



UK scientists lead China closer to carbon capture and storage

China's CO₂ emissions from using coal are set to double by 2030, the scale of which is significant in the context of mitigating global climate change. In view of the essential role of coal in China's energy system, it is vital to minimise emissions where coal is used.

The British Geological Survey (BGS) attended the launch of the Near Zero Emissions Coal (NZEK) Phase 1 study in Beijing, China today. The aim of this study is to look at the feasibility of building coal fired power plants in China fitted with CO₂ capture and storage (CCS). NZEK implements the vision of realising a large scale Near Zero Emissions Coal demonstration in China as agreed at the EU-China Summit in September 2005.

Dr. Nick Riley MBE, Head of Science for Energy at BGS said: *"CCS offers the opportunity to reduce emissions per unit of electricity by 85 - 90%. Large-scale deployment of CCS in China has potential to significantly reduce future greenhouse gas emissions"*.

The geotechnical aspects of the research will involve selecting strategic sedimentary basins to be mapped for potential regional CO₂ storage assessments (geocapacity), followed by more detailed assessment of sites potentially suitable for a demonstration of CO₂ storage in China linked to a demonstration of CO₂ capture from a coal-fired power station. A Geographical Information System (GIS) linking current and planned large CO₂ point sources

to potential geological storage options (source-sink matching) will be constructed.

BGS and the China University of Petroleum (Beijing) co-ordinate the CO₂ geological storage part of the study, which also includes working in close partnership with Heriot Watt University, BP & Shell (UK) and the China University of Petroleum (HuaDong), Institute of Geology and Geophysics Chinese Academy of Sciences (CAS), Tsinghua University, PetroChina, Jilin Oilfield and China United Coalbed Methane Corp (CUCBM). NZEC is funded by the UK Government through Defra and DBERR and is co-ordinated by AEA Energy & Environment (UK) and ACCA21 (China).

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Notes to Editors:

- The Near Zero Emissions Coal (NZEC) initiative was announced as part of the EU-China Partnership on Climate Change at the EU-China Summit in September 2005. The Joint Declaration on climate change stated that the EU and China will aim *"to develop and demonstrate in China and the EU advanced, near-zero emissions coal technology through carbon capture and storage"* by 2020.
- The aim of the EU-China NZEC agreement is to bring forward the time when coal plants will be built with CCS in China and in the EU. It will build on planned European research and demonstration activity and will facilitate technology transfer between European industry and researchers, and their counterparts in China.
- A Memorandum of Understanding (MoU) was signed between the UK and the Chinese Ministry of Science and Technology (MOST) on December 19th 2006 to detail specific UK funded action (**NZEC**).
- A complementary MoU was signed between MOST and the European Commission on February 20th 2006. Both MoUs detail a common set of objectives to be achieved during Phase 1 of the NZEC initiative.
- The British Geological Survey (BGS), a component body of the Natural Environment Research Council (NERC), is the nation's principal supplier of objective, impartial and up-to-date geological expertise and information for decision making for governmental, commercial and individual users. The BGS maintains and develops the nation's understanding of its geology to improve policy making, enhance national wealth and reduce risk. It also collaborates with the national and international scientific community in carrying out research in strategic areas, including energy and natural resources, our vulnerability to environmental change and hazards, and our general

knowledge of the Earth system. More about the BGS can be found at www.bgs.ac.uk.

- BGS co-ordinates the CO2GeoNet European Research Network of Excellence on the geological storage of CO₂ and is the UK's foremost public sector organisation conducting research into the feasibility of underground CO₂ storage as a means of decarbonising fossil fuel emissions. More information may be found at CO2GeoNet Website: <http://www.co2geonet.com/>