Bundesanstalt für Geowissenschaften und Rohstoffe

Press release

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New BGR study on shale gas and shale oil in Germany

Ground water protection and fracking are compatible

Ground water protection and fracking are compatible with one another from a geoscientific point of view. This is the finding of a new study from the Federal Institute for Geosciences and Natural Resources (BGR) on “Shale oil and shale gas in Germany – potential and environmental aspects”.

Hydrogeological modelling carried out by BGR on a potential shale oil or shale gas play revealed: injected fracking fluids do not migrate from the deep underground into shallow aquifers used for the extraction of drinking water. In addition, the analysis demonstrates that the fractures in the rock artificially created by fracking do not reach up as far as the aquifers. The conclusions of the BGR experts: groundwater is not at risk if suitable locations are selected in compliance with legal regulations and when using state-of-the-art technology.

In addition to investigating the environmental aspects of fracking, the new BGR study also includes a detailed investigation of the geological resources. The findings are that between 320 to 2030 billion cubic metres of shale gas could possibly be recoverable using today’s standard technology. These figures are slightly smaller than the first preliminary estimate issued by BGR in 2012, which indicated a resource potential of between 700 to 2300 billion cubic metres. However, the magnitude of these non-conventional resources is still considerably larger than Germany’s conventional gas reserves and resources of 90 billion m³ to 110 billion m³ (including tight gas).

For the first time BGR also determined the shale oil resources as part of the study: accordingly Germany has shale oil resource potential of 13 to 164 million tonnes, corresponding to around the same magnitude as its conventional oil reserves (31 million tonnes) and resources (20 million tonnes).

Unlike their first assessment, the new BGR study now incorporates all rock formations relevant for shale oil and shale gas from a geological point of view. Shale oil and/or shale gas potential was identified in seven of the investigated formations. The greatest potential is expected in the North German Basin – and in particular in the Posidonia Shale at depths beyond 1000 metres.

Natural gas, being the fossil fuel with the lowest level of emissions, will remain an important element of the energy mix in the forthcoming decades, and could support the expansion of renewables in Germany. Domestic shale gas could facilitate to compensate for the general decline in natural gas production in Germany.

To the study:

➔ **Linked with:**
http://www.bgr.bund.de/DE/Themen/Energie/Downloads/Abschlussbericht_13MB_Schieferoelgaspotenzial_Deutschland_2016.html

Fracking: useful information on the technology

➔ **Linked with:** http://www.bgr.bund.de/DE/Themen/Energie/Fracking/fracking_node.html

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