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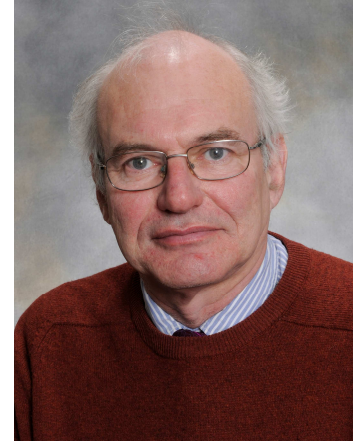


HELMHOLTZ
ZENTRUM FÜR
UMWELTFORSCHUNG
UFZ

Umweltverträgliches Fracking ?

- Geologische Potenziale und technische Herausforderungen -
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Robert Gatliff studied Geology and sedimentology at the universities of Oxford and Reading. He joined the British Geological Survey in 1976. He joined the Hydrocarbon Research Group in 1981, and has extensive experience across the United Kingdom Continental Shelf. He has worked in Tonga, Azerbaijan, east and west Africa and the Falkland Islands. In 2004 he was appointed Head of the Marine and Petroleum Geology Group. In 2013 he was appointed Director for Energy and Marine Geoscience



British Geological Survey

Mr Robert Gatliff, Director of Energy and Marine Geoscience
Murchison House, West Mains Road, Edinburgh,
United Kingdom
Tel. +44 (0) 1316500405
Mail: rwga@bgs.ac.uk
Internet: www.bgs.ac.uk

Resources to reserves in the United Kingdom

In 2012 the first tests for producing shale gas in the United Kingdom were completed. The resulting minor earthquakes and widespread publicity has resulted in a tremendous amount of interest from local residents, operators, environmental authorities, the Government and NGOs. A temporary ban on fracking was introduced in the UK and an independent review into hydraulic fracturing for shale gas extraction was undertaken (Royal Society 2012).

The British Geological Survey (BGS) is undertaking an independent assessment of resources in the UK for the Department of Energy and Climate Change. The key gas-bearing shales include the Bowland Shale (Carboniferous) which can be mapped across much of Northern England, covering an area similar to that of the Barnett Shale in Texas. BGS has monitored earthquakes associated with fracking and is collecting new data on the pre-fracking (baseline) methane content of groundwater, and the distribution of potential shale gas deposits and their relationships to aquifers. New work on the character of UK shales, including porosity, permeability, maturity, the amount of free and adsorbed gas and their geomechanical properties is underway.

Because of limited data there is a large range in estimates of in-place resources of shale gas, which are based on geological models, volumetrics and gas contents. These figures are very different from the recoverable resource estimates which are based on well technology, well performance and well density etc. The effect on reserves of the regulatory framework and approvals to drill, frack and produce is not yet established.

Reference

Shale gas extraction in the UK: a review of hydraulic fracturing
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