



carbon clean

TECHNOLOGY TO ACHIEVE 'NET ZERO'

Aniruddha Sharma, CEO – Carbon Clean | 2nd November 2022

Presentation at: Energy Security and Carbon Sequestration – Innovating CO2 Recovery Technology

Industrial decarbonisation is a trillion \$ market opportunity

Carbon capture is the most proven and cost-effective method of achieving industrial decarbonisation

Addressable Challenges:



Climate change is real

10 gigatonnes of industrial CO₂ emissions per annum. Companies and governments are demanding carbon capture solutions.



CO₂ capture today is too expensive

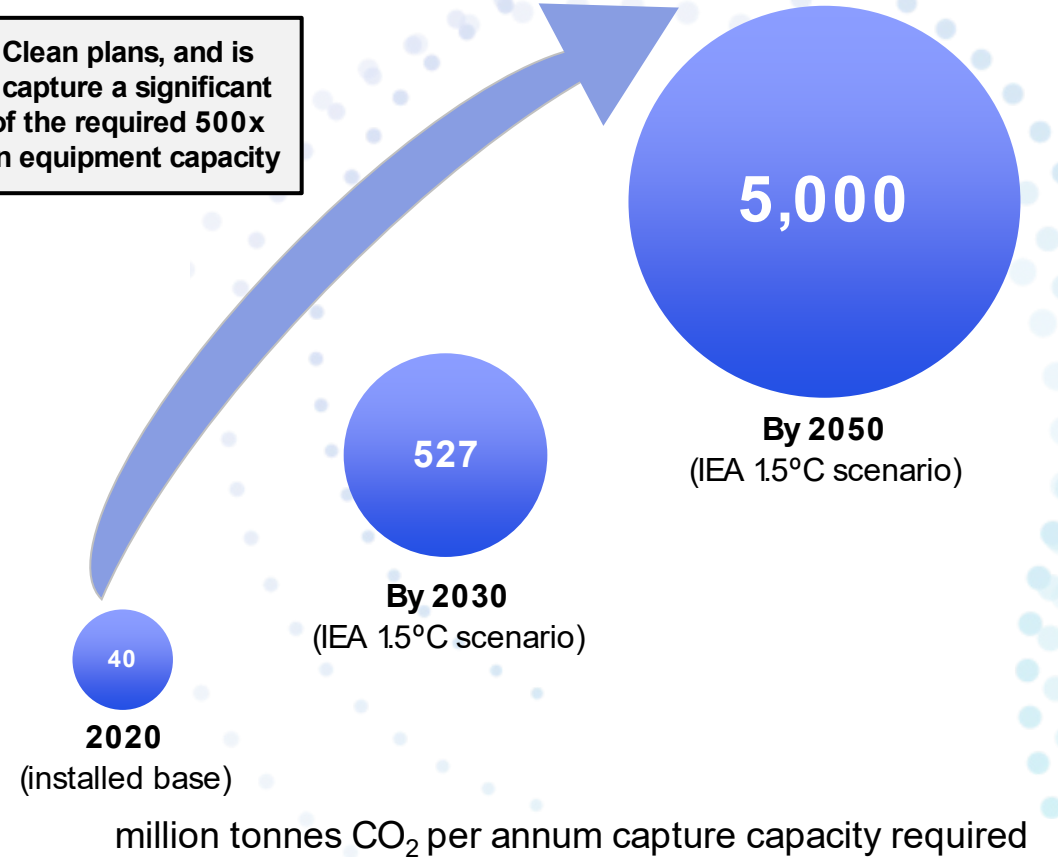
Our competitors' offerings cost \$100's / tonne. There are no standardised design solutions.



>50% of industrial sites have no space

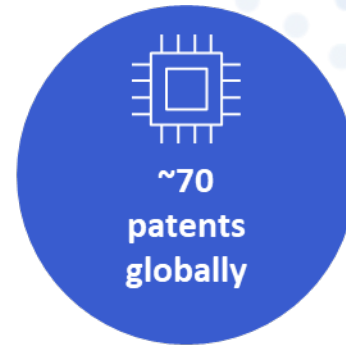
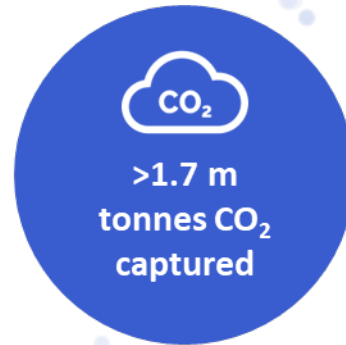
Most industrial sites are too dense for incremental infrastructure.

Carbon Clean plans, and is ready, to capture a significant portion of the required 500x ramp up in equipment capacity



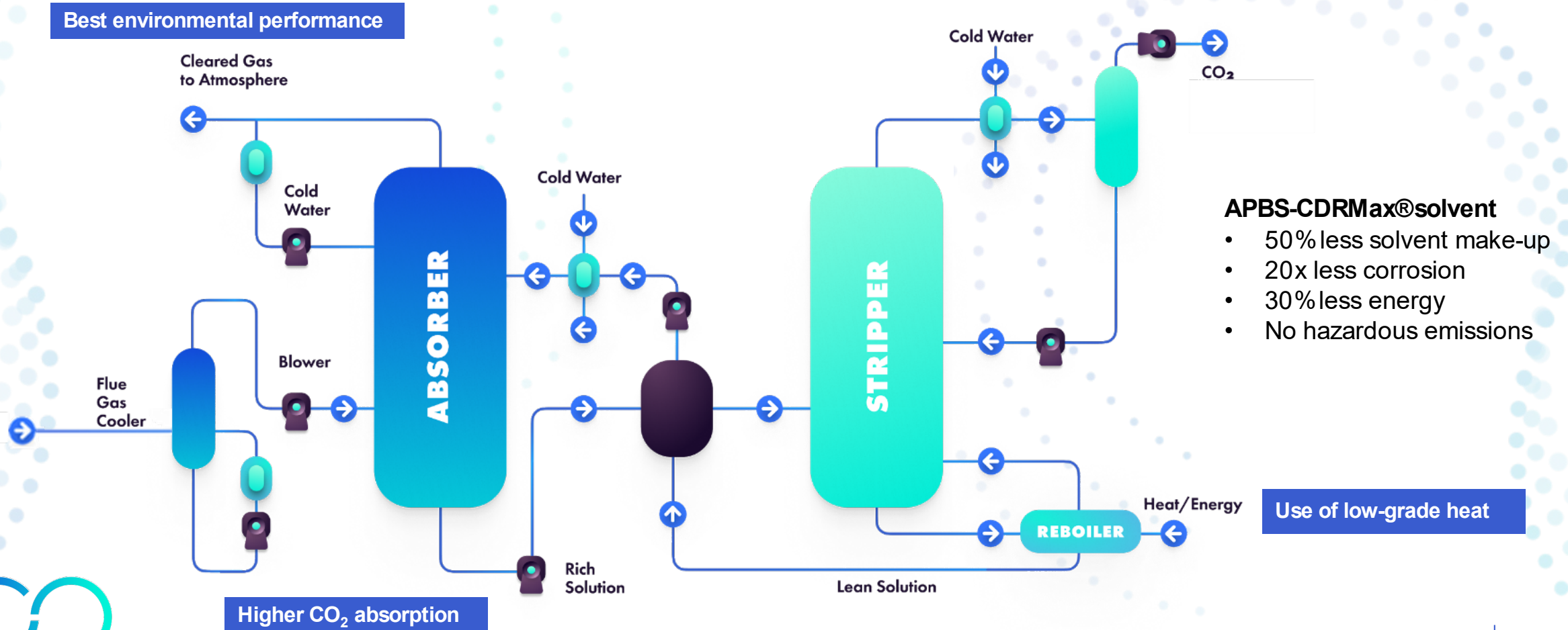
Carbon Clean is revolutionising industrial decarbonisation

Our technology is in operation at 49 sites globally and we are set to achieve our vision of capturing 1 billion tonnes of CO₂ by the mid-2030s



How we are solving it

Carbon Clean has expertise in process design and engineering that, when integrated with existing industrial plants or new projects, enables optimised carbon capture



Our solutions



Conventional Technology

- ✓ Engineered to order
- ✓ Capacities up to 4,000 TPD CO₂
- ✓ Mature technology
- ✓ Traditional project execution



CDRMax Technology - Semi-Modular

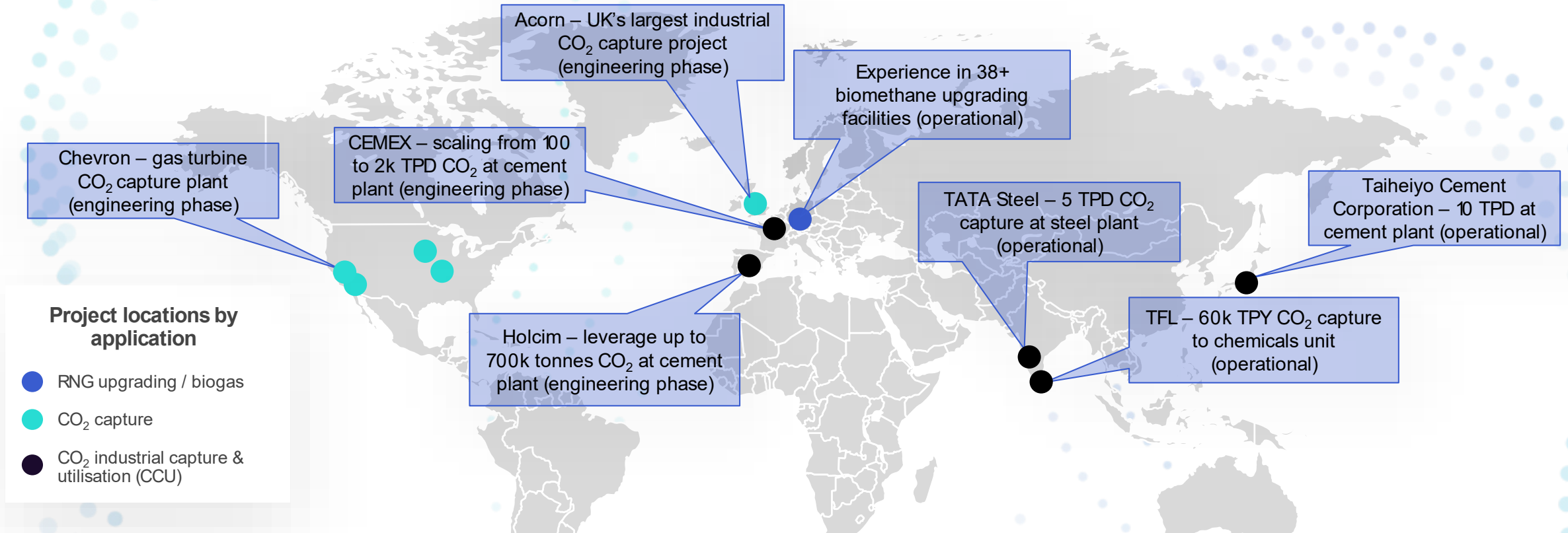
- ✓ Pre-fabricated semi-modular systems
- ✓ Capacities 10, 100, 200, 300 TPD CO₂
- ✓ Less installation and onsite activities
- ✓ Reduced project timeline



CycloneCC™ Technology – Modular

- ✓ Fully pre-fabricated modular system
- ✓ Capacities 10, 100, 300 TPD CO₂
- ✓ Up to 50% reduction in CapEx and OpEx
- ✓ Standardised scalable specific sizes reduce footprint

49 technology references across the globe



Over 1.6 million tonnes CO₂ captured since 2009

Our CycloneCC technology

CycloneCC™ enables scalable cost-effective carbon capture for the industrial sector by reducing equipment size and CapEx & OpEx up to 50%



- ✔ Breakthrough combination of two process intensification technologies:
 - Rotating Packed Beds
 - APBS-CDRMax® solvent
- ✔ 100% modular & scalable
- ✔ Fabricated fully engineered standardised modules
- ✔ Reduce size & cost by up to 50%

Our execution strategy is simple...

Lead with the world's smallest industrial carbon capture solution: CycloneCC™

- ✓ **Modular:** 1/10th the size of conventional commercial carbon capture equipment
- ✓ **Scalable:** 10, 100 and 300 TPD CO₂
- ✓ **Low Cost:** CapEx and OpEx are reduced by up to 50%



100 TPD conventional CO₂ capture plant

- Overall footprint: 50m x 90m
- Height: 35m
- Delivery time: 15-18 months

100 TPD CycloneCC™ modular solution

- Overall footprint: 6m x 26m
- Height: 9.75m
- Delivery time: 6-8 months

9.75m

50m

6m

26m

90m

35m

Accelerated rollout with shareholders and JV partners



Gas turbines in San Joaquin Valley, California

- **Expansion Opportunity:** Other land-based gas turbines across the US
- **Facility Type:** Co-generation
- **Unit Size:** 120 TPD



Energy from waste facility in Sheffield, UK

- **Facility Type:** Energy from Waste (EfW)
- **Expansion Opportunities:** Opportunities in the US, EU, India and Australia in the EfW sector
- **Unit Size:** 10 TPD

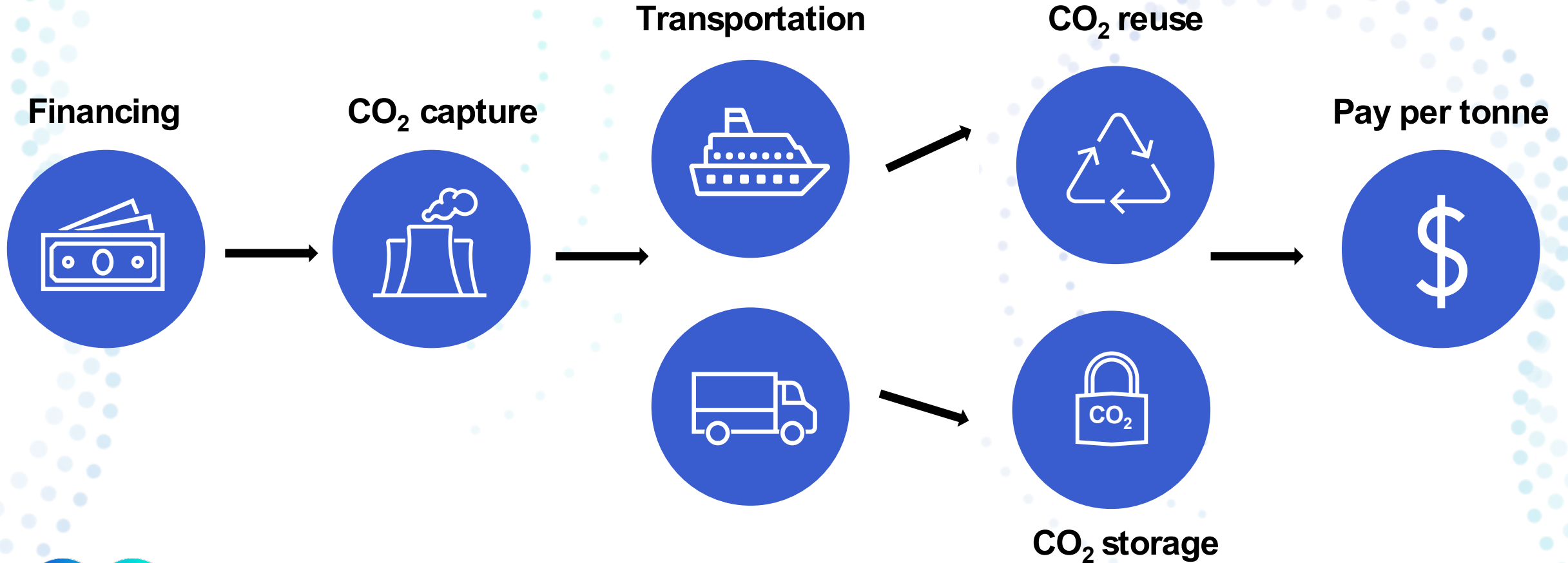


Cement plant in Rüdersdorf, Germany

- **Facility Type:** Cement plant
- **Expansion Opportunities:** 100 TPD at 15 identified sites globally; beyond this, 300 TPD with ambitions to scale to 2,000 TPD
- **Unit Size:** 10 TPD, 100 TPD and 300 TPD

Carbon Capture as a Service (CCaaS)

Streamlined and simple carbon capture from source to reuse or storage with payment per tonne CO₂ captured



Strong global partnerships

Strategic Partners & Top Customers



Key Investment Partners



Role of CCUS

- ✔ Energy security in current context is every more important
- ✔ Need to balance the requirements for growth with Net Zero ambition
- ✔ We are on a missions to deliver 1 gigatonne CO₂ capture from industrial sources and are open for partnerships



carbon clean

TECHNOLOGY TO ACHIEVE 'NET ZERO'