



Demonstrating sustainable value creation from industrial CO₂ by its thermophilic microbial conversion into acetone

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FOREWORD

We are delighted to release the twelfth strategic intelligence bulletin.

As the PyroCO₂ project enters its final demonstration phase, staying informed on the fast-evolving Carbon Capture and Utilisation (CCU) landscape is more critical than ever for turning industrial CO₂ into real market value. This 12th Strategic Intelligence Bulletin is designed precisely for that purpose: to give project partners, researchers, and companies a concise, up-to-date overview of the opportunities, risks, and enablers shaping CCU in Europe and beyond.

Why read this bulletin carefully?

- You are at a pivotal moment for CCU deployment. Globally, hundreds of CCUS projects are now in the pipeline, with Europe playing a leading role supported by strategic planning and institutional readiness. PyroCO₂ itself is moving from concept to large-scale pilot, with a new facility in Norway dedicated to producing acetone from industrial CO₂ and renewable hydrogen.
- The regulatory and policy context is changing quickly. New legislation, funding programmes, and market mechanisms are redefining what is viable for CCU business cases, from carbon accounting rules to Green Deal-aligned support schemes.
- Technology and market intelligence directly impact your decisions. The bulletin synthesises technology watch, EU-funded project updates, events, and policy developments so you can spot collaboration opportunities, anticipate constraints, and align your R&D or investment strategies with the most relevant trends.

Do not hesitate to send us any comments to improve this document by writing or sharing information that could be relevant for the next bulletin to laurianne.bouvier@axelera.org

Have a good read!

AXELERA



MARKET INFORMATION

CO₂ UTILISATION MARKET STUDY BY DELOITTE/HOUSTON ENERGY TRANSITION INITIATIVE

A substantive study focused on CO₂ utilisation, particularly **chemicals and fuels**, with a Houston and US Gulf Coast perspective. It identifies sustainable aviation fuel, e-methanol, chemicals and mineralised products as key pathways. It estimates global CCU capture capacity could reach **2,400–3,700 million tonnes per year of capture capacity by 2050**.

For more information, please click [here](#).

CARBON CAPTURE AND UTILISATION MARKET BY MORDOR INTELLIGENCE

Estimates the market at **USD 3.84 billion in 2026**, reaching **USD 5.34 billion by 2031**, representing a **6.78% CAGR**. It covers capture, transport, utilisation, storage, technologies, end users and regions. Utilisation services are forecast to grow at **9.45% CAGR** through 2031.

Key Report Takeaways

By service, capture technologies commanded 44.92% of the carbon capture and utilisation market share in 2025, whereas utilisation services are expanding the fastest at a 9.45% CAGR through 2031.

By technology, post-combustion capture held 38.12% revenue share in 2025, while direct air capture is forecast to accelerate at an 8.41% CAGR to 2031.

By end user, oil and gas accounted for 23.05% share of the carbon capture and utilisation market size in 2025, whereas chemicals and petrochemicals are advancing at a 9.22% CAGR through 2031.

By geography, North America led with 30.20% revenue share in 2025; Asia-Pacific is projected to post the fastest 8.34% CAGR to 2031.

SLB, Aker Carbon Capture, and Linde together controlled roughly 15% of the project pipeline capacity in 2024.

For more information, please click [here](#).



TECHNOLOGY WATCH

TURNING CAPTURED INDUSTRIAL CARBON DIOXIDE INTO USEFUL PRODUCTS

The European Commission's success story presents PYROCO₂ as a flagship CCU project that has moved from concept to a multi-site pilot value chain, turning captured industrial CO₂ into climate-positive acetone and then into higher-value chemicals and potential fuels. It emphasises both technological progress and strategic relevance for Europe's circular carbon economy. The article highlights four newly designed, built, and commissioned pilot installations across partner sites in Norway and Czechia, forming a stepwise CO₂-to-products value chain:

- **NORCE (Norway) – CO₂-to-acetone mini-demonstrator** A pilot-scale bioprocess plant that runs the full PYROCO₂ route: CO₂ conversion to acetone, gas recirculation, and distillation/purification. It is fully functional and is providing optimisation data for the larger demonstrator under construction at SINTEF near Trondheim.
- **RANIDO (Czechia) – Acetone-to-isopropyl alcohol (IPA)** A continuous pilot unit (≈20 kg/day) converting CO₂-derived acetone into isopropyl alcohol, showing that the process can move from lab experiments to non-stop pilot operation and strengthening the overall CO₂-to-chemicals chain.
- **RANIDO (Czechia) – IPA-to-propylene** A pilot-scale dehydration unit (≈25 kg/day of propylene) that continuously converts isopropyl alcohol into liquid propylene, a key building block for plastics. The article frames this as a “first of its kind” breakthrough at this demonstration scale.
- **SINTEF (Norway) – Acetone-to-hydrocarbons (fuel ingredients)** A lab-scale reactor converting acetone (with hydrogen) into a range of hydrocarbons that can serve as components in synthetic liquid fuels, with possible future use in Sustainable Aviation Fuels.

For more information, please click [here](#).

THE MOST HIGHLIGHTED CCU TECHNOLOGIES IN 2026

The most highlighted technologies in 2026 regarding Carbon Capture Utilisation (CCU) and specifically CO₂ utilisation include:

1. CO₂ electrolysis to formic acid / formates

Electrochemical reactors convert CO₂ and water into formic acid or formate salts used as de-icers, feed additives and hydrogen carriers. 2026 saw award-winning industrial electrolyzers (e.g. OCOchem) shipping first commercial carbon-negative formates with high efficiency and durability. Multiple new pilots and partnerships (Ohmium + RenewCO₂, Adani + Dioxycle) signal rapid scale-up of this pathway.

2. E-methanol (CO₂ + green H₂ → methanol)

Renewable methanol from CO₂ and green hydrogen is positioned as a key low-carbon fuel for shipping and a precursor for SAF and chemicals. The Kassø plant in Denmark is highlighted in 2026



as the first commercial-scale e-methanol facility (~42 kt/year). Integrated capture-to-methanol concepts (e.g. ICODOS) are showcased as ways to cut energy use and cost while raising CO₂ utilisation rates.

3. DAC coupled to fuels and chemicals

Direct air capture units are increasingly linked to on-site conversion of CO₂ into fuels (e-methanol, isopropanol) and chemicals (acetic acid, ethylene). Award-winning systems like RAPCO2's indoor DAC + conversion to isopropanol illustrate distributed "capture-and-use" concepts for buildings and cities. Startups such as CERT Systems are developing air-to-ethylene routes aimed at sustainable aviation fuel production.

4. CO₂-based specialty chemicals (e.g. isocyanates)

CO₂ is used as a feedstock to make high-value chemicals such as isocyanates for polyurethanes, replacing toxic phosgene routes. These processes are highlighted in 2026 as combining decarbonisation with safer chemistry and product differentiation for chemical manufacturers. Firms like CYNiO are cited as pioneers, turning CO₂ into specialty intermediates for coatings, adhesives and foams.

5. Mineralisation and CO₂-cured construction materials

CO₂ is reacted with alkaline materials (slag, concrete, residues) to form stable carbonates used in concrete curing, aggregates and building products. This pathway is consistently described in 2026 as one of the most mature CCU options (TRL ~7–8) with relatively low costs (often ~20–100 USD/tCO₂). Multiple commercial and near-commercial projects are scaling CO₂-cured concrete and carbonated aggregates in Europe, the US and Asia.

6. CO₂-derived carbon materials (nanotubes, graphite, etc.)

CO₂ is converted into solid carbon products such as carbon nanotubes, graphite-like materials and carbon blacks via molten-salt, plasma and electrochemical routes. 2026 reports describe this segment as reaching a commercial inflection, with pioneer projects across several production routes. These materials are promoted as high-value, durable carbon sinks for batteries, composites and electronics, combining climate and economic benefits.

"BEST CO₂ UTILISATION 2026" AWARD AT CO₂-BASED FUELS AND CHEMICALS CONFERENCE

Held on **28 April 2026** in Cologne at the **CO₂-based Fuels and Chemicals Conference**, the award recognised six cutting-edge CCU technologies, with three winners chosen by live audience vote.

1st place – RAPCO2 (Italy): BlueLeaf & eJungle (indoor DAC + conversion)

- **BlueLeaf** is an indoor direct air capture unit sized for small shops or offices, marketed as capturing CO₂ equivalent to **one hectare of forest**.



- **eJungle** scales this up ($\approx 80\times$ BlueLeaf) and not only captures CO₂ but converts it in a patented bioreactor into **sodium acetate**, then further into **isopropanol (IPA)**, a safe, non-toxic e-fuel with a higher calorific value than methanol.
- The system emphasises **very low energy demand** for DAC material regeneration and a fully integrated “capture → acetate → IPA” value chain.

2nd place – Aerleum (France): Direct Carbon Utilisation Technology (e-methanol focus)

- Aerleum’s integrated, patented process directly converts **atmospheric or industrial CO₂** into carbon-neutral fuels and chemicals at competitive cost.
- Its first commercial application is **e-methanol**, intended primarily for **aviation (via jet fuel)** and **maritime shipping (as a drop-in fuel)**, but also as a sustainable building block for the chemical industry.
- The technology is designed for **scalable industrial deployment**, targeting hard-to-abate sectors with a practical, high-impact decarbonisation pathway.

3rd place – OCOchem (USA): FluX Electrolyzer 400 (CO₂ → formates)

- The **Carbon FluX Electrolyzer (CFX) 400** electrocatalytically converts captured CO₂ and water into **sustainable formic acid or potassium formate**.
- It uses a stack of **4 large industrial CO₂ electrolyser cells** with in-house **15,000 cm² gas-diffusion electrodes**, achieving **85% Faradaic efficiency**, high current density (**250 mA/cm²**) and electrode durability **>1,200 hours**.
- The modular, factory-built system was commissioned in **6 weeks**, produces **~60 t/year**, and began shipping the **first commercially available carbon-negative formates** to five customers in **October 2025**.^{co2value+2}

Other notable 2026 nominees (finalists)

- **ICODOS (Germany)** – cost-competitive e-methanol via an integrated CO₂ capture + methanol synthesis process claiming >70% energy reduction and >95% CO₂ utilisation.
- **CERT Systems (Canada)** – “Air-to-Chemicals” process converting atmospheric CO₂ directly into **ethylene** for sustainable aviation fuel and plastics, bypassing pure CO₂ separation.
- **CYNiO (Germany)** – CO₂-based production of **specialty isocyanates** for adhesives, coatings and pharma, replacing toxic phosgene routes.

Together, the 2026 award highlights three dominant CCU themes: **distributed DAC with on-site conversion**, **industrial e-methanol for transport and chemicals**, and **electrochemical CO₂**

For more information, please click [here](#).



EU POLICIES & LEGISLATION

CARBON REMOVALS AND CARBON FARMING (CRCF) REGULATION – FIRST METHODOLOGIES ADOPTED (2026)

In 2026 the EU adopted the first detailed methodologies under the Carbon Removals and Carbon Farming (CRCF) Regulation, creating a voluntary EU-wide label for high-integrity carbon removals. The 3 February 2026 delegated act (Regulation (EU) 2026/285) covers DACCS, bio-CCS and biochar, was published on 17 April and entered into force on 7 May 2026.

A July 2026 delegated act added three carbon farming methodologies, with further acts expected for carbon storage in bio-based construction products. For CCU, this means the first EU-recognised way to certify permanent CO₂ storage in products and materials (e.g. mineralised concrete, durable chemicals), improving credibility and market access. Although voluntary, the framework is designed to underpin future carbon markets, public procurement and corporate claims, and may later link to the EU ETS.

For more information, please click [here](#).

EU ETS REVISION PROPOSAL (JULY 2026) – NEW ACCOUNTING FOR CCU

In July 2026 the Commission proposed a major EU ETS revision that changes how captured CO₂ used in CCU is accounted for under the trading system. It moves from a purely upstream model (emissions counted at capture) to a hybrid midstream/downstream approach, deferring allowance surrender when CO₂ is permanently chemically bound in products or re-emitted within ETS-covered activities. For synthetic fuels, carbon is treated as emitted at fuel distribution, not at capture or final combustion, aligning ETS rules with CCU value chains for e-methanol, e-diesel and SAF.

The proposal also empowers the Commission to set detailed rules on CO₂ tracking, mixed carbon sources and double counting, which is critical for complex CCU projects. Overall, this should reduce the ETS cost penalty on CCU, improve project economics and better reflect the actual fate of carbon in utilisation pathways.

For more information, please click [here](#).



FUNDING AND TENDERS OPPORTUNITIES

FRANCE

CALL FOR PROJECTS – DEMIBAC

France 2030 call by ADEME for SMEs developing low-carbon industrial technologies and services. Open until February 9, 2027 (cut-offs: March 10, 2026; October 13, 2026). Funds mono-partner R&D/innovation projects (<€1.5M total cost, 12-36 months, TRL 5-9) at 35-45% rates (grant/repayable advance). Priorities: energy efficiency (heat recovery, AI), decarbonized heat (CCUS capture/mineralization, CO₂-to-chemicals/fuels, GHG reduction), electrification, H₂/biogaz, renewables adaptation

For more information, please click [here](#).

CALL FOR PROJECTS – IBAC PME

Relanced France 2030 call targeting industrial-scale demonstrations for low-carbon processes. Supports larger projects (CAPEX-focused) in CCUS, electrification, and biomass, complementing IBaC PME for SMEs. Open through early 2027; emphasizes competitive, scalable tech for hard-to-abate sectors like cement/chemistry. Funding up to tens of millions via grants/advances; part of 5 relanced decarbonization call for projects announced by the French Gouvernement in April 2025.

For more information, please click [here](#).

CALL FOR PROJECTS – DECARB FLASH 2025-2027

Accelerated funding track for quick-win decarbonization pilots/studies in industrial zones (ZIBaC). Focuses on fast-track R&D (<24 months) for CCUS bricks, heat recovery, and process optimization. Targets SMEs/medium-size companies; integrates with national CCUS hubs (Dunkirk, Fos-sur-Mer). Open 2025-2027 with rolling evaluations; aids FID preparation via subsidies/carbon contracts.

For more information, please click [here](#).

CALL FOR PROJECTS – INNOVATION & HYDROGEN DEMONSTRATION

The "Innovation and Demonstration Hydrogen" call (ID H2) by ADEME runs from May 6, 2025 to September 25, 2026, with two intermediate deadlines. It supports innovation and demonstration projects to develop or improve hydrogen production, transport, and usage components and systems. Projects must fit into one of four axes: technological building blocks, pilot/demonstration projects, new hydrogen vehicle design, and eco-design/recyclability. The call targets companies or collaborations (up to 5 partners), including optional research labs, with project minimum costs of €1.5 million. Aid rates vary based on company size and project type, supporting research, development, and investment in hydrogen innovation for the energy transition.

For more information, please click [here](#).



EUROPE

THE CET PARTNERSHIP JOINT CALL 2026

The CETPartnership Joint Call 2026 includes a dedicated Call Module 2026-04 on Industrial carbon Management, including **carbon capture, utilisation (CCU) and carbon dioxide removal (CDR)**. It is designed to support technologies from **pilot to early commercial scale**, with a strong emphasis on cost reduction, performance improvement and scale-up.

Objectives and scope

- Supports R&D&I activities across the full industrial carbon management value chain: capture, transport, utilisation, storage and monitoring, with the aim of contributing to CO₂ emissions reductions and climate neutrality in the 2030s.
- Covers CCS, CCU and CDR technologies and systems, including cost reduction, performance improvement, scale-up, infrastructure development and life-cycle sustainability.
- Targets research organisations, universities, public bodies and industrial stakeholders. Projects must generally increase TRL and aim at medium to high TRLs (around 4–8); lower-TRL work is allowed only if clearly justified and linked to higher-TRL goals.

For CCU specifically:

- Call Module 2026-04 is intended for CCU technologies without full industrial integration (e.g. new conversion processes, pilot-scale utilisation).
- Integrated industrial-scale CCU systems should apply under Call Module 2026-09 (Integrated industrial energy systems).

Application

- Two-stage procedure:
 - **Stage 1** – Pre-proposal: Open from 8 June 2026 (14:00 CEST) to 8 October 2026 (14:00 CEST).
 - **Stage 2** – Full proposal: Only consortia invited after Stage 1 can submit full proposals, from 8 January 2027 (14:00 CET) to 11 March 2027 (14:00 CET).
- Evaluation is based on standard criteria: Excellence, Impact, and Quality & Efficiency of Implementation (as defined in the call text and national rules).

Eligibility and consortium

- Transnational consortium: Minimum three independent legal entities from three different countries, with at least two from EU Member States or Associated Countries
- Must comply with national/regional eligibility rules of each funding agency involved (entity types, co-funding rates, etc.).



- Project duration: Typically up to 36 months (shorter durations possible depending on scope and national rules)
- No single partner should dominate the effort; in practice, consortia are expected to show balanced participation (your “one partner max 60% effort” rule may reflect specific national requirements rather than a universal CET rule)

Budget and funding

- The Joint Call 2026 pools around €80 million (indicative total) across all 11 call modules; the share for industrial carbon management (Module 2026-04) depends on participating countries and their national budgets.
- Funding is provided directly by national or regional funding organisations to their own beneficiaries after project selection; there is no single EU grant contract.
- Funding decisions are expected around 28 June 2027, with project starts from 1 September 2027 (some national agencies may allow slightly earlier or later start dates within the 2027 window).

For more information, please click [here](#).

HORIZON EUROPE CLUSTER 4

Horizon Europe Cluster 4 – Digital, Industry and Space is a key funding source for CCUS-related projects. It supports different thematics : manufacturing technologies, key digital technologies including quantum technologies, emerging enabling technologies, advanced materials, AI and robotics, next gen internet, advanced computing and Big Data, circular industries, low carbon and clean industries, space including earth observation.

1. HORIZON-CL4-2026-02 (two-stage, Industry)

- Status: Stage 2 is open for invited consortia.
- Deadline (Stage 2): 13 October 2026.
- Relevance for CCU: Supports industrial technologies and value chains at higher TRL, including clean industrial processes, advanced materials and circular systems. CCU can be included as part of industrial decarbonisation and circular production.

2. HORIZON-CID-2026-01 (Clean Industrial Deal)

- Status: Open.
- Deadline: 15 September 2026.
- Topics:
 - Decarbonisation of energy-intensive industries



- Clean technologies for climate action
- Relevance for CCU: CCU can be proposed as a clean technology for industrial decarbonisation (e-fuels, CO₂-based chemicals/materials, integrated capture-and-use).

3. HORIZON-CL4-2026-03 (SPACE)

- Status: Open.
- Deadline: 3 September 2026.
- Relevance for CCU: Indirect; relevant if your project involves space-based monitoring of CO₂, emissions or carbon removals/utilisation.

For more information, please click [here](#).

HORIZON EUROPE CLUSTER 5

Horizon Europe Cluster 5 – Climate, Energy and Mobility is a key funding source for CCUS-related projects. It supports research and innovation aligned with the EU's climate neutrality goals. In Cluster 5, CCU is usually part of broader "Clean Industrial Deal" or industrial decarbonisation / net-zero technologies topics, rather than stand-alone CCU calls. Draft information for the 2026–2027 Work Programme shows that:

- A large "**Clean Technologies for Climate Action**" topic under the Clean Industrial Deal umbrella explicitly lists "storage, renewable fuels, and CCU" among the clean-tech areas that proposals may address
- Energy-intensive industry topics on industrial processes, heat, or fuels may also accept CCU and CO₂-based fuels/chemicals as valid approaches as long as they deliver substantial greenhouse-gas reductions.

1. HORIZON-CL5-2026-09 (Cross-sectoral climate, energy and mobility)

- Status: Open.
- Deadline: 15 September 2026. [uniroma1](#)
- Key sub-topics (examples):
 - Energy performance of buildings (deep renovation, small buildings)
 - Sustainable battery materials and EU–India cooperation on EV battery recycling
 - Innovative wind energy technologies
- Relevance for CCU: Strong fit for CO₂-cured concrete, mineralisation in buildings, CCU in industrial clusters, and integrated climate solutions that combine energy, industry and buildings.



2. HORIZON-CL5-2026-10 (Mobility – CIVITAS and resilience)

- Status: Open.
- Deadline: 8 October 2026. [uniroma1](#)
- Topics include:
 - Sustainable and smart urban mobility (CIVITAS)
 - Resilience in multimodal passenger transport using digital technologies and AI
- Relevance for CCU: Indirect; CCU can appear via low-carbon fuels for urban fleets, e-fuels pilots, or integration of CCU-derived fuels in mobility demonstrators.

3. HORIZON-CL5-2026-11 (Green Deal energy calls)

- Status: Open (opened 4 August 2026).
- Deadline: 1 December 2026.
- Topics (4 new Green Deal energy topics):
 - Solid biofuel supply and conversion to high-efficiency CHP
 - Resource assessment for deep geothermal reservoirs
 - Innovative PV applications
 - Data sharing for AI foundation models in the energy sector
- Relevance for CCU: Indirect, but relevant if your CCU project is coupled with bioenergy, geothermal, solar or AI-enabled energy systems.

For more information, please click [here](#).



FOCUS ON TWO CCU PROJECTS - HORIZON EUROPE

UNICO2CORN : Flexible and Efficient Capture and Bioconversion of CO₂ to Materials and Ingredients

The UNICO2RN project aims to demonstrate novel routes to convert biogenic CO₂ into ingredients and materials, involving metal organic framework-based capture and purification technology and biotechnological processes based on Hydrogen Oxidizing Bacteria. The modularity and flexibility of the developed processes will be shown through 2 demonstration cases in real industrial settings at TRL 7 for sustainable and efficient production of microbial proteins and PHA, from 2 types of biogenic CO₂ sources of different concentration and purity. These new routes bring clear advantages in terms of efficiency, safety, environmental footprint and greenhouse gas emission reductions with respect to benchmarks. Their development to TRL7 will enable their industrialization and thus lead to major positive economic, environmental and social/societal impacts.

For more information, please click [here](#).

UNICO2RN

Grant agreement ID: 101214268

DOI

[10.3030/101214268](https://doi.org/10.3030/101214268) 

EC signature date

12 May 2025

Start date

1 June 2025

End date

31 May 2029

Funded under

Food, Bioeconomy Natural Resources, Agriculture and Environment

Total cost

€ 11 508 665,25

EU contribution

€ 7 499 958,00



BIOCONCO₂ : BIOtechnological processes based on microbial platforms for the CONversion of CO₂ from ironsteel industry into commodities for chemicals and plastics

The main objective of BIOCON-CO₂ is to develop and validate in industrially relevant environment a flexible platform to biologically transform CO₂ into added-value chemicals and plastics. The versatility and flexibility of the platform, based on 3 main stages (CO₂ solubilization, bioprocess and downstream) will be proved by developing several technologies and strategies for each stage that will be combined as puzzle pieces. BIOCON-CO₂ will develop 4 MCFs based on low-energy biotechnological processes using CO₂ from iron&steel industry as a direct feedstock to produce 4 commodities with application in chemicals and plastics sectors using 3 different biological systems: anaerobic microorganisms (C3-C6 alcohols by Clostridia), aerobic microorganisms (3-hydroxypropionic acid by Cupriavidus necator) and enzymes (formic acid by recombinant resting E. coli cells and lactic acid by multi-enzymatic system). The technologic, socio-economic and environmental feasibility of the processes will be assessed to ensure their future industrial implementation,

BIOCONCO₂

Grant agreement ID: 761042

Project website



DOI

[10.3030/761042](https://doi.org/10.3030/761042) 

Project closed

EC signature date

29 November 2017

Start date

1 January 2018

End date

30 June 2022

Funded under

INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies – Biotechnology

Total cost

€ 6 999 886,25

EU contribution

€ 6 999 886,25



replicability and transfer to other CO₂ sources, such as gas streams from cement and electricity generation industries. BIOCON-CO₂ will overcome the current challenges of the industrial scale implementation of the biotechnologies routes for CO₂ reuse by developing engineered enzymes, immobilization in nanomaterials, genetic and metabolic approaches, engineered carbonic anhydrases, pressurized fermentation, trickle bed reactor using advanced materials and electrofermentation.

The project aims to capture at least 4% of the total market share at medium term (1.4Mtonnes CO₂/year) and 10% at long term (3.5Mtonnes CO₂/year) contributing to reduce EU dependency from fuel oils and support the EU leadership in CO₂ reuse technologies. Policy recommendations and public perception and acceptance will be explored and a commercialization strategy will be executed by a detailed exploitation plan and technology transfer.

For more information, please click [here](#).



CCUS ONGOING PROJECTS - INNOVATION FUND

IF24 CALL (2024) LARGE AND MEDIUM SCALE CCU/E-FUEL PROJECTS

These projects were selected in late 2025 and are now signing grant agreements or starting implementation. Several explicitly turn captured CO₂ into sustainable fuels or chemicals, which aligns closely with PyroCO₂'s value-creation-from-CO₂ approach.

- **ReSTart** (France, refineries, large-scale) – The ReSTart project aims to deploy one of the first large-scale synthetic sustainable aviation fuels (e - SAF) production plants in Europe. The plant will produce up to 78000 tonnes of e-SAF yearly, achieving 96% of GHG emissions reduction compared to the production and use of conventional kerosene, and helping decarbonize the aviation. For more information, please click [here](#).
- **DEZiR** (France, refineries, large-scale) – The DEZiR project aims to deploy one of the first large-scale synthetic sustainable aviation fuels (e - SAF) production plants in Europe. The plant will produce up to 78000 tonnes of e-SAF yearly, achieving 93% of GHG emissions reduction compared to the production and use of conventional kerosene, and helping decarbonize the aviation. For more information, please click [here](#).
- **ENDOR** (Denmark, refineries, large-scale) – The ENDOR project, developed by Arcadia eFuels Vordingborg, aims at producing electric Sustainable Aviation Fuel (eSAF) to support the decarbonisation of the aviation sector. The plant will produce 80.000 tons of efuels annually as a drop -in replacement for fossil fuels. The project is expected to achieve a relative 98% reduction in greenhouse gas emissions compared to the fossil fuels commonly used today. ENDOR is innovative in its integration of large -scale electrolyzers powered with renewable electricity , biogenic CO₂, and gas -to-liquids synthesis to produce eSAF at commercial scale efficiently and by effective use of energy and material streams compared. The design includes integrated use of waste heat from the processes, improved carbon utilisation, and optimised electrolyser opera. For more information, please click [here](#).
- **GLOWMethanol** (Germany, refineries, medium-scale) – E-methanol production, a key CCU platform chemical/fuel that shares many upstream challenges with PyroCO₂ (CO₂ supply, hydrogen integration, purification).
- **PP2XH** (Estonia, refineries, medium-scale) – The Pärnu P2X Hub (PP2XH) project will build the first renewable e-methanol production plant in the Baltic countries. Located in Pärnu, Estonia, the project will deploy solar and wind power to produce renewable hydrogen and e-methanol at one site. Once operational, it will produce annually approximately 2,000 tonnes of renewable hydrogen 10,000 tonnes of e-methanol. The project is expected to reach a 95 % relative GHG reduction compared with conventional fuels. The project integrates several clean -energy technologies into one integrated system. Its smart microgrid balances renewable electricity from solar and wind to match hydrogen production from the alkaline electrolyser with power availability every hour. The plant will also use an efficient Emissions - to-Liquids process to use the captured biogenic CO₂ from local biomethane plants into the production of e-methanol. For more information, click [here](#).



- RECLAIM (Denmark, refineries, medium-scale) – The RECLAIM project will convert an existing biogas plant into a first-of-a-kind commercialisation of a waste-to-value production of biomethane and renewable methanol, in a circular and integrated manner. The project is located at the Biocirc Vesthimmerland Biogas plant in Denmark. The plant plans to produce annually 16,000 tonnes of RFNBO e-methanol, 22.7 million Nm³ of biomethane, and 760,000 tonnes of fertiliser in the form of digestate. The relative GHG emission avoidance of the project is estimated at 99.56 % reduction. By combining innovative technologies in an integrated waste-to-value concept, the project will convert agricultural biomass waste fractions and renewable electricity into high -value, renewable fuels for the industrial and transport sectors, and fertilizers. For more information, please click [here](#).
- LUXIA (Spain, chemicals, large-scale) – Luxia is a fully integrated, large -scale project for renewable hydrogen, methanol and ammonia, developed by Moeve within the Andalusian Green Hydrogen Valley, one of Europe's most ambitious initiatives recognised as a Project of Common Interest (PCI). Luxia will establish a fully integrated large-scale ecosystem leveraging a 100 megawatt (MW) alkaline electrolyser, a new methanol plant, and the revamping of existing assets of a grey ammonia plant and a SMR to maximize efficiency and circularity. With an annual output of 300 000 tonnes of renewable methanol and 200 000 tonnes of renewable ammonia, Luxia will avoid 84% of GHG emissions compared to conventional routes, contributing to the decarbonization of hard -to-abate sectors such as maritime transport and fertilizers. For more information, please click [here](#).

These projects are all listed in the official Innovation Fund project table under IF24Call (General large-scale/medium-scale) and have “Grant signed” or “Invited to grant agreement preparation” status as of mid-2026.

IF25 CALLS/AUCTIONS (2025-2026) EARLY RESULTS

The 2025 work programme added competitive auctions (hydrogen, industrial process heat) and a new Net-Zero Technologies call. Most IF25 results visible so far are **electrification/hydrogen** rather than CCU, but the framework explicitly supports CCU and CCS under the Net-Zero Technologies stream. As of June 2026, the public project list shows many IF25 Heat Auction and Hydrogen Auction projects, but few labelled explicitly as CCU; CCUS-heavy selections remain dominated by the IF24 cohort. For more information on the description of selected projects, please [click here](#).



UPCOMING EVENTS IN 2026

CARBON CAPTURE GLOBAL SUMMIT 2026

The Carbon Capture Global Summit 2026 will take place on **22–23 September 2026 at the QEII Conference Centre in Westminster, London, UK.**

Key details:

- **Focus:** A major international CCUS summit focused on moving projects toward large-scale deployment, securing final investment decisions, developing industrial clusters, and sharing best practices for gigaton-scale carbon-management solutions.
- **Participants:** More than 800 senior leaders from industry, finance, government and policy, with representation from Europe, North America, Asia-Pacific and the Middle East.
- **CCU relevance:** Although the event covers the full CCUS value chain, its agenda includes carbon utilisation alongside capture, transport, storage, industrial decarbonisation and carbon-removal strategies.
- **Agenda:** High-level plenaries, strategic panels, project case studies, investment discussions, industrial-cluster updates and technology showcases. Core themes include project financing, FIDs, infrastructure, policy and international cooperation.
- **Networking:** Executive-level networking with project developers, investors, policymakers, industrial emitters, technology providers and potential offtakers.

13TH EUROPEAN CARBON DIOXIDE UTILISATION SUMMIT 2026

The 13th European Carbon Dioxide Utilisation Summit will take place on **23–24 September 2026 in Rotterdam, the Netherlands.**

Key details:

- **Focus:** Dedicated specifically to accelerating the European CCU industry and turning captured CO₂ into commercially valuable products at scale.
- **Participants:** CCU project developers, technology providers, chemical and fuel producers, industrial emitters, investors, policymakers, researchers and potential offtakers.
- **CCU relevance:** This is likely the most directly relevant upcoming event for your interest in CCU. It addresses CO₂-to-fuels, CO₂-to-chemicals, carbon-based materials, industrial symbiosis, Power-to-X and commercialisation.
- **Agenda:** Sessions are expected to focus on financing, offtake risk, regulatory uncertainty, project development, market creation, industrial integration and the transition from demonstration projects to commercial-scale facilities.
- **Networking:** Meetings with companies developing CO₂ conversion technologies and businesses seeking low-carbon feedstocks, fuels, chemicals and materials.

5TH EUROPE CCUS & HYDROGEN INDUSTRIAL DECARBONISATION SUMMIT 2026

The 5th Europe CCUS & Hydrogen Industrial Decarbonisation Summit will take place on **6–7 October 2026 in Brussels, Belgium.**



Key details:

- **Focus:** Industrial decarbonisation through the combined deployment of CCUS and hydrogen, with particular relevance to hard-to-abate industries.
- **Participants:** Industrial companies, hydrogen producers, CCUS developers, policymakers, infrastructure operators, financiers and technology suppliers.
- **CCU relevance:** The event covers CCUS broadly but is relevant to CCU through discussions of CO₂ reuse, e-fuels, hydrogen-derived products, industrial carbon circularity and integration between capture assets and downstream production.
- **Agenda:** Likely themes include CBAM, the EU ETS, hydrogen production, industrial clusters, CO₂ infrastructure, project economics, permitting and cross-border cooperation.
- **Networking:** Strong opportunity to connect with European industrial stakeholders and policymakers, particularly those involved in the regulatory and infrastructure environment.

CCUS 2026: FROM AMBITION TO DELIVERY

CCUS 2026: From Ambition to Delivery will take place on **13–14 October 2026 at Central Hall Westminster in London, UK.**

Key details:

- **Focus:** The UK's flagship CCUS conference, centred on delivering projects that have moved beyond policy ambition and toward financing, construction and operation.
- **Participants:** More than 700 expected attendees, including senior industry leaders, policymakers, financiers, insurers, carbon-removal specialists, technology providers and project developers.
- **CCU relevance:** The programme includes dedicated discussion of CCU, as well as carbon markets, SAF and e-fuels, carbon-dioxide removal, cross-border frameworks and CCUS-as-a-service models.
- **Agenda:** Topics include projects reaching FID, finance and insurance, funding certainty, international project lessons, carbon markets, UK and EU regulation, and the commercialisation of capture, utilisation and storage.
- **Networking:** Exhibition sessions, conference networking breaks and an event app designed to arrange meetings with business partners and potential collaborators.

TECHDAY “LES E-FUELS : DE LA PRODUCTION AUX USAGES”

The technical day “Les e-fuels : de la production aux usages” will take place on **13 October 2026, from 09:00 to 18:00, at GIE Osiris – Espace Kémio, Le Péage-de-Roussillon, France.** It is organised by **AXELERA in partnership with Tenerrdis.**

Key details:

- **Focus:** Identifying which e-fuel applications could help establish an e-fuels industry in the Auvergne-Rhône-Alpes region, with particular attention to hard-to-electrify sectors.



- **CCU relevance:** The programme covers the complete e-fuels value chain, including hydrogen production, **CO₂ capture and utilisation**, synthesis of e-fuel molecules, and downstream applications.
- **Technical themes:** Fundamentals of e-fuels, hydrogen and CO₂ requirements, synthesis pathways, carbon utilisation, and the integration of e-fuels into regional industrial and transport systems.
- **Applications:** Discussions will address potential uses in industry, inland waterway transport and aviation, as well as other regional applications capable of supporting new production facilities.
- **Participants and contributors:** Confirmed contributors include Elyse Energy, IFP Énergies nouvelles, Voies Navigables de France, Aéroports de Lyon and GIE OSIRIS.

CARBON CAPTURE TECHNOLOGY EXPO EUROPE 2026

Carbon Capture Technology Expo Europe 2026 will take place on **20–22 October 2026 at Hamburg Messe in Hamburg, Germany**.

Key details:

- **Focus:** A large technology exhibition and conference covering carbon capture, utilisation and storage technologies and the associated industrial supply chain.
- **Participants:** Technology developers, engineering companies, industrial emitters, equipment suppliers, researchers, investors and policymakers.
- **CCU relevance:** The event covers CO₂ conversion into fuels, chemicals, building materials and other products, alongside capture systems, transport infrastructure, storage and emissions-monitoring technologies.
- **Agenda:** Technical presentations, commercial case studies, product demonstrations, exhibition showcases and discussions on capture systems, CO₂ transport, storage, utilisation and emissions monitoring.
- **Networking:** Particularly valuable for identifying technology suppliers, engineering partners, equipment manufacturers and potential integration partners.

INDUSTRY CCUS 2026

Industry CCUS 2026 is scheduled for **18–19 November 2026 in Amsterdam, the Netherlands**.

Key details:

- **Focus:** Practical implementation of CCUS technologies in European industry.
- **Participants:** Industrial companies, CCUS technology providers, project developers, infrastructure operators, policymakers, researchers and financial stakeholders.
- **CCU relevance:** The event is relevant to industrial CO₂ utilisation, especially where captured CO₂ is integrated into existing production chains or converted into fuels, chemicals and materials.
- **Agenda:** Expected topics include industrial deployment, project economics, infrastructure, technology selection, regulatory frameworks and regional market development.
- **Networking:** A practical forum for meeting European industrial users and solution providers.



These events present excellent opportunities for learning, collaboration, and networking, featuring top industry, policy, and academic experts addressing the future of CCUS in Europe.

INTERESTING SITES & SOURCES

PYROCO₂ Project - <https://www.pyroco2.eu/>

CO₂ Value Europe - <https://www.co2value.eu/>

CO₂ Value Europe database - <https://database.co2value.eu/>

Club CO₂ - <https://www.club-co2.fr/fr>

International Energy Agency - <https://www.iea.org/>

Zero Emission Platform - <https://zeroemissionsplatform.eu/>

Strategy CCUS - <https://www.strategyccus.eu/>

Global CCS Institute - <https://www.globalccsinstitute.com>

France Hydrogen - <https://www.france-hydrogene.org/>

GreenH₂Atlantic Project - <https://www.greenh2atlantic.com/>

