A multiple space and time scale approach for the quantification of deep saline formations for CO2 storage

From 2009-06-01 to 2014-05-31, closed project

Project details

**Total cost:**
EUR 10 555 789,75

**EU contribution:**
EUR 7 995 154

**Coordinated in:**
Sweden

**Topic(s):**
ENERGY.2008.5.2.4 - Development of a suitable methodology for the qualification of deep saline aquifers for CO2 storage

**Call for proposal:**
FP7-ENERGY-2008-1

**Funding scheme:**
CP - Collaborative project (generic)

**Objective**

The objectives of MUSTANG are to develop and disseminate a comprehensive set of methodologies and tools for the assessment and characterization of deep saline aquifers for CO2 storage, providing measures of performance and risk that are necessary for a cost-benefit analysis, ensuring public confidence and acceptance and promoting its deployment. Novel CO2 storage specific field investigation technologies and methodologies will be developed, allowing an improved determination of the relevant physical properties of the site and enabling short response times in the detection and monitoring of CO2 plumes during both the injection and storage phases. We also aim at an improved understanding of the processes of CO2 spreading by means of theoretical investigations, laboratory experiments, natural analogue studies and field scale injection tests, including those relevant to the 1) seal integrity; 2) the negative impact of possibly conductive faults; 3) formation heterogeneities; 4) CO2 trapping mechanisms; and 5) effective treatment for the wide span of spatial and temporal scales of the coupled thermo-hydro-mechanical-chemical processes. Based on the improved process models, conceptual and numerical models will be developed for analyzing CO2 injection and storage and implemented at six test sites representing different geological settings and geographical locations in Europe, also addressing the impact of the CO2 injection on seal integrity. The guidelines to be developed will be integrated into a decision support system, which will include a risk assessment component and liabilities consideration. The DSS will be tested and validated at the various project test sites. Special attention has been devoted to promote measures capable of enhancing public outreach and acceptance and dissemination of the methodologies and technologies to the wide public.

Related information

**Result In Brief**
Storing CO2 in deep saline formations

**Report Summaries**
Final Report Summary - MUSTANG (A multiple space and time scale approach for the quantification of deep saline formations for CO2 storage)
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Subjects
Climate change and Carbon cycle research- Other Energy Topics

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