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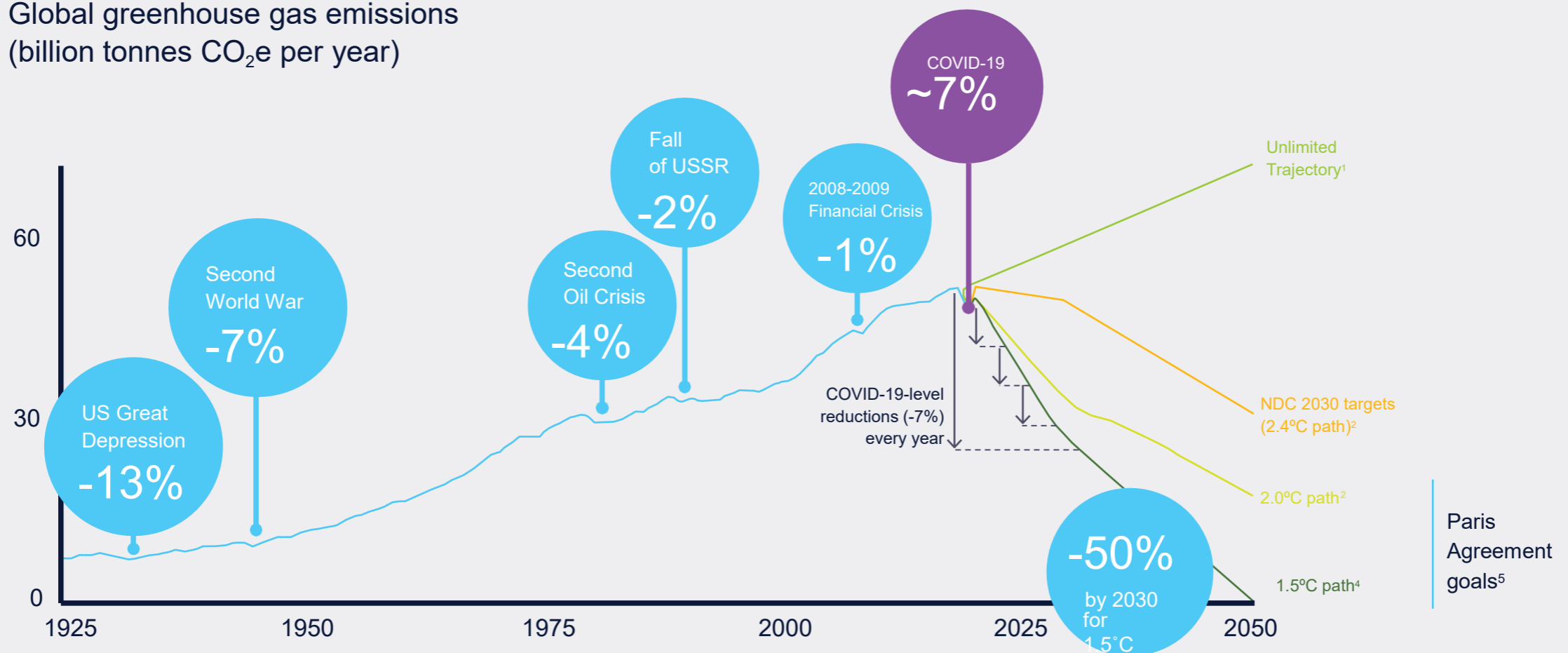




# What is the Context?

Progress?<sup>1</sup> Since 1990, humanity has emitted more CO<sub>2</sub> than in all history to that date!

Global greenhouse gas emissions  
(billion tonnes CO<sub>2</sub>e per year)

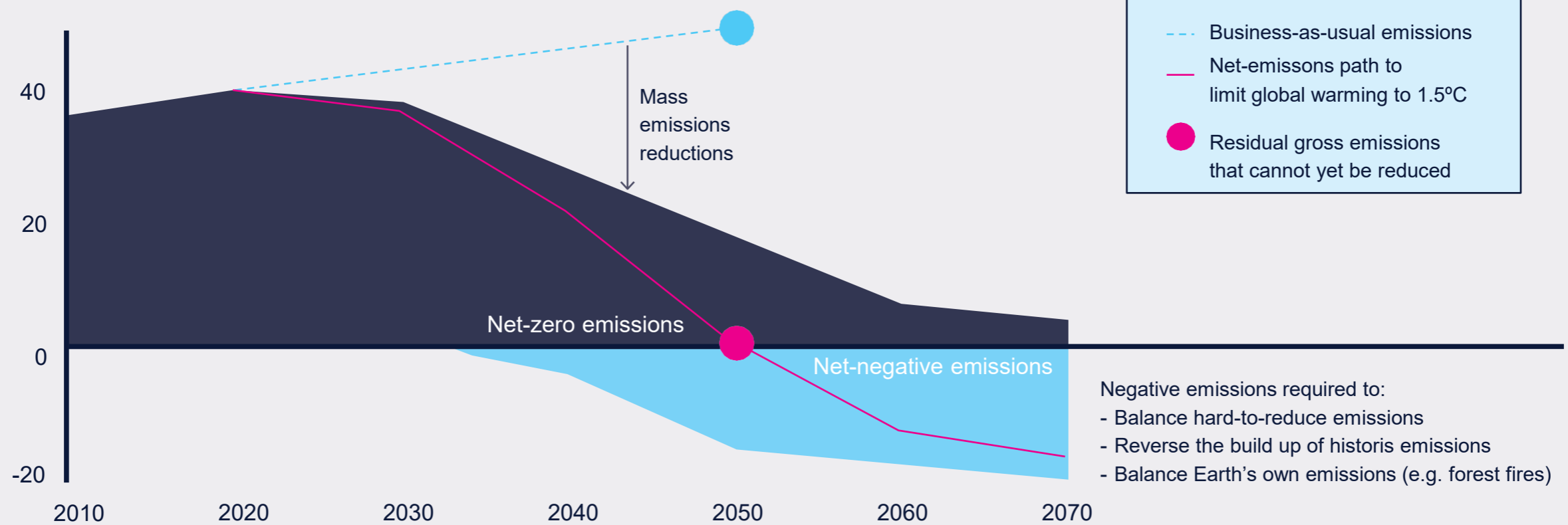


1: WEF 2024



# What's the Big Picture

Global greenhouse gas emissions  
(billion tonnes CO<sub>2</sub>e per year)



- Negative emissions required to:
- Balance hard-to-reduce emissions
  - Reverse the build up of historical emissions
  - Balance Earth's own emissions (e.g. forest fires)

Median estimate of 10 billion tonnes CO<sub>2</sub>e/yr to be removed and stored  
Carbon removal = next trillion-dollar industry ← After 2050



## Problem

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We cannot get to Net Zero  
without a \$1TN CDR industry

### References

1. World Economic Forum (2024) – median annual removal requirements are 10BN tCO<sub>2</sub>e from 2050
2. Lappeenranta-Lahti University of Technology (2023) – 5BN tCO<sub>2</sub>e pa required by 2050 for Net Zero





## Solution

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Proprietary, low-cost Carbon  
Dioxide Removal and  
Point Source Capture technology



# The Problem with DAC

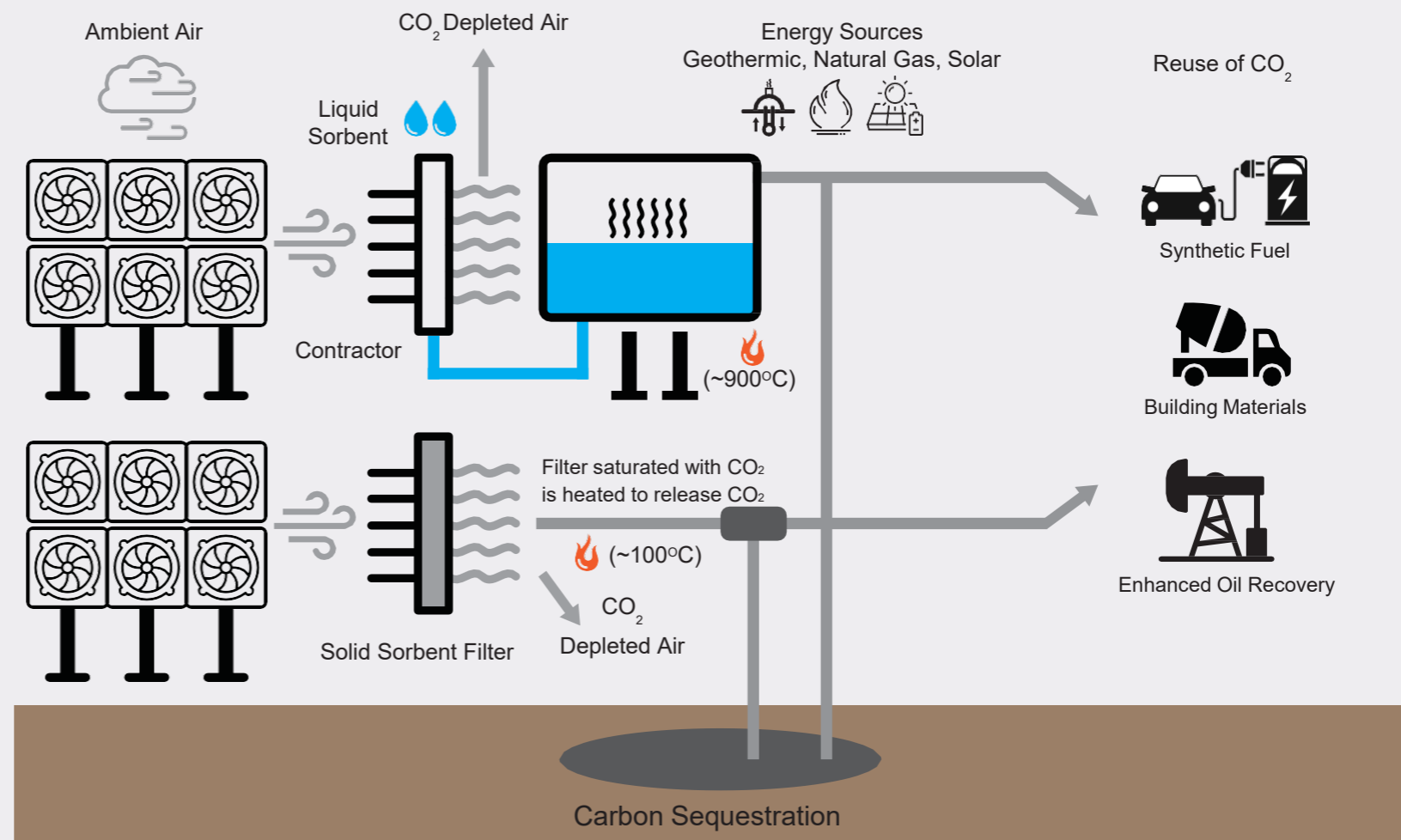
Energy consumption and Degradation are the leading issues facing DAC



Traditional DAC methods are effective in CO<sub>2</sub> capture but require **large amounts of thermal energy**



Existing sorbents have **high degradation** and are **inefficient**.





# The Value Proposition

## CT's DAC/CC Technology

Patent Pending  
UK Patent Application  
No.: 2318008.6



Highly selective process for CO<sub>2</sub> capture and a “modular” reactor design for scalability



Proprietary process aiming for lowest cost (\$100/tCO<sub>2</sub>)

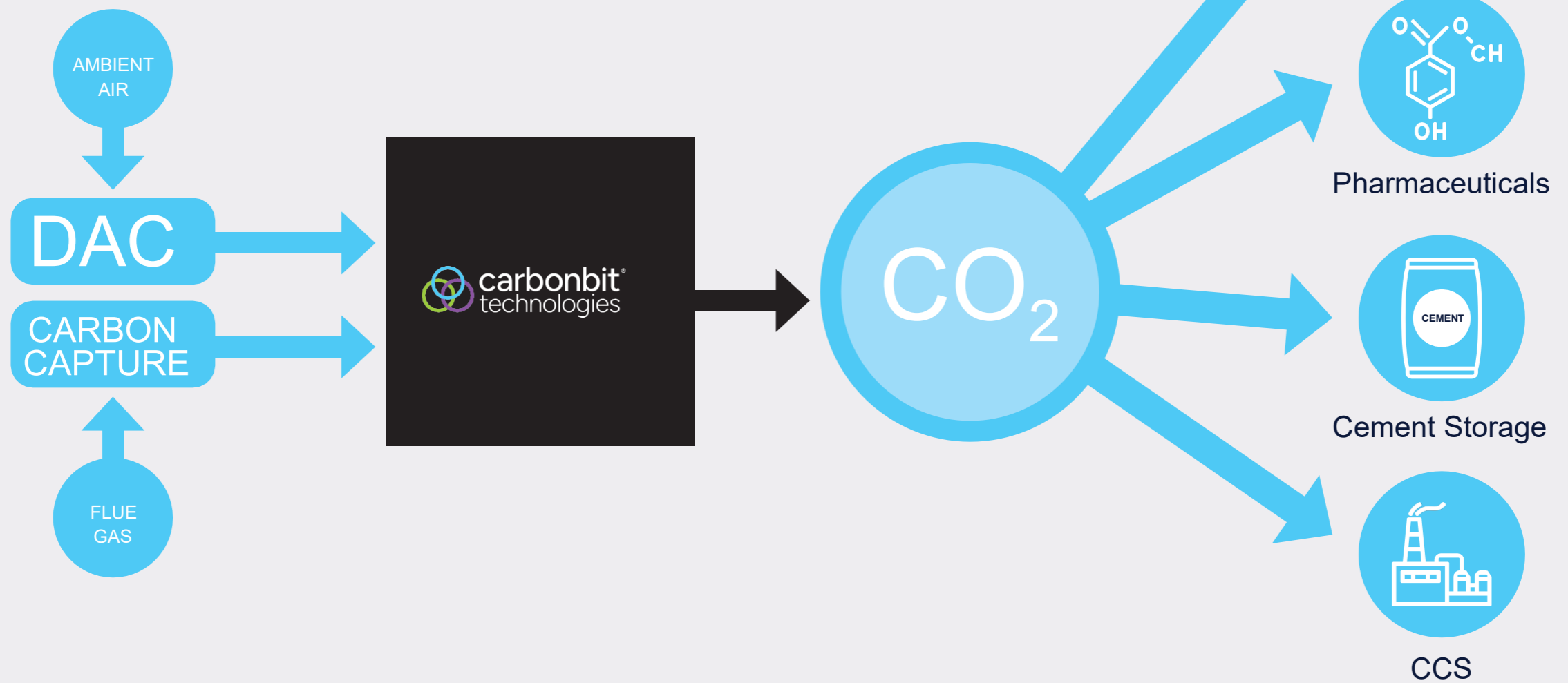


A strategic technology to target the removal of 40 MtCO<sub>2</sub>/pa by 2045 and beyond



# DAC/CC Market Opportunity

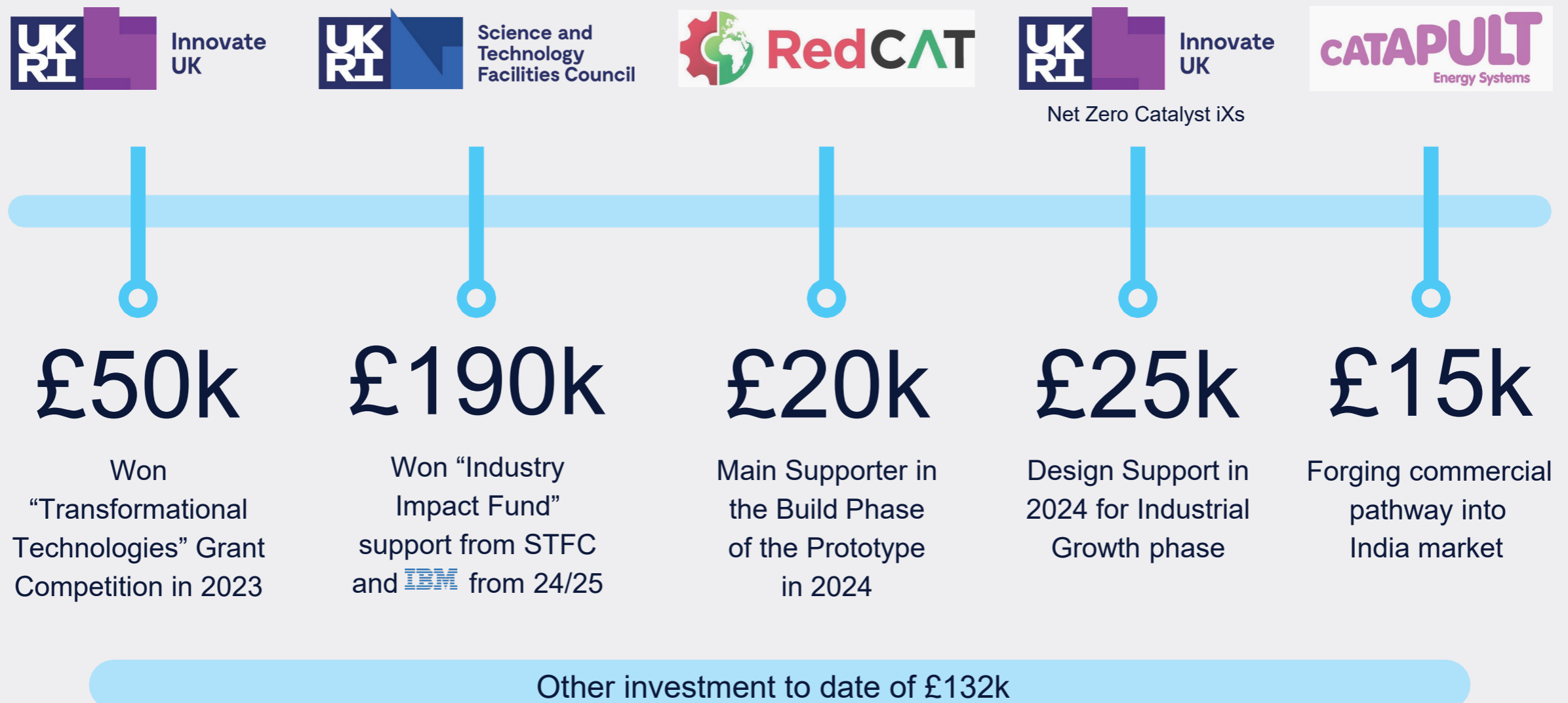
Carbon as a Service and Verticals







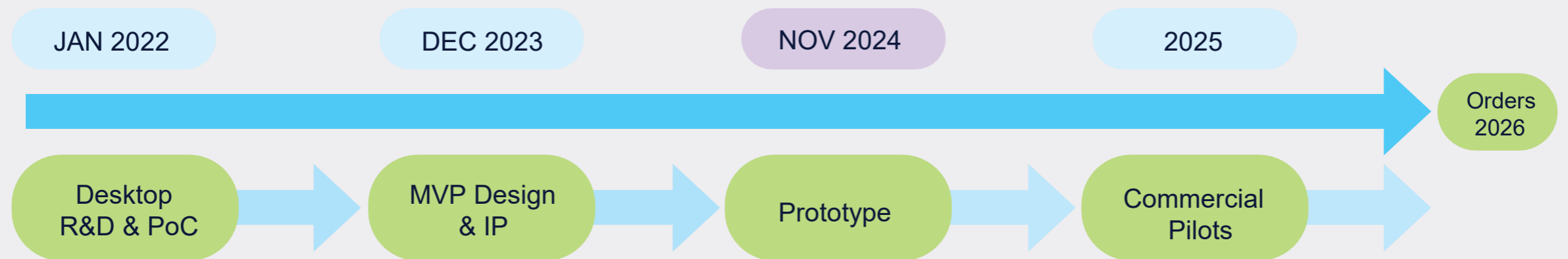
## Traction - Financial Support to date





# Traction - Technical Journey

## Leading Partners



**Lancaster University**

**UNIVERSITY OF CAMBRIDGE**

**The University Of Sheffield. / AMRC**  
Advanced Manufacturing Research Centre

**Barker Brettell**  
Intellectual Property

**UKRI** Science and Technology Facilities Council

**UKRI** Innovate UK

**RedCAT**

**MADE SMARTER INNOVATION** | **SMART MANUFACTURING DATA HUB**

**The University Of Sheffield. / AMRC**  
Advanced Manufacturing Research Centre

**AMRC**  
Advanced Manufacturing Research Centre

**CATAPULT**  
Energy Systems

**IBM**



# Partner for Prototype Build

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[www.amrc.co.uk/pages/amrc-north-west](http://www.amrc.co.uk/pages/amrc-north-west)

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# World Leading Advisors

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## Dr Ya-Wen H

### Computational Chemistry

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- Computational Chemistry Scientist with 25 years in protein structural determination, macromolecule interactions, and scripting scientific analysis skills.

## Dr Ubaid Q

### Computational Fluid Dynamics

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- CFD Scientist CFD methods in multi-phase flow and heat transfer to microflows, environmental flows and fluid-structure interactions.

## Martyn G

### Design Engineering

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- 40 years' experience in developing and implementing multi-disciplinary engineering solutions through focus on data management and M&V.

## Dr Karl G

### Consultant Engineer

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- 50 years' experience in O&G and new technology assessments – with broad background in CO<sub>2</sub> Capture & Geologic Storage “Colored” Hydrogen, and e-Fuels.

## Ged. H OBE

### Engineering

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- Blue Chip M&E and process engineering specialist with agile development experience and knowledge of start-up process .



## Leadership Team

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**Philip Hargreaves**  
Chief Executive Officer

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- +20 years in sustainability management & +15 years of C-Suite experience
- Sustainability and engineering consultants
- Recent successful innovation spin off to Series A (Thallo.io – Carbon as a Service)



**Dr Dylan Jordan**  
Chief Innovation Officer

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- +5 years of experience in engineering development projects
- +3 years of technical research experience in process design and management
- BSc, MSc. Chemical Engineering  
PhD, Nuclear Engineering





## Impact

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Carbonbit Technology's patent pending CDR / CC technology is

**Low Cost**

**Modular**

**Scalable**

**Less Downtime**

**Less Waste**

A vision to capture  $\approx 40 \text{ MtCO}_2 / \text{pa}$  by 2045  
for **utilisation and storage**



## Join us in our exciting journey

We are looking for partners to help us in our:

- Process / M&E Design Engineering for scale
- IOT / Sensors for measuring carbon captured
- Modular Build capability
- Circularity - in build and operation

### **Also, Collaboration through the Verticals**

- 1. eFuels (Maritime, Aviation - SAF)
- 2. Storage (Cement / Underground)



# carbonbit<sup>®</sup> technologies

## Low-cost, modular Carbon as a Service



## Contacts

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