Oxford Energy - Shale Gas Meeting

Beware of shale gas hype warn senior stakeholders

UNIVERSITY OF OXFORD

Sir Chris Llewellyn-Smith addressing 45 senior representatives from industry, politics and academia at the Oxford Energy Shale Gas Meeting.

A gathering of senior representatives of the oil and gas industry, energy companies, finance, parliament, government, and other organisations and stakeholders, is cautious about direct comparisons with US shale gas developments and about the impact of UK shale on gas prices. Participants warned that the impacts of fracking need to be communicated openly, to dampen overblown expectations and avoid brand damage to the industry.

An Oxford Energy event held in December 2013 at RBS in London, under the Chatham House Rule, addressed three central aspects of the UK debate on shale gas: 1) the scale of the exploitable UK resource, 2) the impact on energy prices and 3) the social and political implications.

The US has witnessed a rapid increase in shale gas exploitation through fracking in recent years, which—with significant investment in gas infrastructure—has led to large reductions in domestic gas prices. The meeting considered whether this experience is likely to be repeated in the UK. Participants broadly agreed that the UK is different from the US in relation to shale gas exploitation in several ways:

Geology: Geological conditions in the UK are less favourable than in the US: UK shale is fragmented and many fault lines make identification of 'sweet-spots' harder and drilling more risky. UK data are relatively sparse and there was broad agreement that further exploration is needed.

Industrial infrastructure: The oilfield service industry in the US has been able to take advantage of economies of scale. The UK industry will be smaller and will need to be established from a lower base.

Population density: Potential regions in the north and the south east of the UK are highly populated compared to many shale gas producing regions in the US. Environmental sensibilities in the UK are likely to lead to greater opposition.

Mineral rights: In contrast to the UK, land owners own the mineral rights under their properties in the US and have an incentive to exploit any shale gas. Land is often bought outright by new owners who are 'free to do what they want'. It was suggested that more money has been made out of land deals than the gas itself.

Finance: The ability to raise finance in the US is 'quite extraordinary'. Given the high degree of uncertainty and higher costs in the UK, finance may prove to be more costly.

> **"UK geology is more complex than in the US, leading to uncertainty factors of 10-100, perhaps 1000"**

World gas markets: Unlike the US, the UK is extensively connected to world gas markets through LNG terminals and pipelines. Even if production costs were low, gas would be traded at world market prices, which will not be affected by UK production levels.

The discussion brought up concerns over the high level of expectations raised by politicians and parts of the media. Even after 10 years of continuous well development, the contribution to UK gas supply might only be expected to reach some 10% and would not constitute a 'game changer' in either energy supply or prices.

Considerable uncertainties were highlighted about the UK resource itself and the fraction of this resource which could be turned into recoverable reserves. Poland for example had to downgrade estimates by 90% since they began drilling two year ago. Uncertainty factors in the UK could be between 10 and 100, and perhaps as high as 1000.

In addition, shale gas well flow rates are known to decline more quickly and less predictably than flows from conventional wells.

The UK geology is more fragmented and therefore more challenging to survey than in the US, where shale basins allow for relatively easy identification of sweet spots. In fact, as one participant pointed out, exploration in the US often does not employ sophisticated surveying techniques at all, but takes a more 'statistical approach' made possible by scale. Only 25% of sites drilled in the US produce anything. This approach is not deemed feasible in the UK, where higher population densities, regulation and environmental opposition are likely to lead to higher costs per site. The need for further exploration to better understand UK shale gas reserves was reinforced.

Public opinion on shale gas is still undecided, with about 44% in favour. However, some of the participants asserted that those favouring shale gas, do so on the mistaken belief that it would lower energy prices. This impression was said to have been created by senior politicians and needed to be corrected if shale gas was to avoid a 'PR car crash'.

Some participants pointed to the tax revenue potential from a shale gas industry. The decline in north-sea gas would leave a large taxation gap of 1.25% of GDP. Despite the tax break for the shale industry (a reduction in tax from 62% to the high forties), the industry would still be a 'high contributor'. In addition, according to the Institute for Directors, a multi-year development of 100 shale pads (a factor of four more than in one scenario presented to the meeting) could support 74000 direct, indirect and induced jobs[1]. The promise of lower energy prices, however, was broadly conceded to be misinformation, which is not in the interest of the industry.

"Both CCS and shale gas have been overhyped as easy solutions"

One participant raised concerns that, once a country has taken a path of shale gas exploitation, it is very hard to revert back, because of capital and jobs bound up in the sector. Concerns were also raised over the distraction which the shale gas debate has brought about for the UK's cross party consensus on decarbonisation targets and associated low carbon pathways. Both CCS and shale were said to have been overhyped as 'easy solutions'. Public recognition is needed that a) energy prices may go up and b) there will be difficult choices. 'Only then can we have a conversation with the community'.

However, the meeting heard that 'no community in their right mind would not object to fracking'. A game plan for local communities is needed. This view was qualified by a worry about the long-term viability of 'throwing money at communities for anything'. One participant with extensive experience in the sector conceded that he himself would not want to live near a drilling site.

Some participants expressed concern over the industry's openness about the impact of fracking on local communities, especially in relation to truck movements. A strategic planning conversation was proposed to save the industry from the 'horrendous brand image' the wind industry has suffered.

[1] See IoD.com report. Others give lower estimates, e.g. naturalgaseurope.com. For the Industry's view of UK prospects see UKOOG.org.uk report.

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