



**British  
Geological Survey**  
NATURAL ENVIRONMENT RESEARCH COUNCIL



## **PRESS RELEASE**

2nd June 2010

### **Possibilities for storing carbon dioxide beneath the Moray Firth explored**

**Sandstone rocks deep beneath the Moray Firth are being examined for the storage of carbon dioxide emissions. This is the first time a consortium of the Scottish Government and industry has funded (£290k) a study to test the suitability of a specific site for carbon storage.**

The Captain Sandstone will be evaluated for its capacity, technical feasibility and commercial viability as a CO<sub>2</sub> store by scientists at the Scottish Centre for Carbon Storage (SCCS). This is essential to plan for long-term storage of CO<sub>2</sub> and to meet national targets for carbon emissions reduction.

The target rock in the Moray Firth is buried more than half a mile below the sea bed and lies at least 30 miles into the North Sea. It is one of many sandstones filled with salt water that provide more than 95% of potential CO<sub>2</sub> storage capacity in the northern North Sea.

Dr Maxine Akhurst from the SCCS at the British Geological Survey said "The Captain Sandstone has the potential to store decades of CO<sub>2</sub> output from a coal-fired power station, like the existing plant at Longannet or a future CCS project such as Hunterston or Peterhead. In contrast, the depleted oil and gas fields within the sandstone have capacity for only a few years of power station output."

Scottish Energy Minister Jim Mather said: "Scotland has significant advantages for the development of Carbon Capture and Storage including knowledge and expertise in areas such as geology and engineering and in the North Sea oil and gas industry. We also have a tremendous offshore storage capacity and the outcome of this research will further increase our understanding of the potential for Scotland to take the lead in the development of Carbon Capture and Storage."

New geological mapping and modelling of the Captain Sandstone is appraising the thickness, extent and fluid flow properties of the rock. The study will also address the challenges of CO<sub>2</sub> injection and monitoring to assess suitability of this and other North Sea sandstones.

Computer modelling of CO<sub>2</sub> injection into the rocks will test the storage site and its long-term performance to ensure CO<sub>2</sub> remains permanently locked in.

To transport CO<sub>2</sub> from industrial plant to the offshore region it is envisaged that natural gas pipelines may be re-used, or new pipelines could be constructed, leading to a CO<sub>2</sub> network (similar to the existing oil and gas networks).

The research will be completed this year and the results will be available to inform the implementation of carbon storage in Scotland and northern England.

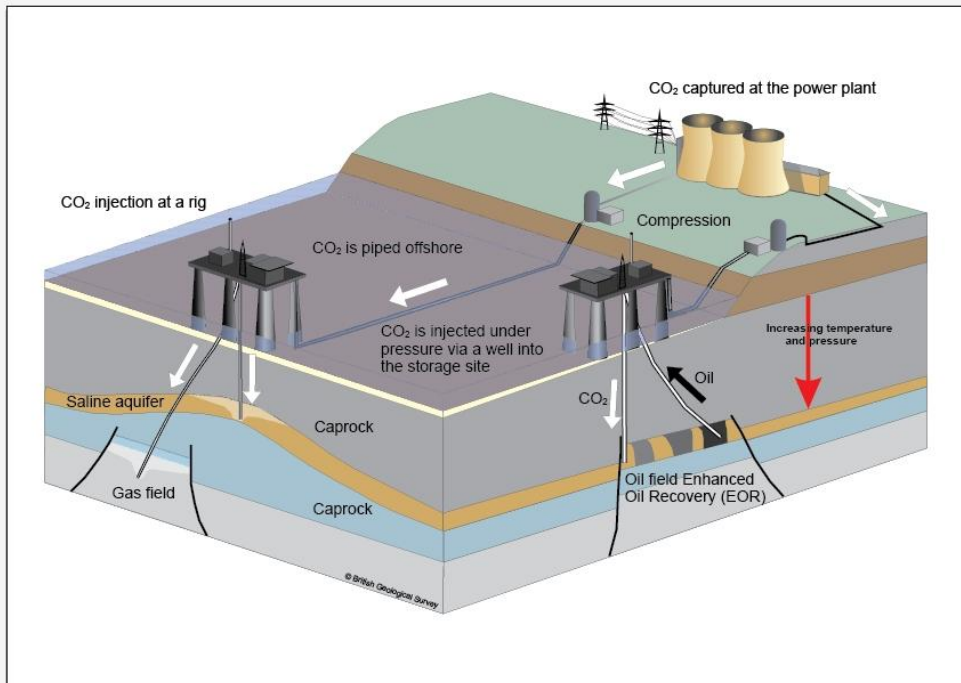
The Scottish Government and commercial organisations with operational interests in Scotland are funding the project: Ayrshire Power Ltd (a Peel Energy company); BG Group, Doosan Babcock; National Grid; RWE npower; Schlumberger; Scottish and Southern Energy; ScottishPower; Senergy; Scottish Enterprise; Shell U.K; The Crown Estate; and Wood Mackenzie.



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The Scottish Centre for Carbon Storage, established in 2005 with funding from The Scottish Funding Council, is a partnership between the British Geological Survey, Heriot-Watt University and the University of Edinburgh.



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**Notes for Editors**

The Scottish CCTS Development Study follows on from the initial evaluation reported in 'Opportunities for CO<sub>2</sub> storage around Scotland – an integrated, strategic research study' released in May 2009. The Captain Sandstone was included in the short-list of saline aquifers (sandstones filled with salt water) potentially suitable for CO<sub>2</sub> storage. The report is available at [www.erp.ac.uk/sccs](http://www.erp.ac.uk/sccs)

The Scottish Carbon Capture Transport and Storage Development Study aims to accelerate the implementation of operational offshore carbon storage around Scotland by:

- 1) undertaking detailed evaluation of the Captain Sandstone saline aquifer;
- 2) identification and quantification of the technology and staffing requirements;
- 3) planning the approaches and information needed to enable greater public understanding of Carbon Capture and Storage.

Scotland's massive offshore CO<sub>2</sub> storage capacity is of European significance. The European Union has specified that 3 of the 8 CCS demonstrator plants that it will fund under its multi-billion euro demonstrator programme must inject into saline aquifers. The results from this study will place Scotland in a strong position to secure future EU support for more detailed assessment of CO<sub>2</sub> storage in saline aquifers.