, aluminium smelter)
- Selected for the Pelican DAC project in Louisiana with Shell and Mitsubishi
- Engineering feasibility studies completed with Tier 1 EPC companies

SCALABLE BY DESIGN



- Technology Highlights:**
- Fully electric & continuous operation
 - Modular, interlocking stacks for seamless scale up
 - Built from mass-manufactured, abundant & recycled materials
 - No process waste generated

REPAIR’S SOLUTIONS



DACCS
High quality
CDR credits



DACCU
High purity CO₂
feedstock



ALUMINIUM
Asset decarbonization,
low carbon aluminium



GAS TURBINES
Asset decarbonization,
low carbon power

PARTNER WITH REPAIR

RepAir is currently looking for partners to implement and scale our field-tested carbon capture solution.

Get in Touch!
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