



We convert buildings
into CO₂ capturing
machines.

soletair
power



Turning buildings into carbon sinks

We capture carbon dioxide from the air by retrofitting buildings' HVAC systems with Direct Air Capture technology which leads to negative emissions and energy savings. Captured carbon dioxide can be converted into carbon credits when permanently mineralized by our CO₂ utilization partners.

Founded: 2016

Location: Lappeenranta, Finland

CEO: Petri Laakso

Website: soletairpower.fi

Mentioned in



The Guardian



THE WALL STREET JOURNAL



sifted/

Supported by



BUSINESS FINLAND



Centre for Economic Development, Transport and the Environment



Søren Jensen

Halton

HELKAMA



Direct Air Capture Coalition

Greenreality
LAPPEENRANTA



Buildings play a vital role in addressing global sustainability efforts, but real estate is hard to decarbonize



Why now?

Cities are now at the forefront of decarbonization.
New skyscrapers, emerging regulations & carbon taxes.
LL97 • 45Q • EPBD • CDRLA

100 climate-neutral cities

in Europe by 2030

[Source](#)

3.5 billion sqm decarbonized

commercial real estate in EU

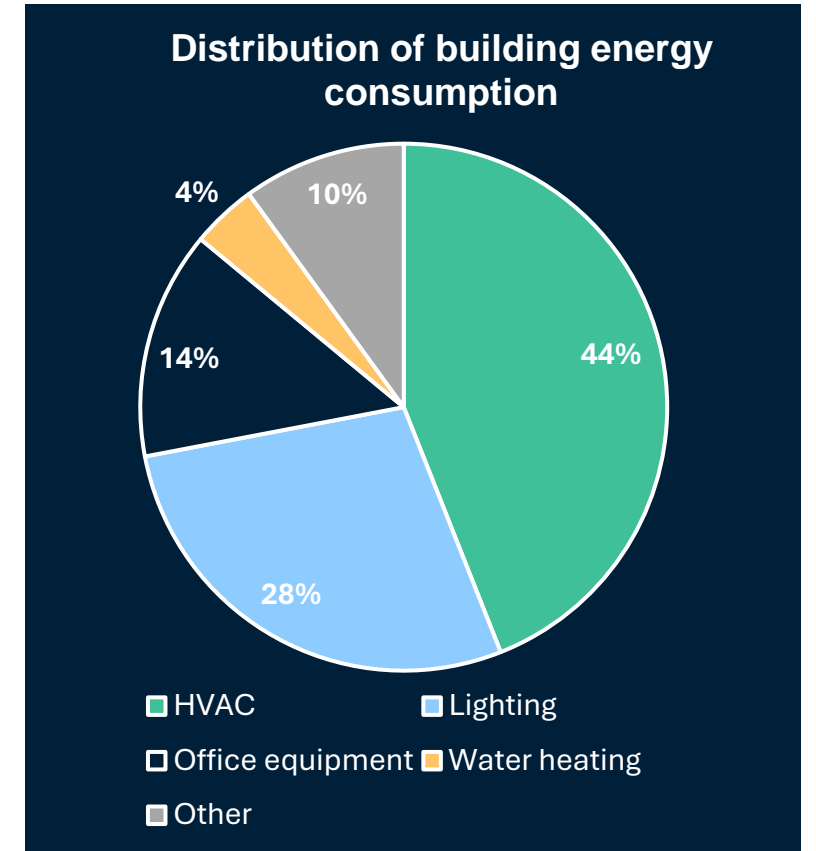
[Source](#)

100+ US Cities pledged

to accelerate Net-Zero Emissions

[Source](#)

Buildings need to reach **Net Negative** to reach Net Zero



Our solution is a versatile Direct Air Capture module



The module can be retrofitted to any HVAC unit

soletair power

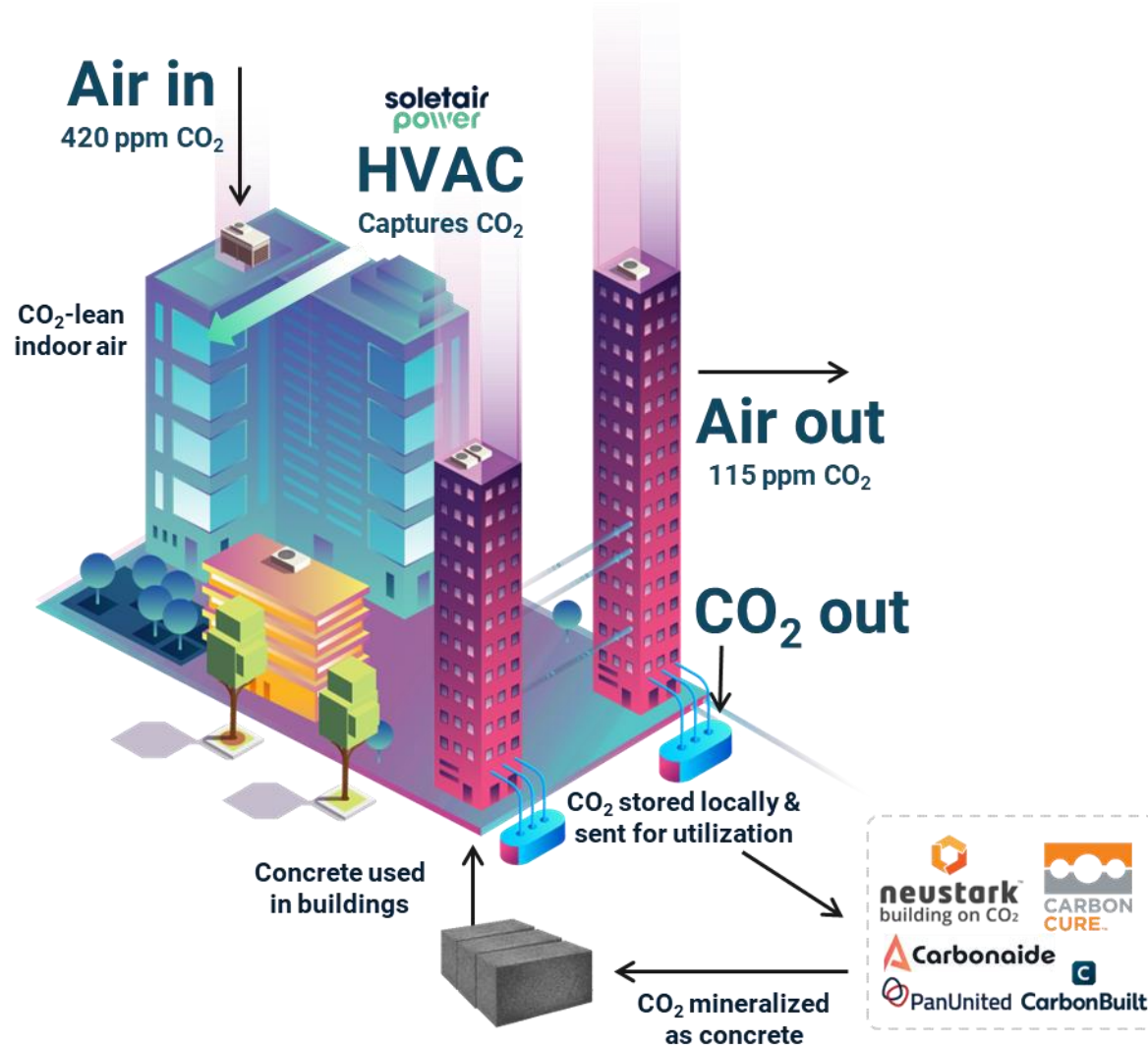
Building-Integrated Carbon Capture (BICC) Systems

Integrates with existing HVAC machines and connects with air intake to capture CO₂ for reduced energy usage & improved IAQ.

ROI for building owners is achieved in 5 years, yielding 75% energy savings and generating 25 carbon credits per year.

Licensing partnerships with large suppliers will bring down the manufacturing costs by 85%, while further R&D will reduce unit size by 60% in the coming years.

How soletair power building integrated CO2 capture works



Benefits from Soletair Power's solution

Reduced energy costs	Cost savings reduced energy consumption in cooling (SG: 40k\$/year (295\$/MWh))
Net-zero buildings / carbon credits	Removes emissions (through lower energy consumption e.g., in SG 120 t/a and negative emissions 40 t/a)
Green financing / less tax	Green buildings gain from green financing or lower carbon tax
More rent	Higher rent for rented office space (better IAQ & less scope 3 emissions)

Mandatory building energy codes

Carbon reporting

Tax discount for retrofitting

Certifications

Competitive analysis

Why are we better today?



Soletair Power is the only company to design and **successfully deliver** modular DAC units to help buildings achieve negative emissions.



Our carbon capture technology requires **less heat** (<100°C) and operates at **low airflow** available in regular commercial buildings.



Less noise, weatherproof indoor operations, safe for humans, carbon credits, green loan, higher rent yield from customers because of their **scope 3** avoidance, and better IAQ.

Top Direct Air Capture players



May move to HVAC capture first



Project installation cases



P2X Unit

Captures CO₂ and makes fuel in one enclosure

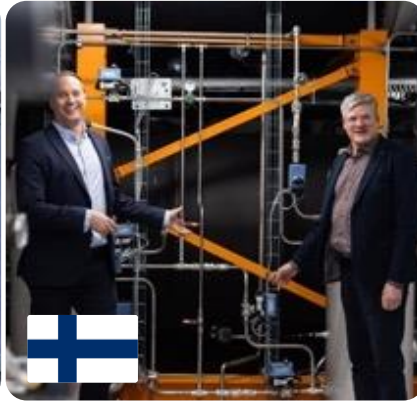
2021



Outdoor unit

Captures CO₂ from ambient air outdoors

2022



HVAC unit

Captures CO₂ and delivers better air

2022



HVAC unit

Captures CO₂ from the exhaust

2023



HVAC unit

Captures CO₂ from the exhaust

2024



DAC module

Captures CO₂ from the HVAC

2023 & 2024

Technology is available

Soletair Power Oy can provide a delivery date today, and has patents for the solution in US and EU.

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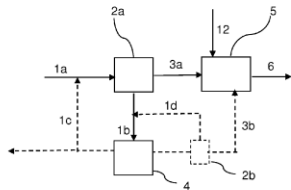


Fig. 1

(57) Abstract: The invention relates to a method and to an apparatus for separating and utilizing carbon dioxide. According to the invention, carbon dioxide (3a, 3b) is separated from air (1a) being conducted to a building and/or from air (1c,1d) being circulated in the building to reduce the level of carbon dioxide in indoor air (1b) of the building (4), the carbon dioxide (3a, 3b) is recovered, and the carbon dioxide is conducted to a carbon dioxide treatment stage (5), where a chemical compound (6) is formed from the carbon dioxide. In addition, the invention relates to the use of the method.



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Team (12+ FTEs)

The owners have a history of founding several successful startups.

Successful companies started up by the same team:



Owners



Ari Piispanen
Co-founder, Partner
Serial inventor, 10+ startups and 70+ patents



PhD Cyril Bajamundi
Partner
One of the best scientists in the DAC research field



Petri Laakso
Co-founder, CEO, Partner
Former VP in corporate renewables, team leader at VTT



Dr. Kimmo Rauma
Partner
History of making very successful exits with startups

Board of Directors



Kimmo Rauma
VP, Danfoss Power Solutions



Anja Frada
CFO, Wärtsilä Energy Business



Torsti Tenhunen
Angel investor



Frank Jensen
Board Chair, Søren Jensen



Dr. Krista Halttunen
Research Fellow at the University of Oxford



Niklas Skogster
Advisor, Board professional



PhD Jarno Kaakkunen
COO
Long experience in R&D and projects in large organizations



Antti Paajanen
VP, Technology
Electrical and controls engineering experience



Asko Kuosmanen
Chief Mechanical Engineer
Extensive experience, in mechanical designs.



Rabiun Sunny
Communications Lead
Communications, market analytics, and strategies



Niklas Vartiainen
Mechanical Design Engineer
Expert in manufacturing techs and mechanical designs



Ville Lampinen
Project Manager



Juho Tikka
R&D Engineer
Mechatronics, PLC programming, SolidWorks.



Veli-Matti Mäkelä
R&D Trainee

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