



## **Science in bullet points: How to compile scientific results to underpin guidelines for CO<sub>2</sub> storage for the German transposition of the European CCS Directive**

Martin Streibel

Helmholtz-Centre Potsdam, GFZ - German Research Centre for Geosciences, Centre for Geological Storage, Potsdam, Germany (streibel@gfz-potsdam.de)

In 2012 the German Parliament passed the transposition of the EC Directive 2009/31/EC the “Carbon Dioxide Storage Law” (KSpG). The law focuses on the demonstration of the CO<sub>2</sub> storage technology and mainly regulates the storage part of the Carbon Capture and Storage (CCS) chain.

As the law has a conceptual character, appendix 1 provides a description of criteria for the characterisation and assessment of a potential CO<sub>2</sub> storage site starting with field data ending with requirements for dynamic modelling of the storage complex. Appendix 2 describes the expected monitoring system during all relevant phases of a life cycle of a CO<sub>2</sub> storage site. The criteria given in the appendices are of general nature, which reflects on one hand that the CO<sub>2</sub> storage technology is still being developed and on the other hand that site specific aspects needs to be considered.

In 2004 the Federal Ministry of Education and Research of Germany launched the programme GEOTECHNOLOGIEN with one key aspect being the development of technologies for a sustainable storage of carbon dioxide in geological formations. Within this research field more than 30 projects in three phases have been funded until the end of 2014.

In order to benefit from the gathered knowledge and use the experiences for the policy/law making process the umbrella project AUGE has been launched in October 2012 with a life time of three years. The aim of the project is to review and compile all results of projects funded during the three phases to underpin the appendices of the KSpG.

In the first part of the paper the most important findings of the project with regard to the overall risk of a geological CO<sub>2</sub> storage and the procedure of compiling the guidance document will be discussed.

Milestones of this project were

- the compilation of the results of national, European and international projects;
- interviews with stakeholders;
- a workshops to define state of the art for certain involved technologies and existing gaps;
- a workshop to understand the limitations of existing simulation tools for large scale CO<sub>2</sub> storage.

In a second part of the paper it is discussed what kind of guidance documents are actually still required for regulation of large scale CO<sub>2</sub> storage sites.