

## Statement 20 August 2019 Shale gas resource estimate generates debate in scientific journal *Nature Communications*

New research from the University of Nottingham, supported by the British Geological Survey (BGS) and published in *Nature Communications*, has found through new, innovative techniques that resources within the Bowland Shale Formation could be much lower than first thought.

Previously, the BGS was commissioned by the Oil and Gas Authority (OGA) and the former DECC (now BEIS) to produce a number of reports to estimate the shale gas resource in the Bowland Shale Formation in the Weald, Wessex and the Midland Valley. This research was published in 2013.

The estimates in 2013 were calculated using existing data for the areas such as seismic, borehole and outcrop data. The resource estimate for the Bowland Shale Formation was between 822 trillion cubic feet (tcf) and 2281 tcf, with the central figure being 1329 tcf. The resource estimate is for gas in place and is not a reserve estimate, which is the amount of gas that can be extracted from the shale.

The BGS has also researched induced seismicity, baseline monitoring (including CH<sub>4</sub> in groundwater) and evaluating the spatial relationship between shale deposits and the principal aquifers in the UK.

You can find details of other research carried out here: <http://www.bgs.ac.uk/shalegas/>

A partnership between the BGS's organic geochemistry facility and the University of Nottingham used geochemical techniques to better understand the gas resource of the Bowland Shale Formation. In particular a novel technique that replicates petroleum generation and expulsion in certain types of rocks in specific geological contexts.

Professor Mike Stephenson, Chief Scientist for Decarbonisation and Resource Management, says:

'This study ("Shale gas reserve evaluation by laboratory pyrolysis and gas holding capacity consistent with field data") uses an interesting new scientific technique, sequential high-pressure water pyrolysis, to estimate shale gas resources in the Bowland Shale Formation. This technique could help us further understand the shale gas potential of UK onshore basins.

Early indications published today in *Nature Communications*, suggest that it is possible there is less shale gas resource present than previously thought, however the study considered only a very small number of rock samples from only two locations.

BGS has continued to study resource estimation in shales over the past 16 years and further studies are still required to further refine estimates of shale gas resources.'

Professor John Ludden, Chief Executive of BGS says about the study:

'This study by Whitelaw et al., which was funded by a BGS PhD fellowship and involves BGS staff working with academic and industrial partners, further enhances our understanding of the shale gas potential of UK onshore basins. These data are of value for companies in helping them optimise their shale gas extraction technology and exploration. It is to be expected that shale gas resource will vary



across sedimentary basins depending on rock-composition, organic carbon contents and fracture and faulting patterns.’

For more information on current BGS research in shale gas please go to

<http://www.bgs.ac.uk/shalegas/>

Read a copy of the *Nature Communications* publication here: <https://www.nature.com/>

For all media enquiries on the *Nature Communications* paper please go through the [University of Nottingham press office](#).

For general media enquiries for the BGS please go through the BGS press office on 07790 607010 or [bgspress@bgs.ac.uk](mailto:bgspress@bgs.ac.uk).