



EUROPEAN COMMISSION

DIRECTORATE-GENERAL

CLIMATE ACTION

Directorate C – Innovation for a Low Carbon, Resilient Economy

CLIMA.C.2 – Low Carbon Solutions (II): Research & Low Carbon Technology Deployment

CCS Value Chain workshop by the Innovation Fund

On 2 October 2024, the European Commission services organised a closed-door CCS Value Chain workshop in Brussels in the context of the Innovation Fund (IF).

The Communication of the European Commission on Industrial Carbon Management (ICM) of 6 February 2024 has outlined three main pathways to deploy carbon management technologies, namely, capture of CO₂ emissions from industrial and energy sources for permanent storage (CCS), for utilization (CCU), or removal of CO₂ from the atmosphere. When captured CO₂ is not stored or used directly at the place of capture, it will need to be transported to the storage or utilization site through a dedicated transport infrastructure.

The Net Zero Industry Act (NZIA) is the first legal building block for ICM. It establishes a legal objective for the EU of 50 Mtpa of CO₂ to be stored permanently underground by 2030 and compels EU oil and gas producers to develop operational geological CO₂ storage sites. It also establishes for each Member State a single point of contact at the administrative level to manage and coordinate the permit-granting process for net-zero technology manufacturing projects, and confers a special status to net-zero strategic “CO₂ hubs” which, among other benefits, are entitled to receive all necessary permits to operate a storage site in accordance with Directive 2009/31/EC within 18 months after completion of the application.

The EU and national funding mechanisms for ICM projects include the IF, Connecting Europe Facility (CEF), Horizon Europe, LIFE Programme, grants-as-a-service and national support mechanisms.

In this context, the objective of the workshop was to offer an open discussion environment for front-runner companies involved in the development of IF funded CO₂ capture projects, prospective CO₂ storage operators and Member States experts on the challenges and potential ways forward to establish strategic full value chain for CO₂ projects in the North Sea area.

The workshop was organized in three sessions of presentations followed by a general discussion session.

- In the first session, five front-runner IF funded projects for CO₂ capture (GO4ECOPLANET in Poland; CalCC and K6 in France; Beccs Stockholm in Sweden; Kairos@C in Belgium) presented the status of their project and the key challenges they currently face to successfully progress to the next stages of implementation.
- The second session presented ongoing CO₂ storage projects, with emphasis on their

timelines and capacity, by storage operators that have already a permit to explore and eventually inject CO₂ geologically, with speakers representing storage projects from the companies Harbour Energy, Carbfix, ENI, Total Energies, Shell and Equinor.

- The third session focused on the views of front-runner Member States' permitting authorities (Denmark, Norway and Iceland were present, the Netherlands also invited) regarding application process, priority status and permitting support for recognised net-zero strategic CO₂ projects.
- The Open Discussion session allowed the participants to delve into the challenges experienced by the CO₂ capture companies and the permanent storage operators. The main critical points raised during the discussion were the following:
 - The need for a better and timely coordination between all the different stakeholders of the whole CCS value chain (including CO₂ storage and transport operators) and of a fairer distribution of the risks (which are still disproportionately born by the emitters) among them;
 - The need for cost-based and transparent tariffs for CO₂ transport and storage services as well as unbundled services;
 - The importance of increasing the public awareness and acceptance for CCS projects from the local population, especially when it comes to onshore storage sites;
 - The challenge of the cost increases in recent years along the CCS value chain, including the inflationary effects of the post-Covid economic recovery and the war in Ukraine, which all participating projects are facing;
 - The important role of ETS prices to reduce the gap with the start-up costs for front-running CCS value chains and provide a stronger price signal to drive the development of ICM projects;
 - The need for a level playing field with respect to non-EU industrial and energy competitors and the resulting necessity of a rapid and fully effective implementation of the Carbon Border Adjustment Mechanism (CBAM);
 - Several companies indicated the wish for additional types of investment incentives for early movers in CCS, which could be addressed by allocating free ETS allowances to early movers;
 - The need to establish viable insurance policies potentially supported by EU institutions that are tailored to the investment risks associated with ICM projects.

During the discussion, it was pointed out that, even under the most favourable conditions for CCS, oil & gas companies should not expect the same level of return on investments from CCS projects as from traditional fossil fuel exploitation activities, due to the higher-risk nature of CCS projects. Moreover, both capture companies and storage operators manifested a strong interest in national Carbon Contracts for Difference (CCfD) schemes, with subsidies covering the difference between a carbon reference price and an agreed 'strike price' representing the project's abatement costs. This approach, currently devised to financially de-risk ICM projects in several Member States, is also currently under study at the European level within the framework of "Auctions-as-a-Service" under the

Innovation Fund.

The Commission concluded the meeting acknowledging the challenges currently faced by front-runner capture companies and storage operators, especially cross-chain risk of delayed operational start-up. A reasonable business case for CCS needs to be developed along all the steps of the CCS value chain. This includes balancing risk mitigation measure between “deliver or pay” and “store or pay” principles. Ways forward should include enhanced and coordinated planning of infrastructure as well as faster and simpler permitting in line with the Net-Zero Industry Act. The Commission also reiterated its strong commitment to facilitating a continuous and attentive dialogue with all the value chain stakeholders, especially during the next few years, which will be crucial to ensure a timely and effective launch of operational Industrial Carbon Management in the Union.

Participants:

- CO₂ capture projects supported by the Innovation Fund;
- Prospective CO₂ storage operators;
- Member States representatives;
- Commission services.