



## UK Government's formal response to the Royal Society and Royal Academy of Engineering's report on 'Shale Gas Extraction in the UK'

The Government's response to the recommendations is briefly summarised below:

**Recommendation 1 – To detect groundwater contamination:** The government states that the monitoring of methane and other contaminants in ground-water before, during and after shale gas operations is considered by DECC to be “good oilfield practice” and operators will be required to undertake site-specific monitoring and publish the results on their websites.

**Recommendation 2 – To ensure well integrity:** The government sets out how current Health & Safety regulations and UKOOG guidance require independent well examiners to review the proposed and actual well operations and that such review should include environmental issues. In addition, operators under the UKOOG guidelines will ask the examiners to carry out site inspections.

**Recommendation 3 – To mitigate induced seismicity:** DECC will require operators to submit a fracturing plan, as part of their well consent application, including appropriate plans to monitor seismicity before, during and after well operations. In addition, DECC will only consent for shale gas hydraulic fracturing only when a ‘traffic-light’ regime is in place to allow operations to be halted if seismic activity exceed certain thresholds.

**Recommendation 4 – To detect potential leakages of gas:** The Government states that the Environment Agency is undertaking a review of the environmental impacts of the shale gas industry and the regulations that apply and the controls that may be used, such as ‘green completions’, to limit methane emissions. The Government will require operators to collect monitoring data and submit these to the environmental regulator and DECC and to post all carbon release data on their websites.

**Recommendation 5 – Water should be managed in an integrated way:** The Government addresses this by reference to the existing water abstraction licensing arrangements and operators will be required to use techniques that minimise water use. Waste water disposal will be required to be managed under the Mining Waste Directive and the Environmental Permitting Regulations.

**Recommendation 6 – To manage environmental risks:** The Government's regulators believe that overall Environmental Risk Assessments would be desirable even where not specified by current legislation and DECC will expect operators to carry out such assessments as a matter of good practice.

**Recommendation 7 – Best practice for risk management should be implemented:** In the response it is recognised that risk assessment is central to the UK's goal based approach to risk management and

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is required by health and safety legislation. While the ALARP principle is already enshrined in the oil and gas industries own guidance documents it is noted that additional guidance on this is being prepared by UKOOG and both HSE and the EA are involved in this. In addition, risk assessments are already provided as part of the Borehole Sites and Operations Regulations 1995 (BSOR).

**Recommendation 8 – The UK’s regulators should determine their requirements to regulate a shale gas industry should it develop nationwide in the future. Skills gaps and relevant training should be identified. Additional resources may be necessary:** As there is uncertainty as to how the industry and its associated risks will scale up, the Environment Agency and HSE are conducting a review of the current regulatory framework. However, the Shale Gas Strategy Group, chaired by DECC considers that the regulatory skills already available are likely to be adequate.

**Recommendation 9 – Co-ordination of the numerous bodies with regulatory responsibilities for shale gas extraction should be maintained. A single body should take the lead.** The Government states that the Shale Gas Strategy Group will continue to provide a coordinating role.

**Recommendation 10 – The Research Councils, especially NERC, EPSRC and ESRC, should consider including shale gas extraction in their research programmes.** The Research Councils are planning a workshop to consider the implications for UK research in this field.

From the above it is clear that the Government is taking a cautious approach to shale gas. On the one hand, it is keen to see it succeed with its clear benefits to; energy security, reduced CO<sub>2</sub> emissions, possible reduced gas prices, job creation and a stimulus to industry. On the other hand it is establishing a robust system for environmental risks management and regulation to satisfy the concerned public.

The cornerstone of the government’s approach is monitoring. Unless high quality monitoring is carried out before, during and after shale gas operations, it is very difficult to establish that there has been no environmental damage. The key approach to risk management is already enshrined in the Oil and Gas industry’s best practice guidance which includes the ALARP principle.

Also implicit in above approach is the use of Best Available Technologies (BAT) that can provide the high quality monitoring data that is required to be submitted to the regulators and published on the operators’ websites. Continuous monitoring of ground-water, ground-gases and of gas emissions is now recognised as not only BAT but also the most cost-effective means of obtaining accurate and reliable data.

As the market leader in continuous monitoring technologies, Ground-Gas Solutions is pleased to be providing independent environmental monitoring services to companies throughout the UK and in Europe to meet regulators’ requirements and give confidence to local communities.

***“As with all other indigenous oil and gas, Government supports industry’s endeavours to develop these resources where economically viable, providing this can be done safely, and with full regard to the protection of the environment.” DECC December, 2012***