

# Carbon study could help reduce harmful emissions

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Earth scientists at The University of Manchester have found that carbon dioxide has been naturally stored for more than a million years in several gas fields in the Colorado Plateau and Rocky Mountains of the United States.

Researchers say lessons learned from these natural gas fields will help to find sites suitable for injecting CO<sub>2</sub> captured from power station chimneys.

Academics have been investigating five natural CO<sub>2</sub> gas fields from the southwest United States, as they are examples of natural CO<sub>2</sub> storage.

Their findings are published in the latest issue of the *Geochemistry Journal Geochimica et Cosmochimica Acta*.

In order for CO<sub>2</sub> storage - also known as CO<sub>2</sub> sequestration - to be considered as a viable method of reducing CO<sub>2</sub> emissions to the atmosphere the public must be reassured that the CO<sub>2</sub> pumped underground will be stored safely for a long time.

Dr Stuart Gilfillan, the University of Manchester researcher who led the project, said: "By measuring the noble gases within the Colorado carbon dioxide, we have been able to 'fingerprint' the CO<sub>2</sub> for the first time. This has allowed us to show that the gas in all of the fields is the result of the degassing of molten magma within the Earth's crust.

"In all of these gas fields, the last known magma melting event was over eight thousand years ago. In three of the fields magma melting last occurred over a million years ago, and in one it was at least 40 million years ago.

"We already know that oil and gas have been stored safely in oil and gas fields over millions of years and this study clearly shows that the CO<sub>2</sub>

has been stored naturally and safely for a very long time in these fields.

"So, underground CO<sub>2</sub> storage, in the correct place, should be a safe option to help us cope with emissions until we can develop cleaner energy sources."

The team hope that this study will pave the way for selection of similar safe sites for storage of CO<sub>2</sub> captured in power plants in both the UK and abroad.

Source: University of Manchester

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