# HERCCULES: innovation and collaboration for industrial decarbonization in Europe

*Reggio Emilia, Italy - October 23rd, 2025*

*On October 22th, the Second Dissemination Event of the European project HERCCULES – Heroes in Southern Europe to decarbonize industry with CCUS took place at the Tecnopolo in Reggio Emilia, Italy organized by Clust-ER Greentech with the support of EUCORE, LEAP, and the international project consortium. The event was attended by over 70 people from 12 different countries, including researchers, technicians, and industry stakeholders. The initiative brought together representatives from industry, academia, and institutions to share results, perspectives, and technologies related to $CO_2$ capture, utilization, and storage (CCUS), which is at the heart of the European energy transition.*

*Funded under Horizon Europe, HERCCULES aims to demonstrate the technical and economic feasibility of CCUS solutions in the most difficult industrial sectors to decarbonize, promoting the transfer of knowledge and technologies with the EU and in particular between southern European countries. The project brings together companies, universities, and research centers from all over Europe with the aim of developing integrated $CO_2$ capture and utilization systems, tested on a real scale, and creating shared indicators to measure their environmental and economic impact.*

## The dissemination event - CCUS in Italy: overview and perspectives

After a welcome address by Elisa Guasti (Clust-ER Greentech), the first session of the day – "*Set the scene*" – offered an overview of the evolution of the CCUS deployment in Italy. Maria Giovanna Abagnale (ENI) and Caterina Molinari (SNAM) opened the proceedings by illustrating how the Ravenna CCS project is strengthening the country's role in the European carbon capture and storage landscape.

Afterwards, Maurizio Spinelli (LEAP), project coordinator, presented the progress of HERCCULES and the synergies with the CLEANKER project, dedicated to the decarbonization of the cement sector. Manuele Gatti (Politecnico di Milano) and Stefano Signorini (LEAP) illustrated the research infrastructure supporting advanced-scale CCS experimentation developed as part of the ENCASE project, with a particular focus on the LEAP laboratory.

*Funded by the European Union. This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101096691. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor the granting authority can be held responsible for them.*

The second part of the meeting, "*Italy's CCUS awakening: national strategy*," explored the strategic and industrial dimensions of the issue. Roberto Ferrario (ENI), Paolo Testini (SNAM) and Sven Alsheimer (FRAUNHOFER) discussed the role of stakeholder engagement and integrated policies in the development of a national CCUS ecosystem.

Later on, Francesco Magli (BUZZI) illustrated the decarbonization path of the cement sector, while Adriano Carrara (A2A) analyzed potential and critical issues of current technologies for Carbon Capture, Utilization and Storage, with a focus on the integration of Carbon Capture technologies into the waste-to-energy sector.

**The Vernasca pilot plant**

At the end of the event, participants had the opportunity to visit BUZZI's cement production plant, where the $CO_2$ capture pilot plant was built as part of HERCCULES project.

The experience provided an opportunity to observe one of the most concrete applications of capture technologies firsthand and to discuss the potential for replication on an industrial scale, confirming Italy's pioneering role in CCUS experimentation.

The following day, October 23rd, the project's **Second Stakeholder Advisory Board (SAB)** meeting was held, during which the HERCCULES partners, together with the main stakeholders, reviewed the progress of the various work packages. The meeting provided a valuable platform for collaboration, innovation, and discussion among all participants. In addition, participants had the opportunity to visit the capture plant of the Ravenna CCS project, a joint venture between ENI and SNAM, and one of two geological storage sites that provide the opportunity to complete the demonstration of the entire CCUS supply chain of the HERCCULES project.

HERCCULES is thus entering a crucial phase, in which the demonstration of novel technologies and the consolidation of international collaborations will be decisive in achieving the objectives of the Horizon Europe program. Upcoming activities include the enhancement of full CCS/U chain testing, the validation of environmental and economic models, and the intensification of dissemination and social engagement initiatives.

With an approach based on collaboration between research, business, and the local community, HERCCULES confirms its ambition: to make industrial decarbonization a concrete opportunity for innovation, competitiveness, and sustainability for Europe.

*Funded by the European Union. This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101096691. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor the granting authority can be held responsible for them.*

***HERCCULES project in numbers**: start date: 1 January 2023; Total project duration: 60 months; Total budget: €39.627.208,00; EU contribution: € 29.632.076,48; 25 partners: LABORATORIO ENERGIA AMBIENTE PIACENZA (coordinator), EU CORE CONSULTING SRL, ENERGEAN OIL & GAS – ENERGEIAKI AIGAIOU ANONYMI ETAIREIA EREVNAS KAI PARAGOGIS YDROGONANTHRAKON, ENERGEAN ITALY S.P.A., BUZZI SPA, Dyckerhoff Cement Ukraine Private Joint-Stock Company, ANONYMI ETAIREIA TSIMENTON TITAN, SUMITOMO SHI FW ENERGIA OY, SUMITOMO SHI FW ENERGIA POLSKA SPOLKA Z OGRANICZONA ODPOWIEDZIALNOSCIA, AIR LIQUIDE ITALIA SERVICE SRL , AIR LIQUIDE ITALIA PRODUZIONE SRL , AIR LIQUIDE GLOBAL E&C SOLUTIONS FRANCE, FRAUNHOFER GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG EV, POLITECNICO DI MILANO, THE BOSTON CONSULTING GROUP S.R.L, AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS, CELITEMENT GMBH & CO. KG, UNIVERSITEIT UTRECHT, WIETERSDORFER ALPACEM GMBH, ARTIDEK, MTU SHOGENERGY, LAPPEENRANNAN-LAHDEN TEKNILLINEN YLIOPISTO LUT, TECNO PROJECT INDUSTRIALE SRL, SIAD SOCIETA ITALIANA ACETILENE E DERIVATI SPA, ASSOCIAZIONE CLUST-ER ENERGIA E SVILUPPO SOSTENIBILE, CENTRE FOR RENEWABLE ENERGY SOURCES AND SAVING FONDATION, A2A AMBIENTE SPA, ENI SPA, A2A SPA, BUZZI UNICEM SRL, SNAM S.P.A.*

For further information, visit the official website: [https://www.herccules.eu/](https://www.herccules.eu/)

Communication done by Clust-ER Greentech and HERCCULES consortium.

*Funded by the European Union. This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101096691. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor the granting authority can be held responsible for them.*