



Aircapture

Japan CCS Forum
December 4, 2024

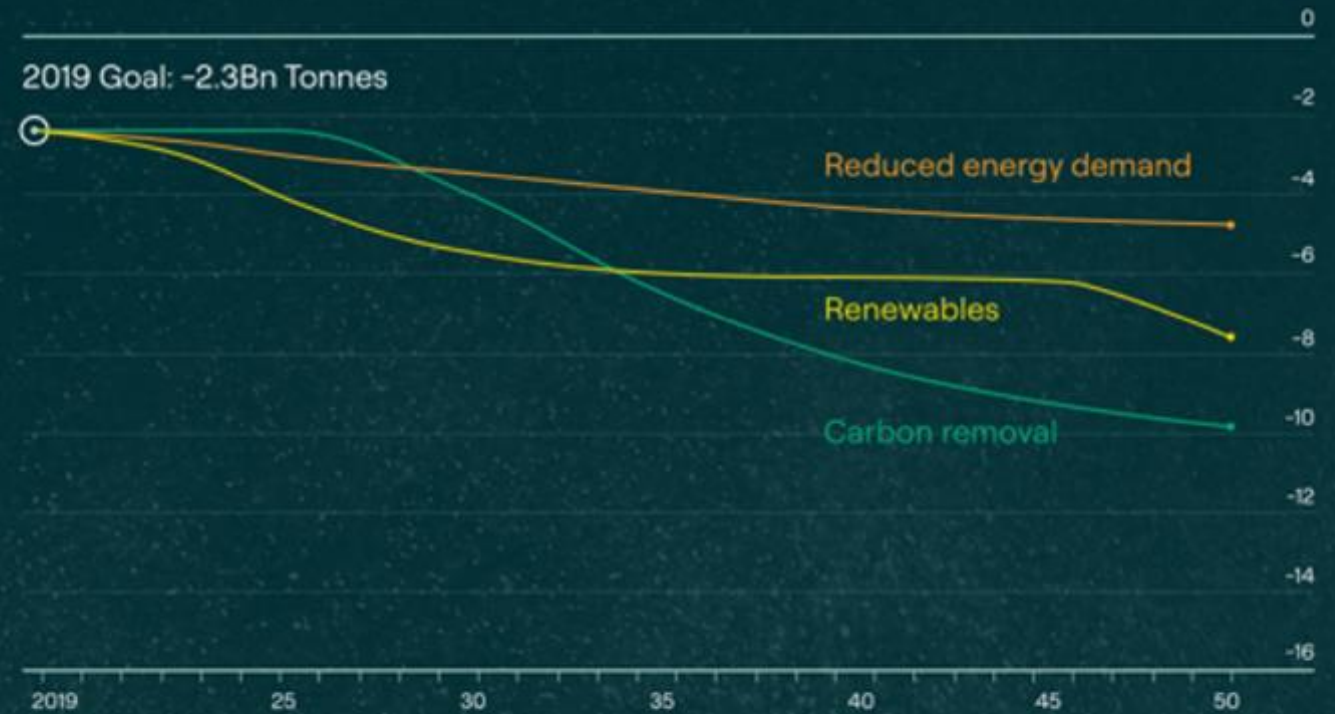
Situation

We need to remove carbon from the atmosphere.

"The State of Carbon Dioxide Removal"
Smith et al., 2023, The Economist

Necessary carbon-dioxide removal to stay below 2°C of warming

Bn tonnes of CO₂ per year



The Opportunity

Co-locating our direct air capture units at the point of demand avoids transport costs and reduces the carbon footprint by 3x.

At the same time, traditional supplies of carbon are shrinking, causing supply interruptions and purity concerns, driving up prices by up to 50%. Merchants are searching for new solutions.



Brewery Installation in progress



On-Site Production of CO₂

10+ yr contracted revenue streams

Customers avoid CAPEX outlay

Modular DAC approach leads learning curve scalability

Under \$100/tonne target within 3-year timeframe

New Technology Development in Liquefaction, Desorption & Industrial Integration





Modular DAC



Low cost & scalable



Design for manufacturing



Focus on learning-by-doing for
lowest cost DAC



Economic, commercial applications
available today



Below \$100/ton target

DAC Technology Market Leader

Sector-wide leadership in development, demonstration and commercialization

DAC & Liquefaction System @ NCCC



DAC Skid (left)
Heat Skid (right)



Aircapture Commissioning Engineers at NCCC

Start of operations at NCCC (5/23)



First DAC Produced CO₂ at NCCC

Aircapture is first company to demonstrate DAC in partnership with
US DOE, NETL & National Carbon Capture Center (NCCC)



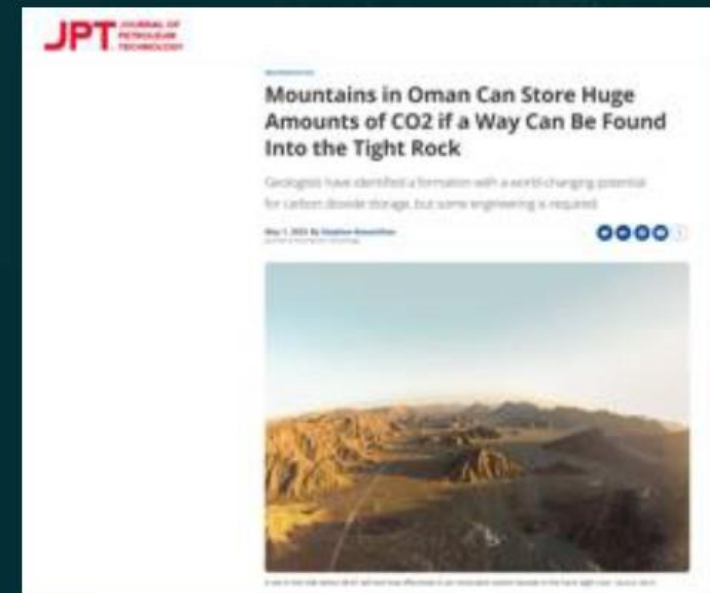
Current Project Development in UAE and Oman

Finalist in Musk Carbon X-Prize



Times Square Announcement September 2023

- Initial installation on track for July 2024 commissioning: 800 TPY year Phase 1 capacity
- Significant local expansion capability following Phase 1
- Geologic formation has enough CO₂ storage capacity for global decarbonization requirements.



Aircapture DAC Technology Progression



SN1: March 2023 to July 2024
NCCC, Wilsonville, AL
5 Campaigns, +140 days of operations, >94% Uptime
(DE-FE0031961)



SN3: Aircapture Berkeley, CA
April 2024
>50% CAPEX Reduction
>20% OPEX Reduction



Project Hajar, 8x SN3 DACs June 2024

Project Hajar - UAE

Delivery of Project Hajar in the UAE

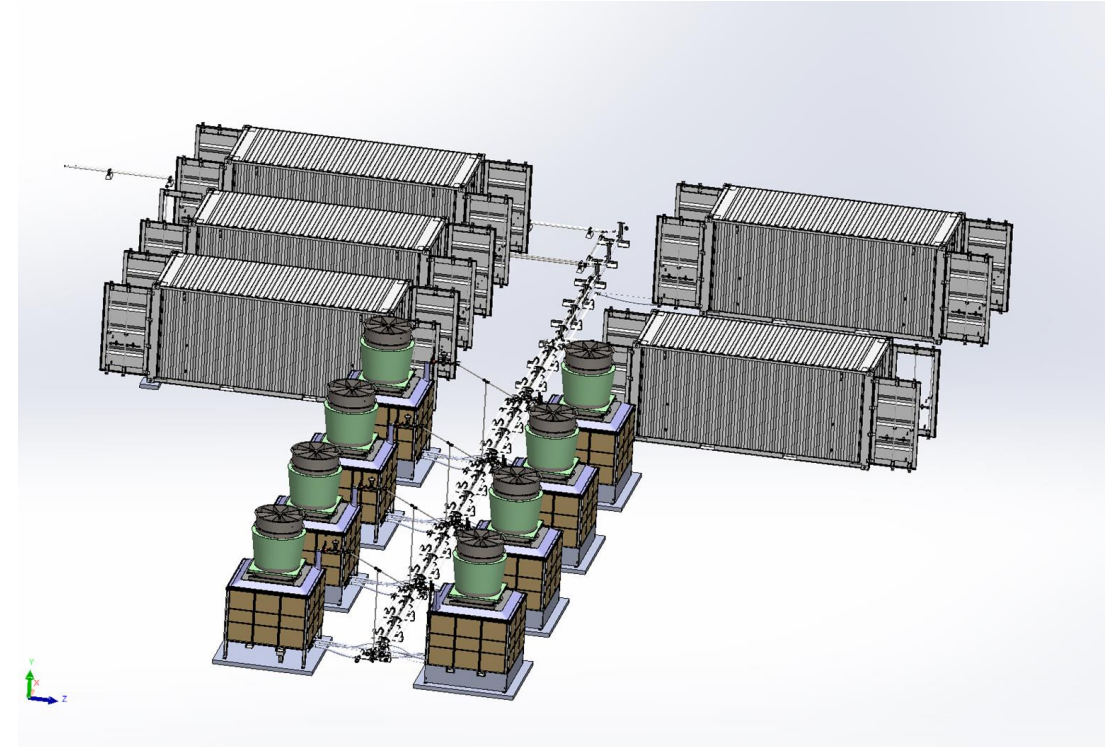
This first commercial project for Aircapture is the first DAC-to-Mineralization project in Asia, second in the world. Aircapture provides the DAC + Balance of Plant (to supercritical CO₂). Our project partner, 44.01, takes our CO₂ stream and performs injection/sequestration.

Aircapture's successful deployment of Project Hajar represents the first scale-up of our technology platform, executing designs from our previously completed DOE-funded FEED studies.

We proved the advantage of our modular design approach, commissioning our equipment in a highly accelerated time period compared to competitor benchmarks.



Project Hajar - Site Layout



Project Highlights:

8 x DAC-100s with 5 supporting containers to supercritical CO₂ for sequestration/mineralization
1st commercial DAC project, Delivery estimated late September, Commissioning/Start-up in October

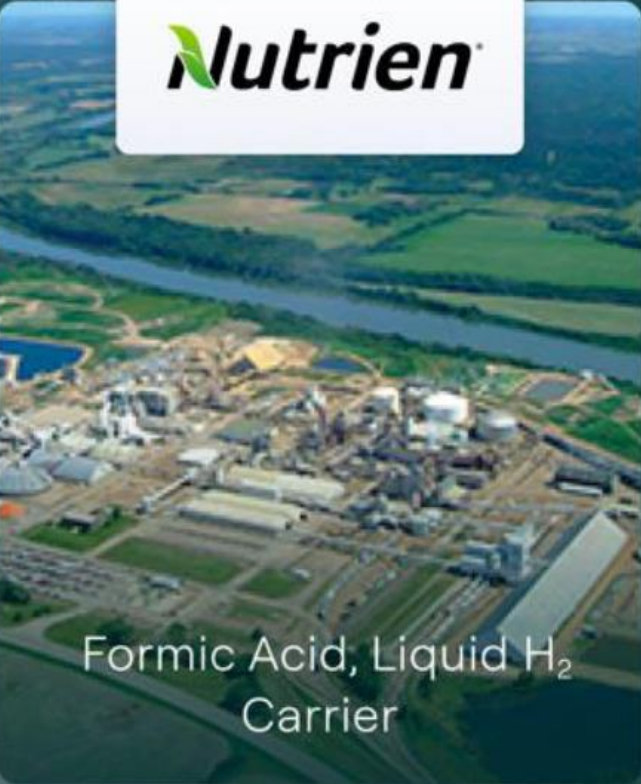


DACCUS Projects

Engineered atmospheric carbon dioxide removal to utilization, sequestration and products



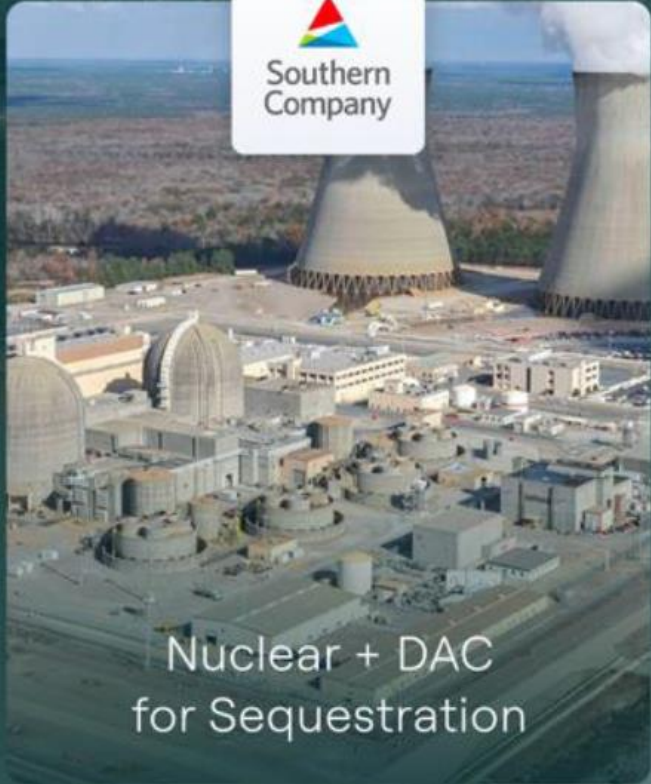
Nutrien



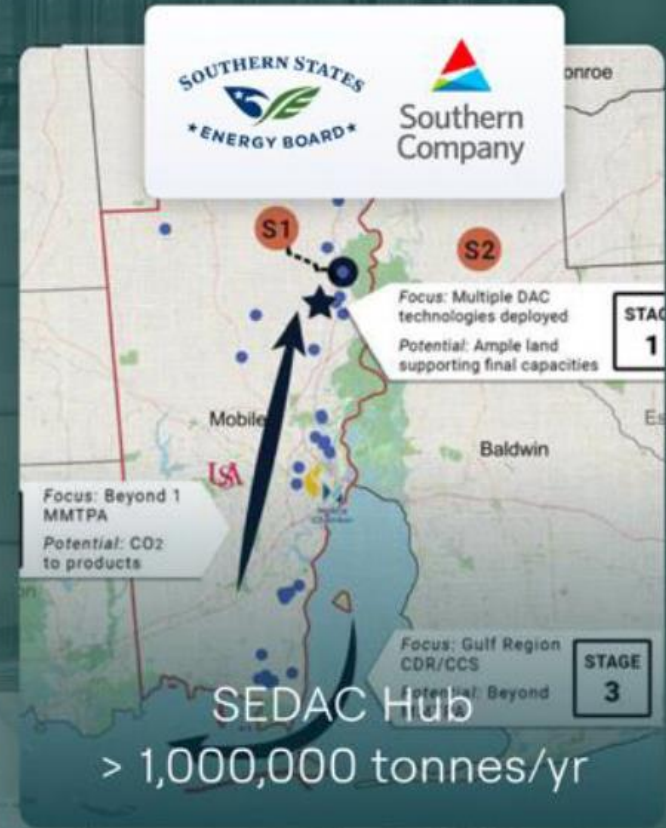
Formic Acid, Liquid H₂
Carrier



Southern
Company



Nuclear + DAC
for Sequestration



SEDAC Hub
> 1,000,000 tonnes/yr

DOE funded scale-up studies



CO₂ As Feedstock

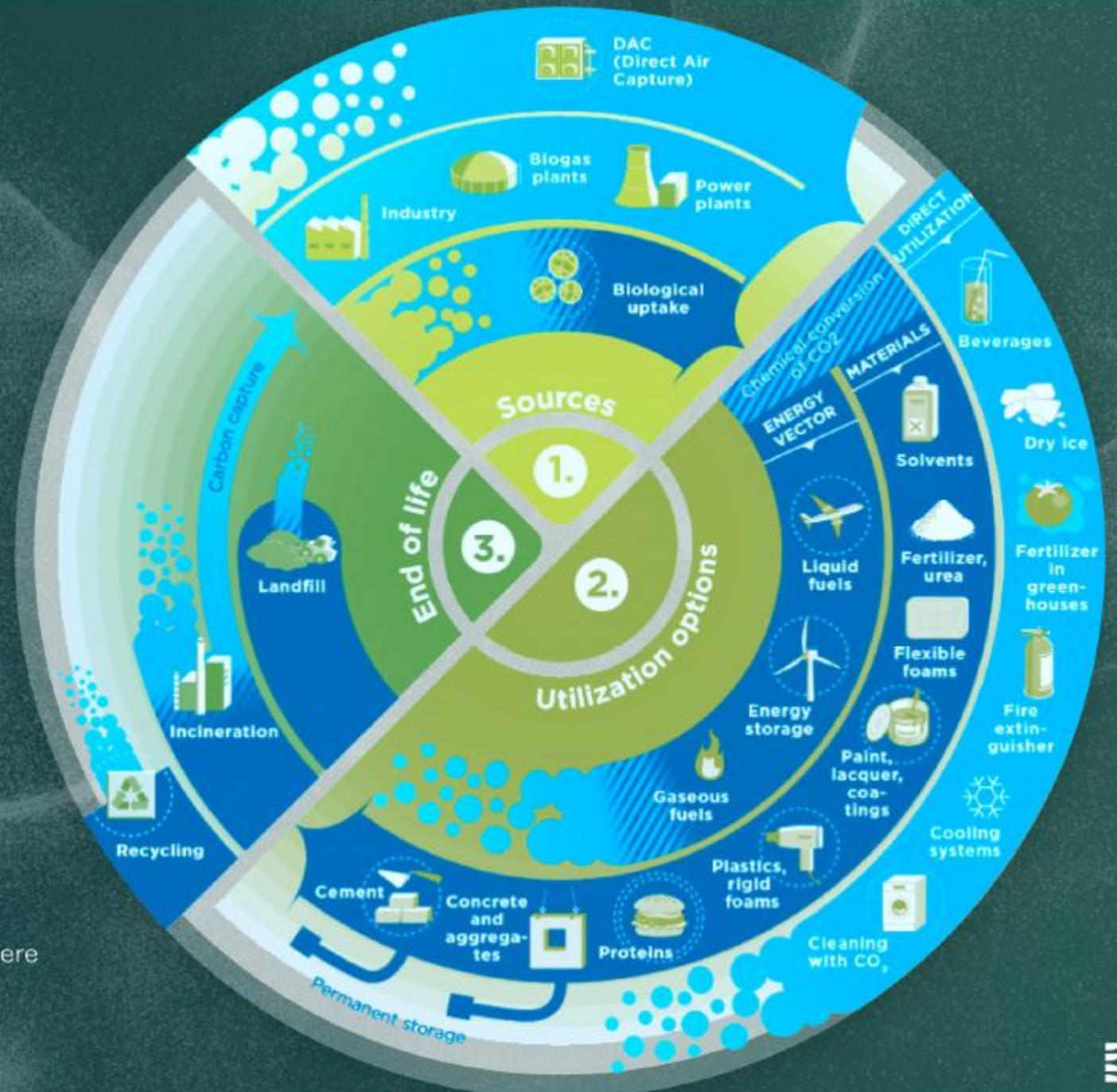
Carbon can be used for various purposes, either directly or after chemical conversion into carbon compounds.

\$30bn

Merchant CO₂ TAM
CAGR >4-6%, Supply -2%/yr

\$6tn

DACCUS TAM by 2050
McKinsey, Carbon180



Carbon Dioxide



Carbon Compound



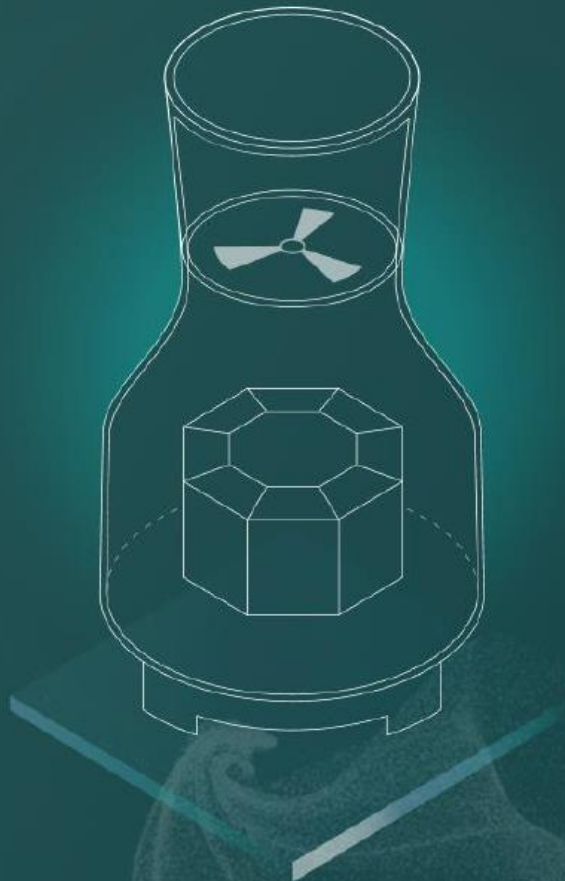
Conversion



Removal from atmosphere



Release to atmosphere



Beverage
Carbonation



Dry Ice &
Refrigeration



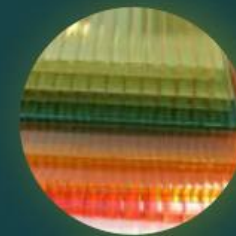
Indoor
Agriculture



Fertilizers &
Chemicals



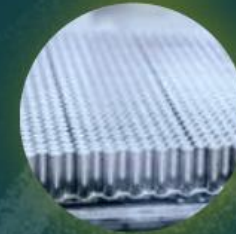
Textile
Dyeing



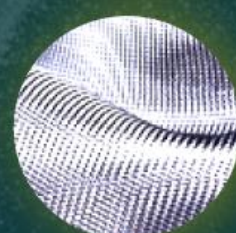
Plastics



Carbon
Black



Battery
Materials
(Li_2CO_3)



Carbon
Fiber



Fuels &
Chemicals



CO₂ as a Service™

On-site production of clean, high purity liquid, gaseous, solid or supercritical CO₂

Aircapture's highly compact systems harvest CO₂ from the atmosphere, and from industrial emissions, and then compress, purify and liquify it for use in commercial applications or sequestration.

- Lower delivered cost compared to our industrial gas competitors
- Significantly improved reliability of supply
- Material reductions in both Scope 1 and Scope 3 emissions
- Our CO₂ as a Service™ model largely avoids the need for customer CapEx

DAC Prototype SN1 - 100 tons/yr
Berkeley, CA

(January, 2023)



CCUS Projects in Japan

Concrete



Calcium carbonate, an ingredient in concrete production, can be generated by injecting CO₂ into sludge water.

Chemical / Cosmetics



CO₂ can serve as a raw material for the production of various consumer goods.

Greenhouse farming



Inducing CO₂ increases the photosynthesis and improves the quality and yield of crops.

e-Methane



Japan's gas industry states they will replace 1% of the supply with e-methane by 2030 and 90% (25 million ton / year) by 2050.

Japan Project Members



Tom Tateno

With a background in engineering at JGC, Tom has extensive experience in project management, cross-border business development, and venture financing across industries.

Tom is responsible for long-term business development strategies and client relations for Japan and Asia.



Hidetoshi Kikuchi

Hidetoshi is a Kyoto University Chemical Engineering graduate. He has 20+ years of experience in business incubation, corporate transformation, and new business development across sectors like electronics, energy, automotive, and IT.



Shigeo Minami

Shigeo's career focuses on corporate transformation and business development across industries like energy, healthcare, and software.

He also currently serves as an executive officer at M&IT Co., Ltd.



Kyoko Adachi

Kyoko has a MA in environmental ethics and social responsibilities.

She has experiences in both academia and corporate revolving around cross-cultural communication and sustainability.



Koji Haneda

Koji's expertise lies in organizational culture and business innovation. He has organized and facilitated leadership programs for businesses across industries including robotics, energy, and semiconductors.



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