

Newsletter from the SUCCESS centre – February 2013 – no. 7

SUCCESS at midway

Planning for the project's final years

The SUCCESS center was established in 2010 as one of Norway's *centers of environmentally-friendly energy research* (CEER). These centers have a guaranteed financing of five years, with a possible prolonging for three years after a midterm evaluation. These evaluations will take place during 2013. This is a little early for our center, as we were established one year later than our sister centers, but still we feel that we are ready for a thorough look at what we have obtained.

A good process

The process started last fall, when all partners delivered self-evaluation reports. An international expert panel has been appointed, and this group will meet with the SUCCESS participants in March.

The self-evaluation process has been very useful, as it is of great value to take the time to get an overview over the work in a complex project as ours. As part of this task the management has discussed possible adjustments to the project plan for the last half of the period.

So far the center has focused on fundamental research to improve our understanding of the physical processes related to CO₂ reservoir capacity, injectivity and containment. In particular, research has been aimed at quantification of geochemical and geomechanical response to CO₂ injection in the reservoir, incorporation of new equations-of-state in the reservoir simulators and understanding of the total seal/overburden integrity. In addition, the effects of leakage of CO₂ to sea have been studied.

Scaling up

The IPCC projections for rise in global temperature now exceed the 2 centigrade international target, making the climate threat more imminent than ever. At the same time, implementation of CCS on a global scale is lagging severely behind relative to internationally set goals and expectations, as a result of cost, political issues, regulatory framework and public acceptance. An emerging understanding suggests that a good way to mitigate this situation is to concentrate on some few, large-scale storage projects and a system



of carbon capture and transport hubs, rather than thousands of small to intermediate independent CCS projects. Large-scale storage of CO₂ below the North Sea has a great potential for contributing to an upscale CCS solution for Europe.

As a consequence, objectives for the final period of the SUCCESS center will be readjusted to better support large scale deployment of CO₂ storage, with particular reference to the North Sea.

Reaching out

Dissemination of results and outreach activities play an important role in the center, including high quality peer review papers and communication of results to the public. During the final period, there will be a continued focus on this. However, due to the urgency related to global deployment of CCS and the strong political aspects of this matter, increased emphasis will be put on public discussions and providing of key information to policy and decision makers.

New WP3 postdoc



Alban Souche has just started as post-doc at IFE (Institute for Energy Technology, Kjeller) and will be involved in SUCCESS work packet 3. Alban recently obtained his PhD in geosciences from the University of Oslo. His scientific interest is in quantifying physical processes that are relevant for geological systems. The main work of his PhD was to numerically quantify the impact of rock deformation and fluid flow of pore fluids on the temperature field of sedimentary basins.

As part of WP3, Alban will investigate the dehydration of clay minerals exposed to dry supercritical CO₂ (sc-CO₂) in order to assess and predict the integrity of cap-rocks rich in clay minerals after CO₂ injection. The research will focus on experimental work under high pressure (sc-CO₂ conditions) to reproduce the natural conditions found in geological reservoirs. We wish him very welcome to the SUCCESS team!

SUCCESS winter seminar

The traditional SUCCESS winter seminar will take place in Bergen March 11th–12th. This is where the multitude of our research will be bubbling up to the surface. There will be some one and a half dozen presentations by PhD students and postdocs of SUCCESS and collaborating projects. A splendid opportunity to get an overview, and we especially welcome representatives from our research partners to sit in.



The seminar will also stage a workshop on communication and outreach aimed at our students and junior researchers. We hope that during the year this will result in a couple of TED-like web presentations of CCS research.

The seminar will be followed by a site visit by the expert evaluation committee and a board meeting of the center.

For more info about the winter seminar, please visit our web site:

<http://fme-success.no/index.cfm?id=389905>

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*The SUCCESS team wishes all readers
a SUCCESSful new year!*

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SUCCESS (Subsurface CO₂ Storage – Critical Elements and Superior Strategy) is one of several Norwegian centres for environment-friendly energy research, funded by the Norwegian Research Council and industry partners. For more info and contact address: www.fme-success.no.

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