

Industrial partnership for CCUS

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1. Industrial partnership: what for?

CCUS encompasses the processes involved in capturing CO₂ from industrial emissions or the atmosphere, followed by permanent storage either in deep geological formations or in the form of products such as carbonates.

Several reliable climate modelling scenarios (e.g., by the IPCC, the IEA, the European Commission) indicate that CCUS technologies will play an essential role in delivering global and European ambition to achieve net-zero emissions by 2050.

CCUS offers decarbonization solutions for the energy sector and carbon-intensive industry by capturing CO₂ at the installation level, but also as a means of permanently removing large amounts of carbon by direct air capture (DAC) and combustion or fermentation of biogenic carbon (Bioenergy with Carbon Capture and Storage – BECCS).

There is an existing legislative framework for CCUS, which consists of the CCS Directive setting the rules for the geological storage of CO₂, and the EU Emission Trading Systems (EU ETS), which allows emitters not to surrender allowances for storing CO₂. CCUS is eligible for public funding, through mechanisms such as the Connecting Europe Facility, the Innovation Fund, Horizon Europe and the Recovery and Resilient Facility.

However, over the years only limited progress has been made in the development of CCUS in Europe. This situation results from difficulties in the regulatory framework as well as in making a business case for CCUS projects. This can be attributed to high costs, a long project timeframe including a lengthy permitting process, lack of cross-border infrastructure and an up-to-date regulatory framework as well as poor public awareness and support. This leads to barriers and not enough incentives.

Overcoming the above-mentioned hurdles requires a comprehensive CCUS strategy and continuous political support at the level of both the EU and the Member States. To ensure that CCUS technologies are deployed in time to be able to contribute to net zero by 2050, the appropriate policy actions should be taken and implemented without further delay.

Establishing a public-private industrial alliance/partnership could be instrumental in overcoming obstacles in the development of CCUS for all parts of the value chain. Such a partnership could serve as a permanent forum of communication between industry, the EU and Member States' public authorities, civil society, and other stakeholders. It could also assist in monitoring, implementing, and updating the EU CCUS Vision/Strategy.

2. What is an industrial partnership or alliance?

The European Commission defines industrial alliances as a tool to facilitate stronger cooperation between all interested partners. Their principal purpose is to achieve key EU policy objectives

through joint action.

They are characterised by the following features:

- i. They are built around a common goal to implement EU policy objectives.
- ii. They involve all relevant partners along the value chain, both public and private, including EU and non-EU countries, regions, local government, industry, financial institutions, private investors, innovation actors, academia, research institutes, civil society, trade unions, and others.
- iii. They are based on the principles of openness, transparency, diversity, and inclusiveness and comply with competition rules.
- iv. They are not involved in formal decision-making on policy, regulation, or financing.
- v. There is no direct public funding for alliances.

3. The European industrial (public-private) partnerships

At the EU level, industrial partnerships have already been established. Some examples are the European Battery Alliance (EBA), the Alliance for Zero-Emission Aviation (AZEA), the European Raw Material Alliance (ERMA), the European Clean Hydrogen Alliance (EH2A), and the Alliance on Processor and Semiconductor Technologies.

- **European Battery Alliance (EBA)**

In October 2017, the Commission (DG GROW) introduced the EBA with the goal to build a sustainable value chain for battery production as well as to provide the EU market with a secure supply of green, safe and high-performing batteries by developing and expanding battery technology and production capacity in the EU.

Members of this alliance come from both the public and private sectors, covering the entire battery value chain, and from a variety of countries, some of which are outside the EU.

- **Alliance for Zero-Emission Aviation (AZEA)**

The AZEA was launched by the Commission under DG DEFIS in June 2022. It has three main objectives: to prepare the aviation ecosystem for the entry into commercial service of hydrogen-powered and electric aircraft; to improve and update airport infrastructures; to identify and prioritise challenges and propose practical solutions. In this way, the aviation sector can contribute to the climate neutrality objective of the EU.

Not only stakeholders from the aeronautical industry and aviation community are involved in AZEA, but also energy producers.

- **European Raw Materials Alliance (ERMA)**

DG GROW initiated the ERMA two years ago, when it identified the need to ensure reliable, secure, and sustainable access to raw materials. This is key for building resilient industrial ecosystems and value chains that are less dependent on international trade for primary

raw materials, while simultaneously seeking circular use of resources, sustainable products, and innovation.

Partners of the alliance include industrial actors along the value chain, Member States and regions, trade unions, civil society, research and technology organisations, investors, and NGOs from both in- and outside the EU region.

- **European Clean Hydrogen Alliance (EH2A)**

The EH2A's kick-off meeting took place in July 2020 under the umbrella of DG GROW. Since then, the Alliance has been working towards decarbonising the industry by developing and deploying hydrogen as a source of energy.

Its network brings together a variety of sectors, including industry, public authorities, civil society, and stakeholders, also from outside the EU.

- **Alliance on Processor and Semiconductor Technologies**

In July 2021, DG CONNECT set up the Alliance on Processor and Semiconductor Technologies to identify gaps in the production and technology of secure, energy-efficient, powerful chips and processors, while reinforcing the relative ecosystem and manufacturing capacity within the EU.

Membership is open to any organisation with expertise in the relevant technology, including end-user companies, associations, and research organisations.

These alliances have a similar structure, as all of them are set up and ultimately run by the Commission. Some of them are more institutionalized, e.g., the Industrial Alliance for Processors and Semiconductor Technology, which can even set different voting methods for specific decisions that need to be taken. The EH2A is more flexible, in the sense that working groups are also created for ad-hoc challenges that the Commission wants to address.

In any case, full involvement of members should always be sought to make the Partnership effective in achieving its purposes. In addition, the Commission should try to engage think tanks and research centres, which can provide independent expertise and research to assist the industry and the Commission in having a fruitful discussion.

4. How to make an industrial partnership fit for purpose? Common objectives

CCUS extends to the range of market participants and technologies required to capture, transport, and permanently store CO₂. While an overall goal of a CCUS partnership could be to assist in monitoring, implementing, and updating the EU CCUS Vision/Strategy, it should define more specific objectives which are shared by all types of stakeholders.

Such goals could include:

- a. Gaining and maintaining the political impetus, support and coordination at the EU and the Member States level by creating a platform for a regular exchange of views with representatives of the EU institutions and the Member States.

- b. Increasing public awareness and acceptance of CCUS technology by involving local stakeholders and presenting a positive narrative.
- c. Aggregating demand for CCUS to help build a business case for CCUS technologies.
- d. Building of CO₂ transport and storage infrastructure in collaboration with relevant business stakeholders and policymakers at EU, national and regional levels.
- e. Identifying, communicating, and removing barriers in the deployment of CCUS with the aim of proposing concrete policy recommendations to fill in any gaps, in cooperation with relevant think tanks and of providing access to resources, skills, and infrastructure.
- f. Exchanging best practices and learning from each other to incentivise new collaboration and partnerships within the partnership and with other sectors.
- g. Connecting projects in various regions of Europe and matching partners for Projects of Common Interest and other funding opportunities, with the common objective of building CO₂ transport and storage infrastructure.

5. Governance

In setting up an industrial partnership for CCUS, the Commission should keep it flexible in its structure, goals, and operational activities to accommodate changes in the CCUS market, its needs and its challenges.

The partnership could be facilitated by high-level representatives of one or more existing organizations with an established reputation, expertise and contacts in the field, as well as by the appropriate European Commission's Directorate (DG).

Unlike other partnerships, which involve only one DG, for a CCUS industrial partnership it is important to consider the involvement of three Commission's Directorates: DG ENER (a lead service for CCUS), DG CLIMA (responsible for climate and CO₂ certification) and DG GROW (responsible for the industry). This can play a fundamental role in setting up this kind of partnership given the crosscutting implications and applications that CCUS technology has in different sectors.

Membership should be open to all who wish to apply but will need to be approved by the governing body.

A plenary meeting of the partnership could be held 1 or 2 times per year, which would create the space for high-level discussions and contacts. It would also ensure visibility and political momentum for important decisions. For specific and critical topics, the members of the partnership could also consider inviting high-level representatives of the Member States or any other stakeholder that is considered relevant to the topic's discussion. In this case, the current CCUS Forum could be merged with the CCUS partnership activity and become the plenary meeting.

The operational work could be divided among the members of the partnership by creating roundtables or working groups, which could be organized in line with sectoral interests along the value chain. Such working groups would serve as a platform for regular cooperation, including

identification of barriers and funding opportunities, preparation of recommendations and input for the plenary, and delivery of analysis and outreach activities.

Currently, the Commission sets up the topics for the roundtables or working groups after undertaking a consultation process with the industry. Nevertheless, it is important to stress that such a dialogue should always remain active to guarantee full participation of all members and to consider the industry's difficulties that the Commission might not have considered.

A secretariat for industrial partnership should be established on a pro-bono basis by facilitating organizations. The role of the secretariat should be to manage and coordinate the activity of the working groups, and it should report to the plenary. It can also assist the Commission in preparing and organizing the CCUS Forum.