

Charged Materials for CO₂ Capture

Hydroxy-functionalized activated carbons rapidly absorb CO₂ from the air

Technology

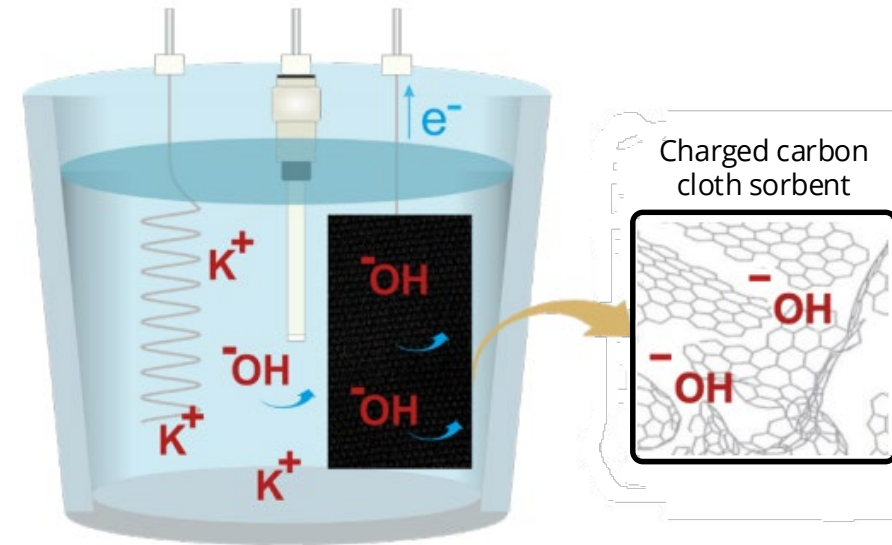
Absorbents for CO₂ capture can be manufactured by a simple electrolysis process - and regenerated using far less energy than is needed for currently used inorganic hydroxides.

Benefits

- Low-cost and durable materials with long operating lifetimes.
- Swift regeneration of absorbent can be achieved by re-applying an electrical current, generating resistive heating temperatures of <100°C.
- Activation and regeneration of the absorbent materials can be achieved using renewable electricity.

Commercial applications

- Rapid removal of CO₂ from industrial emissions and from the atmosphere (Direct Air Capture, DAC).
- Other potential applications include anaesthesia, indoor air purification, fish farming, food and beverage production, indoor and vertical agriculture, domestic appliances.



Electrolysis of KOH results in hydroxyl-functionalisation of the anode (activated carbon cloth) which can then be used to capture CO₂ from the air.

Opportunity

Co-development partners and / or investors are being sought to help launch a spinout company to commercialise this technology.

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