

Pilot carbon capture plant helping pave the way to a climate-neutral Europe

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Credit: Marcin Jozwiak from Pexels

An EU-backed project has started up a pilot CO₂ capture plant in Norway. Such developments will go a long way in transforming the EU into a modern, resource-efficient and competitive economy with no net

greenhouse gas emissions by 2050.

The EU aims to be climate neutral by 2050. By achieving climate neutrality, it will become the first continent to reach net-zero CO₂ emissions. The ACCSESS project seeks to make this a reality by developing replicable carbon capture, utilization and storage (CCUS) technology. CCUS is an important emissions reduction technology that captures CO₂ emissions and either uses them to make things such as building materials or permanently stores them deep below the earth's surface.

In particular, ACCSESS will lower emissions and contribute to offering climate-neutral end products. It will deliver safe, cost-effective, adaptable and replicable CCUS that addresses three industrial sectors, namely pulp and paper, waste to energy, and cement. All possess great potential for CO₂ removal.

Pilot plant to accelerate CCUS uptake and deployment

In addition, the project team will demonstrate cost-efficient CO₂ capture and use in industrial facilities. The first important milestone has now been reached with the launch of the Hafslund Oslo Celsio CO₂ capture plant in Klemetsrud, Norway. Hafslund Oslo Celsio is Norway's largest supplier of district heating. The pilot was made possible with the CO₂ solutions technology provided by project partner Saipem from Italy. This innovation has been recognized as the project's leading technology.

Project partners completed all the suitable modifications to the plant. This was done to be able to operate with the CO₂ solutions technology. They will also optimize all parameters. The [pilot plant](#) is already capturing CO₂.

"It's really exciting that ACCSESS can start the pilot tests of this environmentally friendly capture technology after only a year," comments project coordinator Kristin Jordal from Norwegian SINTEF Energy Research in a news item posted on the project website. "This is thanks to Hafslund Oslo Celsio allowing us to use their mobile pilot test rig."

More pilots on their way for CO₂ removal

When the test campaign finishes, the pilot will be moved to Technology Center Mongstad, also in Norway. It will be integrated with a rotating packed bed absorber unit developed by project partner PROSPIN in Poland. This marks the technology's next phase of development, culminating in the commercialization of a modular, rapid and easy-to-build product. CO₂ capture test campaigns will be carried out at the Stora Enso kraft pulp mill in Skutskär (Sweden) and at the HeidelbergCement kiln in GóraŹdŹe (Poland) during the period 2023-2024.

On the path to a climate neutral Europe, ACCSESS (Providing access to cost-efficient, replicable, safe and flexible CCUS) will improve CO₂ capture integration in industrial installations as key to accelerating CCUS implementation, tackle the full CCUS chain, and engage and inform stakeholders about CCUS. The project ends in April 2025.

More information: ACCSESS project website:
www.projectaccess.eu/

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