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CLIMATE ACTION

Directorate C – Innovation for a Low Carbon, Resilient Economy

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

# **CCS Knowledge Sharing workshop by the Innovation Fund**

## **Realising opportunities along the value chain**

On 28 November 2023, the European Commission services organised a CCS Knowledge-Sharing workshop in the context of the Innovation Fund, co-located with the 2023 edition of the EU Carbon Capture, Utilisation and Storage (CCUS) forum, in Aalborg, Denmark.

The third Large Scale Call under the EU Innovation Fund, held in 2022-2023, has highlighted a substantial demand for CO<sub>2</sub> storage capacity. The European Commission will support the capture of more than 10 million tonnes of CO<sub>2</sub>, by industrial projects that need to sign storage contracts before 2028. Based on the proposals received during this latest call, a demand for 16.2 million tonnes of annual CO<sub>2</sub> storage has been identified. If all CCS proposals submitted from 2020 onwards are to be taken into account, the CO<sub>2</sub> storage capacity demand exceeds 20 Mtpa.

In this context, the objective of the workshop was to offer an opportunity for companies that have applied with industrial CO<sub>2</sub> capture projects to the Innovation Fund and that have plans to start operation by 2030 to meet prospective CO<sub>2</sub> transport and storage operators nominated by competent authorities in Member States, to present and discuss operational transport and storage needs and opportunities.

The discussions were organised in two panels, each focusing on connections across the value chain that could be made based on geographical proximity: one covering projects and operators in Central, Eastern and Southern Europe, and another covering projects and operators in Western and Northern Europe. The presentations and discussions focused on:

- An overview of how the Innovation Fund has been supporting CCS projects over the years, made by the European Climate, Infrastructure and Environment Executive Agency (CINEA) services, followed by a brief presentation of the call for proposals launched on 23 November 2023.
- A presentation given by the Commission services on funding mechanisms and policy directions meant to incentivise the deployment of CCS across EU Member States. Apart from the Innovation Fund, funding opportunities presented included the following programmes: Horizon Europe, Modernisation Fund, Connecting Europe Facility, LIFE Programme, the latter especially relevant for public acceptance and capacity building actions, among others. With regards to policies, the presentation

covered the revised ETS Directive, the Net Zero Industry Act, forthcoming the Industrial Carbon Management Strategy and the update of the CCS Directive Guidance Documents.

- In the first panel, covering Central, Eastern and Southern Europe, seven (7) capture projects located in Croatia, Czechia, Greece and Spain informed about their planned capture volumes by 2030 and about the challenges encountered towards entering operation. In total, all projects presented intend to put on the market up to 7.5 million tonnes of CO<sub>2</sub> annually by 2030. Similarly, five (5) prospective CO<sub>2</sub> storage operators located in France, Greece, Italy, Romania and Poland talked about their plans of making CO<sub>2</sub> storage capacity available by 2030, also pointing out risks and challenges in achieving these plans. In total, storage operators in this panel intend to put forward more than 10.9 million tonnes annual injection capacity by 2030. Based on information received through applications to the Innovation Fund for all projects from Central, Eastern and Southern Europe present in the room, the estimated volumes of CO<sub>2</sub> to be captured by 2030 is of 9.7 Mtpa. The main challenges identified in this part of Europe focused on lack of clarity of some national regulatory frameworks, especially for CO<sub>2</sub> storage development, as well as on the need for aligning timing in investment decisions and costs along the value chain. While the CCS Directive is implemented in all EU Member States, implementing legislation explaining procedures, timelines, responsibilities are not always clear. Public awareness was also considered an aspect to be considerably improved in this part of Europe.
- The second panel, covering Western and Northern Europe, included presentations of eight (8) CO<sub>2</sub> capture projects, from Belgium, Germany and Sweden, with a focus on the planned capture volumes by 2030 and the challenges encountered towards entering operation. In total, all projects presented intend to put on the market up to 5.7 million tonnes of CO<sub>2</sub> annually by 2030. Four (4) prospective storage operators from Denmark, Netherlands and Norway presented their plans of making CO<sub>2</sub> storage capacity available by 2030. In total, storage operators only in this panel intend to put forward more than 50 million tonnes annual injection capacity by 2030, out of which 41 million tonnes in the EU. Based on information received through applications to the Innovation Fund for all projects from Western and Northern Europe present in the room, the estimated volumes of CO<sub>2</sub> to be captured by 2030 is of 6.5 Mtpa. Considering the more advanced status of projects in this part of Europe, challenges discussed were of a more practical nature, including the need for CO<sub>2</sub> standards, alignment along the value chain in terms of risk sharing, maturation and investment decisions, reduce timing for permitting procedures as well as cross-border shipping of CO<sub>2</sub>. In addition, projects capturing biogenic CO<sub>2</sub> identified the need to develop a liquid market for carbon removals.

The Commission concluded the meeting acknowledging the need to continue targeted knowledge-sharing workshops for actors along the CCS value chain, shifting the focus towards solutions that can be found to tackle the discussed challenges. Moreover, proposals on how to best address the knowledge-sharing needs of projects and companies through these workshops have been shared by participants and are to be taken into account.

The following upcoming milestones at the level of the Commission and CINEA have been mentioned during the workshop:

- The publication of the Industrial Carbon Management Communication → Q1 2024;
- The adoption of the Net Zero Industry Act → Q1 2024;

- The publication of the revised CCS Directive Guidance Documents and capacity building workshops with competent authorities and storage operators → Q1 2024;
- Innovation Fund 2023 call, open for applications:
  - Deadline for applications: 9 April 2024;
  - Results to be announced: Q4 2024.

Participants:

- CO<sub>2</sub> capture projects that have applied to the Innovation Fund;
- Prospective CO<sub>2</sub> storage operators;
- Prospective CO<sub>2</sub> transport operators;
- Member States Representatives
- Commission, CINEA and EFTA Surveillance Authority services