Suggested Further Reading

The references below provide background information on the geoscience relating to shale gas formation, extraction and associated risks, focussing particularly on issues raised during the public briefing meeting on shale gas organised by the Geological Society on 18 June 2012. Papers published by the Geological Society are marked with an asterisk (*) and are freely available until July 31st. The others are either open access, free to download, or can be accessed via personal or institutional subscriptions.

General

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2. Rahm, D. (2011) Regulating hydraulic fracturing in shale gas plays: The case of Texas, *Energy Policy*, **39(5)**, 2974-2981. http://dx.doi.org/10.1016/j.enpol.2011.03.009
3. Kargbo, D. M., Wilhelm, R. G. And Campbell, D. J. (2010) Natural gas plays in the Marcellus Shale: challenges and potential opportunities, *Environmental Science and Technology*, **44**, 5679-5684. DOI: 10.1021/es903811p
4. *Selley, R. C. (2005) UK shale-gas resources. In: Vining, B. A. and Pickering S. C. (eds.), *Petroleum Geology: From Mature Basins to New Frontiers – Proceedings of the 6th Petroleum Geology Conference*, p. 707-714. Geological Society of London, 1244 pp. DOI: 10.1144/0060707
5. *Schulz, H.-M., Horsfield, B. and Sachsenhofer, R. F. (2010) Shale gas in Europe: a regional overview and current research activities. In: Vining, B. A. and Pickering S. C. (eds.), *Petroleum Geology: From Mature Basins to New Frontiers – Proceedings of the 7th Petroleum Geology Conference*, 1079-1085. Geological Society of London, 1244pp. DOI: 10.1144/0071079
6. Bamberger, M. and Oswald, R. E. (2012) Impacts of gas drilling on human and animal health, *New Solutions*, **22(1)**, 51-77. DOI: http://dx.doi.org/10.2190/NS.22.1.e

Seismicity

1. *Gale, J. F. W. and Holder, J. (2010) Natural fractures in some US Shales and their importance for gas production. In: Vining, B. A. and Pickering S. C. (eds.), *Petroleum Geology:*

From Mature Basins to New Frontiers – Proceedings of the 7th Petroleum Geology Conference, p. 1131-1140. Geological Society of London, 1244 pp. DOI: 10.1144/0071131

2. Mayerhofer, M. J., Lolon, E. P., Youngblood, J. E. and Heinze, J. R. (2006) Integration of microseismic-fracture-mapping with numerical fracture network production modelling in the Barnett Shale, *Society of Petroleum Engineers Annual Conference and Exhibition, Texas, USA*. DOI: 10.2118/102103-MS
3. Davies, R. J., Mathias, S. A., Moss, J., Hustoft, S. and Newport, L. (2012) Hydraulic fractures: how far can they go?, *Marine and Petroleum Geology*. In Press, Corrected Proof. http://dx.doi.org/10.1016/j.marpetgeo.2012.04.001
4. Zhao, X. and Young, R. P. (2011) Numerical modelling of seismicity induced by fluid injection in naturally fractured reservoirs, *Geophysics*, **76(6)**, WC167-180. DOI: 10.1190/geo2011-0025.1

Groundwater

1. Gregory, K. B. Vidic, R. D. and Dzombak, D. A. (2011) Global water sustainability: water management challenges associated with the production of shale gas by hydraulic fracturing, *Elements*, **7(3)**, 181-186. DOI: 10.2113/gselements.7.3.181
2. Rozell, D. J. and Reaven, S. J. (2011) Water pollution associated with natural gas extraction from the Marcellus Shale, *Risk Analysis*. DOI: 10.1111/j.1539-6924.2011.01757.x
3. Osborn, S. G., Vengosh, A., Warner, N. R. and Jackson, R. B. (2011) Methane contamination of drinking water accompanying gas-well drilling and hydraulic fracturing, *Proceedings of the National Academy of Sciences*, **108(20)**, 8172-8176. DOI: 10.1073/pnas.1100682108
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5. Davies, R. J. (2011) Methane contamination of drinking water caused by hydraulic fracturing remains unproven, *Proceedings of the National Academy of Sciences*, **108(43)**, E871. DOI: 10.1073/pnas.1113299108
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7. Horton, S. (2012) Disposal of hydrofracking waste fluid by injection into subsurface aquifers triggers earthquake swarm in central Arkansas with potential for damaging earthquake, *Seismological Research Letters*, **83(2)**, 250-260. DOI: 10.1785/gssrl.83.2.250

Other and Non-Peer Reviewed

1. Jackson, R. B., Rainey Pearson, B., Osborn, S. G., Warner, N. R. and Vengosh, A. (2011) Research and policy recommendations for hydraulic fracturing and shale-gas extraction. http://bit.ly/MRLKiw
2. Shale gas extraction in the UK: a review of hydraulic fracturing (2012). Review by the Royal Society and Royal Academy of Engineering. http://bit.ly/KQtA5K
3. Broderick, J., Anderson, K., Wood, R., Gilbert, P. and Sharmina, M (2011) Shale gas: an updated assessment of environmental and climate change impacts. *Tyndall Centre for Climate Change Research*. http://bit.ly/M80QmD
4. Stuart, M. E. (2012) Potential groundwater impact from exploitation of shale gas in the UK, Groundwater Science Programme, *British Geological Survey*. http://bit.ly/LufV3q
5. Green, C. A., Styles, P. and Baptie, B. J. (2012) Preese Hall shale gas fracturing: review and recommendations for induced seismic mitigation. http://bit.ly/LVTJkh
6. Proceedings of the technical workshops for the hydraulic fracturing study: well construction and operations, *United States Environmental Protection Agency*, May 2011. http://1.usa.gov/LLiOtw
7. Resnikoff, M., Alexandrova, E. and Travers, J. (2010) Radioactivity in Marcellus Shale, *Radioactive Waste Management Associates*. http://bit.ly/OkixnC
8. DECC Shale Gas Background Note. http://bit.ly/LvuyUk
9. Styles, P. and Baptie, B. DECC briefing note: Induced seismicity in the UK and its relevance to hydraulic stimulation for exploration for shale gas. http://bit.ly/OgSix0

Useful Websites

1. DECC FAQs on shale gas: http://bit.ly/MEA2Ly
2. EA resources on unconventional gas: http://bit.ly/LVuQC7
3. BGS Shale Gas Project: http://bit.ly/LVuXhh

Notes:

1. This is not an exhaustive list. To find more peer-reviewed articles, check online either through the Geological Society's Lyell Collection, or using a search engine such as Google Scholar.
2. The views represented in this material are not necessarily those of the Geological Society of London.