

# A3C Carbon Capture

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**PMW Technology Limited**

 Rushlight *Awards*  
Winner 2018/19

# Carbon Capture is Essential

“These studies show that including CCS in a mitigation portfolio could reduce the cost of stabilizing CO<sub>2</sub> concentrations by 30% or more.”

IPCC Carbon Dioxide Capture and Storage Report

“Carbon, capture utilisation and storage (CCUS) is one of the only technology solutions that can ... deliver the deep emissions reductions needed across key industrial processes such as steel, cement and chemicals manufacturing.”

IEA

“The Government should not plan to meet the 2050 target without CCS. A ‘no CCS’ pathway to even the existing 2050 target is highly challenging and likely to be much more costly to achieve.”

Committee on Climate Change

# Carbon Capture Processes

## Conventional processes:

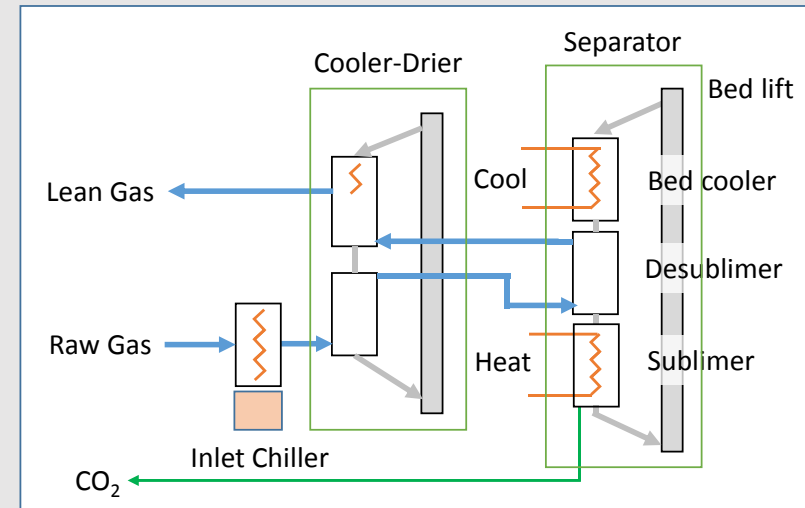
- Solvent or absorption processes
- Use hazardous chemicals
- Expensive at smaller scale

## PMW Technology A3C process

- Simple physical separation
- 70% cheaper at smaller scales
- Uses no consumable chemicals
- Directly produces high purity CO<sub>2</sub>

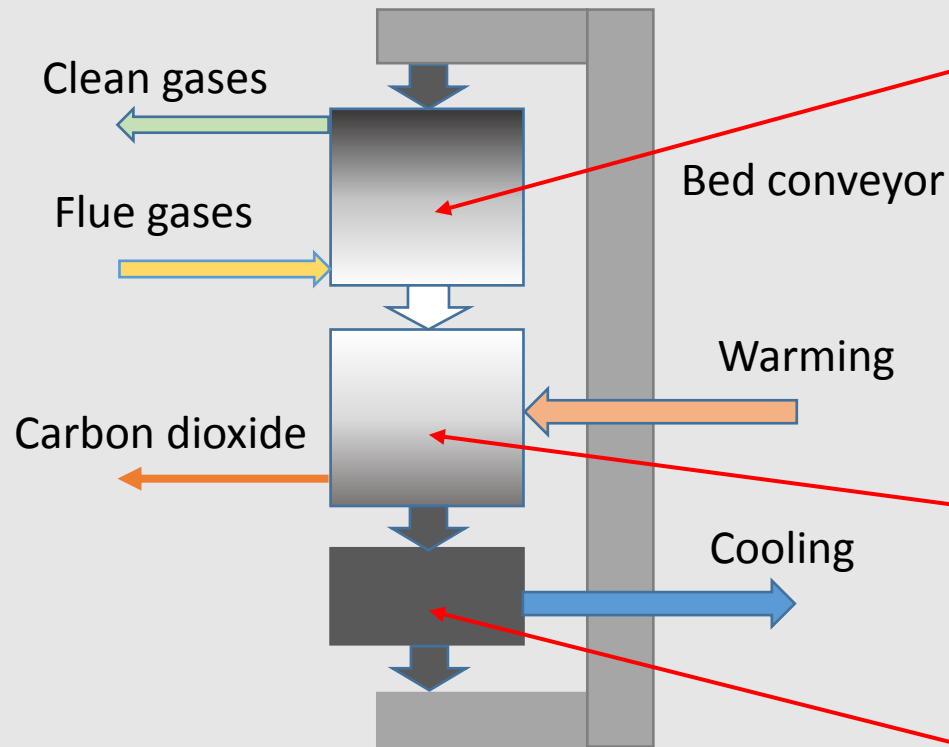


Courtesy PACT



# A3C Process

## Separation Step



The cooled flue gases flow over a very cold bed of metal beads. Carbon dioxide is deposited as a frost on the beads.

The frosted beads flow into the warming zone to recover the carbon dioxide.

The bed is cooled and lifted to pass through the separation stage again.

# Market opportunities

## Food and metals

- For resilience from shortages, can use prototype scale units
- Market worth £50m

## Industry

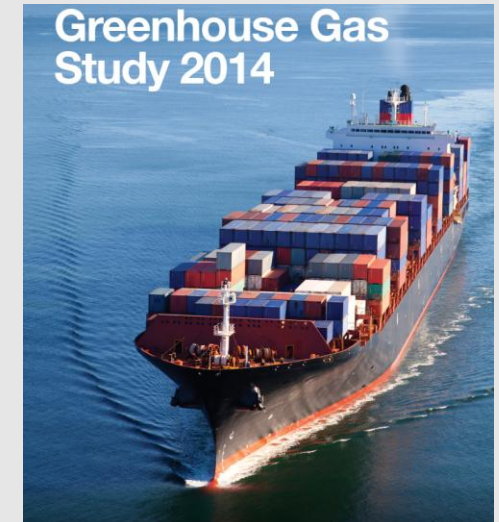
- UK government spending £236m on industrial decarbonisation, including carbon capture
- About 10% of UK emissions are from 300 sites which are too small for conventional processes
- Market worth £2.5billion, much accessible to A3C

## Marine transport

- Marine fleet emits as much CO<sub>2</sub> as the UK
- IMO and Maersk committed to fleet decarbonisation
- A3C is uniquely suited with no alternative long haul technology
- Market for carbon capture on new shipping worth over £5b/y



Courtesy Phoenix Equipment Inc



# PMW Technology Limited

- PMW Technology includes a team of technical specialists with academic support and industrial advisors
- Led by P M Willson, former Head of Innovation at WSP, delivering seven figure returns on new process technology in the power sector
- Ambition to exploit international opportunities for the A3C Process

Seeking £800k for investment in pilot unit and building company capability

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