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Compact Cheap Carbon Capture for CCUS

Our stage startup is developing a novel CO₂ Capture sorbent based entirely on simple, bio-compatible, Nature-based chemistry ; all comprising materials, highly stable, sourced from existing low-cost supply chains ; in simple *compact* 'contactor' volume, high packing density, no-moving-parts 'fluidized bed' design ; with low energy costs for insitu regeneration particularly in process sectors. (e.g. industrial decarbonisation (e.g. steel, ammonia,...) -> gas 'sweetening') with 'waste' heat < 120C readily available.

This TRL 4 -early prototype - technology has potential

*to reduce total \$costs/tonCO₂ by up to 2x ;

*to reduce footprint / absorber volume by 4x

(relative to the current incumbents e.g. tall amine spray columns or absorption towers.)

Although the technology has demonstrated proof-of-concept for DAC, potentially for low costs \$100/tCO₂ - the water demand is expected too high

& we see more promise for CC/US, with marginal costs < \$30/tCO₂,

in parallel stackable CC modules, scalable across many 'hard-to-abate' CO₂ point-sources (e.g. 100kgCO₂/hr heavy trucks -> 1 million tons CO₂ industrial plant).

Co-production ~ 1ton water per 1ton CO₂ captured appears feasible with most point-sources.

We are continuing to build a core team, particularly towards evaluating appropriate early-adopters and product-market-fit. And funding to advance validate the technology accordingly at a pilot scale TRL 6-8.

Keen to partner with any effort at DOE-funded DAC Hubs or where any of the above is relevant.