

Project Revolution

Information Memorandum

May 2023

Private and Confidential

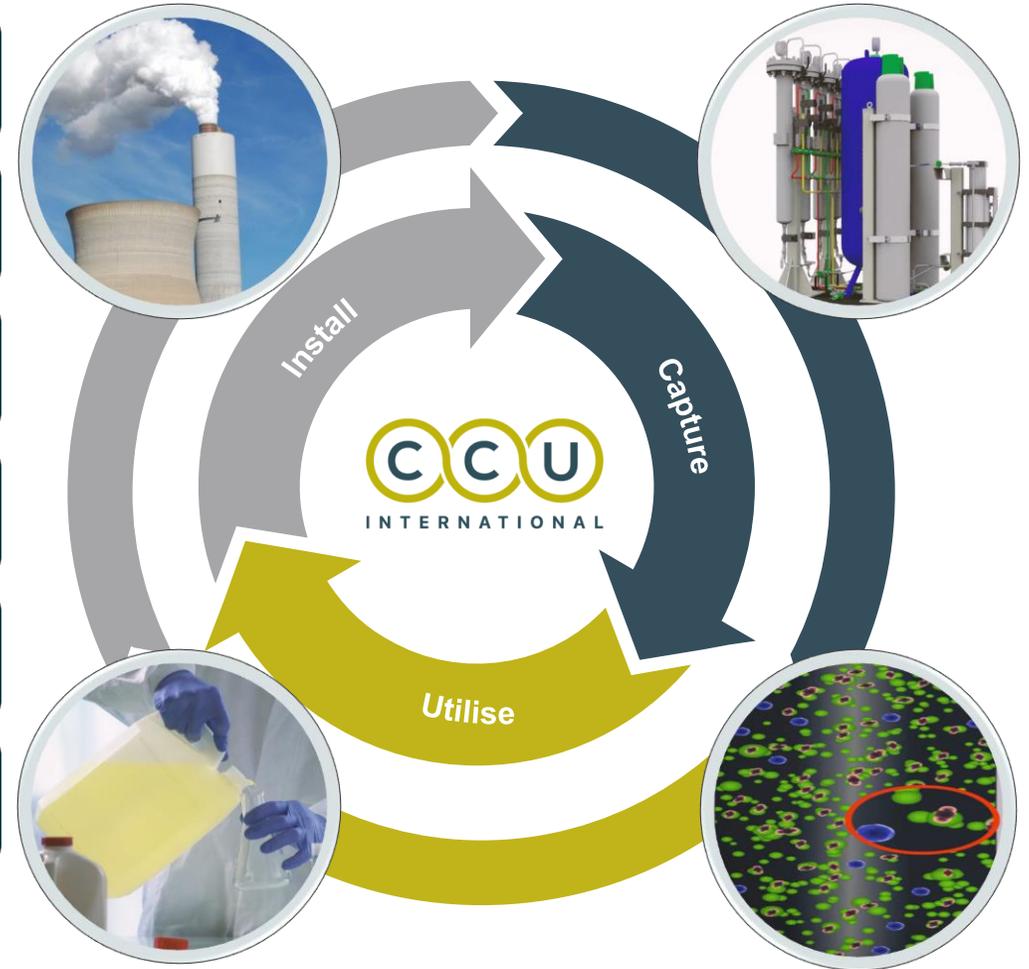
REVOLUTIONARY
CARBON CAPTURE &
UTILISATION
TECHNOLOGY

Revolutionary Carbon Capture & Utilisation technology



- Disruptive carbon capture & utilisation play
- Differentiated technology proposition developed in conjunction with the University of Sheffield
- Proven demo unit in operation with small scale system in progress
- Vast multi-market applicability with highly compelling returns for CCUL and customers
- Significant customer progress to date
- Significant progress made in engineering and manufacturing arrangements

Seeking funding of £6.5m in return for a minority stake in the business



Opportunity overview

Addressing a significant and worsening global problem

- The world is in a state of emergency and must reduce the level of CO₂ entering the atmosphere in order to prevent the global temperature increase reaching 1.5°C. This will require a 90% reduction in carbon emissions versus current levels. In tandem, there is a global shortage of CO₂ which is impacting upon a number of industries, such as food and beverage.



Via a proven technology with a unique element

- CCU is a significantly superior solution to CCS and there are very few competing CCU technologies. CCUL's system passes mixed gases through a multiple step process involving pressurisation through a unique silica gel. The silica gel is unique, has been developed to capture high volumes of CO₂ and is extremely resilient.



With mass market potential

- CCUL's system can capture and process emitted CO₂ from any industrial process which emits flue gases, including energy, heavy industry, manufacturing, petrochemical, anaerobic digestion and many others. The CO₂ captured can be of various purities ensuring its suitability for a range of downstream uses such as food and beverage, medical, airline fuel and aggregates.

Experienced management team

- CCUL's team combines a strong mix of technical and commercial expertise. Professor Peter Styring a leading global expert in carbon capture and utilisation, will continue to advise CCUL and oversee research and further developments of the technology.



Progressing all aspects of the business

- CCUL's management team is in discussion with asset management and fabrication partners to assist in the delivery of standard production units to committed customers for live system implementation and process verification.



Compelling economic model and returns potential

- Based on discussions with potential customers management believes that there are sale, rental and service options for the CCUL system and the ultimate commercial model will be decided upon following the successful operation of the initial units. The business plan assumes the most conservative, lowest capex, build and sell model.



A game-changing technology with enormous potential in a critical and high-growth market

Experienced management team



Beena Sharma: CEO

- Operations management
- Development of strategies and policies
- BD and Public Relations

Experience:

Prof. Peter Styring: CTO¹

- Technical Team Lead
- Develop and lead R&D
- Develop technical strategy for growth

Experience:

Jordan Ferguson: CCO

- Head of commercial strategy
- Manage sales team
- Funding/Investment lead

Experience:

Francis Doherty: CFO

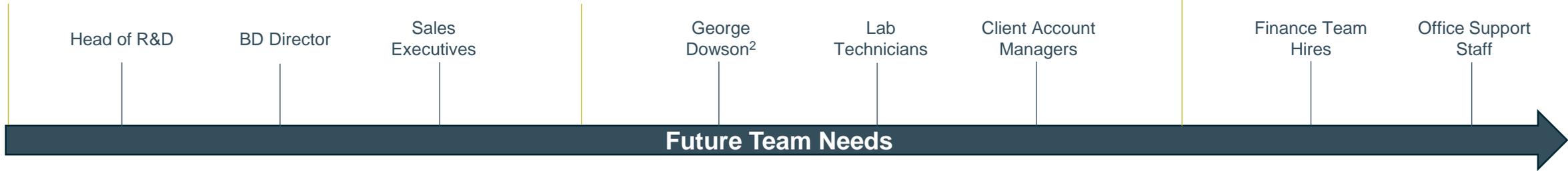
- Financial planning and strategy
- Project delivery
- Financial reporting

Experience:

2023

2024

2025

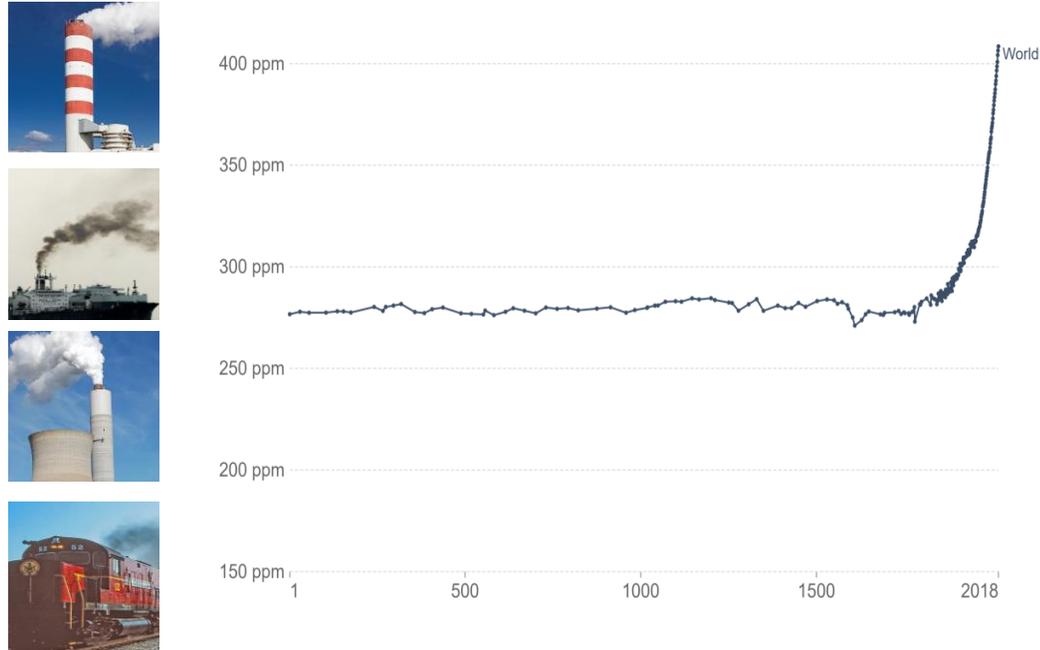


¹Peter Styring will initially work with the business on an advisory basis

²George Dawson, PhD chemist and chemical engineer, who was critical in developing the technology will be onboarded full time in 2024 to work under Peter in Technical Engineering, R&D and Project Delivery

The market need: Solving a significant global problem

Growing emissions of CO₂:
Global atmospheric CO₂ concentration, 1AD-2021¹



Growing demand for CO₂:
\$800bn - \$1.1tn market for utilized CO₂²



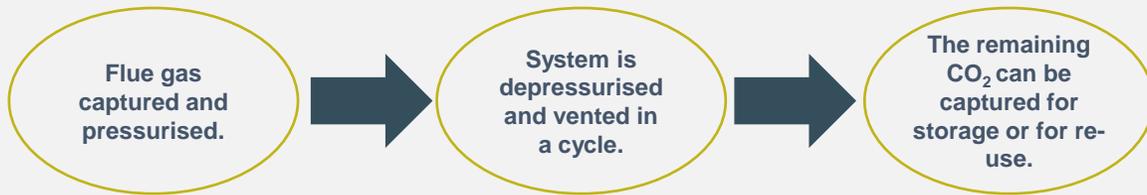
Tackling a significant global problem and creating revenues in a growing industry

Sources: ¹National Oceanic & Atmospheric Administration (NOAA), 2020 ² McKinsey

Using a proven, proprietary, CCU technology

The IP:

- Process patented (GB2201062.3) submitted globally and is pending approval.
- The patent will be published in July 2023.
- The IP of the CCUI capture process rests in the combination of a chemically stable, solid and porous CO₂ sorbent material with a rapid above-ambient pressure swing cycles.
- Through use of partially-enriched intermediate CO₂ streams from the previous cycle to mix with incoming fresh input gas (bootstrapping) combined with multiple staging gives a high degree of control over output CO₂ concentrations and allows a great range of potential utilisation options, without risk of adding new contaminants.

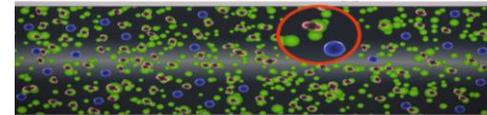


The Differentiation:

- CCUL's ability to produce CO₂ at different purification levels is virtually unique.
- Utilisation offers a truly circular economy.
- Market need is multi-dimensional.
- Lower energy usage than competitors.

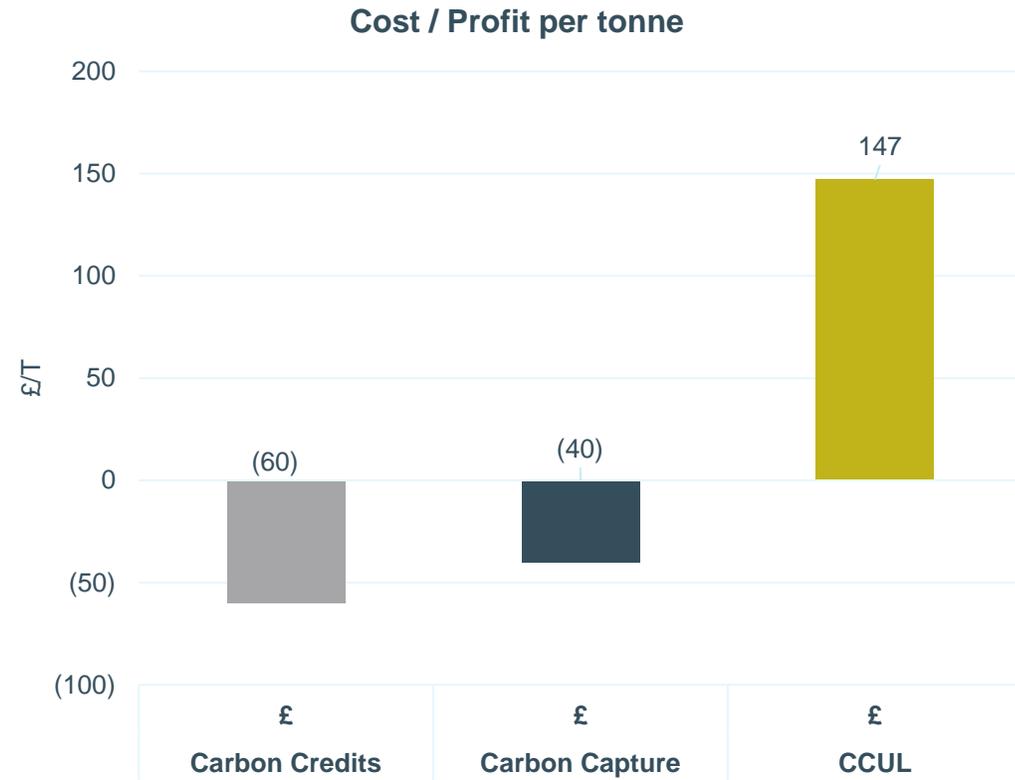


- Modular and scalable
- Any application with flue gas output
- Compact design. Small footprint

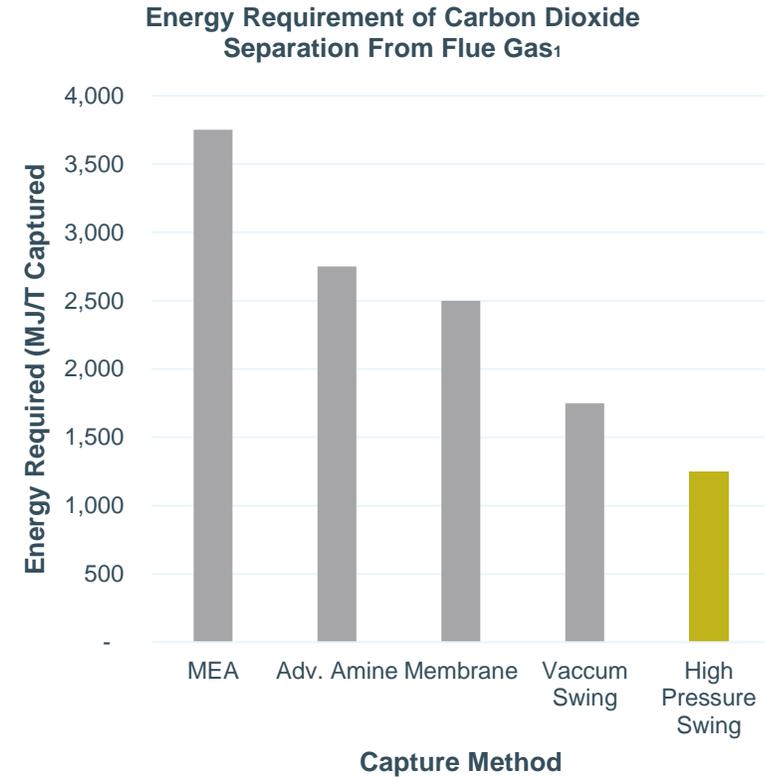


- Enables the reuse of captured CO₂
- 0.3T/day – 10T/day modules
- Designed to run off renewable energy

Energy efficient technology with a real value proposition



CCU turns a net cost of £40/T into a net profit of £155/T



Energy efficient solution

The technology combines significant environmental and carbon dioxide reduction benefits, with a genuine profit opportunity for their clients

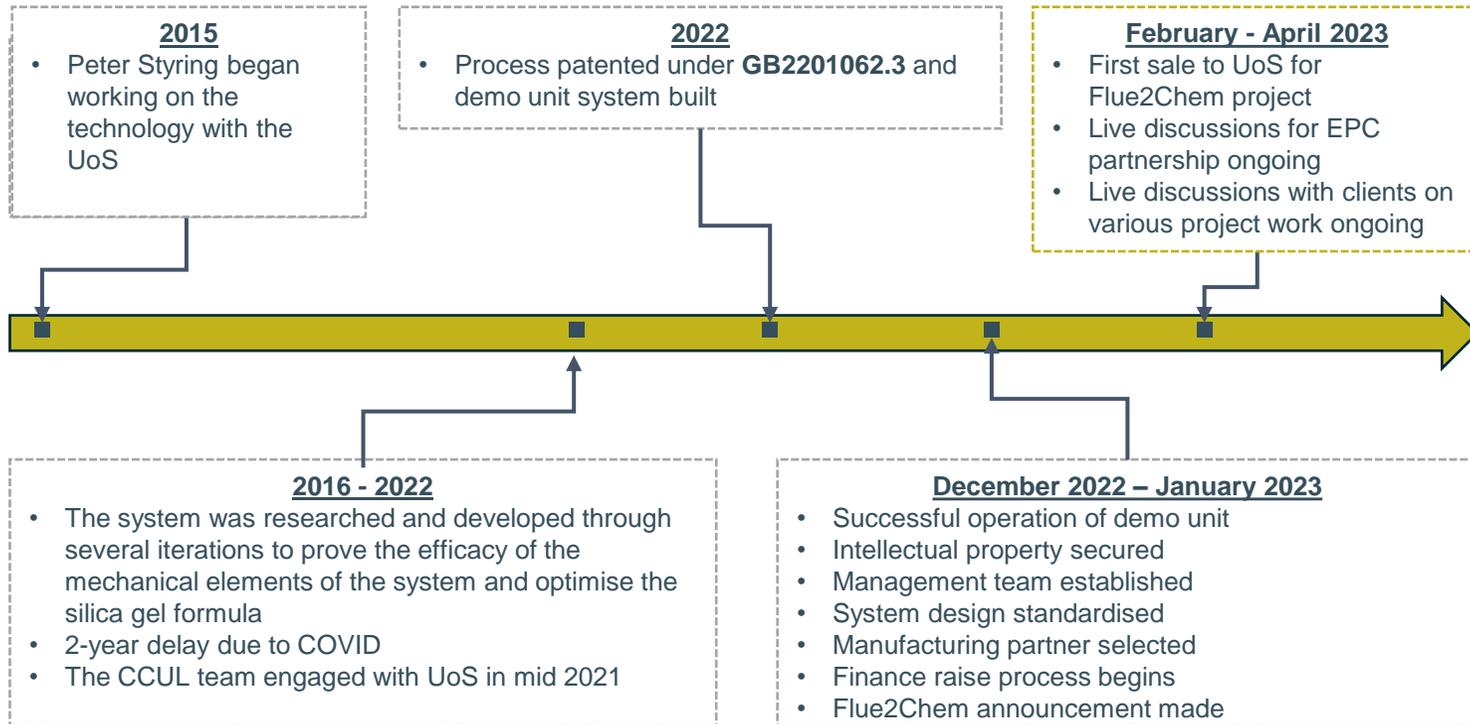
* Example based on a company emitting 5T/day of CO₂ = annual emissions of 1,825T. Profit would amount to £124 if electricity price is £0.12/KWH¹

¹ Published research from the Royal Society of Chemistry

Competitive landscape

Company	Modular and Scalable?	Designed to run off renewables?	Avoids using harmful chemicals?	Direct Air Capture?	Point Source Capture?	Used for storage?	Designed for utilisation?	Produce food/medical grade CO2?	Low Energy depressurized costs	Creates revenue stream	Small Footprint	No post processing?	Technology
 CCU INTERNATIONAL													PSA - Non Amine
 carbon clean													Advanced Amine
 Carbon Engineering													DAC via Absorption
 climeworks													DAC via Adsorption
 CARBONQUEST													Advanced Amine
 AKER CARBON CAPTURE													Advanced Amine
 C-Capture													Inorganic Solvent
 Svante													Solid sorbent moisture swing
 Carbon Capture Solutions													Advanced Amine
 Nuada													Solid sorbent (MOF)

Timeline to date



CCUL has been shortlisted for a number of awards during 2022-2023 to date:



THE ENGINEER
Collaborate to Innovate

Finalist in Energy & Environment



StartUp Awards

Finalist for Green Start up



ccelerateHER

Winner

Client & Partner Development



Power Plant



Utilities Company



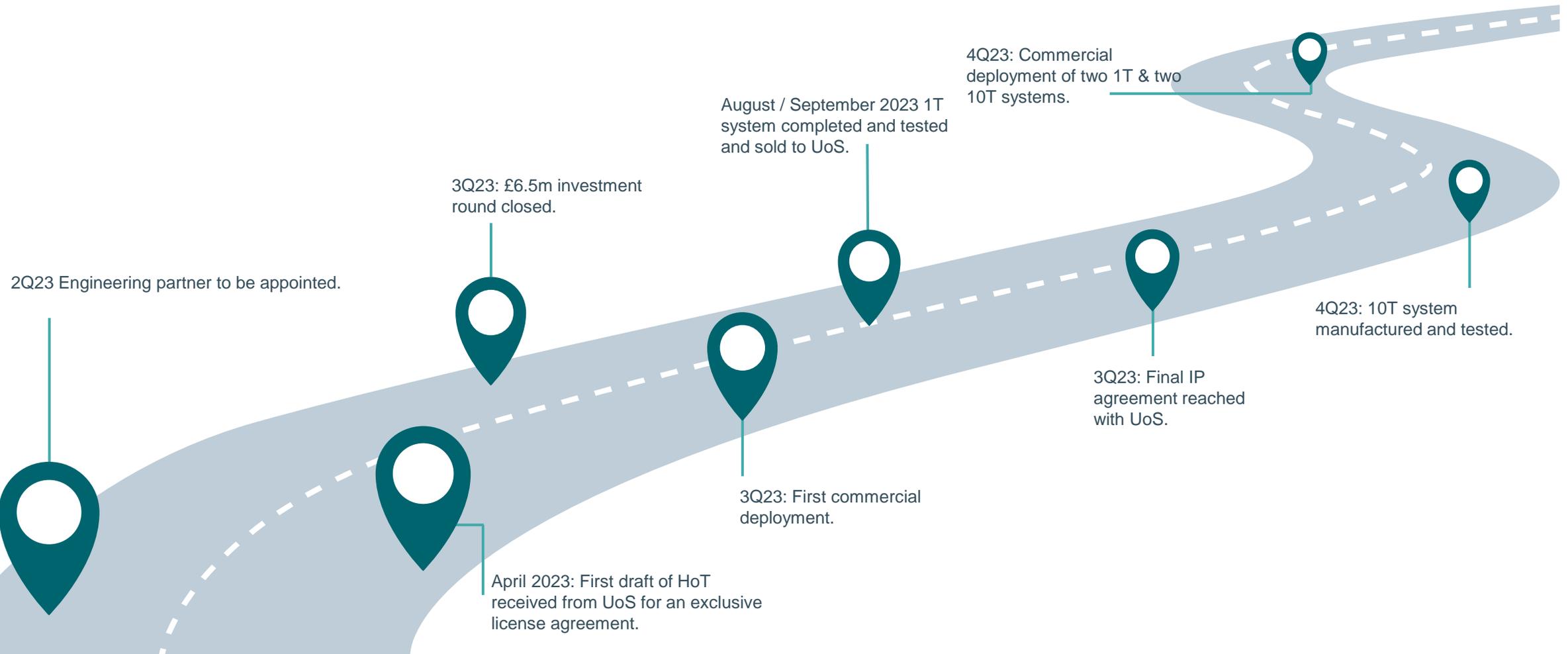
Portside Facilities



Waste to Energy

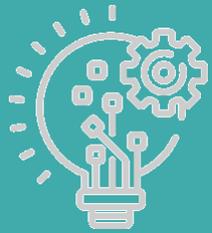
Denotes active projects
– not an exhaustive list.

Key Future Milestones



A well-developed near-term plan

- CCUL management continues to progress all aspects of the business and will move into the next stage of development upon receipt of funding.



1

Technology

- Work with downstream partners to configure system to optimise supply of required CO₂ grades;
- Improve system designs;
- Develop larger systems for larger clients;
- Develop further downstream utilisation technologies.



2

Manufacturing

- Establish Project Management Office (PMO);
- Implement RFI / RFQ Processes;
- Build the operational units;
- Progress qualification of UK manufacturing and international partners.



3

Customers

- Visit end users to understand their requirements, starting with the 13 R&D partners;
- Secure further letters of interest;
- Continue with marketing effort to raise awareness of the system and its capabilities;
- Identify highest priority end markets and high-value customers within those sectors.



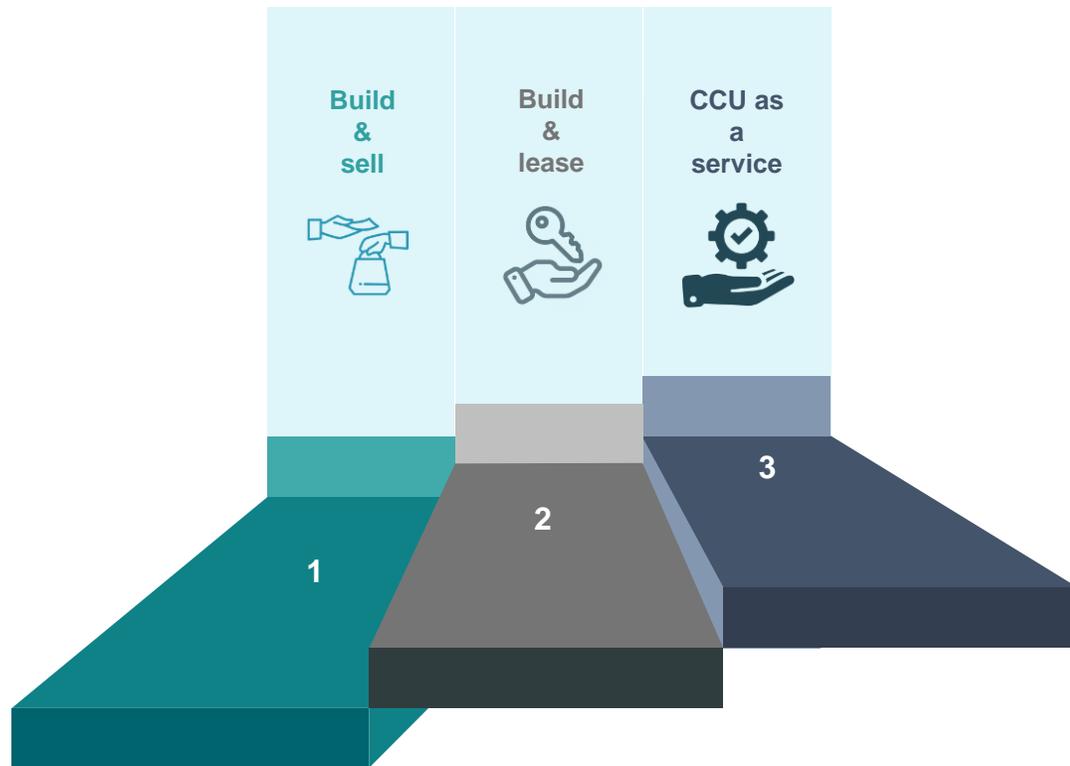
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Operations

- Integrate Quality Management System;
- Execute on hiring plan;
- Recruit and train personnel;
- Draft license and distribution agreements;
- Develop international partner / agent network.

Three potential commercial models

➤ Based on discussions with potential customers, CCUL management believe there are three commercial models available for the system. Ultimately, the business is likely to offer a combination of all three to meet the varying requirements of a broad customer base.



CCU as a service (Build-Own-Operate)

- Provide CO₂ capture and CO₂ purification equipment at no capital cost to clients. Equipment remains the property of and is operated by CCUL.
- Revenue streams to CCUL:
 - Gate fees
 - Majority share in carbon credit sales
 - Sale of purified CO₂

Build & lease

- Provide CO₂ capture and CO₂ purification systems on a lease basis. Equipment is owned by CCUL and can be operated by client or CCUL.
- Revenue streams to CCUL:
 - Leasing fees
 - Minority share in carbon credit sales
 - Servicing & maintenance
 - Minority share in carbon credit sales
 - Commissions for selling purified CO₂

Build & sell

- Sale of equipment only. Unit operated by client.
- Revenue streams to CCUL:
 - CO₂ capture equipment sales
 - CO₂ purification equipment sales
 - Servicing & maintenance
 - Minority share in carbon credit sales
 - Commissions for selling purified CO₂

Low-capex build and sell model generates stellar returns

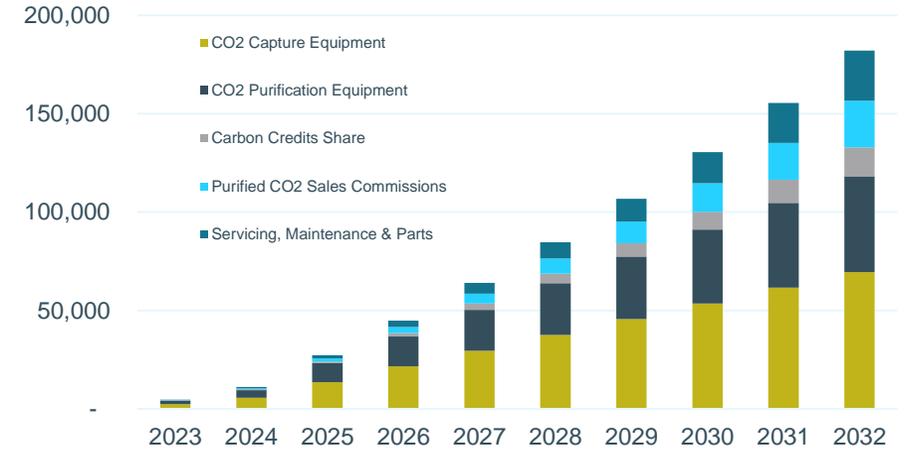
- Under the build and sell model CCUL anticipates first sales during 2023.
- The model assumes that the business is progressed, with a premises taken on and staff hired ahead of first sales.
- CCUL is forecast to be earnings and cash positive from 2024 onwards and no subsequent funding rounds will be necessary if this is the chosen business model.
- Projected revenues of £200m by 2032 generating EBITDA of circa £70m.
- With a projected share of ~5% of the total addressable market by 2032 the business generates significant earnings and cash.

Key Assumptions:

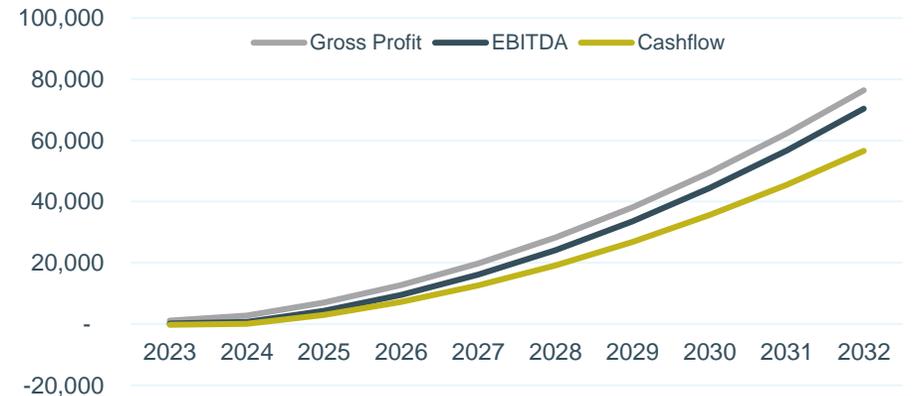
- Capture Equipment Sales price:
 - 1T system - £181k
 - 10T System - £1m
- Purification Equipment Sales price:
 - 1T system - £126k
 - 10T System - £753k
- Build cost for capture equipment assumed as 70% of sales price
- Build cost for purification equipment assumed as 70% of sales price



Revenue Forecast (£000)



P+L / CFS Summary (£000)

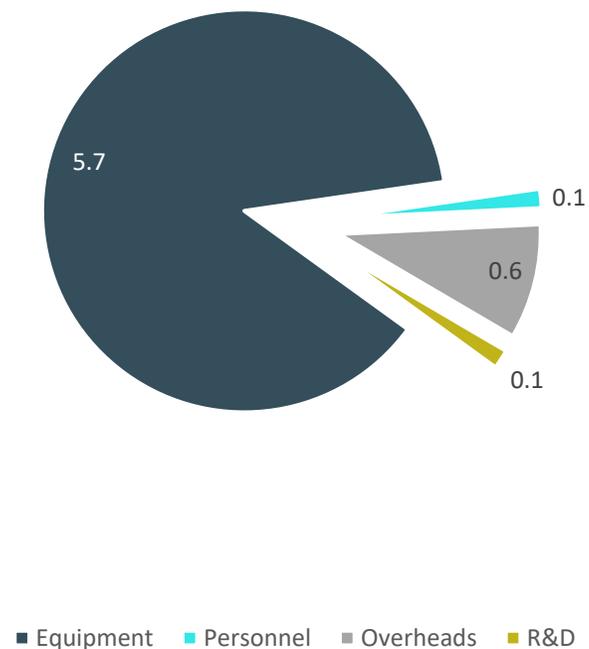


The funding requirement

Use of funds

Investment	£m	Details
 Equipment	£5.7m	This will include: <ul style="list-style-type: none"> • 3x 10T a day demo units • 3x 1T a day demo units • Other general equipment, such as trailers etc
 Personnel	£0.1m	This will include: <ul style="list-style-type: none"> • 3 months of total payroll costs for the business. • All management salaries and other staff hired in year one <ul style="list-style-type: none"> • Only 3 month run rate to allow time for first sales to generate income to thereafter support salaries
 Overheads	£0.6m	This will include: <ul style="list-style-type: none"> • 100% of all year 1 overheads as forecast <ul style="list-style-type: none"> • Including premises rental costs • SG&A Costs • Other adhoc overhead costs
 R&D	£0.1m	This will include <ul style="list-style-type: none"> • Costs required to make bespoke amendments to meet the requirements of some parties that CCUL is currently in dialogue with
	£6.5m	

Projected Spend (£m)



A compelling investment opportunity



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Disclaimer

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