

CO₂SINK - In situ R&D Laboratory for Geological Storage of CO₂ in a Saline Aquifer
CSLF Project Status Report (PSR)
 December 2008

1. Project Location
Ketzin, State of Brandenburg, Germany
2. Project Lead
GeoForschungsZentrum Potsdam, German Research Centre for Geosciences (GFZ) Telegrafenberg, D-14473 Potsdam; http://www.gfz-potsdam.de Coordinator: Prof. Dr. Frank Schilling Tel: +49.331.288-1510; Fax: +49.331.288-1502; E-mail: fsch@gfz-potsdam.de Project website: http://www.co2sink.org
3. Project Objectives
<ul style="list-style-type: none"> ▪ Developing a basis for geologic storage of CO₂ into a saline aquifer ▪ Establishing the first European in-situ laboratory for onshore storage of CO₂ ▪ Creating a field laboratory with one injection well and two observation wells ▪ Characterization of flow and reaction processes in geologic storage, including detailed analysis of samples of rocks, fluids and microorganisms from the underground reservoir ▪ Intensive monitoring of the injected CO₂ using a broad range of geophysical (time-lapse seismic, electrical and thermal), geochemical and microbiological techniques ▪ Development and benchmarking of numerical models ▪ Definition and testing of risk-assessment strategies
4. Recent Milestones
<ul style="list-style-type: none"> ▪ Feb./May 2007: Spud-in of the CO₂SINK injection and observation wells ▪ June 13, 2007: Opening of the Ketzin Field Lab, CO₂ Storage Site and Info Centre ▪ Sept. 8, 2007: One injection and two observation wells drilled and cemented (smart wells with electrical and fibre-optical permanent sensors behind casing) ▪ Feb. 8, 2008: Injection facility installed and tested ▪ Feb. 29, 2008: Hydraulic testing successful ▪ June 18, 2008: Final lifting of injection and observation wells; slug injection ▪ June 24, 2008: Commissioning of injection facility, start of injection test phase ▪ June 30, 2008: Start of CO₂ injection ▪ Nov. 17, 2008: Presentation of the CO₂SINK Status Report to GHGT-9, Washington
5. Status
<ul style="list-style-type: none"> ▪ 5-years lifetime 04/2004 - 03/2009; extension of project lifetime is applied for ▪ July 2008: start injection of up to 60,000 tonnes CO₂ ▪ Nov 2008: 4500 tonnes of CO₂ injected till now <p>Completed subprojects:</p> <ul style="list-style-type: none"> ▪ Storage site development ▪ Baseline Storage Site Modeling ▪ GeoEngineering: drilling, coring, pre-injection logging <p>Ongoing subprojects:</p> <ul style="list-style-type: none"> ▪ Rock/fluid interactions laboratory experimentation ▪ Economic/ecological analysis and safety concepts ▪ CO₂ supply, transport, intermediate storage, conditioning and injection ▪ Geophysical and geochemical borehole and surface MMV of CO₂ storage

- Project coordination and public outreach
- Preparation (permitting and operation) of CO₂ wellbore abandonment and post-injection MMV

The present state of the CO₂SINK Integrated Project has been summarized in the Proceedings of GHGT-9 by *Schilling, F. Borm, G. Wuerdemann, H. Moeller, F., Kuehn, M. and the CO₂SINK Group: Status Report on the First European on-shore CO₂ Storage Site at Ketzin (Germany)* and illustrated by 5 technical posters to GHGT-9 on specific topics of the project..