

## Greenpeace pre-Autumn Statement shale gas briefing

***Shale gas is likely to be one of the key planks of George Osborne's Autumn Statement. The Chancellor is expected to position fracking for shale gas in the UK as an important element of his growth strategy. But shale gas is far from a silver bullet. It's difficult, expensive and damaging to extract, with experts agreeing that local opposition is a serious threat to the industry:***

- Licences for the extraction of shale gas have been granted throughout the South East, South West, Midlands, South Wales, North East and North West.<sup>i</sup> Fracking has already taken place in rural areas.<sup>ii</sup>
- Recent analysis by Bloomberg New Energy Finance found that: "in order to replace the decline of U.K. Continental Shelf gas production through 2030 – before starting to replace any coal or nuclear power – you would need 2,400 fracked wells. Assume 10 wells per pad, and that is 240 pads. Each one is an industrial development in the countryside, and this number would extend over an area the size of Lancashire."<sup>iii</sup>
- The International Energy Agency (IEA) claims that: "in the European Union, the cumulative number of wells in the projection period is around 50 000, increasing to around 3 000 per year by the 2030s."<sup>iv</sup>
- Polling by ICM found that, when asked to choose between the development of wind or shale gas within two miles of their home, just 11% of people would support the development of a shale gas well, whereas 67% favoured wind turbines.<sup>v</sup> There are also concerns over the impact of fracking on property prices.<sup>vi</sup>
- The IEA found that in Europe "there are above-ground factors that are likely to impede rapid growth in unconventional gas production, the most significant of which is the high population density in many of the prospective areas. This increases the likelihood of opposition from local communities, especially in areas with no tradition of oil and gas drilling. State ownership of oil and gas rights can also reduce the incentives for communities to accept development of local unconventional gas resources, compared with parts of the United States where these rights are held by private land-owners."<sup>vii</sup>
- The threat of local opposition to the development of shale gas has also been highlighted by analysts at Deutsche Bank, the European Commission, Chatham House and Bloomberg New Energy Finance.<sup>viii</sup>
- Laura Sandys, Conservative MP and PPS to Department of Energy and Climate Change Minister Greg Barker, has pointed to the level of public opposition that shale gas is likely to face, explaining how: "planning applications for shale gas, which I have had in my area, make onshore wind farms look like a walk in the park."<sup>ix</sup>

***Shale gas has been held up by its supporters, such as George Osborne, as a silver bullet that will bring down energy bills and increase the UK's energy security by reducing dependency on foreign gas imports.<sup>x</sup> Its proponents point to its impact in the U.S. where gas prices plummeted. But analysts at Deutsche Bank<sup>xi</sup>, the International Energy Agency<sup>xii</sup>, Ofgem<sup>xiii</sup>, the European Commission<sup>xiv</sup>, Chatham House<sup>xv</sup> and Bloomberg New Energy Finance<sup>xvi</sup> have all questioned whether this effect will be replicated elsewhere:***

- In a research note for investors, Deutsche Bank analysts found that “those waiting for a shale gas “revolution” outside the US will likely be disappointed, in terms of both price and the speed at which high-volume production can be achieved.”<sup>xvii</sup>
- The IEA’s *Golden Rules for a Golden Age of Gas* report found that shale gas in Europe will be up to 50% more expensive to extract than in the US, and concluded that European shale would not bring down EU gas prices.<sup>xviii</sup> In fact, prices will be 40% higher than in 2010.
- Ofgem has similarly played down the prospects of UK shale gas, arguing that “we’re going to have some European shale but maybe not the amount that we thought”.<sup>xix</sup>
- A recent report by the European Commission found that even in the most optimistic scenario for shale gas in the Europe, the EU will still be 60% reliant upon imports for its natural gas supplies.<sup>xx</sup> If the plans to be outlined in Osborne’s gas generation strategy come to fruition, this would result in continued UK reliance upon LNG imports from Qatar and thus on-going exposure to the fluctuations in global gas prices that have driven up energy bills in recent years.
- Chatham House has explained how: “disappointing outcomes have reduced the hype about the prospects for shale gas in Europe, and led to the realization that, at least in western Europe, there are serious obstacles to its development.”<sup>xxi</sup> And that: “newer estimates tend, almost without exception, to be lower than previously claimed.”<sup>xxii</sup>
- Chatham House concludes that: “if the hype remains hype then current investor uncertainty will limit future gas supplies. Assuming gas demand continues to increase, the effect in the next five to ten years would be much higher gas prices.”<sup>xxiii</sup>
- Bloomberg New Energy Finance believe that “given conditions in the U.K., it is hard to see shale gas coming to market at much below \$8 per MMBtu [Million British Thermal Units] – around the same as the wholesale prices that have been driving up utility bills in recent years”.<sup>xxiv</sup>
- The Department for Energy and Climate Change, following consultation with Shell, Centrica the Environment Agency and others, has come to a similar conclusion, saying that if all the UK’s shale reserves are exploited it could provide “five per cent maybe 10 per cent of energy needs”.<sup>xxv</sup>
- Speaking this week Energy and Climate Change Secretary, Ed Davey, said that “the thing about shale gas is people over-promise about what it will do”. He explained that: “the idea that we can replicate the North American experience here is really not proven. Many people have huge doubts about that even globally. It is said there is shale in Ukraine, China, Algeria and Argentina and no doubt other places, but even if we do manage to get all that, many people – gas market analysts, international energy agencies – say it is still not going to produce cheap energy.”<sup>xxvi</sup>
- Even Cuadrilla, the major player in UK fracking, admits that “nobody on either side has said it would transform Britain.”<sup>xxvii</sup>

**George Osborne has claimed that a shale fuelled dash for gas is compatible with the UK's efforts to tackle climate change.<sup>xxviii</sup> This is based on the argument that gas produces significantly less CO2 than coal. Yet evidence points to the fact that shale gas is significantly worse for the climate than conventional pipeline gas, eroding the benefits of switching away from coal. The independent Committee on Climate Change has written to the Chancellor, warning him that a dash for gas could be illegal.<sup>xxix</sup>**

- In a recent research note entitled, *Shale gas: the fugitive methane problem*, Scottish Widows Investment Partners explain how “during gas production, transmission and storage, small amounts of methane leak or are vented into the atmosphere. These ‘fugitive’ methane emissions are particularly high for shale gas” and “as a result, fugitive methane contributes significantly to global warming”.<sup>xxx</sup>
- Scottish Widows conclude that “given the imperative to slow down the rate of climate change to give societies and natural ecosystems more time to adapt, fugitive methane emissions greatly undermine the attractiveness of natural gas as a fuel source.”<sup>xxxi</sup>
- Research by the respected National Oceanic and Atmospheric Administration (NOAA) and the University of Colorado, published in *Nature*, found that 4% of the gas from fracked wells was leaking into the atmosphere.<sup>xxxii</sup> They concluded that: “because methane is some 25 times more efficient than carbon dioxide at trapping heat in the atmosphere, releases of that magnitude could effectively offset the environmental edge that natural gas is said to enjoy over other fossil fuels.”<sup>xxxiii</sup>
- A further peer-reviewed study from the National Center for Atmospheric Research (NCAR) in the United States concluded that “shifting from coal to natural gas would have limited impacts on climate” because coal-burning also emits tiny dust particles, aerosols, which have a cooling effect, and because of likely methane leaks associated with relying upon gas.<sup>xxxiv</sup>
- Chatham House has outlined how: “there is a growing fear that shale gas may substitute not for coal as many originally hoped, but for renewables.”<sup>xxxv</sup>
- The independent Committee on Climate Change has already warned the Government that its plans to incentivise the construction of 20 new gas-fired power stations threaten to derail the UK's attempts to meet its legally binding carbon reduction targets and could therefore be illegal.<sup>xxxvi</sup>
- Shale gas threatens to exacerbate this climate threat further, with the Treasury justifying its pursuit of a dash for gas based on the argument that gas is relatively low carbon and that shale will bring down energy prices. As seen above, these assumptions are highly questionable.

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<sup>i</sup> <http://og.decc.gov.uk/assets/og/licences/rounds/13/13r-offered.pdf>

<sup>ii</sup> <http://www.telegraph.co.uk/finance/newsbysector/energy/8864669/Cuadrilla-admits-drilling-caused-Blackpool-earthquakes.html>

<sup>iii</sup> <http://www.bnef.com/WhitePapers/view/136>

<sup>iv</sup> [http://www.worldenergyoutlook.org/media/weowebsite/2012/goldenrules/WEO2012\\_GoldenRulesReport.pdf](http://www.worldenergyoutlook.org/media/weowebsite/2012/goldenrules/WEO2012_GoldenRulesReport.pdf) pg. 89.

<sup>v</sup> [http://www.icmresearch.com/wp-content/blogs.dir/1/files/2012/10/ICM-poll\\_Renewable-Energy\\_Wind\\_Shale-gas-Oct-12.pdf](http://www.icmresearch.com/wp-content/blogs.dir/1/files/2012/10/ICM-poll_Renewable-Energy_Wind_Shale-gas-Oct-12.pdf)

<sup>vi</sup> <http://www.guardian.co.uk/money/2012/jun/23/fracking-undermine-value-home> and [http://www.dailymail.co.uk/news/article-2227460/North-Sea-Mk-II-Britain-sitting-1-5-trillion-gas-goldmine-bring-enormous-economic-benefits--safe.html?ITO=1490&ns\\_mchannel=rss&ns\\_campaign=1490](http://www.dailymail.co.uk/news/article-2227460/North-Sea-Mk-II-Britain-sitting-1-5-trillion-gas-goldmine-bring-enormous-economic-benefits--safe.html?ITO=1490&ns_mchannel=rss&ns_campaign=1490)

<sup>vii</sup> [http://www.worldenergyoutlook.org/media/weowebsite/2012/goldenrules/WEO2012\\_GoldenRulesReport.pdf](http://www.worldenergyoutlook.org/media/weowebsite/2012/goldenrules/WEO2012_GoldenRulesReport.pdf) Pg.122.

<sup>viii</sup> <http://www.bnef.com/WhitePapers/view/136> and [http://www.longfinance.net/images/reports/pdf/db\\_shale\\_2011.pdf](http://www.longfinance.net/images/reports/pdf/db_shale_2011.pdf) and [http://ec.europa.eu/dgs/jrc/downloads/jrc\\_report\\_2012\\_09\\_unconventional\\_gas.pdf](http://ec.europa.eu/dgs/jrc/downloads/jrc_report_2012_09_unconventional_gas.pdf) and

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[http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/bp0812\\_stevens.pdf](http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/bp0812_stevens.pdf)

<sup>ix</sup> <http://www.theyworkforyou.com/whall/?gid=2012-09-06a.145.1>

<sup>x</sup> <http://www.thisissomerset.co.uk/Fracking-plan-pave-way-West-shale-gas-bonanza/story-17056146-detail/story.html>

<sup>xi</sup> [http://www.longfinance.net/images/reports/pdf/db\\_shale\\_2011.pdf](http://www.longfinance.net/images/reports/pdf/db_shale_2011.pdf)

<sup>xii</sup> [http://www.worldenergyoutlook.org/media/weowebiste/2012/goldenrules/WEO2012\\_GoldenRulesReport.pdf](http://www.worldenergyoutlook.org/media/weowebiste/2012/goldenrules/WEO2012_GoldenRulesReport.pdf)

<sup>xiii</sup> <http://www.reuters.com/article/2012/02/03/energy-britain-idUSL5E8D323Z20120203>

<sup>xiv</sup> [http://ec.europa.eu/dgs/jrc/downloads/jrc\\_report\\_2012\\_09\\_unconventional\\_gas.pdf](http://ec.europa.eu/dgs/jrc/downloads/jrc_report_2012_09_unconventional_gas.pdf)

<sup>xv</sup> [http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/bp0812\\_stevens.pdf](http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/bp0812_stevens.pdf)

<sup>xvi</sup> <http://www.bnef.com/WhitePapers/view/136>

<sup>xvii</sup> [http://www.longfinance.net/images/reports/pdf/db\\_shale\\_2011.pdf](http://www.longfinance.net/images/reports/pdf/db_shale_2011.pdf)

<sup>xviii</sup> [http://www.worldenergyoutlook.org/media/weowebiste/2012/goldenrules/WEO2012\\_GoldenRulesReport.pdf](http://www.worldenergyoutlook.org/media/weowebiste/2012/goldenrules/WEO2012_GoldenRulesReport.pdf) pg. 54 and 74

<sup>xix</sup> <http://www.reuters.com/article/2012/02/03/energy-britain-idUSL5E8D323Z20120203>

<sup>xx</sup> [http://ec.europa.eu/dgs/jrc/downloads/jrc\\_report\\_2012\\_09\\_unconventional\\_gas.pdf](http://ec.europa.eu/dgs/jrc/downloads/jrc_report_2012_09_unconventional_gas.pdf) pg. xi.

<sup>xxi</sup> [http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/bp0812\\_stevens.pdf](http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/bp0812_stevens.pdf) pg.1.

<sup>xxii</sup> [http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/bp0812\\_stevens.pdf](http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/bp0812_stevens.pdf) pg.10.

<sup>xxiii</sup> [http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/bp0812\\_stevens.pdf](http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/bp0812_stevens.pdf) pg.10.

<sup>xxiv</sup> <http://www.bnef.com/WhitePapers/view/136>

<sup>xxv</sup> <http://www.independent.co.uk/environment/green-living/government-backtracks-on-fracking-7768853.html> and <http://www.telegraph.co.uk/earth/earthnews/9290026/Fracking-is-not-the-answer-to-energy-crisis-UK-Minister-admits-as-he-orders-shale-gas-survey.html>

<sup>xxvi</sup> <http://www.guardian.co.uk/environment/2012/nov/28/shale-gas-era-cheap>

<sup>xxvii</sup> <http://www.telegraph.co.uk/earth/earthnews/9290026/Fracking-is-not-the-answer-to-energy-crisis-UK-Minister-admits-as-he-orders-shale-gas-survey.html>

<sup>xxviii</sup> <http://www.guardian.co.uk/environment/2012/mar/21/budget-2012-chancellor-dash-for-gas> and <http://www.bbc.co.uk/news/business-20451189> and <http://www.guardian.co.uk/environment/2012/jul/23/george-osborne-letter-ed-davey-gas-wind>

<sup>xxix</sup> <http://hmccc.s3.amazonaws.com/EMR%20letter%20-%20September%202012.pdf>

<sup>xxx</sup> <http://www.swip.com/sites/docs/SiteCollectionDocuments/SWIP%20Document%20Test%20Folder/May-2012-Sustainability-Research-Note.pdf> pg.3.

<sup>xxxi</sup> <http://www.swip.com/sites/docs/SiteCollectionDocuments/SWIP%20Document%20Test%20Folder/May-2012-Sustainability-Research-Note.pdf> pg.10.

<sup>xxxii</sup> <http://www.nature.com/news/air-sampling-reveals-high-emissions-from-gas-field-1.9982>

<sup>xxxiii</sup> <http://www.nature.com/news/air-sampling-reveals-high-emissions-from-gas-field-1.9982>

<sup>xxxiv</sup> <https://www2.ucar.edu/atmosnews/news/5292/switching-coal-natural-gas-would-do-little-global-climate-study-indicates>

<sup>xxxv</sup> [http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/bp0812\\_stevens.pdf](http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/bp0812_stevens.pdf) pg.1.

<sup>xxxvi</sup> <http://hmccc.s3.amazonaws.com/EMR%20letter%20-%20September%202012.pdf>