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Removing 2 billion tonnes of CO_2 emissions by 2040

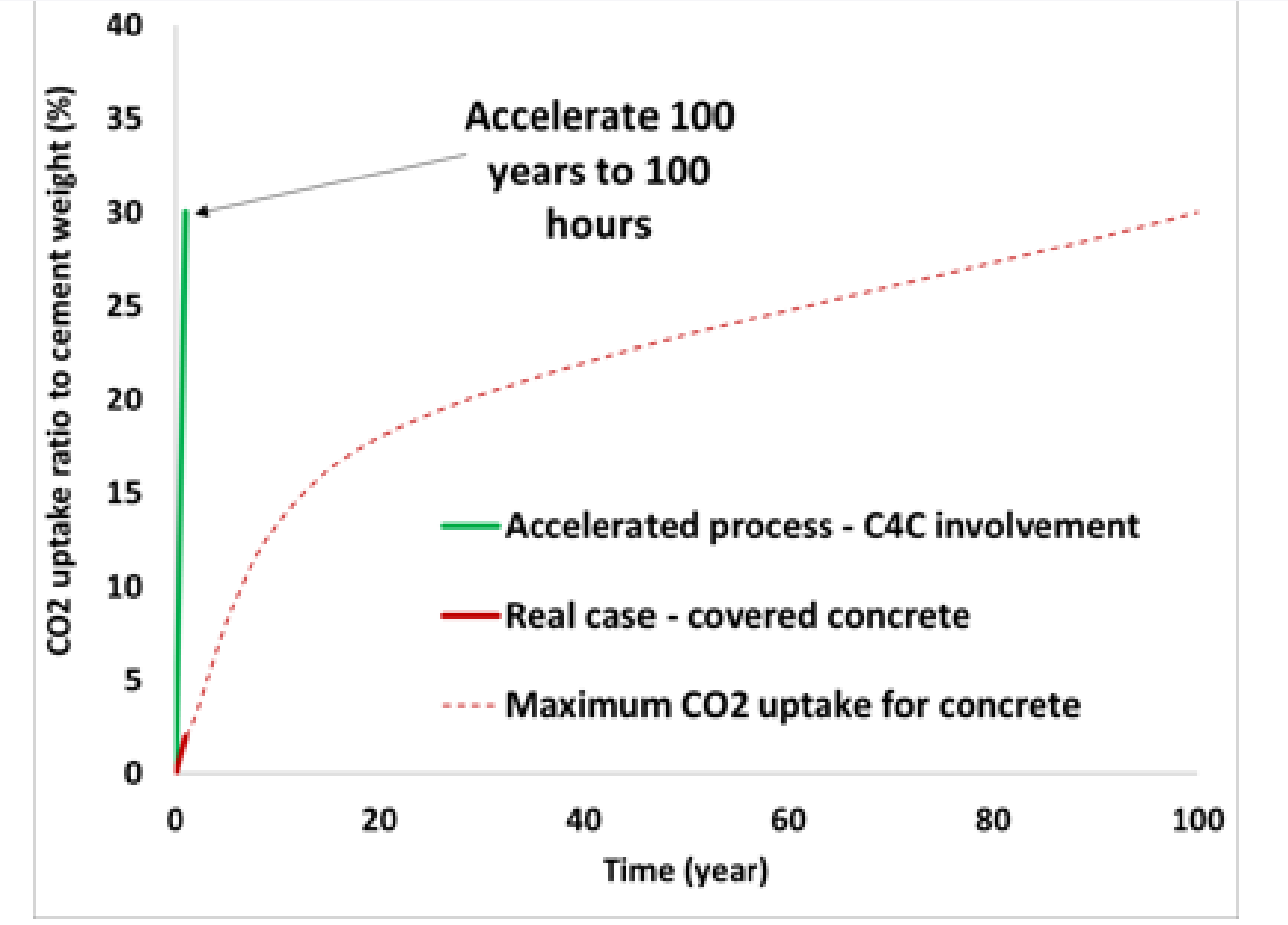
C4C is an R&D Licensing Company

Concrete = CO_2 Sink

Carbonation = Increased Strength

Reduce embodied carbon 40-100%

CO_2 locked away forever – no leakage



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The Solution

CO2 from Cement Flues

C4C Technology

Sequestration: Permanent Mineralisation

Cement reduction: Less embodied carbon

2025

Up to 35% cheaper

Up to 20% greener

- First Generation of C4C Technology (2025):
  - 20% greener = Up to 5% CO2 Injection via carrier; 25% increase in concrete strength enabling 20% reduction in cement
  - Carrier = 1% of concrete mix
  - ~35% cheaper concrete
- No Change to Cement or Concrete Production Process
- Add to existing Concrete Technology

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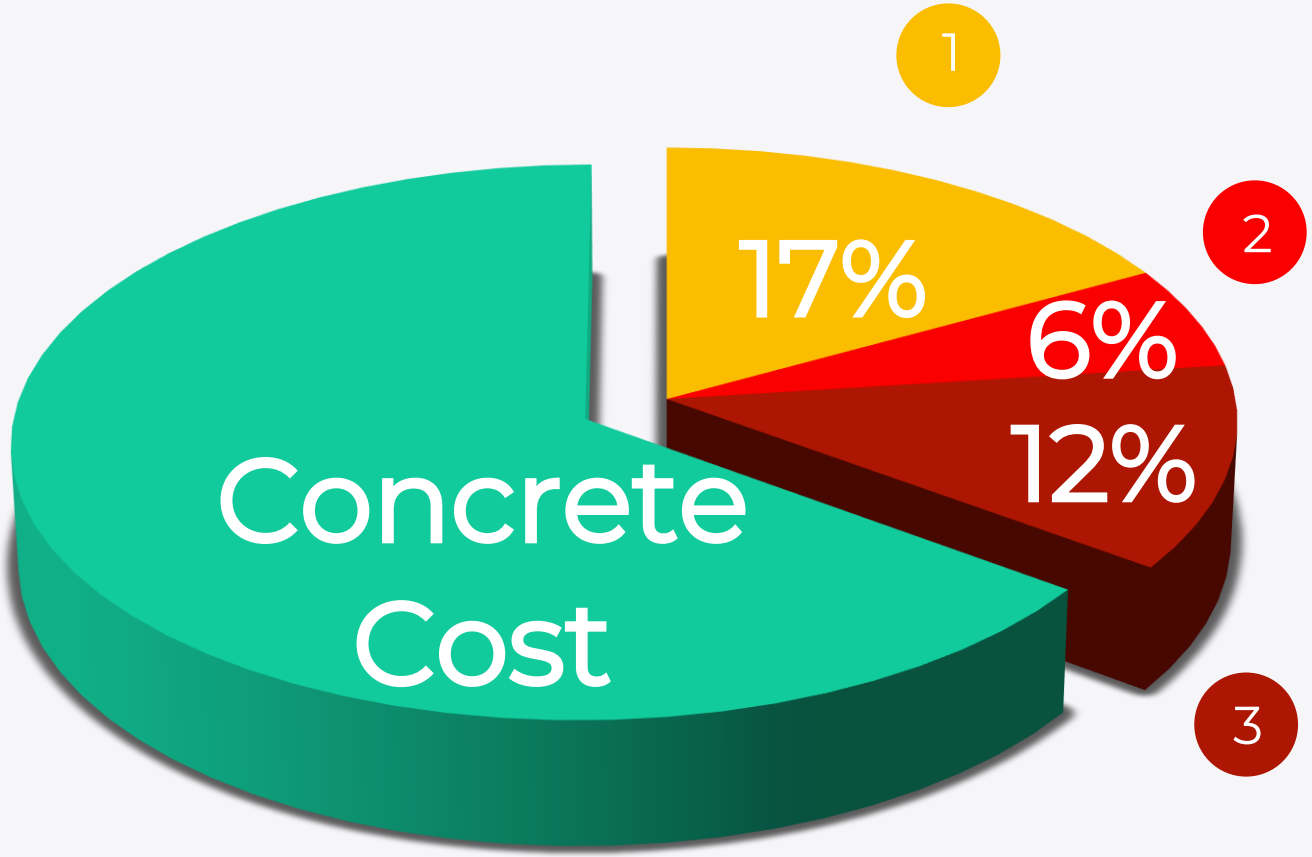
Value Propositions

1. **Cementitious material reduction:** 60% of concrete price is due to cement
2. **Carbon Cap/Tax mitigation:** cement is responsible for 70% of concrete emissions
3. **Carbon offset:** i.e. Persefoni - $600 per tonne



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Value Proposition – Building Complex

£4.8 million savings
(~35% Cheaper)

8200 tonnes of CO_2 removed*

*First Generation of C4C Technology by 2025
5% CO_2 Sequestration (by the weight of cement)

Traditional	100,000 m^3 concrete	C4C
£ 10.24 million	Cost (cement reduction)	£ 8.75 million
£0	CO_2 tax/cap or/and CO_2 Collection	£ 130,000 (saving)
£ 0	Carbon offset	£ 2 million (saving)
£ 10.24 million	Total cost	**£ 6.62 million**

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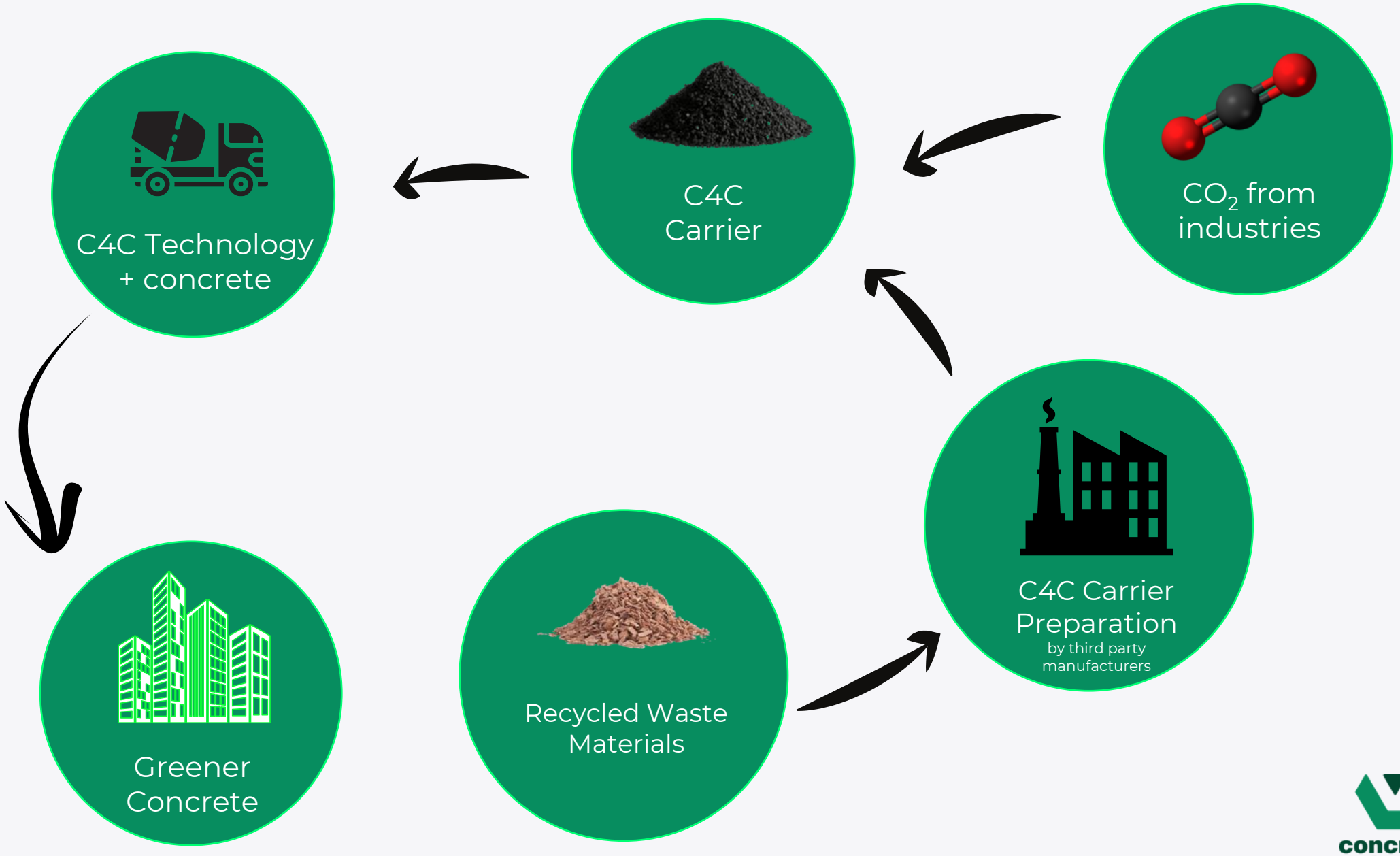
C4C Circular Process – Path to Net Zero



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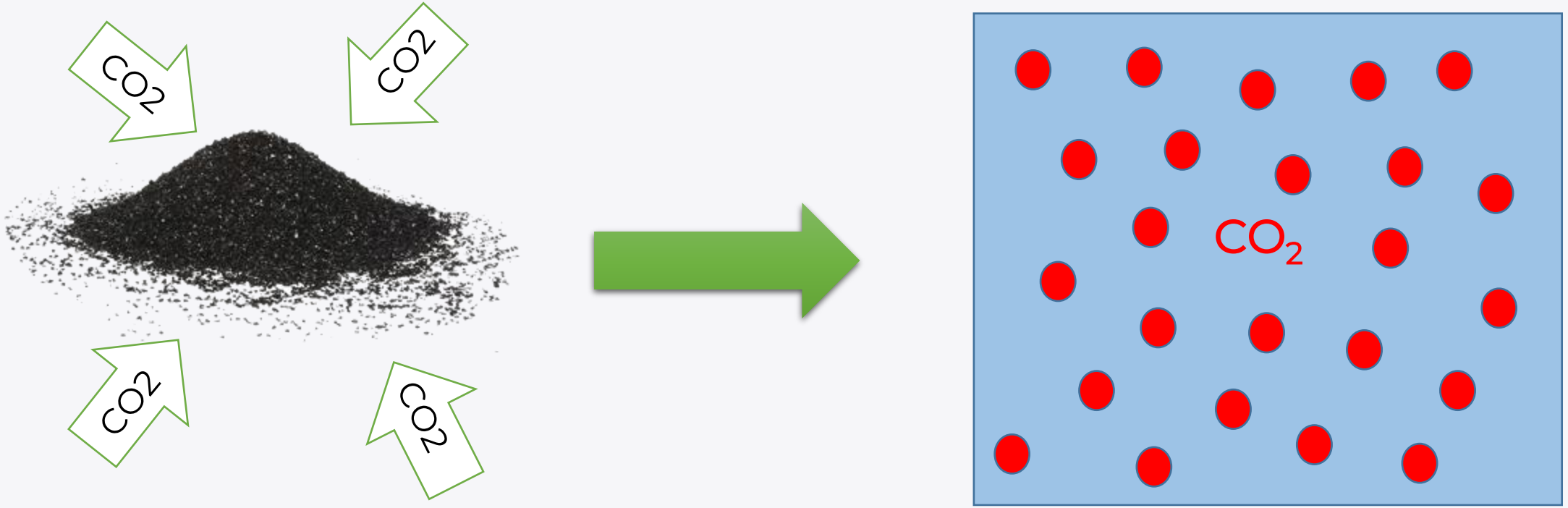
Material Development – Family of Carriers

- Carrier – CO2 Sorbents to efficiently transfer and mineralise CO2



- Insitu release – homogenous well controlled carbonation
- Consistent Strength & pH 12-13

Current R&D

- **PoC Completed – January 2022**

- Developing family of carrier materials derived from different precursors
- Improving CO_2 release rate of carrier
- Optimising interaction of carrier with concrete
- Testing and iterating prototype carriers in simulated environments

- **Current - TRL4**

1st Patent filed

2nd & 3rd patent under solicitor review

Europaisches Patentamt
European Patent Office
Office européen des brevets

Working with UK's top Universities in CCUS and Cementitious Materials Science

The University Of Sheffield.

The University of Nottingham

UNIVERSITY OF LEEDS

Life Cycle Analysis
For new prototype carrier to be completed

IMPACT FORECAST

Industry's Emission Reduction Strategy

Companies	CO_2 Reduction Strategy	Limitations
HOLCIM, CEMEX, HEIDELBERGCEMENT, TARMAC A CRH COMPANY	Using By-products of burning coal (Fly-Ash) or steel production (GGBS) instead of cement	Not enough Fly Ash & GGBS by 2027
	Using Carbon Capture and Storage	Expensive, High risk, Cannot reduce direct emissions
	Using alternative cements, pozzolan, etc	Not available at an industrial scale
concrete 4change	Carbon Capture and Utilisation	No limitation

Competition

	Ready-mix market (75%)		Pre-cast market (25%)		
	concrete 4change	CARBON CURE	SOLIDIA	CarbonBuilt / Carbon Upcycling	
CO_2 *sequestration*	**5%**	0.15%	20%*	0%**	0%**
CO_2 Source	**Any Source**	Purified CO2	Purified CO2	Purified CO2	Any source
Possible Net-Zero Concrete	**Yes**	No	Yes	No	Yes
Ease of Integration	**Easy**	Complex	Easy for precast	Easy using fly Ash	Complex

*Difficult to implement, needs a complex chamber and can never be used with traditional reinforcement

**Carbonating alternative cementitious materials – unable to mineralise CO_2 in entire concrete matrix

C4C UNIQUE SELLING POINTS

- ✓ No change to concrete production line
- ✓ Any source of CO_2 can be used (flue gas or purified CO_2)
- ✓ Carrier made from waste materials to minimise carbon footprint
- ✓ Applicable to all types of cement and concrete, including ready-mix, pre-cast and reinforced concrete
- ✓ 10x more CO_2 sequestration than market leader CarbonCure (set to grow to 30x)
- ✓ Production cost of concrete using C4C technology is significantly cheaper than conventional concrete
- ✓ Globally implementable

All USP's validated by Siam Cement Group and Goldbeck – current investors and 2 of the largest concrete manufacturers in the world

Pre-Seed Investment and Grants

Nexter Ventures Co is the CVC Arm of Siam Cement Group, 5th biggest concrete manufacturer in the world turnover $18 billion

Pre-Seed Investor

SCG

Goldbeck is one of the biggest pre-cast manufacturers, turnover €7 billion

Pre-Seed Investor

GOLDBECK

SV is early stage Climate-Tech VC & VB, Providing support for climate-tech start-ups

Pre-Seed Investor

sustainable ventures

SDGx is early stage Climate-Tech VC, Providing support for climate-tech start-ups

Pre-Seed Investor

SDG X VENTURES

Grant Funding
Department of Energy & Net Zero

Department for Business, Energy & Industrial Strategy

IUK Fast Start Grant

UKRI

<u>Pre-Seed 2022:</u>
£560,000 (£5.4 million post-money valuation)

<u>Grant Funding 2022:</u>
BEIS Energy Entrepreneurs Fund 9 - £500,000 (90% funded by BEIS)

BEIS CCUS Innovation 2.0 - £1 million (70% funded by BEIS)

Innovate UK Fast Start Grants - £100,000 (100% funded by IUK)

<u>Total:</u>
£2 million

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Traction

Trial with Hanson-Heidelberg
March 2022

Trials with future customers in pipeline (2023-2024)

ferrovial construction

ISG

SCG

GOLDBECK

CEMEX

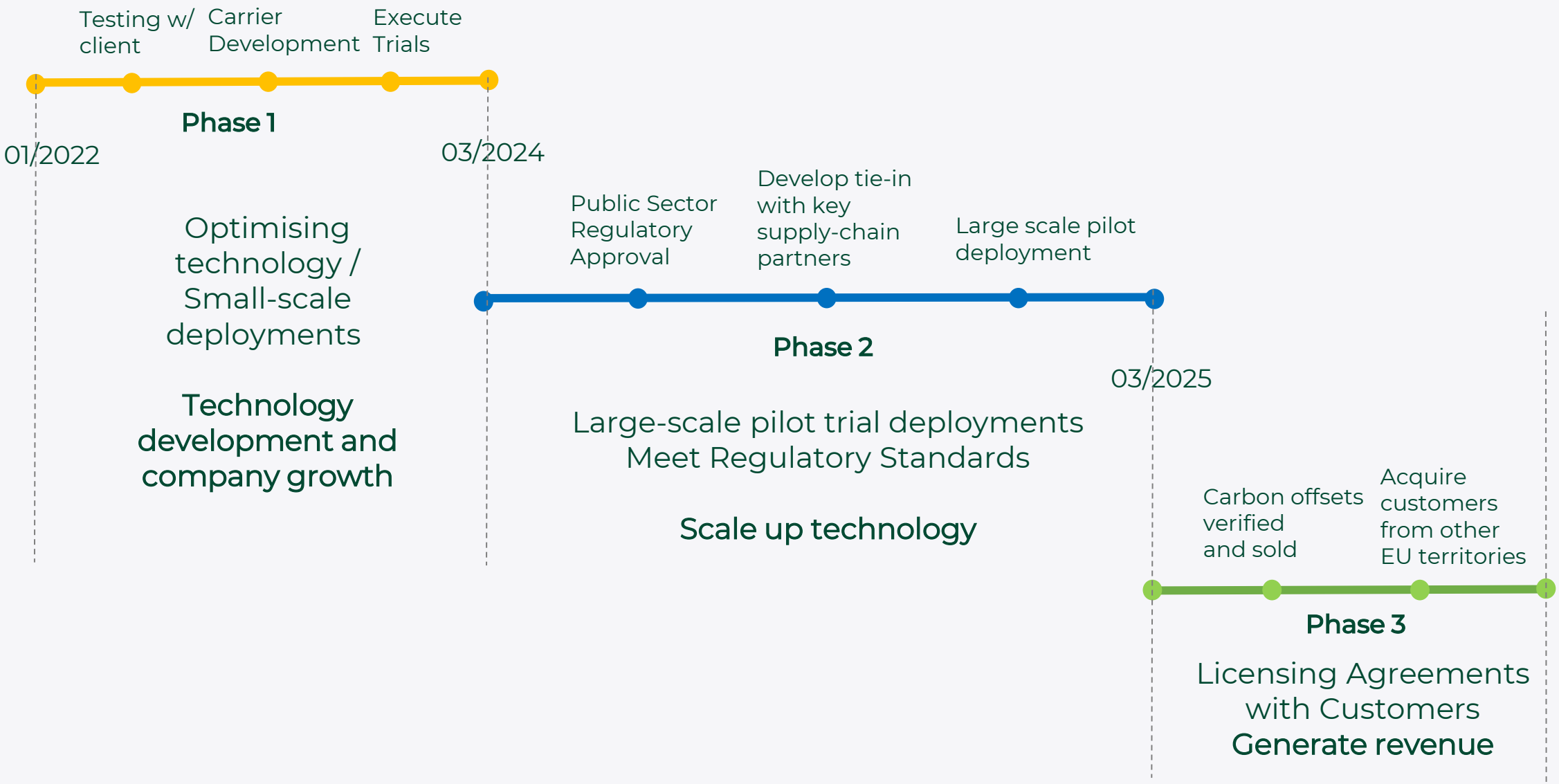
COSTAIN

Trial with Goldbeck
October 2022

The largest concrete and construction companies have submitted their interest

Letters of Intent for
28.8 million m3 of concrete production utilising C4C technology –
approx. £280 million in future revenue

Go-to-Market



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Achievements

SDG Award by EU Tech

European Technology Chamber
eutec.org

UN COP26 - Most Innovative NetZero Project

CLIMATE CHALLENGE CUP

Startup 100 2023 Award

Startups.100 2023

Grant Support from UKRI & BEIS

UKRI Innovate UK

Climate-KIC Top 10 Start-Up

eit Climate-KIC

Climate-KIC is supported by the EIT, a body of the European Union

Santander X – Countdown to Net Zero Award

RAE Enterprise Hub Award

Royal Academy of Engineering

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Let’s make a concrete change together

www.concrete4change.com

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