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Unconventional oil and gas: what's happening in the desolate North?

Unconventional gas extraction, including fracking for shale gas, coal bed methane and underground coal gasification, has come under intense scrutiny in recent months. Concerns have been expressed over local environmental impacts (including groundwater and surface water contamination) and the effect of burning these fossil fuels on the UK's commitments to tackling climate change.

In August 2013, Government minister Lord Howell, in the face of a high profile campaign by local residents in Balcombe, stated that efforts should be focussed on fracking in the "desolate" North. This was echoed a few weeks later by Neil O'Brien, chief executive of Alkane Energy, who claimed that there would be less opposition to fracking in former coalfields.

And, in January 2014, David Cameron announced that he was going "all out for shale gas" with incentives for councils to retain 100% of business rates. This places councils in a potential conflict of interest when considering planning applications for shale gas extraction.

So what's the current state of play in the North?

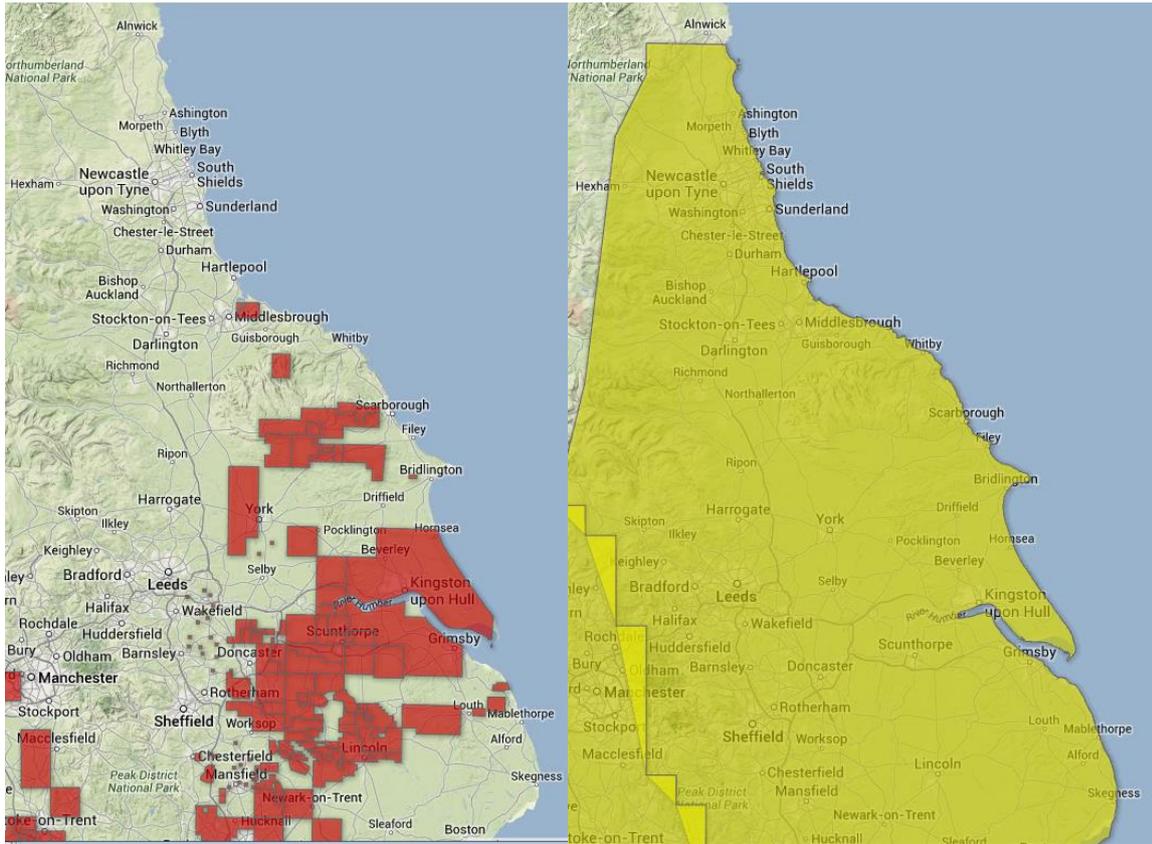
This briefing sets out our understanding of the current position of different developers' plans across Yorkshire and the Humber and the North East of England. It does not cover development in the North West which has been the subject of a large number of applications and some test drilling of wells potentially leading to production scale fracking.

The development of unconventional gas is a fast-moving agenda. This briefing will be regularly reviewed and updated. It also contains information on conventional gas drilling development where this is of significant scale.

PETROLEUM EXPLORATION AND DEVELOPMENT LICENCES

Before companies can start exploring and extracting any hydrocarbons from onshore locations, they need to acquire a Petroleum Exploration and Development Licence. This will give that company exclusive rights for that particular area although they may subsequently enter into farm-out agreements to share those rights with other companies. However, there may only be one named operator for each licence area who will be responsible for acquiring the necessary permissions for exploration and production.

There have been 13 onshore licensing rounds with the 14th round due to take place in 2014. The maps below (taken from [Friends of the Earth's website](#)) show the areas already licensed (left) and those under consideration in the 14th round (right).



NORTH EAST

There is currently only one exploration licence in the North East of England, held by Egdon Resources at Kirkleatham. Egdon have drilled for conventional gas at this site but have met technical difficulties and have subsequently temporarily closed the well with no details of when they are likely to reopen the site.

The major concern at the moment is the offshore plans to develop underground coal gasification. This process involves creating a chemical fire underground in existing coal seams and pumping the resulting gas to the surface. Five Quarter, a small company based in Newcastle, has secured licensing blocks for the North Sea from Sunderland in the south to Longhoughton in the north. They have secured Regional Growth Fund money to take this project forward.

An assessment into the [climate effect](#) of underground coal gasification has been produced by McLaren Environmental.

CITY OF YORK AND NORTH YORKSHIRE

Four companies currently hold the exploration licences within York and North Yorkshire. They are:

Dart Energy

The initial exploration licences were granted to Greenpark Energy who then sold 100% of their exploration rights to Dart Energy in early 2012.

Greenpark were granted two planning permissions for Coal Bed Methane exploration. The first one at [Wood Farm](#) at Shipton by Beningborough was granted in 2008 ([NY/2007/0286/ENV](#)) This site has now been returned to agricultural use as per Dart's application for discharge of conditions application ([NY/2013/0355/A30](#))

Their second application ([09/00095/FUL](#)) is in the City of York Council at Wigginton Cottage Farm for exploration, appraisal and operation for 25 years for coal bed methane. This was approved in May 2009. Test drilling took place in 2011.

Dart has stated that they will drill for shale gas and/or CBM in this area. In November 2013, French company GDF Suez E&P acquired a 25% interest in this exploration area from Dart Energy. It is ironic that GDF Suez are 37% owned by the French state where the Government has banned fracking.

Viking UK

Viking UK are a subsidiary of Third Energy which in turn is financed by Barclays Capital, a division of Barclays Bank.

Three planning permissions have been granted to Viking by North Yorkshire County Council.

[NY/2012/0338/FUL](#)– Kirby Misperton. This application included test **drilling for shale gas** from their second well, the so-called Kirby Misperton Deep. This drilling took place in September 2013.

[NY/2013/0273/ENV](#) – conventional gas drilling and pipeline from Ebberston Moor A wellsite to Knapton Generating site. This is for conventional gas drilling.

[NY/2012/0280/FUL](#) – application granted for drilling of exploratory borehole at Malton 5.

A further planning application ([NY/2013/0226/FUL](#)) was submitted by Viking for exploratory wells targeting sandstone deposits at Fordon 1 Wellsite at [Foxholes](#) but later withdrawn. NYCC had required an Environmental impact Assessment.

In addition, Viking have also requested screening opinions from North Yorkshire County Council to assess whether they require Environmental Impact Assessments. These typically indicate a proposal to drill two wells with the target for one well detailed as the Kirkham Abbey Formation and the second well not specified in the screening request. It is possible that these indicate a planning application will come forth with test drilling into the Bowland Shale.

[NY/2013/0249/SCR](#) – screening opinion requested for Scroggy Wellsite near [Stonegrave](#). Two wells – first one targeting Kirkham Abbey Formation but second one not specified. Screening opinion issued saying Viking do require an EIA.

[NY/2013/0182/SCR](#) – [Marishes](#) B wellsite screening opinion. **This drillsite will target the Bowland Shale**. Screening opinion stated that Viking do require an EIA. Local villages include Kirby Misperton, Thornton Dale and Pickering.

[NY/2013/0137/SCR](#) – Whenby Wellsite screening opinion. Targets are Kirkham Abbey Formation and sandstone. EIA is required.

[NY/2012/0341/SCR](#) – Screening opinion for both Marishes A and Marishes B. No mention of shale but see Marishes B above.

Egdon Resources

NYM/2012/0329/FL Egdon Resources plans to drill in Westerdale (inside the North Yorkshire Moors National Park) targeting limestone rocks. Approved by the North Yorkshire Moors Park Authority in July 2012. The exploration is split into two different blocks and Egdon have also secured permission to drill at Kirkleatham but have closed this well temporarily due to technical problems.

Moorland Energy

[NY/2010/0159/ENV](#) Moorland Energy application for gas production at Ebberston and pipeline to proposed gas processing facility at Thornton-le-Dale. Granted on appeal to Planning Inspectorate.

[NY/2009/0044/FUL](#) Riseborough Hagg Farm, Riseborough, Pickering. Exploratory drilling targeting for Kirkham Abbey Formation. Granted in April 2009 and conditions to the planning decision stipulated that all work was to be completed by April 2012.

EAST YORKSHIRE

Two exploration licences (PEDL176 and PEDL183) have been granted in East Yorkshire to Rathlin Energy and Dart Energy respectively.

Rathlin Energy – PEDL183

Rathlin Energy have secured planning permission for drilling on three sites in East Yorkshire.

Crawberry Hill, Walkington

[Approval](#) granted to Rathlin for conventional drilling at Walkington in January 2012 for appraisal borehole ([11/04441/STPLF](#)).

A further application was placed by Rathlin for this site ([12/02945/STPLF](#)) as Rathlin were not able to agree lease terms on the earlier application. The development site is 250m away from the earlier approved site. This drill site was proposed to drill into the **Bowland shale**. Approval was granted in September 2012.

High Fosham

An application for drilling at High Fosham Cottage near Withernwick was granted in January 2013. ([12/04193/STPLF](#)). This application detailed coring the **Bowland shale** to evaluate potential. Rathlin's [website](#) states that it will be looking to start exploratory drilling in early 2014.

Dart Energy

Composite Energy (acquired by Dart Energy in 2011) secured planning permission to test drill for coal bed methane across a number of sites in East Yorkshire in 2009. All these permissions required that Composite Energy commence work within three years of the decision and inform East Riding

Council that they had done so. East Yorkshire Council have confirmed that they have not had notification of commencement for any of the sites and, as such, all permissions have now lapsed.

Red House Farm, Swinefleet – approval granted in February 2009 for exploratory drilling for coal bed methane. ([08/05295/STPLF](#))

Newland – [08/05291/STPLF](#) approval granted February 2009

Newport - [08/05361/STPLF](#) – approval granted February 2009.

Newport - [08/05386/STPLF](#) – approval granted February 2009.

Reedness - [08/05858/STPLF](#) – approval granted March 2009

Melbourne - [09/00263/STPLF](#) – approval granted April 2009

Melbourne - [09/00242/STPLF](#) – approval granted April 2009

Melbourne - [09/00383/STPLF](#) – approval granted April 2009

Seaton Ross - [09/00372/STPLF](#) – approval granted July 2009

Gilberdyke - [09/00651/STPLF](#) – this application was refused by East Yorkshire Council in July 2009 and a subsequent appeal was dismissed in October 2010. Main reasons for refusal were the potential risks to the road network and a local drainage channel for the type and frequency of HGV movements.

Blacktoft - [09/01174/STPLF](#) – this application was “finally disposed of” in September 2013. This means that Dart were asked for further information by the council which they have failed to provide

Holme upon Spalding Moor - [09/02902/STPLF](#) – approval granted November 2009

Market Weighton - [09/03031/STPLF](#) – approval granted November 2009

Holme upon Spalding Moor - [09/03461/STPLF](#) – approved October 2009

Three areas of the Humber Estuary were licensed by the Coal Authority for underground coal gasification. These licences expired in December 2012 and September 2013 and have not been renewed.

NORTH AND NORTH EAST LINCOLNSHIRE

There are several exploration licences granted across these two local authorities to a number of exploration companies i.e. Europa Oil and Gas (DL001, PEDL180 and PEDL181), Egdon Resources (PEDL182 and PEDL241) and Dart Energy (PEDL173, PEDL178, PEDL179 and PL162).

Only Dart Energy (as Composite Energy) have applied for planning permission to test drill. Composite Energy submitted seven applications to test drill in 2008-9. These applications are at:

Belton - [PA/2009/0435](#) – approval granted June 2009

Crowle - [PA/2009/0175](#) – approval granted April 2009

Crowle - [PA/2009/0174](#) – approval granted April 2009

Luddington - [PA/2009/0141](#) – approval granted April 2009

Keadby - [PA/2008/1673](#) – approval granted January 2009

West Butterwick - [PA/2008/1672](#) – approval granted January 2009

Amcotts - [PA/2008/1597](#) – approval granted January 2009

All seven sites were subject to planning conditions that stipulated that work would commence within three years of the decision notice.

In June 2013, Egdon Resources secured planning permission ([MIN/2013/0281](#)) for exploratory drilling into sandstone at Broughton, 7 miles east of Scunthorpe. The Environment Agency is currently [consulting](#) on permitting of this test drilling.

SOUTH YORKSHIRE

Exploration licences have been granted in South Yorkshire to Alkane Energy (PEDL043, PEDL169 & PL161), Dart Energy (EXL288, PEDL139, PEDL173, PEDL174 & PEDL200) and Scottish Power (PL161, PL162). In addition, Alkane have been granted exploration licences for the extraction of coal mine methane at a number of the old colliery sites across the South Yorkshire coalfield.

Apart from Alkane's coal mine methane sites and Scottish Power's long standing gas storage facility on Hatfield Moor, there have been no planning applications to date.

However, Dart Energy has said that they are likely to lodge planning applications near Maltby for both shale gas and coal bed methane exploration early in 2014. It is likely that these applications will be in north Nottinghamshire (where they have already secured two planning applications for coal bed methane at Eaton and Lound near Retford). Dart have recently applied for a mining waste permit for the Lound site from the Environment Agency and a decision on this permit is pending.

Two of the licence areas owned by Dart Energy in South Yorkshire were among those which were subject to a farm-out agreement in October 2013 which has given GDF Suez (37% owned by the French state whose Government has banned fracking) a 25% stake in these licences.

In September 2013, Sheffield City Council passed a motion in full council expressing concern over the environmental and calling on the Executive to develop a policy on shale gas and coal bed methane extraction. Work is continuing across the wider South Yorkshire area to develop a robust planning and council policy.

In January 2014, the French oil and gas company, Total, announced that they had acquired a 40% stake in PEDL139 and the neighbouring PEDL140 from Dart Energy. As a consequence, iGas has replaced Dart as the operator for these license areas.

NEW LICENSING ROUND

In 2014, the Government intends to commence a new licensing round (the 14th round) for onshore oil and gas exploration. It has published [a map](#) which identifies the areas under consideration for

exploration which covers the rest of Yorkshire and much of the North East. It has stated that not all of the area will be licensed for exploration and that developers will still need to go through the planning and regulatory process.

However, given the Government's apparent obsession with developing unconventional gas and the extensive resources identified in the Bowland Shale play may well lead to many more communities in the region facing the environmental impact of unconventional gas exploration and production.

FURTHER READING

The following Friends of the Earth briefings are a useful source of information on the environmental risks of unconventional gas and how communities can take action.

[Shale gas: not all its fracked up to be](#) – a 2 page briefing note on shale gas

[Unconventional, unnecessary and unwanted](#) – a more detailed briefing on unconventional gas

[Regulatory requirements of unconventional oil and gas exploration](#) – a short guide to the licensing, planning and permitting regime

[Coal bed methane](#) – a short guide to coal bed methane

[Our response to Public Health England's review of health impacts](#)

More information and briefings can be found on the Friends of the Earth website at http://www.foe.co.uk/campaigns/climate/issues/fracking_resources_39581.html

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