



Towards a lower carbon, more equitable future

Heavy industry is the largest source of CO<sub>2</sub> emissions without a clear path to decarbonization

Major CO<sub>2</sub> emitters have near-term commitments

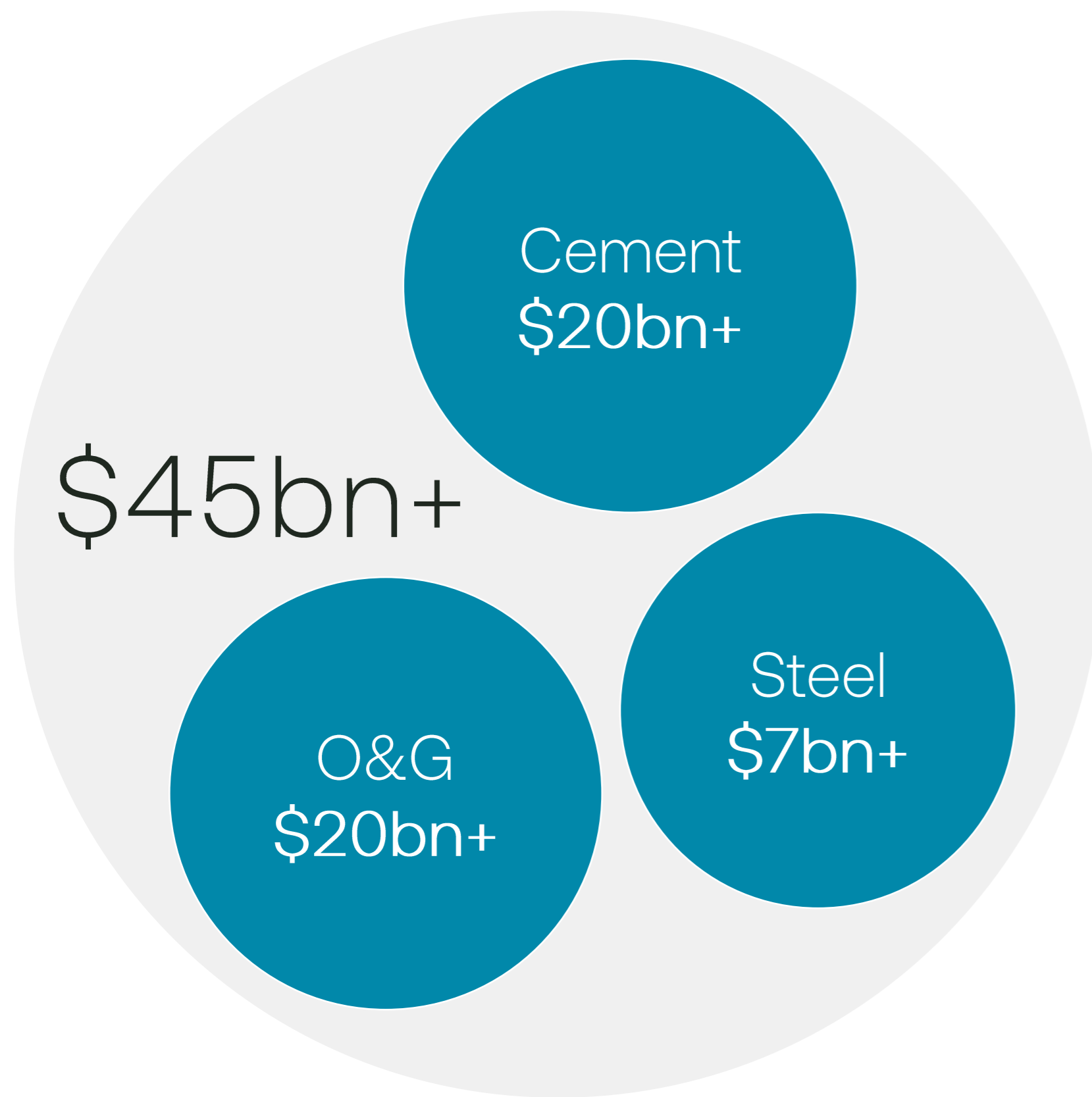
Point source carbon capture is one of the only near-term options to meet those goals



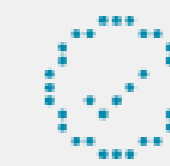
# Trillion dollar market waiting to be unlocked

## Decarbonizing hard-to-abate sectors

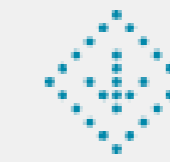
### Heavy industries



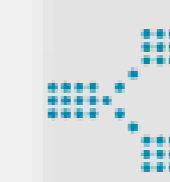
### Customers' unmet need:



Point source  
carbon capture



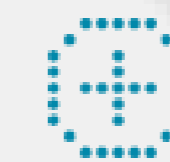
Low energy &  
fully electrified



Chemicals-free &  
easy to use



Small footprint



Cost effective

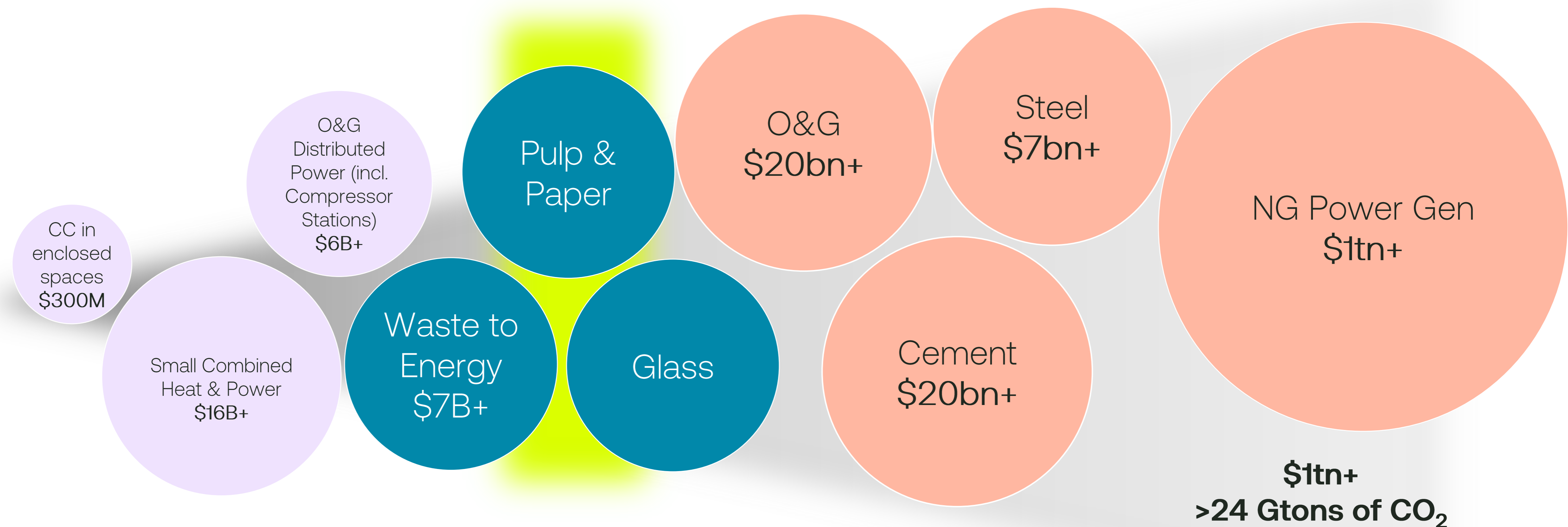


# Near-term opportunities pave the way to trillion-\$ market

Near term markets

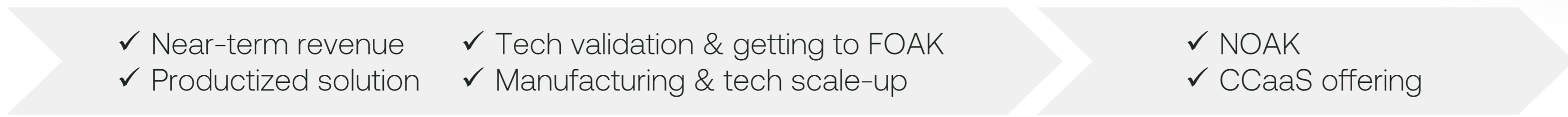
Medium term markets

Long-term markets

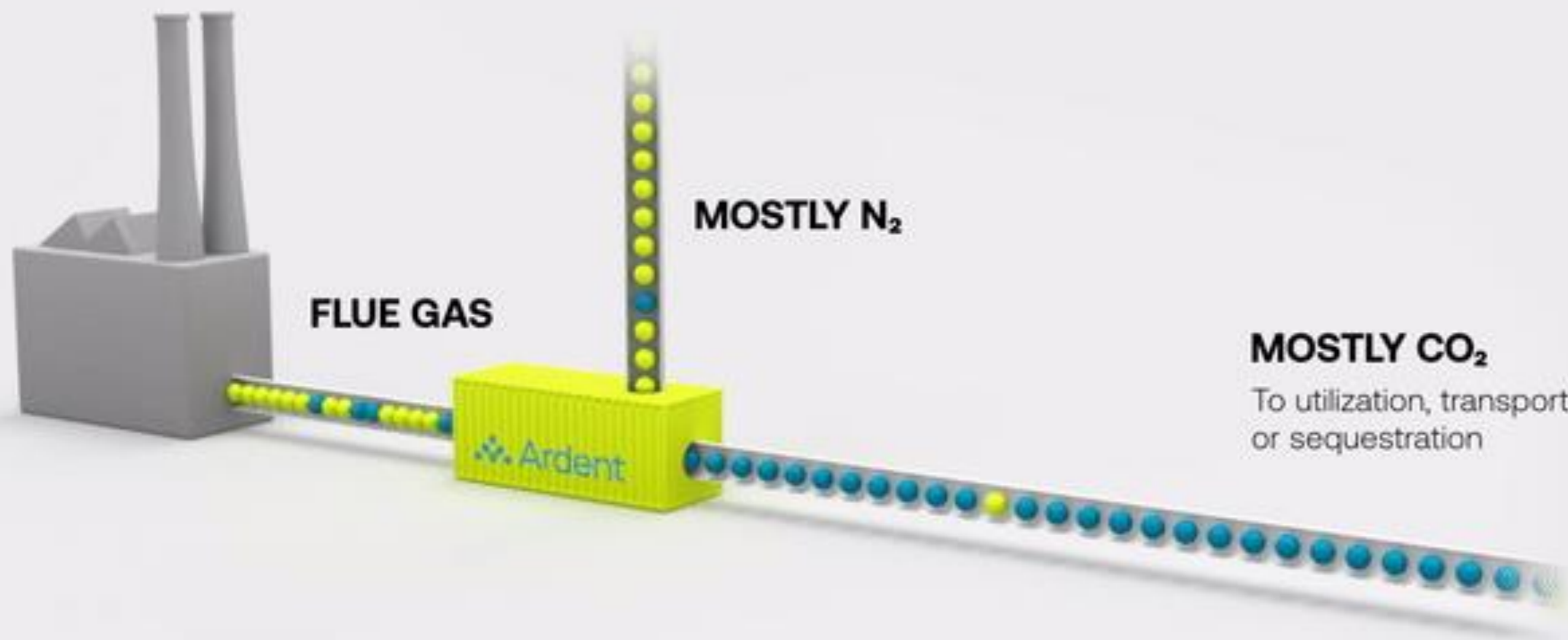


**\$1tn+**  
**>24 Gtons of CO<sub>2</sub>**

Time



# Ardent provides the best carbon capture solution in the market



## How we **unlock** this market:

- ① “Universal adapter” enabling other technologies
- ① Scalable with small footprint
- ① Poison resistant (SO<sub>x</sub>, NO<sub>x</sub>)
- ① Works for a variety of concentrations and volumes
- ① Easy to operate (chemicals-free)



# How it works: Combining powerful tech with practical engineering to deliver real solutions

## Patented Membrane Chemistry + Design

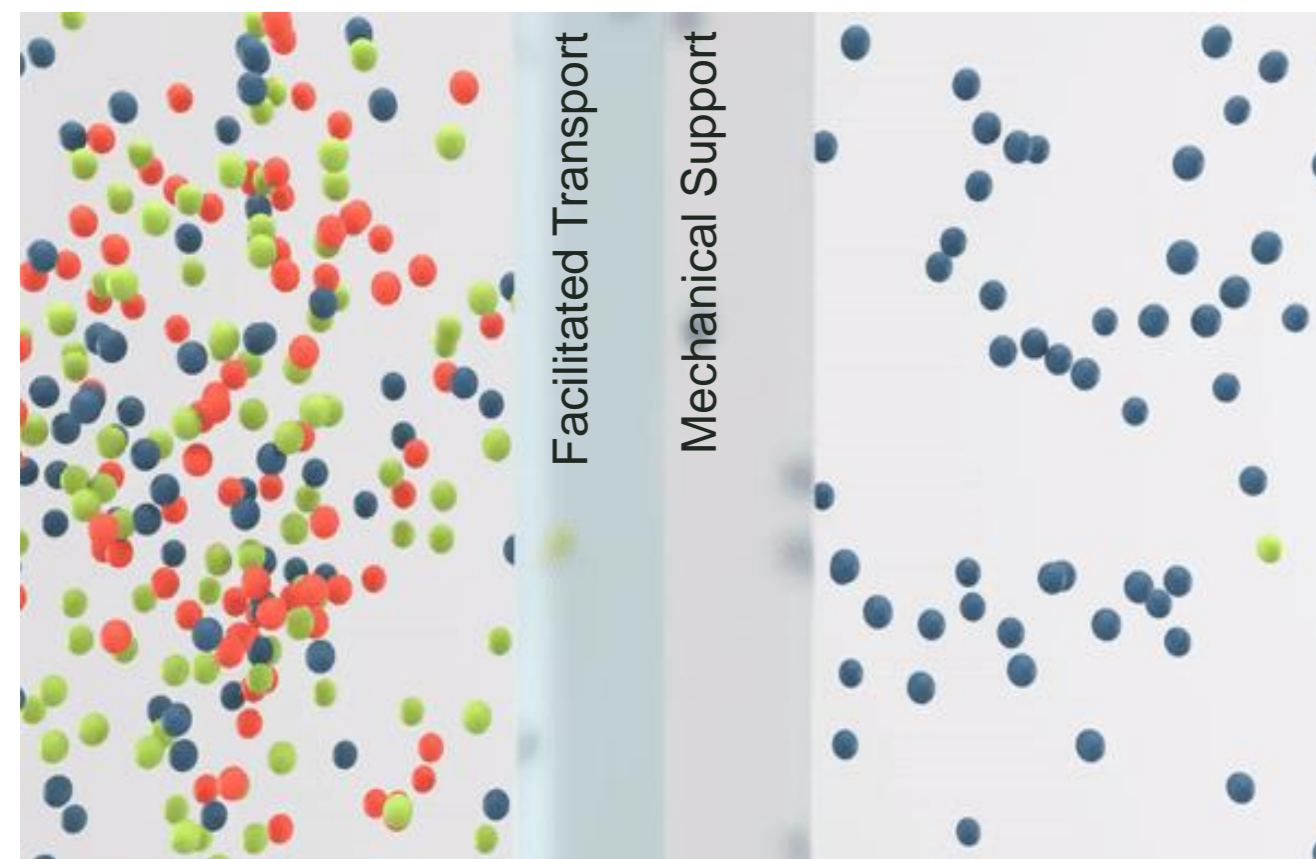
Chemistry does the work, not pressure and size

## Modular Design

Compact and modular, not large and bespoke

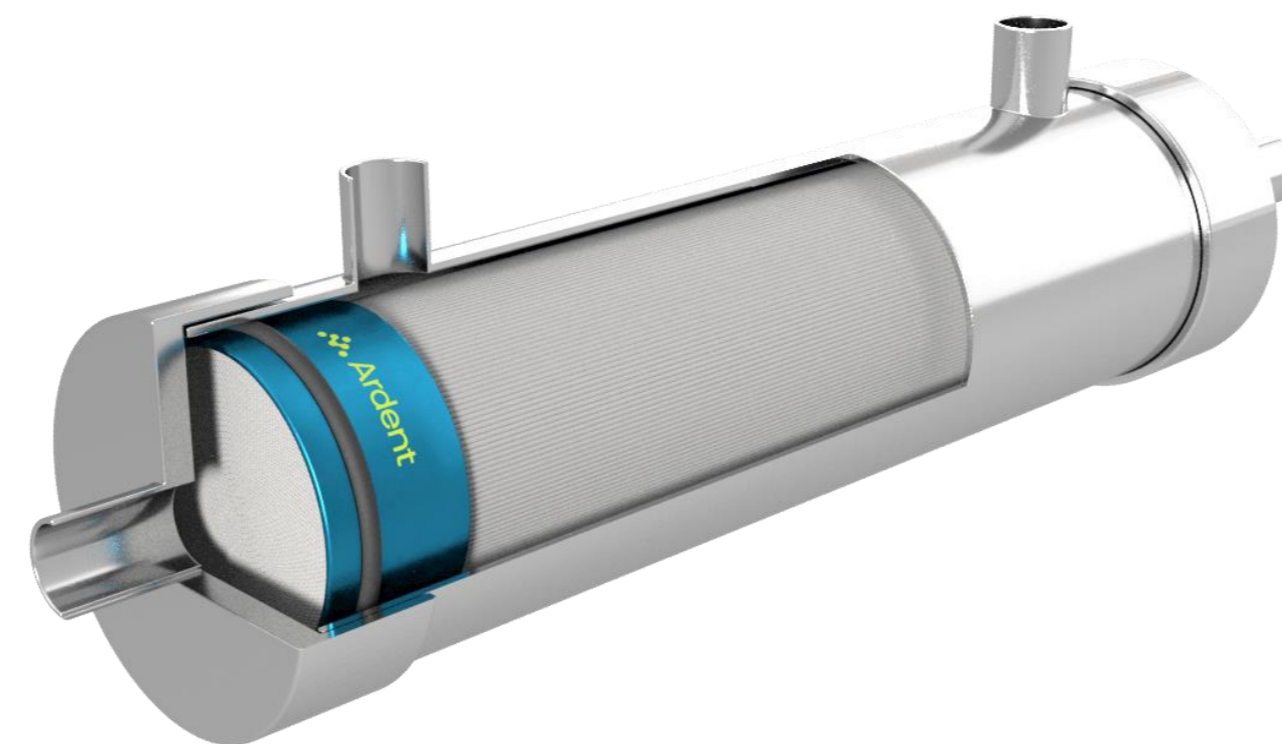
## Simplified System Integration

Lower compression, Lower OPEX, Lower CAPEX



Feed side

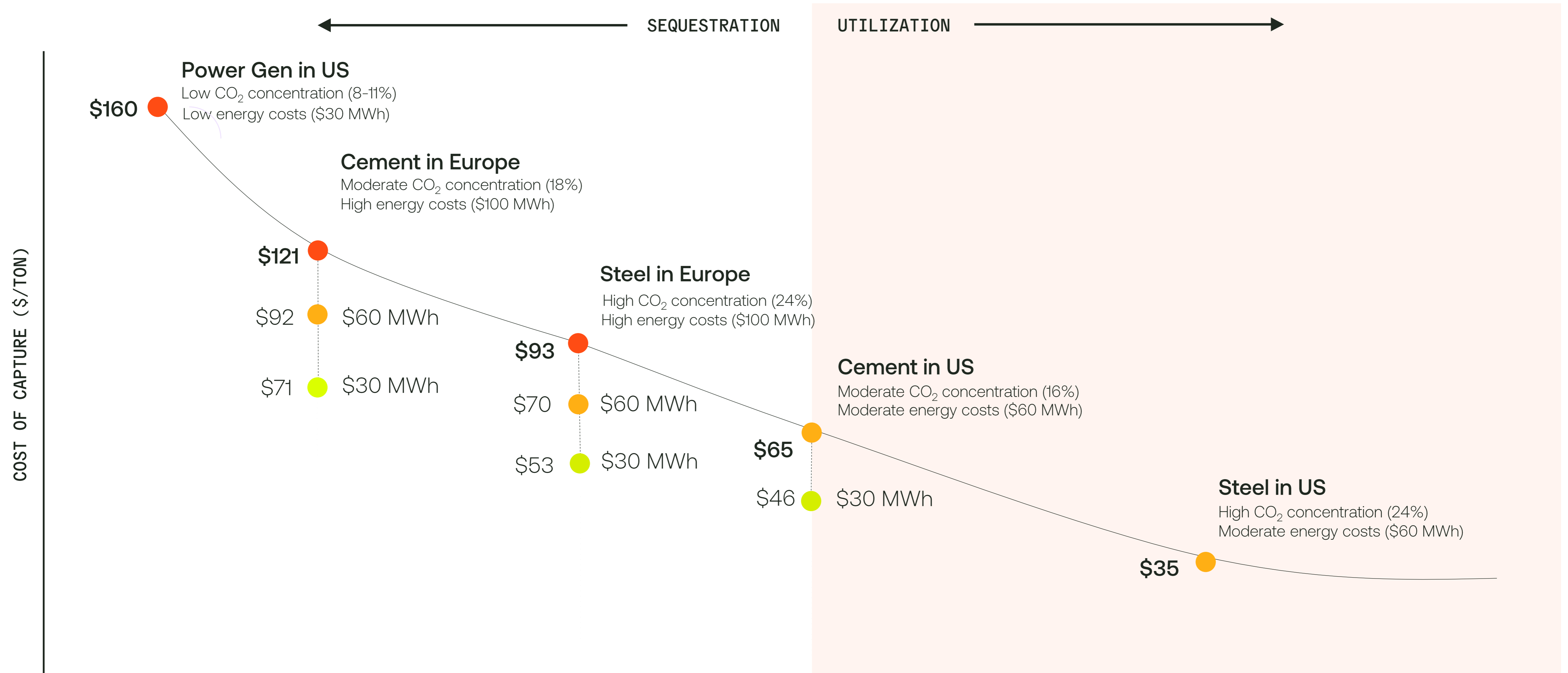
CO<sub>2</sub> rich side



Ardent has IP across its full solution



# Ardent creates opportunity for cost reduction across use cases



NOTE: ALL CASES ARE 90% RECOVERY. SEQUESTRATION AT 99.8% PURITY AND INCLUDES COMPRESSION AND LIQUIFICATION TO TRANSPORT SPECS. UTILIZATION AT 60% PURITY.

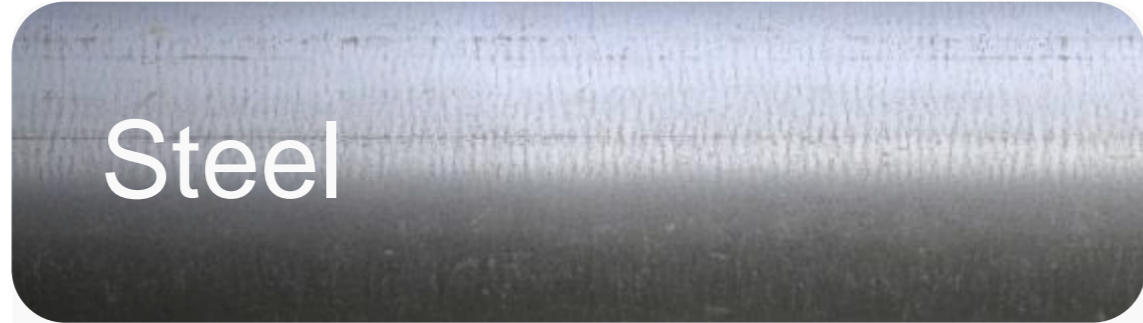


# Ardent has multiple pilots in operation with blue-chip partners

"Rig is easy to operate and works quite fine"

"CO2 increase is 40%. Looks promising!"

"We have had three pilot units, this was the easiest to commission"



Steel

voestalpine

IN OPERATION

May 2024



Cement / Kiln Processes



RHI MAGNESITA

IN OPERATION

May 2024



Chemicals / Petrochemicals



Braskem

IN OPERATION

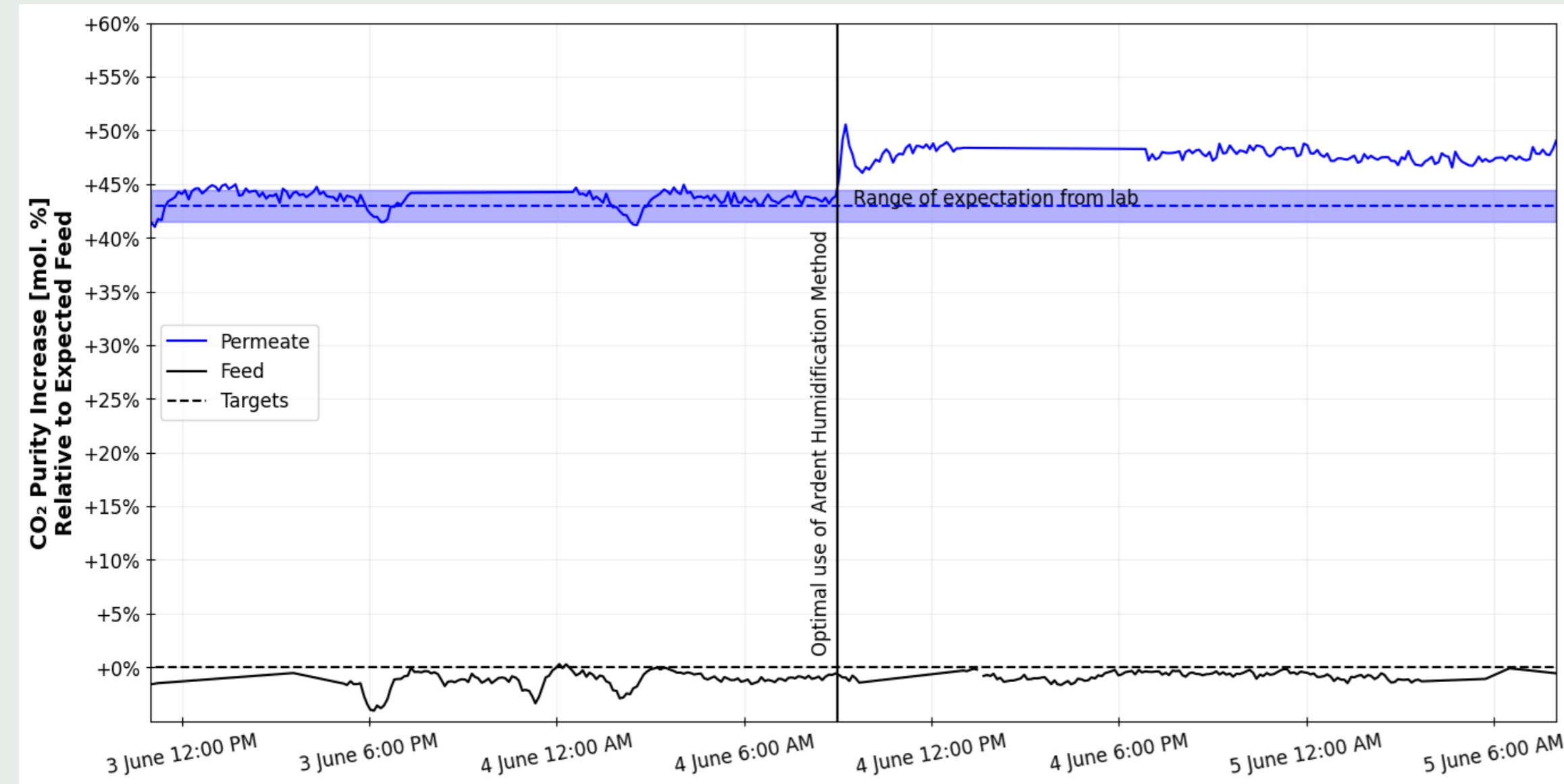
April 2024 (OMV)  
2025 (Braskem)



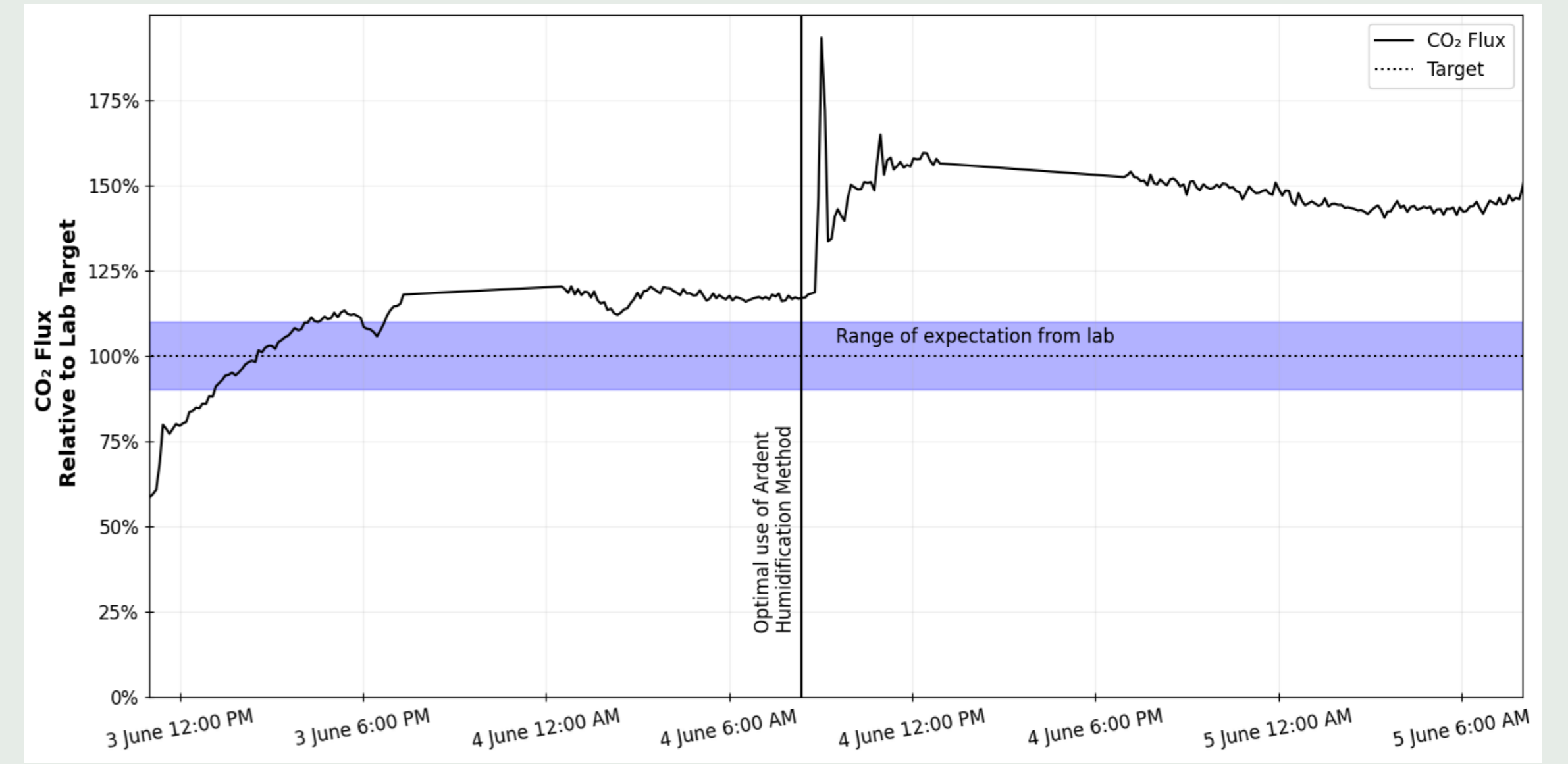


# Initial pilot performance validates lab expectations

## Customer A: CO<sub>2</sub> concentration increase



## Customer A: CO<sub>2</sub> flux



# Ardent's tech is **deployed in the field**, next step is 1-10 tpd pilot



**Small Test Rigs**

2024 Q2

voestalpine



**Large Test Rigs**

2024 Q3-Q4

Partner 1

Partner 2



**Field Pilot**

2025-2026  
1-10 tpd



Partner 3

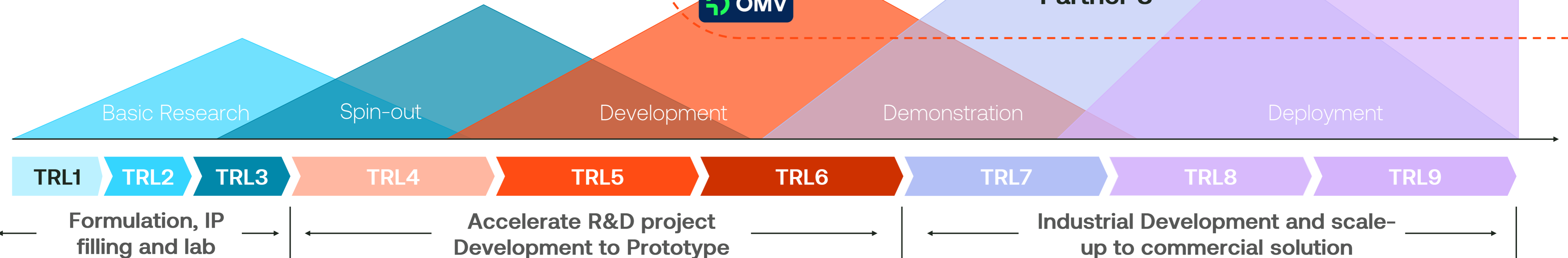


**Commercial Demo**

2026-2027  
20-150 tpd

**Full Commercial Applications**

2028+  
200+ tpd



# Ardent fills the gap in the CCUS landscape

## Incumbent tech

### Amines

- ✓ Commercial (available now)
- x Hard to use outside of conventional applications
- x Not a growth market

## Emerging CCUS tech

### Membranes

- Modular
- Scalable



aqualung



#### Ardent is best in class:

- Up to 5x reduction in plant size
- Wide range of concentrations
- Lower energy, pressure and cost
- Poison resistance

### Other Sorbents & Solvents

- Hard to scale up economically
- Not viable for lower concentrations

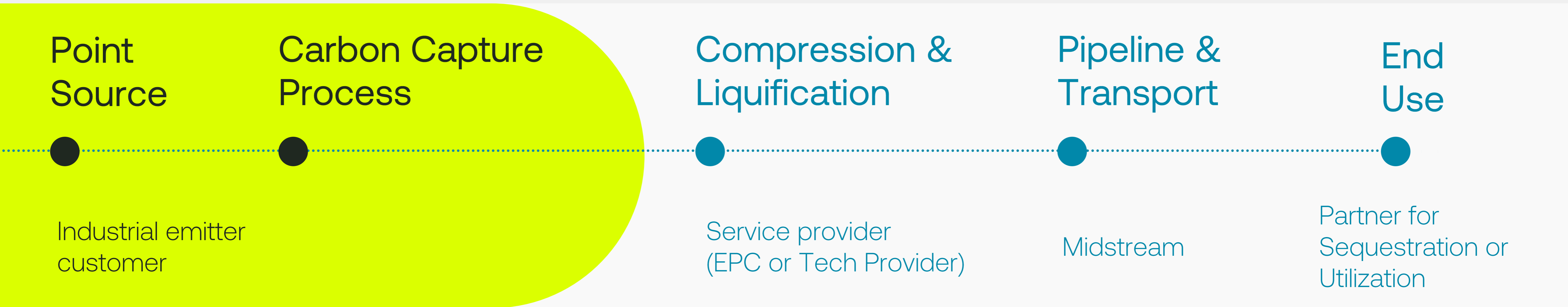
Svante



Small market opportunity unless enabled



# Tech is just one piece of the end-to-end CCUS solution



# World Class Team



**Erica Nemser, PhD**  
CEO



**William Charlton, MBA**  
COO



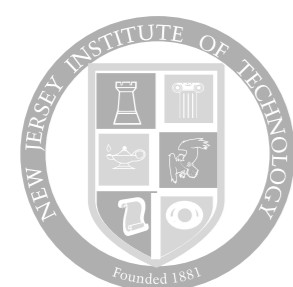
**Ken Loprete**  
PRODUCT DEV



**Nic Renard**  
CARBON SOLUTIONS



**Sudip Majumdar, PhD**  
MEMBRANE SCIENCE



**Hannah Lewis**  
STRATEGY, OPS, FINANCE



**Christine Parrish**  
TECH SOLUTIONS



**Kurt Knapp, JD PhD**  
IP STRATEGY



# Our Investors



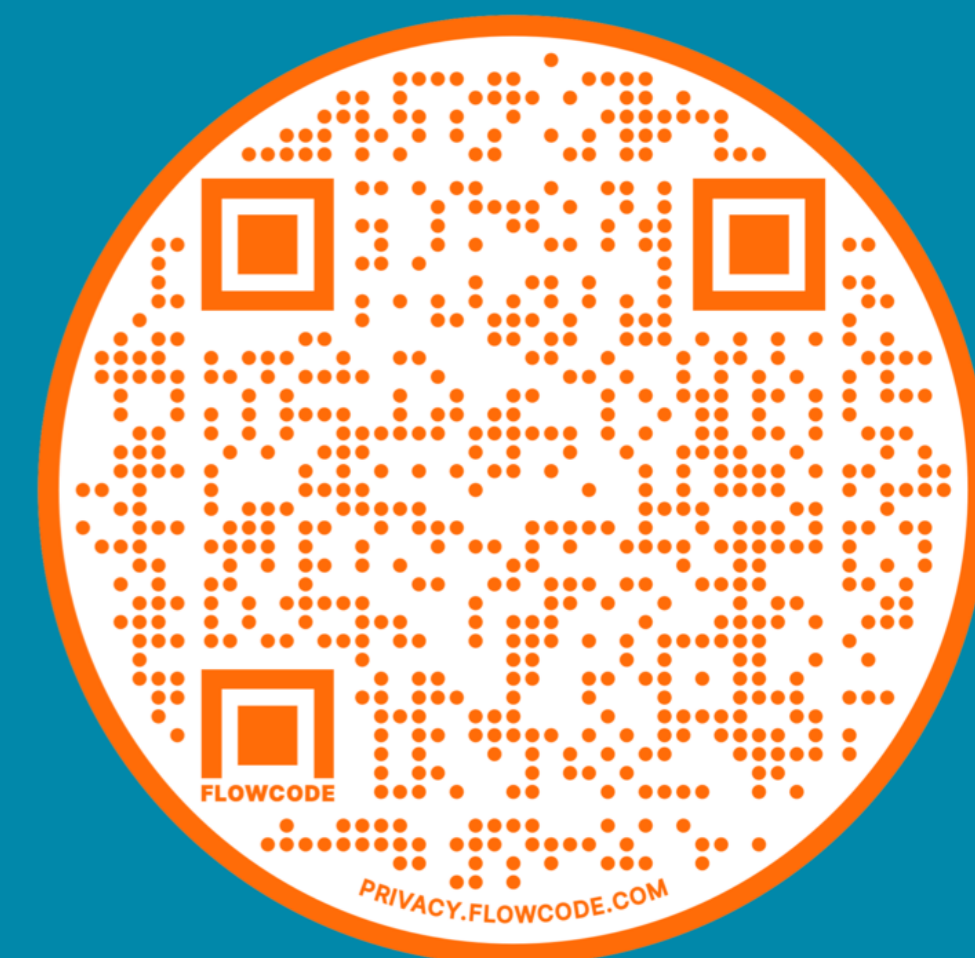
# Getting Involved

- **Investors**, let's chat about our Series B.
- **Customers**, let's chat about a pilot to decarbonize your plant.
- **Partners**, let's chat about how we can collaborate.



# Thank you

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Link to our  
investor deck