

Collaborating on carbon capture and storage¹

Cambridge Earth Sciences is part of a global project researching new sites for carbon capture and storage (CCS), supported by leading multinational minerals and energy company BHP.

CCS is one way to tackle rising atmospheric carbon levels which contribute to climate change. While fossil fuels continue to be burned, long term storage of the CO₂ underground looks to be an important way to prevent further increases in atmospheric carbon, or even to start to remove and draw down existing CO₂ out of the atmosphere.

The new project with BHP will study long-term CO₂ sequestration at Otway, Australia. Professor Mike Bickle and Dr Jerome Neufeld in the Department of Earth Sciences will work alongside academics at Stanford and Melbourne to study how CO₂ interacts with porous rocks. They aim to identify new sites across the globe where CCS may be implemented.

Previous work in the Department has helped better understand CCS through studies of existing sites (Sleipner, North Sea) and natural analogues (Green River, Utah). Until now, most CCS schemes have worked by cooling and liquefying the gas before pumping it in to geological formations, saline aquifers or disused oil and gas fields. This gas then needs to be securely trapped underground, usually by a layer of thick non-porous "cap" rock.

The new collaboration aims to identify many more sites where CO₂ could be safely and securely trapped without this cap layer. CCS deployment at more sites would help reduce emissions, but is heavily dependent on government policy and economics keeping pace with technical innovation.

More information: <http://www.cam.ac.uk/research/features/carbon-capture-universities-and-industry-work-together-to-tackle-emissions>



Prof. Mike Bickle carrying out fieldwork in Utah

¹ Published October 2017 © Department of Earth Sciences