

Q1/2025

# GLOBAL CARBON CAPTURE, UTILIZATION AND STORAGE MARKET REVIEW

IN Q1 2025, GLOBAL CCUS INVESTMENT ADVANCED POSITIVELY, SUPPORTED BY PARTNERSHIPS AND GOVERNMENT BACKING DESPITE BROADER CLEAN ENERGY CHALLENGES.





## Introduction

The first quarter of 2025 saw notable progress and continued investment momentum in the global carbon capture, utilization and storage (CCUS) sector. Despite broader challenges affecting clean energy investment, CCUS projects maintained a positive trajectory, supported by strategic partnerships, government backing and ongoing industry collaboration.

Europe demonstrated particular advancement, with major CCS initiatives receiving governmental and institutional support. Among the flagship projects were the expansion of Norway's Northern Lights CCS project, the launch of Stockholm Exergi's first commercial-scale BECCS facility and significant funding commitments from the EU Innovation Fund, particularly in support of Holcim's CarboClearTech and Clonbio's bioethanol CCS facility in Ireland. However, some industry players, such as Drax, indicated a slowdown in investment, despite ongoing profitability and access to government subsidies.

In the Americas, the sector showed robust growth with strong corporate activity. ExxonMobil spearheaded the expansion of a multi-state CCS network in the southern US, representing the largest industry-led commitment to date — with a planned annual capacity exceeding 14 million tonnes of CO<sub>2</sub>. At the same time, numerous partnerships advanced projects, including POET and Tallgrass' Trailblazer CO<sub>2</sub> pipeline and Svante Technologies' CCUS deployment at the Ashdown pulp mill in Arkansas.

The Asia Pacific region made steady but more selective progress, exemplified by Saudi Aramco's launch of a significant CCS pilot project and CNOOC's large-scale developments in China's Bohai Bay, as well as ambitious plans by Petronas, TotalEnergies and Mitsui in Southeast Asia.

Funding and M&A activity reflected continued investor confidence. A combination of early-stage venture capital, strategic equity placements and large-scale public funding initiatives supported technology innovation and project scale-up, particularly across Europe and the Americas. While activity remained limited in Asia-Pacific, global momentum was sustained through growing collaboration between industry stakeholders and institutional capital.

Of particular note were Spiritus' \$30 million Series A round aimed at drastically reducing DAC costs, Chestnut Carbon's \$160 million Series B funding for reforestation-based carbon sequestration and strong government support for advanced DAC projects in the United States.

© 2025 Copyright Delphi Data Labs. All rights reserved.

Unless otherwise indicated, all materials on these pages are copyrighted by Delphi Data Labs and/or respective author(s). This document makes descriptive reference to trademarks that may be owned by other(s). The use of such trademarks herein is not an assertion of ownership of such trademarks by Delphi Data Labs and is not intended to represent or imply the existence of an association between Delphi Data Labs and the lawful owners of such trademark(s). Reproduction, modification, sharing with 3rd parties, storage in a retrieval system or retransmission, public display, in any form or by any means, print, electronic, mechanical or otherwise, is strictly prohibited without prior written permission from Delphi Data Labs. This document is not allowed to be shared with parties to whom it's not dedicated, in order to propose and/or create similar or same content.



## ANNOUNCEMENT

# HYDROGEN AND ITS DERIVATIVES - FROM AMMONIA TO SYNTHETIC FUELS - NOW FULLY INTEGRATED WITH CARBON CAPTURE INSIGHTS. ONE PLATFORM, NO ADDED COST.

We are pleased to announce the upcoming addition of a comprehensive Carbon Capture module to our Hydrogen & Renewable Fuels Dashboard. This enhancement provides unparalleled insights through extensive new geospatial and competitive intelligence data.



### Extensive New Geodata

- / > 60 000 industrial emitters of CO<sub>2</sub>
- / > 1 000 detailed carbon capture project profiles
- / BECCS (Bioenergy with carbon capture and storage) potential evaluation for thousands of industrial assets



### Enhanced Competitive Intelligence

- / Seamless integration into Hydrogen & Renewable Fuels Dashboard
- / Contracts & Project Awards
- / In-depth competitive analysis and technology scouting of core technology suppliers

Available from Q3 2025.

**Reserve your database access today to ensure immediate benefit upon launch.**





## Project & Company Updates

### Europe & Africa

- / **Castle Cement:** Received £5.5 million in UK government backing for its Padeswood carbon capture project. The facility is designed to decarbonise cement production through full-scale CCS deployment and is expected to capture up to 800,000 tonnes of CO<sub>2</sub> per year.
- / **Climeworks:** Announced a partnership with TikTok to enhance carbon removal solutions, including DAC, biochar and reforestation. The aim is to remove 5,100 tons of CO<sub>2</sub> from the atmosphere by 2030.
- / **Drax:** Announced a slowdown in carbon capture investment despite securing an extra three years of government subsidies and earning record profits above £1bn last year.
- / **E.ON:** Launched a CCS project in Copenhagen to capture CO<sub>2</sub> from the CopenHill waste-to-energy facility. The target is to store 400,000 tonnes of CO<sub>2</sub> per year underground.
- / **Encyclis:** Launched a pilot carbon capture programme at a UK energy-from-waste plant. The trial serves as a precursor to developing a full-scale facility with an annual capture potential of 370,000 tonnes.
- / **Enfinium:** Began the next phase of its CCS pilot programme at several UK waste-to-energy sites. The project will capture one ton of carbon dioxide per day using a scaled-down carbon capture and storage (CCS) system supplied by Hitachi Zosen Inova (HZI).
- / **Equinor, Shell, and TotalEnergies:** Invested in expanding the Northern Lights CCS project in Norway. The new phase increases CO<sub>2</sub> transport and storage capacity from 1.5 to at least 5 million tonnes per year.
- / **Heracles:** Signed a FEED contract with Air Liquide for the Olympus CCS project at a cement plant in Greece. The project aims to capture, liquefy, store, and transport 1 million tons of CO<sub>2</sub> annually, making it one of Europe's largest CCS initiatives.
- / **Holcim:** CarboClearTech, a CCS system developed for Holcim's cement plant in Martres-Tolosane (France), was selected by the EU Innovation Fund for grant support. The project forms part of a €4.8 billion EU initiative to decarbonise hard-to-abate industrial sectors.
- / **HyNet North West:** Is developing carbon capture infrastructure for industrial clusters in northwest England. The CO<sub>2</sub> will be stored permanently in depleted gas fields beneath the Irish Sea.
- / **Ørsted:** Installed carbon capture components at the Kalundborg CO<sub>2</sub> Hub in Denmark as part of its broader decarbonisation strategy. The equipment was delivered by SLB Capturi and supports the build-out of Ørsted's CCS infrastructure.



- / **Perenco UK:** Initiated CO<sub>2</sub> injection testing for its Poseidon CCS project in the Southern North Sea. Its ultimate storage capacity, using the BC9 aquifer and the various depleted reservoirs, could be approximately 1,000 tonnes.
- / **RWE and Dragon LNG:** Officially launched the Milford Haven CO<sub>2</sub> Project in Wales, which plans to capture up to 5 million tonnes of CO<sub>2</sub> per year starting in the early 2030s. The project is expected to support the local economy and contribute to the UK's net-zero targets.
- / **Saipem:** Received full notice to proceed on a large-scale CO<sub>2</sub> capture project at Stockholm Exergi's bio-cogeneration plant in Sweden. The €600 million contract covers engineering, procurement, construction, and commissioning of the capture, storage, and ship loading systems.
- / **SLB Capturi and Aker Solutions:** Secured a contract to deliver a carbon capture facility for Hafslund Celsio in Oslo. The plant is expected to capture 350,000 tonnes of CO<sub>2</sub> annually.
- / **Stockholm Exergi:** Made the final investment decision to proceed with a large-scale BECCS facility using Capsol's capture technology. The project is the first of its kind globally at commercial scale.
- / **STRYDE:** Signed an agreement to supply 42,000 autonomous seismic sensors to Smart Seismic Solutions. These will support a landmark carbon storage project in Denmark.
- / **Tønder Biogas:** Delivered the first batch of biogenic CO<sub>2</sub> to the Kassø Power-to-X plant in Denmark. The CO<sub>2</sub> will be used as feedstock for e-fuel production.
- / **Uniper:** Commissioned SLB Capturi, Siemens Energy and Worley to carry out FEED work for its Connah's Quay Low Carbon Power Project in the UK. The project aims to integrate carbon capture into a gas-fired power plant to support Uniper's decarbonisation goals.
- / **Value Maritime and MOL:** Completed the retrofit of the Nexus Victoria tanker with an exhaust gas cleaning and onboard carbon capture system. The system currently captures 10% of the vessel's emissions, with potential scalability to 30%.

## Americas

- / **8 Rivers and Wood:** Signed a Pre-FEED agreement for a Wyoming-based CCS project in partnership with PacifiCorp. Design work is expected to be completed by Q3 2025.
- / **BKV Corporation:** Reached FID on a CCS project in partnership with a leading US midstream company. The facility will capture and store CO<sub>2</sub> from natural gas processing.
- / **California Resources Corporation and Carbon TerraVault:** Launched California's first commercial CCS project at the Elk Hills gas plant.



- / **Capture6:** Is progressing with carbon removal project execution following its Series A funding. The company focuses on scalable, water-based direct air capture (DAC) solutions.
- / **CEMEX:** Received US DOE funding to develop a CCUS test centre at its Knoxville, Tennessee site.
- / **ExxonMobil:** Is building a multi-state CCS network across Texas, Louisiana and Mississippi with pipelines and storage sites for industrial emitters. Total CO<sub>2</sub> commitments exceed 14 million tonnes per year — far more than any other company in the industry so far.
- / **Frontier Carbon Solutions:** Is advancing carbon capture in the agricultural sector by partnering with several Midwest refineries to implement liquefaction capture technology. The system is designed to extract over 400,000 tonnes of CO<sub>2</sub> annually from fermenters at more than 90% purity.
- / **Green Plains:** Secured all rights-of-way and began lateral construction on the Advantage Nebraska CCS project in partnership with Tallgrass. From the second half of 2024, the system will sequester 800,000 tonnes of biogenic CO<sub>2</sub> annually, with compression capacity scalable up to 1.2 million tonnes to enable future post-combustion capture.
- / **POET and Tallgrass:** Finalised agreements to connect the Fairmont bioprocessing plant to the Trailblazer CO<sub>2</sub> pipeline. Captured CO<sub>2</sub> will be stored permanently in Wyoming.
- / **Shell, Mitsubishi and RepAir Carbon:** Collaborate on the Pelican DAC Hub project in Louisiana. The initiative will combine DAC technologies with underground storage capabilities.
- / **Svante Technologies:** Announced a CCS development at the Ashdown Pulp Mill in Arkansas to capture CO<sub>2</sub> from pulp and paper production. The U.S. Department of Energy selected the project for potential cost-share funding of up to \$1.5 million to support a Pre-FEED study.

## Asia & Oceania

- / **Aramco:** Launched Saudi Arabia's first direct air capture (DAC) pilot unit in Dhahran, developed with Siemens Energy. The facility removes 12 tonnes of CO<sub>2</sub> annually and serves as a platform to test next-generation capture materials under local climate conditions.
- / **CNOOC:** Started operations at its Bozhong 26-6 offshore field, equipped with CCUS infrastructure. Over the complete project lifecycle, the Bohai CCUS base will be able to bury approximately 1.5 million tons of carbon dioxide.
- / **Energi Mega Persada:** Plans to develop a CCS/CCUS facility at the Arun gas field in Aceh, Indonesia. Arun Field is considered one of the most potential CCS locations in Southeast Asia, with a carbon storage capacity of 16 trillion cubic feet.



- / **Flowserve:** Awarded a contract to supply dry gas seals for ADNOC's CCS project at the Habshan gas plant. The system will capture 1.5 million tonnes of CO<sub>2</sub> annually, marking the first continuous supercritical CO<sub>2</sub> injection for enhanced oil recovery in the region.
- / **MODEC:** Signed a FEED contract with engineering company Samsung E&A to install modular CCS on an floating, production, storage, and offloading (FPSO) unit. The technology is designed for offshore deployment in the oil and gas sector.
- / **Petronas, TotalEnergies, and Mitsui:** Are progressing feasibility studies for a CCS development at the Duyong offshore field. The JSDA aims to achieve a CCS capacity of at least 5 million tons per year by 2030.
- / **Saudi Aramco:** Awarded a \$1.5 billion EPC contract to Larsen & Toubro for a major CCS facility. The planned facility, which will be operational by 2027, will capture CO<sub>2</sub> from various industrial streams, including Aramco's gas plants and sequester it in a saline aquifer.
- / **Woodside Energy:** Proposed to store 4 million tonnes of CO<sub>2</sub> per year offshore Western Australia from its Browse LNG project, which involves drilling near the Scott Reef and piping gas 900km to the Burrup Peninsula for processing.



## Funding and M&A

### Europe & Africa

- / **ARK Capture Solutions:** ARK Capture Solutions intends to cut capture costs by half, thereby making it easier for industry to reduce its carbon footprint. To advance its technology, ARK Capture Solutions has raised over €2.2 million in pre-seed funding led by Aperam Ventures and Seeder Fund, with additional support from Climate Club, BeAngels, Lune Ventures, InvestBW, Noshag and Wallonie Entreprendre.
- / **Carbon Collectors:** Dutch pension asset manager PGGM acquired a 49% stake in Carbon Collectors, which specialises in the transport and storage of captured CO<sub>2</sub>. The investment was made on behalf of PFZW, one of the largest pension funds in the Netherlands.
- / **Clonbio:** Received a €48 million grant from the EU Innovation Fund. The funding supports deployment of CCS at its bioethanol facility in Ireland.

### Americas

- / **Capture6:** Raised \$27.5 million through a Series A and project funding round. Investors include Hyundai, Tetrad, and Energy Capital Ventures.
- / **Carbon Reform:** Secured \$5.5 million in funding to advance its carbon capture system for buildings. Investors include the Cisco Foundation and Azolla Ventures.
- / **Chestnut Carbon:** Raised \$160 million in a Series B round to scale its reforestation projects across the U.S., aiming to sequester 100 million tonnes of carbon. The funding will support land acquisitions, technological innovation and team expansion, while generating high-integrity, Gold Standard®-certified carbon credits for sustainability-focused companies.
- / **Frontier:** Will pay Phlair \$30.6 million to remove 47,000 tonnes of CO<sub>2</sub> between 2027 and 2030. Phlair will be one of the first DAC companies to operate with its own on-site solar panels.
- / **Heirloom:** Received investment from United Airlines' Sustainable Flight Fund. The deal also includes an offtake agreement for up to 500,000 tonnes of carbon removals.
- / **Spiritus:** Closed a \$30 million Series A round to scale its DAC technology. The company has developed a solution to reduce the cost of DAC, with the company targeting a 90% reduction to \$100 per ton.
- / **U.S. Department of Energy:** Awarded \$18.7 million to support development of the nation's largest DAC facility in Oklahoma. The funding will advance research and engineering activities.





## Asia & Oceania

No qualifying carbon capture-related funding or M&A activities identified for Q1/2025.

FOR MORE INFORMATION:  
**delphidata.com**

#### **WHO WE ARE**

Delphi Data Labs was founded in 2020 by a team of industry experts with a passion for driving the adoption of hydrogen as a clean and renewable energy source. Our mission is to help organizations navigate the rapidly evolving hydrogen market and make informed decisions about their investment and growth strategies.



Delphi Data Labs GmbH  
Stella-Klein-Löw-Weg 8  
1020 Vienna  
Austria

[office@delphidata.com](mailto:office@delphidata.com)