

CMS shale gas update – UK, Algeria, USA, Poland, Canada, China, Ukraine, Germany and India

UK

There has been continued debate in the UK about the method of hydraulic fracturing since the Department of Energy and Climate Change (“DECC”) published an independent expert’s report recommending measures to mitigate the risk of seismic tremors from hydraulic fracturing (“fracking”) methods in April.

A new joint report from the Royal Academy of Engineering and the Royal Society (“Joint Report”) calls for fracking in the UK to be closely monitored in order to counteract the risks involved with the process.¹ This would require the implementation of a strong regulatory system. The chairman of the panel, Professor Robert Mair, explains that “[t]he risks associated with fracking can be managed effectively in the UK, provided operational best practices are implemented and enforced through effective regulation.”²

Proponents of fracking point to the effective monitoring of the wells as a means to reduce the risks of pollution associated with the process.³ The Joint Report states that the priority must be to maintain the integrity of the wells throughout their lifetime. It also suggested that any tremors caused by the operations would be of a smaller magnitude than those of natural earthquakes and those produced in coal mining.⁴

Cuadrilla Resources Ltd, the company whose fracking operations it is claimed triggered minor earthquakes in Blackpool last year, have said that they agree with the recommendations made by the DECC in April.⁵ Drilling was temporarily suspended following the earthquakes, however the company is hoping to resume work on other sites in the North West of England later this year, with an aim to begin gas production as early as May 2014. Fracking at the Preese Hall well, which it is claimed triggered the earthquakes, is not being pursued.

The head of the Environment Agency, Lord Smith, has supported the use of fracking in the development of shale gas. With protection from the possibility of pollution and earthquakes provided by high standards of practice and effective regulation, fracking could provide the UK with a “useful energy resource”, particularly at a time when there is an increasing need to “spread across different [energy] sources”.⁶

A new report released by the Institute of Directors (“IoD”) has stated that exploiting the UK’s shale gas reserves could not only help to create 35,000 jobs but would also help to meet carbon emissions targets. In addition, the IoD believes that even if the UK is only half as successful as the US at producing shale gas, the country could meet 10% of its gas demand for the next 103 years from shale.⁷ The report highlighted the success of fracking in the US, which now sees 22% of its gas created from domestic shale production and US natural gas prices are at a 10-year low.

However, there remains strong opposition to fracking in Britain, with key opponents claiming that questions persist over the safety and economic efficiency with which shale gas can be

¹ <http://www.guardian.co.uk/environment/2012/jun/29/shale-gas-fracking-expanded-regulated>

² <http://blogs.telegraph.co.uk/news/jamesdelingpole/100168298/david-camerons-shale-gas-lifeline/>

³ <http://www.telegraph.co.uk/science/science-news/9362608/Fracking-should-go-ahead-in-Britain-report-says.html>

⁴ <http://www.guardian.co.uk/environment/2012/jun/29/shale-gas-fracking-expanded-regulated>

⁵ http://www.decc.gov.uk/en/content/cms/news/pn12_047/pn12_047.aspx

⁶ <http://www.telegraph.co.uk/earth/energy/gas/9252289/Fracking-backed-by-Environment-Agency-head.html>

⁷ <http://www.telegraph.co.uk/sponsored/earth/statoil/9578689/shale-gas-jobs-latest.html>

extracted. A number of environmental groups, such as Friends of the Earth and Greenpeace, have argued that the current regulatory infrastructure is insufficient for fracking to take place safely, and that more research needs to be completed into the environmental impact of such operations.⁸

The Government it seems is still divided in its opinions over fracking and is also experiencing difficulty in drafting the regulatory system that is necessary to monitor fracking operations. Ed Davey, Secretary of State for Energy and Climate Change recently said, “until we have more certainty about the potential scale and costs of shale gas production in the UK it is unwise to assume it will be some kind of silver bullet.”⁹

Despite environmental and regulatory concerns, George Osborne has recently proposed generous tax breaks for shale gas production¹⁰. This could signal that the Government is warming up to the idea of shale gas extraction in the UK and is encouraging energy companies to explore for and produce shale gas so in order for it to become a new element in the UK’s energy mix.

Algeria

Algeria continues to set its sights on developing major shale gas business and claims to have an estimated 7,600 trillion cubic metres (“cbm”) of potential shale gas resources. Algeria will introduce new legislation to encourage foreign investors interested in developing and exploration its shale energy resources. This will involve including tax incentives sharing costs and risks. Abdelhamid Zerguine, the CEO of state owned Sonatrach, has said that “for shale resources we want to make (terms) attractive by allowing Sonatrach to take a share of the risk” in order to help ensure security of supply long term.¹¹ Furthermore, at the beginning of August, Sonatrach has been in negotiations with Shell, Eni and ExxonMobil to sign exploration deals.¹²

U.S

The Department of Energy in the U.S has estimated that the total shale gas output averaged 7.8 bcm a day in May, up 1.7 percent from April¹³ and the southern states have seen an increase of 12 percent.¹⁴ This increase is despite the general decline in other gas outputs in the country. However, the Department of Energy anticipates that the growth in U.S demand for energy generally will be only a 1.2 percent rise from 2010 to 2020.¹⁵

Despite the ever-growing U.S shale gas business, BHP Billiton took a write-down against the value of US\$2.84 billion on its US shale gas assets at the beginning of August.¹⁶ BHP Billiton’s shares have more than halved since this write down, 2.5% against a 1% drop in the broader market.¹⁷

⁸ <http://www.carbonbrief.org/blog/2012/08/uk-shale-gas-lobbying-effort-slowly-accelerates>

⁹ <http://www.guardian.co.uk/environment/damian-carrington-blog/2012/sep/28/shale-gas-fracking-uk-carbon-energy?INTCMP=SRCH>

¹⁰ <http://www.ft.com/cms/s/0/da4172e2-113f-11e2-8d5f-00144feabdc0.html#axzz294hoVydq>

¹¹ <http://uk.reuters.com/article/2012/08/02/energy-algeria-investment-idUKL6E8J2DIY20120802>

¹² <http://www.platts.com/RSSFeedDetailedNews/RSSFeed/NaturalGas/8588900>

¹³ <http://www.bloomberg.com/news/2012-07-23/u-s-says-shale-gas-output-rose-24-in-may-from-year-earlier-1-.html>

¹⁴ <http://www.bloomberg.com/news/2012-07-24/u-s-shale-gas-production-gains-even-as-drilling-declines.html>

¹⁵ <http://www.ibtimes.com/articles/367125/20120726/shale-gas-boom-fracking-gdp-unemployment.htm>

¹⁶ <http://www.telegraph.co.uk/finance/newsbysector/industry/9448474/BHP-Billiton-writes-down-shale-gas-assets-by-2.8bn-chief-Marius-Kloppers-forgoes-bonus.html> and <http://www.telegraph.co.uk/finance/commodities/9453529/Shale-gas-still-an-object-lesson-for-miners.html>

¹⁷ <http://www.reuters.com/article/2012/08/03/us-bhp-writedowns-shale-idUSBRE8711Z120120803>

BHP Billiton is not the only major oil and gas company who has taken a write-down. BP wrote down US\$2.1bn on shale gas acreage including a project called Liberty on the North Slope in Alaska¹⁸, while BG Group took a write down of US\$1.3 billion against its shale gas business last month.

There are continuing concerns in the US and questions may again be asked as to the safety of fracking after three recent earthquakes in Dallas. The earthquakes have been attributed to the fracking that began being employed on land near Dallas Fort Worth Airport in 2008.¹⁹ In addition, there have been conflicting reports over whether fracking is the cause of petroleum-based pollutants being found in a drinking water aquifer in Wyoming.²⁰

Poland

On 12 June 2012, ExxonMobil announced its withdrawal from Poland following two unsuccessful discoveries of constant commercial hydrocarbon flow rates in the drilling sites in the Lublin Basin near Krasnystaw and the Podlasie Basin near Siennica (both in South Eastern Poland). Although Poland's image has suffered a blow, these events are not necessarily an example of the failure of shale gas in Poland but of the companies pursuing other interests elsewhere. While an estimate of Poland's shale gas reserves published by the Polish Geological Institute speaks of between 346 and 768 billion cbm which is significantly lower than in some earlier reports referring to 5.3 trillion cbm this still points to significant potential for growth given that Poland only consumes around 14 billion cbm of natural gas annually.²¹

There is a strong desire in Poland to reduce its dependency on energy imports (from Russia in particular) and encourage the exploration of shale gas within Poland. The Environment Ministry in Poland granted 111 rights to explore for shale gas to companies including Chevron and ExxonMobil. By now, 31 wells have already been drilled, 6 more are currently in the process of being drilled and by 2020, licence holders are expected to drill 270 more exploration wells

The Government in Warsaw has approved directions for draft legislation on the extraction and taxation of hydrocarbons of both conventional and unconventional sources. A developed draft bill is to be published in November. The bill is supported by the head geologist and Deputy Minister of Environment, Piotr Wozniak. The Government has abandoned its earlier plans to appoint a shale gas co-ordinator. Moreover, the state has now launched a shale gas tech financing programme which is offering zloty 500 million (US\$160 million) to develop advanced technologies to exploit shale gas.²²

Poland's desire can also be seen to be moving forward with the five state-controlled Polish companies agreeing to spend approximately zloty 1.7 billion (US\$500 million) on joint shale gas exploration near Wejherowo (North Poland).²³

Canada

In June 2012, Apache Corp drilled three wells in the Laird Basin in British Columbia, located south of where the northern border meets the Yukon and Northwest Territories. It believes that the field contains as much as 15 trillion cbm of recoverable natural gas. The company tested

¹⁸ http://topics.nytimes.com/top/news/business/companies/bp_plc/index.html

¹⁹ <http://rt.com/usa/news/fracking-earthquake-dallas-usa-610/>

²⁰ <http://uk.reuters.com/article/2012/09/29/us-usa-fracking-wyoming-idUKBRE88S00020120929>

²¹ <http://www.pgi.gov.pl/en/archiwum-aktualnosci-instytutu/4112-pierwszy-raport-o-zasobach-gazu-i-ropy-w-upkach-konferencja-prasowa.html>

²² <http://www.wbj.pl/article-60519-state-launches-shale-gas-tech-financing-program.html>

²³ <http://www.exportpoland.co.uk/announcements/poland-europes-shale-gas-pioneer-expects-companies-to-drill-at-least-41-more-wells-this-year>

one of the three wells which produced 6.5 million cbm of gas per day in its first thirty days of production, which Apache said is the most prolific shale gas test well ever drilled.²⁴ Apache may not develop this field immediately due to the low gas prices, however has called it 'a huge resource for the future'.

Southwestern Resources Canada is abandoning its seismic testing for shale gas in New Brunswick.²⁵ Tom Alexander, general manager, claims that the provincial government is taking too long to issue necessary permits however the political debate regarding whether shale gas is a viable option in the province may have impacted the decision. The Canadian Association of Petroleum Producers is now calling on the New Brunswick Government to clarify its regulations for the shale gas industry.²⁶

China

The Ministry of Land and Resources will open a second public tender for the sale of shale gas, which may offer 17-20 blocks in areas including Hunan and Anhui, said Jiang Xinmin, the deputy director of the Energy Research Institute, a think tank of National Development and Reform Commission.²⁷ This tender will be the first open to foreign investors after the country invited foreign-funded joint ventures to participate. This has been seen by experts as an attempt to lure international firms with technology and operational expertise. So far, more than 100 Chinese companies have shown an interest in the 20 blocks on offer. Bids are due late next month but so far no joint ventures have been announced although billionaire Wilbur Ross, who owns 12% of Exco, recently, travelled to Beijing in the hope of finding a joint venture partner.²⁸ China, which still does not have any commercial production, has set an ambitious target to produce 6.5 billion cbm of shale gas by the end of 2015.

In August, Royal Dutch Shell announced plans to spend at least US\$1 billion a year exploiting China's potentially vast resources of shale gas.²⁹ It is estimated that China holds the world's largest reserves of unconventional gas with the chairman of Shell, Mr Lim, stating "[i]ndustry insiders believe that the reserves of unconventional gas in China may equal the totality of the reserves in the US and Canada, although more specific prospecting should be done to support the estimate". He further noted that it is important to decide whether the reserved resources have commercial development values. In March, Shell secured China's first product sharing contract for shale gas but it is facing competition from ExxonMobil, BP, Total and Chevron Corp who are all trying to increase their influence in a Chinese market where the use of natural gas is set to triple this decade.³⁰

This commitment by Shell follows China National Offshore Oil Corporation's (CNOOC) \$15.1 billion cash takeover bid of Nexen Inc.³¹ This was approved by Nexen's shareholders but is still awaiting approval by the Canadian government who has the ability to block any foreign investments over 330m Canadian dollars if it believes they are not in the country's best interests.³²

Ukraine

²⁴ <http://www.reuters.com/article/2012/06/15/us-apache-shale-idUSBRE85E15S20120615>

²⁵ <http://www.cbc.ca/news/canada/new-brunswick/story/2012/05/30/nb-swn-shale-gas-testing-permits.html>

²⁶ <http://www.cbc.ca/news/canada/new-brunswick/story/2012/09/18/nb-shale-gas-industry-regulations.html>

²⁷ http://www.chinadaily.com.cn/cndy/2012-07/18/content_15592999.htm

²⁸ <http://uk.reuters.com/article/2012/09/25/us-finance-wlross-idUKBRE88O00G20120925>

²⁹ <http://www.reuters.com/article/2012/08/21/us-shell-china-idUSBRE87K0AS20120821>

³⁰ <http://www.reuters.com/article/2012/08/21/us-shell-china-idUSBRE87K0AS20120821>

³¹ <http://uk.reuters.com/article/2012/08/03/uk-china-southchinasea-cnooc-idUKBRE8721HK20120803>

³² <http://www.bbc.co.uk/news/business-19671219>

In May 2012, Prime Minister Mykola Azarov announced that Chevron Corp and Royal Dutch Shell were to be awarded rights to explore two of its most promising shale gas regions, the Western Lviv region of Oslesko and Yuzovsky area in the eastern Donetsk and Karkhiv region.³³ Ukraine's State Geological Service estimates that the reserves of the Yuzivska area contain 2 trillion cbm of shale gas and those of Olesska hold 0.8-1.5 trillion cbm. It is expected that the international oil and gas companies will sign PSCs with Nadra Ukrainy and SPK-GeoService (privately owned Ukrainian company picked by the government) and will have to spend at least US\$200 million on each of these regions which could end up running into the billions if further commercially viable resources of gas are found.³⁴ This marks a step forward in Ukraine's bid to reduce its dependency on neighbouring Russia, who is currently its main source of gas import. This will contribute to the State Program on Energy Efficiency 2010-2015 which sets goals for improving Ukraine's energy independence.

In July this year, the Deputy Minister for Natural Resources Dmytro Mormul has stated that Ukraine may hold another tender for another shale gas field in September³⁵ however, further details are yet to be provided. According to the US Energy Information Administration, it is believed that Ukraine has the fourth-largest shale gas resource in Europe behind Poland, France and Norway, estimated at 42 trillion cubic feet (1,200 billion cbm).³⁶ Investors will be watching the shale tenders closely.

Germany

The Federal Institute for Geosciences and Natural Resources (BGR) has claimed that between 0.7 trillion and 2.3 trillion cbm of shale gas could technically be extracted if carried out correctly, however the country is still undecided as to whether it would be economically and environmentally safe to allow the gas to be extracted by fracking. Companies like ExxonMobil are among the big players pushing for Germany to develop its unconventional gas despite scepticism over the novel drilling methods. A parliamentary committee is dealing with the shale gas potential of six of Germany's 15 states³⁷ and has published its recommendations and warnings³⁸. These do not involve the banning of hydraulic fracturing, but the warning that its application should only be allowed with strict regulations in place.

German state North Rhine Westphalia has awarded a concession to explore for unconventional hydrocarbon resources, specifically shale gas, to US-based BNK Petroleum, the state's mining authority said in a statement. It added that the concession involves the Falke-South field near the state's eastern border geographically enlarges two existing BNK concessions in the same area, which already stretch over 500,000 acres. The authority went on to add that BNK will need further approvals as outlined by law prior to exploration work and that there are no reserves estimates for the concession.³⁹

In September, Wintershall, expressed an interest in exploring for shale gas in Germany. This makes the possibility of large-scale fracking in the country more likely despite distrust of the technology and concerns about risks continuing to run high.⁴⁰ The company is planning geological investigations at two concessions in North-Rhine Westphalia, where permission for

³³ <http://www.reuters.com/article/2012/05/11/shell-chevron-ukraine-idUSL5E8GBAE020120511>

³⁴ <http://www.ft.com/cms/s/0/2dd0ffae-9a7b-11e1-83bf-00144feabdc0.html>

³⁵ <http://www.reuters.com/article/2012/07/17/ukraine-shalegas-idUSL6E8IHIKM20120717>

³⁶ <http://www.eia.gov/analysis/studies/worldshalegas/>

³⁷ <http://www.reuters.com/article/2012/06/25/germany-shale-estimate-idUSL6E8HP4FP20120625>

³⁸ <http://www.shale-gas-information-platform.org/areas/news/detail/article/german-government-study-on-hydraulic-fracturing-risks.html>

³⁹ <http://www.platts.com/RSSFeedDetailedNews/RSSFeed/NaturalGas/8417178>

⁴⁰ <http://uk.reuters.com/article/2012/09/07/basfwintershall-shalegas-idUKL6E8K7CJA20120907>

fracking is currently suspended until there is a federal ruling on whether they can ban or allow the method in their territory.

India

The Indian federal government plans to launch its first auction of a shale gas block in their first round of shale-gas licensing. The auction is expected to start by December 2013 in order to encourage tapping into the unconventional energy source and will allow foreign oil and gas companies to bid.⁴¹ According to a draft shale gas policy document on the oil ministry's website, explorers will be exempt from the payment of customs duties on imports of shale-gas exploration equipment.

The United States Geological Survey has estimated technically recoverable shale reserves of 1.8 million cbm in three out of 26 sedimentary basins in India. According to the draft shale gas policy document, in order to attract foreign bidders, India will also introduce a new production-sharing system, under which explorers will offer a fixed percentage of revenue on gas sales to the government. Under existing production-sharing contracts for conventional oil and gas blocks, the government uses a cost-recovery method under which it shares profit once the contractor has recovered costs. In addition, the draft policy document stated that the new production-sharing system will minimize government intervention and accounting complications.⁴²

⁴¹ <http://agmetalmminer.com/2012/08/06/india-to-launch-first-shale-gas-auction-by-2013/>

⁴² <http://online.wsj.com/article/SB10000872396390443866404577562511037950258.html>