

Stress History And Reservoir Pressure for improved quantification of CO2 storage containment risks

Publieke samenvatting / Public summary

Aanleiding

Carbon Capture and Storage (CCS) is now maturing in Europe and worldwide with several Net Zero projects emerging. Hence, the need for safe and reliable CO2 storage sites is accelerating and the reliable assessment of largescale storage options at the gigatonne-per-year scale is critical. The SHARP project addresses three Priority Research Directions identified in the Mission Innovation Report required to improve current technologies to deliver CO2 storage volumes at the scale needed to meet demands for large scale storage. The geomechanical response to CO2 injection is one of the key uncertainties in assessing proposed storage sites.

Doelstelling

The SHARP project aims to reduce these uncertainties with the ambitious goal of improving the accuracy of subsurface CO2 storage containment risk management to a level acceptable to both commercial and regulatory interests.

Korte omschrijving

The development and integration of models for subsurface stress, rock mechanical failure and seismicity will mature the technology for quantification of subsurface deformation, thereby leading to cost-efficient CO2 subsurface risk monitoring and management.

Projectinformatie / Project information

Projectnummer / Project number
ACT320011

Subsidiebedrag / Grant amount
€ 845.152,00

Algemene informatie / General information

Penvoerder / Secretariat
Technische Universiteit Delft

Publicaties en materialen / Publications and attachments

- 28.07.2025

Eindrapport ACT320011

Volg Topsector Energie op X / Follow Topsector Energie on X

@TSEnergie

Resultaat

The SHARP project is expected to accelerate the maturation of storage sites in the North Sea and India. SHARP will help to scale up the Northern Lights CO2 storage project in the Horda area (N) and mature emerging storage prospects in the Greater Bunter Sandstone area (UK) and the Hanstholm structure (DK) that will benefit from transferring knowledge from pioneering and more mature work in the Horda area. Further, application to wellcharacterised offshore depleted oil and gas fields, like Nini (DK) and Aramis (NL), will accelerate their transformation into viable and safe CO2 storage sites. India has high focus on emission reduction using CCUS and an onshore case study for CO2 EOR will be matured using learning elements from Europe to kick-start CO2 injection and storage projects in India.

De data in deze applicatie is afkomstig van de Rijksdienst voor Ondernemend Nederland (RVO) en wordt in samenwerking met de Topsector Energie ontsloten.

Voor meer informatie over de Topsector Energie, ga naar www.topsectorenergie.nl.

Voor meer informatie over de TSE / Energie-Innovatie regelingen die RVO aanbiedt, ga naar www.rvo.nl/tse.