

About

COREu is one of the largest research and innovation **project in the field of carbon capture and storage (CCS)** funded under the Horizon Europe programme with the aim of accelerating the transition to a low-carbon future by aiming more specifically **for a reduction** of 6.8 Mt/year of **CO₂** by 2035 and 36 Mt/year by 2050.

This is achieved by demonstrating key technologies for the entire CCS value chain in Europe.

The project aims to develop **new demonstration projects connecting CO₂ sources with potential storage sites.**



Objectives



Accelerate CCS deployment by demonstrating safe and effective CO₂ transport and storage.



Increase the TRL of the CCS technologies developed.



Define economically viable, societal-and environmentally-aware **business models** for a sustainable upscaling of the deployment of CCS.



Develop improved CO₂ stream specifications for the demo, facilitating open-access transport, by targeted analysis and experiments.



Provide experimental data, new methods and tools for safe design and risk assessment **of CO₂ transport.**



Provide experimental data and develop tools to de-risk and **optimize CO₂ storage.**



Support the deployment of multimodal, open-access **CO₂ transport** by experimental data, validated models and engineering design.



Facilitate the safe operations of, and enable revenues and credits allocation in, **CO₂ transportation networks** by advancing metering and analysis technologies.



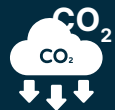
Develop a standard methodology for strengthening **social acceptance of CCS technologies.**



Monitor, prevent and **reduce the environmental impact** of transport and storage deployment.



Contribute to create a positive momentum for CCS across EU, by mobilizing impacting stakeholders (beyond consortium) & offering an innovative setting for collaborative engagement, resulting in accelerated deployment of safe, sustainable and resilient CCS routes in Europe.



Project innovations

- 1 Use of **GVP Carbon Fibre Cylinders** to transport captured and compressed CO₂ by truck to the storage site.
- 2 Onshore demonstration of four system architectures to **transfer CO₂** from transport vessels in ships to the injection well.
- 3 **Induced seismicity monitoring system**: a wireless, battery-powered set of offshore sensors that can stay on the seabed for up to six months without recharging.
- 4 **CO₂-sniffing AUV**: this technology will be used to monitor potential leakage near the injection wells and along the CO₂ gas pipeline route.
- 5 **Open-source tool** for design and assessment of high-pressure pipelines to avoid running ductile fractures.
- 6 Enabling the assessment of the economic and **safe reuse of existing assets** such as pipelines, wells, and platforms.
- 7 **Well-reservoir flow coupling**.
- 8 **Metering and analysis of CO₂ streams** including the customisation and demonstration of a tool to monitor the whole CCS value chain.



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This project has received funding from the European Union's HE Research and Innovation Programme under Grant Agreement No.101136217

CO₂ routes across Europe



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