

# science summary



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SCHO0808BOMW-E-P

## Carbon capture and storage readiness

Science Summary SC070049

Carbon capture and storage (CCS) is a technology that is expected to provide carbon dioxide (CO<sub>2</sub>) emission reductions while maintaining the security of energy supply, as it allows the burning of abundant but carbon-intensive coal. CCS is believed to be of particular relevance in the context of climate change mitigation in developing countries. The technology is currently not commercially viable for a number of reasons, including uncertainty about full-scale implementation, and the present focus is on the 'carbon capture ready' aspects of CCS.

This report aims to provide the Environment Agency (EA) with an understanding of CCS, to inform the policy debate, and to prepare the EA for any regulatory role in CCS.

The report concludes that there appears to be a realistic business case for power plants in the UK, sited in locations with practicable access to offshore storage, to be made capture ready. The basic requirements for carbon capture readiness (CCR) are that space for both the large units of capture equipment and the many smaller ancillary items and interconnections with the original plant should be provided, and that a conceptual retrofit study be undertaken to verify feasibility. There must be credible prospects that CO<sub>2</sub> from the site can be transported to storage.

Investment in fossil-fuel plants without CCR provisions would lead to risks of carbon lock-in. A formal requirement for plants to be capture ready should be included in any future Section 36 plant permits for coal-fired stations. The report also recommends that the EA engages in the specification and verification of capture readiness. Finally, it suggests that the EA can encourage the development of CCS through support for a strong carbon price signal and facilitation of the development of a clear regulatory framework for CCS, including that of transport planning.

**This summary relates to information from Science Project SC070049, reported in detail in the following output:-**

**Science Report:** SC007049

**Title:** Carbon capture and storage readiness

**ISBN:** 978-1-84432-935-9

**September 2008**

**Report Product Code:** SCHO0808BOML-E-P

**Internal Status:** Released to all regions

**External Status:** Publicly available

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**Research Contractor:** Entec UK Ltd, Doherty Innovation Centre, Pentlands Science Park, Bush Loan, Penicuik, Midlothian EH26 OPZ

This project was funded by the Environment Agency's Science Group, which provides scientific knowledge, tools and techniques to enable us to protect and manage the environment as effectively as possible.

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