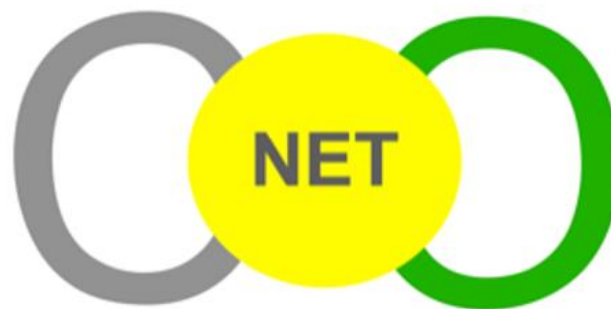


JORNADA D'ECOSISTEMA DE TRANSFERÈNCIA I INNOVACIÓ EN ENERGIA



LightNET Carbon Capture



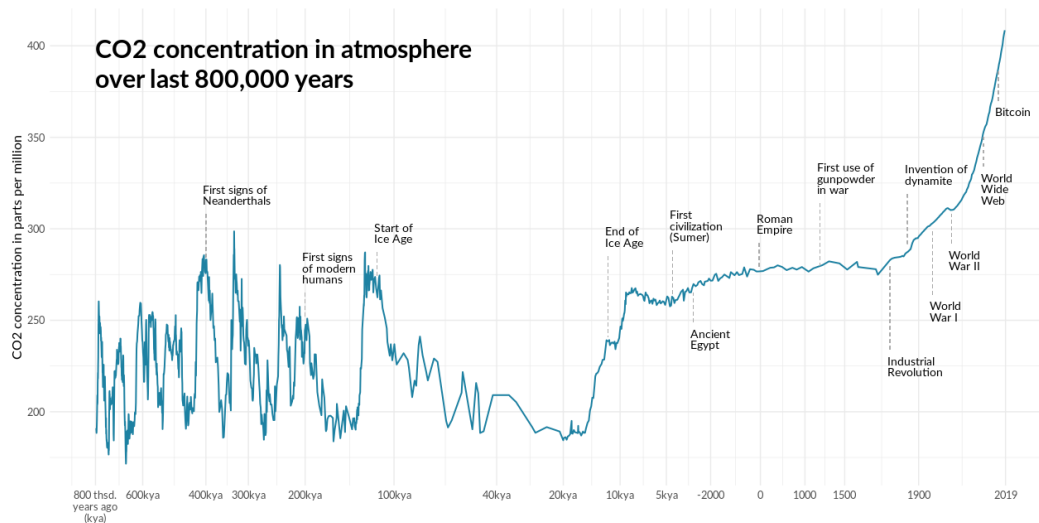
Barcelona, June 21th 2023

Amador Perez Tomas

CAMBIO CLIMÁTICO

Récord de dióxido de carbono en la atmósfera: 424 ppm, el mayor nivel en tres millones de años

- El observatorio de Mauna Loa (Hawái), referencia mundial, muestra que se mantiene la tendencia al aumento



Time is warped using sqrt scale before 1900 for readability. Graphic: Gregor Aisch, vis4.net
Source: NOAA (1959-today), NASA (1850-1958), Monnin et al., Petit et al., Siegenthaler et al., Luethi et al. (800kya-1850)

2023 Atmospheric CO2
Weekly Averages | June 4 - 10

Last week	424.38 ppm
1 year ago	421.29 ppm
10 years ago (2013)	399.37 ppm

NOAA-GML MLO (Maunakea) data Brought to you by:



CHALLENGES AND MARKET

**70% of emissions
come from CITIES**

25 mega-cities produce 52% of the greenhouse gas emissions

CHALLENGES AND MARKET

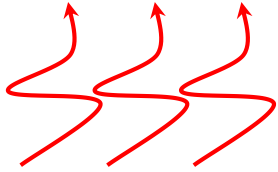
3,4Mtons CO₂ equivalents

BCN 6 kgCO₂/Person·day



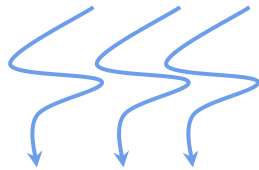
D'acord amb el Pla d'Emergència Climàtica de Barcelona del 2019, cada ciutadà a Barcelona té una petjada de CO₂ d'aproximadament 6 kgCO₂/persona·dia;

CHALLENGES AND MARKET



**Reduce
emissions**

**HIGH
PRICE**



**Increase
sinks**



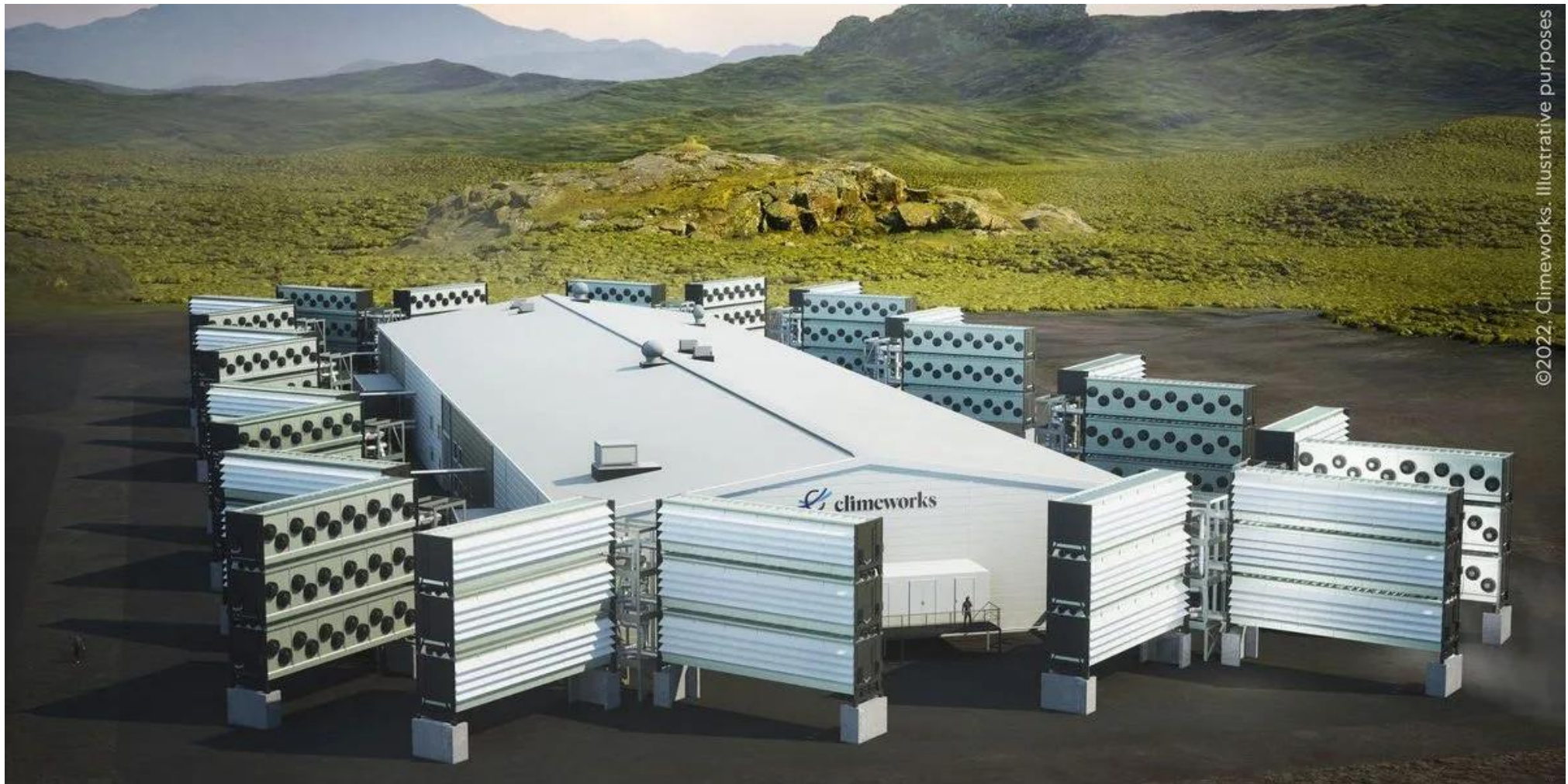
CHALLENGES AND MARKET

 = 500 trees



10 tons/year/px, 20Kg/year/tree

CHALLENGES AND MARKET



CHALLENGES AND MARKET

244 Mt
CAPTURE
CAPACITY

61 NEW CCS
FACILITIES
ANNOUNCED

196 CCS
FACILITIES
WORLDWIDE

pteco₂
Plataforma Tecnológica Española del CO₂

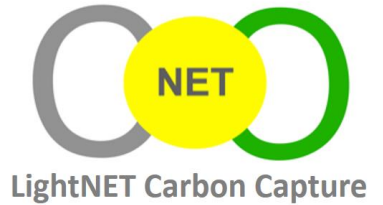
QATAR 2022 | OCTAVOS DE FINAL 6.DICIEMBRE.2022



MARRUECOS 3 - 0 ESPAÑA
PENALES



SOLUTION/PRODUCT



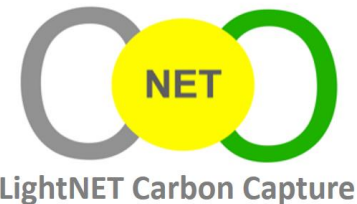
In Spain, more than 60% of Spanish mines are limestone producers



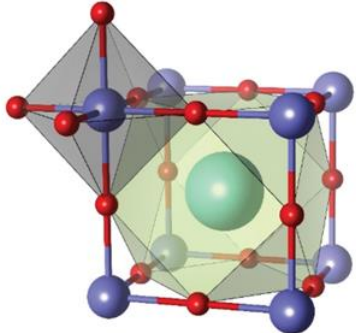
LighNet has a pilot test on-going with Cales de Pachs, one of the biggest providers in Spain



SOLUTION/PRODUCT



NANOSCIENCE TOOLKIT FOR BETTER CO2 CAPTURE



ADDITIVE

Efficiency Improvement

Acceleration Vector 1

A ball-and-stick model of a complex molecular structure, possibly a metal-organic framework (MOF), with a central green sphere and various red, blue, and grey atoms connected by bonds.

NANOTECHNOLOGY

Higher Surface Ratio

Acceleration Vector 2


A 3D rendering of a hexagonal lattice structure, representing a nanomaterial surface, with a blue background.

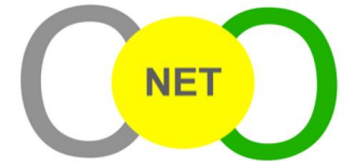
PHOTO-CAPTURE*

Higher Conversion Rate

Acceleration Vector 3

A diagram showing a white triangular prism on a black surface. A white beam of light enters from the left and is refracted into a spectrum of colors (red, orange, yellow, green, blue, purple) exiting from the right.

SOLUTION/PRODUCT



LightNET Carbon Capture

COATINGS



Facades, Roads, ...

CO2atings®

REPLACEABLE MASONRY



Tiles, Pavement, ...

CO2reback®

FILLERS



Urban Furniture, Containers ...

CO2rallites®

SOLUTION/PRODUCT



LightNET Carbon Capture



DEVELOPMENT PLAN



LightNET Carbon Capture

R+D Plant (Pre-industrial)



100 kg

June 2023

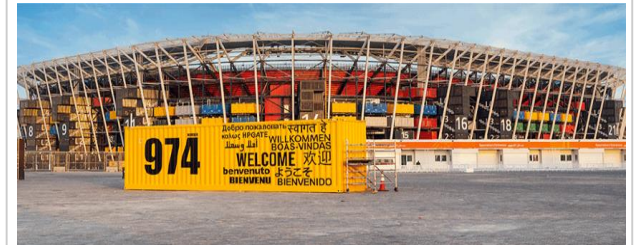
Pilot Plant



10-100 ton

2024-2025

Industrial Plants



1-10 Mton

2026-2028

TEAM



Paco. CEO
Nero Family, Founder
PhD in Chemistry



Amador. CSO
Researcher at ICN2
PhD in Material Science



**COO /
CTO**



Cristina. Advisor
Advisor
PhD in Material Science,
MBA,



ICN2^R

soriguē

pachs[®]
CALES DE PACHS, S.A.

COMSA
CORPORACIÓN

Escofet[®]

BIONATUR
MEDIO AMBIENTE

XRE4S
XARXA d'R+D+i
ENERGY FOR SOCIETY

AGAUR

ACCIÓ

Generalitat
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Oficina Catalana
del Canvi Climàtic

Our Partners



 @XRE4S @IREC_Energia

<https://xre4s.cat/>
<https://www.irec.cat/>

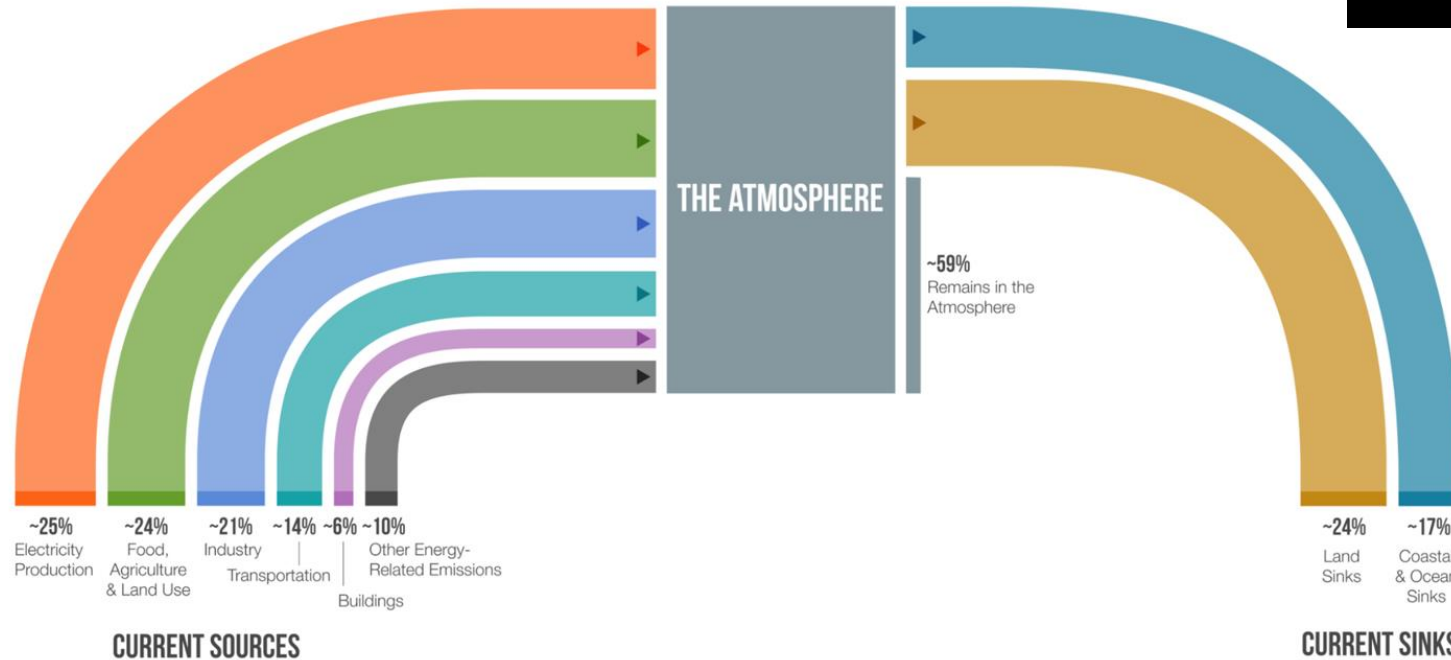
Contactos:

Con financiación de:



CHALLENGES AND MARKET

EMISSIONS SOURCES & NATURAL SINKS



2023 Atmospheric CO₂
Weekly Averages | June 4 - 10

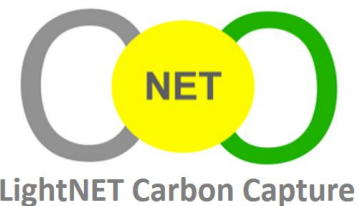
Last week **424.38** ppm
1 year ago **421.29** ppm
10 years ago (2013) **399.37** ppm

NOAA-GML MLO (Maunakea) data  Brought to you by: **CO₂-earth**

FAILED

~17GtCO₂/year

SOLUTION/PRODUCT



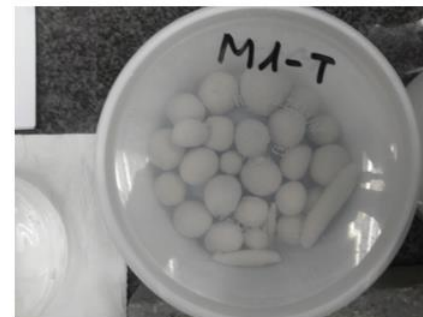
Large Throughput

PAINT/GROUT



Tailored Plaster

PLASTER



Ad-hoc Design

PRECAST