



## **GASH: A shale gas initiative for Europe**

B. Horsfield (1), **H.-M. Schulz** (1), GASH Team

(1) GeoForschungsZentrum Potsdam, Telegrafenberg, D-14473 Potsdam, Germany

Shale gas is a self-sourced unconventional resource, consisting of thermogenic or biogenic hydrocarbon gases contained within a fine grained organic-rich, low permeability matrix, in free, adsorbed and dissolved states. This type of gas has only been exploited within the continental USA to date, though Shell has recently become the first of the majors to announce specific plans for exploiting shale gas in Europe (Sweden). While high energy prices and advances in fracturing technology have enabled shale gas production to become a lucrative reality, it is the prediction of gas concentration, partition behaviour and rock properties ahead of drilling that is of paramount importance for reducing risk and identifying “sweet spots” or fairways. Significant conceptual advances have certainly been made over the last five or so years, but the chemical, physical and biological processes involved still remain poorly understood. There are great opportunities for major scientific advances that will enable new gas reserves to be identified globally.

GASH (“*Gas in Shales*”) is a new European initiative aimed at predicting shale gas formation and occurrence in time and space. The first GASH Workshop took place in December 2007 at the National Research Centre for Geosciences in Germany, GeoForschungsZentrum Potsdam (GFZ). More than 30 representatives of invited energy companies, universities, research institutions and geological surveys took part, supported by leading US industry experts. The major outcome was a 4-component interdisciplinary science programme for quantifying shale gas formation in time and space in selected USA and European basins, under the headings (a) Compilation of a European black shale database, (b) Elucidation of rock-fluid properties, (c) Integrated holistic modelling of gas systems, and (d) Improvement of production technology. The GASH research programme, built around the know-how of its founding institutions, is

based on leading edge science and technology, and will yield tangible economic and political gains over the near- as well as long-term. The modular design will enable GASH activities to be funded by national and European funding agencies and by both upstream and downstream energy companies.