

## Safe long-term storage of CO2 is possible

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### ***Conclusion of an international project for the geological storage of carbon dioxide***

Potsdam, 07.11.2013 | At the final conference of the EU project CO2CARE - CO2 Site Closure Assessment Research - at the GFZ German Research Centre for Geosciences from 04 to 06 November 2013 more than 60 experts from academia, industry and regulatory authorities from 13 countries discussed technologies and procedures for a safe and sustainable closure of geological CO2 storage sites.

Since 2004, GFZ investigates in an international research network the geological storage of the greenhouse gas. "Our work at the Ketzin site has shown that and how geological CO2 storage on a pilot scale can be done safely and reliably," summarized Axel Liebscher, project coordinator and head of the Center for Geological Storage (CGS) at the GFZ, the results of the meeting. "The knowledge gained in the project CO2CARE and newly developed procedures and technologies are a key step forward to implement the requirements of the EU Directive (DIRECTIVE 2009/31/EC) for geological storage of CO2 in national CCS laws and to ensure a safe and sustainable closure of geological CO2 storage sites."

The CO2CARE EU project, coordinated by the GFZ, combined experimental laboratory and field research as well as numerical simulations in an integrated approach and tested and developed technologies and methodologies. The result is that the three main requirements of the EU Directive for the transfer of responsibility to the appropriate regulatory body can be met: modelled behavior conforms with the observed behavior of the injected CO2, there is no detectable leakage, and the storage site is evolving towards a situation of long-term stability.

The key component of the CO2CARE project is the site-based research with an international portfolio of nine CO2 storage projects. In addition to Sleipner in Norway and K12-B in the Netherlands, the Ketzin pilot site operated by GFZ is one of three sites for which in the framework of CO2CARE the closure and the transfer of responsibility to the regulatory authority was theoretically developed. At the Ketzin pilot site the storage of CO2 was terminated in August 2013 after more than 5 years of successful operation. Axel Liebscher: "By now the post-injection phase has begun and the Ketzin pilot site will be the first site which will be closed within a scientific project. The results of the CO2CARE project will be implemented here directly."

Due to the continuing increase in world energy demand, especially in countries such as China, India and Brazil, and the use of fossil fuels the CCS technology will continue to play a central role in the global reduction of CO2 emissions. For Germany, it is especially also an option to avoid so-called process-related emissions from steel, cement and chemical industries. "Only if we can also demonstrate the safe and permanent closure of CO2 storage sites in addition to the safe operation,

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CCS is able to develop its potential," Axel Liebscher concluded.

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