


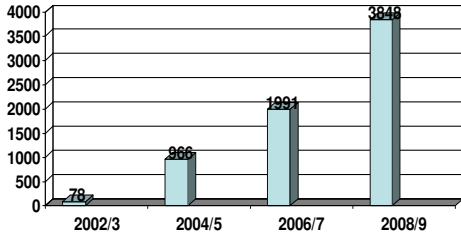
## Research Councils' Energy Programme and CCS

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## Carbon Capture and Storage: the background and need for a network

**Expenditure by year (£k)**




Year	Expenditure (£k)
2002/3	78
2004/5	366
2006/7	1991
2008/9	3848



## Carbon Capture and Storage: our vision for the network

CCS has been identified as a priority area for the Energy Programme. We now support over £38M in current grants for 36 research and capacity building projects in CCS. We encouraged the development of a network to enable:


- Coordination within the research community and sharing of results in this fast growing field
- Engagement with stakeholders and pilot projects
- International engagement
- Development of researchers
- Encourage involvement from researchers new to the area
- Easy "route in" and information source.



## Carbon Capture and Storage: Current Support

The projects we support include:

- 4 Consortia researching carbon capture and transport (3 jointly supported with E.ON). £6.5m investment.
- Projects on Cleaner Fossil Fuels in collaboration with China.
- Capacity building award for 6 new lectureships in CCS to Edinburgh and Heriot-Watt universities.
- Centres for Doctoral Training.
- Centre for Innovation in CCS at the University of Nottingham, focusing on promoting interdisciplinary activity to bring groundbreaking ideas from basic science and develop them into new products, processes and services, as well as considering public acceptability issues.



## Carbon Capture and Storage: Current Support cont

- CRIUS project at University of Cambridge which seeks to evaluate the kinetics of fluid-rock interactions in reservoirs which is necessary to accurately predict the extent of specific reservoir trapping mechanisms and containment.
- Work at the Sussex Energy Group on the development of UK policy for CCS and the financing of demonstration plant(s).
- CO2 Aquifer Storage Site Evaluation and Monitoring ( CASSEM ) project led by industry, and including research on public acceptance.
- Public engagement project led by the University of Edinburgh to communicate that the release of carbon dioxide into the atmosphere and the ocean is one of the greatest environmental problems that the next generation will face, but we can do something about it.



## Carbon Capture and Storage: Capacity Building

**New CCS Centres for Doctoral Training (£11m+ investment)**

- University of Nottingham with Birmingham and Loughborough: Efficient Power from Fossil Energies and Carbon Capture Technologies Industrial Doctorate Centre.  
Developing engineering research leaders to tackle the challenges in producing near-zero emission power from fossil fuels, by capturing carbon emissions before they are released.
- University of Leeds: Technologies for a Low Carbon Future.  
Bringing together research students and supervisors to develop innovative technologies for a low carbon future. Includes carbon storage as one of its 4 key themes.

## Carbon Capture and Storage:

Major research investments 2008-9



### Carbon Capture and Transport Consortia

- Materials for Next Generation CO<sub>2</sub> Transport Systems: Newcastle led, £1.5m (joint with E.ON)
- Oxyfuel Combustion: Leeds led, £1.7m (joint with E.ON)
- Step Change Adsorbents and Processes for CO<sub>2</sub> capture: Nottingham led, £1.5m (joint with E.ON)
- Innovative Gas Separations for Carbon Capture: Edinburgh led, £1.8m (EPSRC only)

### Cleaner Fossil Fuels with China

- Proposals funded include OxyCoal combustion, adsorbent materials and processes for capture; syngas burning, hydrogen production network.

## Carbon Capture and Storage:

Activities 2009-10



### Projects

- Call issued in Ecosystems impacts of geological carbon storage and CCS whole systems (around £3m). Closed 29 September
- Nanotechnology and carbon capture and utilisation call - free atmosphere focus (£5m). Full proposals being prepared

### Coordination and networking

- Network supported to take forward the work of the UKCCS Consortium and bring together the different activities in CCS (£1m)

### Exploitation

- One of the public sector funders of ETI

### International

- Exploring activities with USA, China and Australia
- CCS workshop in China 24-25 November