

**Carbon Capture, Utilisation and Storage:
Opportunities, challenges and pathways to Net Zero**

Thematic workshop - 17th September 2026 - Faculty of Civil and Industrial Engineering,
Sapienza University of Rome

**ECCSEL ERIC - The world's largest CCUS Research
Infrastructure**

Michela Vellico ^{1*}, Valentina Volpi ¹, Cinzia De Vittor ¹

1 – National Institute of Oceanography and Applied Geophysics - OGS, Trieste, Italy

* Corresponding author: mvellico@ogs.it

ECCSEL is the European Research Infrastructure for CO₂ Capture, Utilisation, Transport and Storage (CCUS), Carbon Dioxide Removal (CDR), Low Carbon Energy Storage (LCES) and Geothermal technologies. ECCSEL vision is to enable net zero CO₂ emissions from industry and energy systems, and to accelerate research and innovation.

ECCSEL provides open access to more than 165 world-class research facilities across Europe, advancing innovation and supporting national priorities and the EU Industrial Carbon Management Strategy. As Europe's leading research infrastructure in this field, ECCSEL connects research institutes, industry, and academia through collaboration and knowledge sharing. It strengthens participation in EU Horizon programmes while aligning research infrastructure with emerging European innovation needs. Spanning TRL 1–7, ECCSEL works with stakeholders to deliver the research capabilities needed for the large-scale deployment of CCUS, CDR, LCES, and geothermal technologies across Europe.

Established as an ERIC (European Research Infrastructure Consortium) by European Commission Decision in June 2017, ECCSEL is a permanent, distributed, integrated Research Infrastructure encompassing interlinked transnational scientific facilities and national nodes. Its headquarters are located in Trondheim, Norway. Eight countries are Members of ECCSEL ERIC: Norway, Italy, France, UK, the Netherlands, Denmark, Germany and Austria.

Italy was among the founding Members of ECCSEL ERIC and has played an active role since ECCSEL was included in the ESFRI Roadmap, in 2008, and during the subsequent preparatory phases. The Italian National Node currently counts 8 facility owners and 23 facilities offering access and services to the research and industrial communities, covering all ECCSEL thematic fields.

The future of ECCSEL foresees a further enlargement of its membership and a strengthening of the services offered to the scientific and industrial communities, in order to pave the way towards a green transition also in key sectors, such as the hard-to-abate industry.

Keywords: Research Infrastructure, ERIC, energy, CCUS, CDR, geothermal

Acknowledgments

We thank the ECCSEL ERIC management and Operations Centre for the material and the support provided.

Organized by