

ONSHORE OIL & GAS DEVELOPMENT IN NORTH LINCOLNSHIRE



PLANNING ADVICE NOTE

MARCH 2016

1. Introduction

- 1.1 Oil and gas (also known as 'hydrocarbons') are primary sources of energy. They have a vital role in United Kingdom's (UK's) economy. There is a national and local need to sustainably secure oil and gas resources and to support sustainable growth of the economy.
- 1.2 The oil and gas industry is well established in the United Kingdom. Historically, it has centred on exploiting onshore and offshore conventional oil and gas.
- 1.3 As existing reserves of conventional off-shore oil and gas reduce, the need to identify alternative sources of supply is increasing, in particular from indigenous sources. The Government considers that shale oil and gas will play an important part in the country's energy mix in future. However, the process of extracting shale oil and gas – hydraulic fracturing, or fracking for short – has come under intense environmental scrutiny in recent times. Particular concerns have related to impacts on climate change, water resources, chemical usage, potential seismic impacts and amenity.
- 1.4 North Lincolnshire Council has a key role to play in oil and gas development (both conventional and unconventional) as the Minerals Planning Authority for its area. Developers must apply for planning permission for each stage in the process of producing oil and gas. It is for the council (as the Minerals Planning Authority) to determine whether the development is an acceptable use of land when judged against national and local planning policy. Applications will be assessed against a range of considerations to check if it is appropriate including:
 - Land allocation in the relevant development plan, for example for industry, housing etc
 - Lighting, dust and noise
 - Operating hours of the site
 - Transport and routes to get to the site
 - Heritage features and archaeology
 - Wildlife and flora including any important habitats/protected species that might be disturbed
 - Impact on water resources and potential flood risks
 - Site restoration and aftercare once the works have been completed
- 1.5 This Planning Advice Note has been prepared to provide guidance for communities, developers and decision makers regarding oil and gas extraction, particularly in relation to hydraulic fracturing or “fracking”. The document will be updated as required to take account of latest information as it emerges.

2. CONVENTIONAL & UNCONVENTIONAL OIL & GAS

- 2.1 Conventional oil and gas refers to oil and gas resources (also known as hydrocarbons) which are found in relatively porous sandstone or limestone rock formations. Conventional oil and gas resources are located both off-shore (e.g. the North Sea) and onshore. **It does not involve extraction of shale oil and gas.** Extraction methods generally involve drilling a borehole down to the porous rock where oil or gas has formed in a reservoir. Because the oil and gas resources can flow relatively freely within the porous rock all that's needed is for the gas or oil to be pumped out of the ground using beam pumps ('nodding donkeys') or electric pumps.
- 2.2 Unconventional gas and oil resources are found in fine-grained sedimentary rocks known as shales. Shale rocks are very common. Shale gas and oil is trapped in the rock at depths between 1,500 and 4,200 metres below the surface. It cannot be recovered using conventional oil and gas extraction techniques, hence the use of 'fracking'. Shale gas and oil is frequently found at great depths - sometimes 2 km and more beneath the surface. Despite vast reserves worldwide shale gas and oil was until recently thought to be uneconomic to exploit.

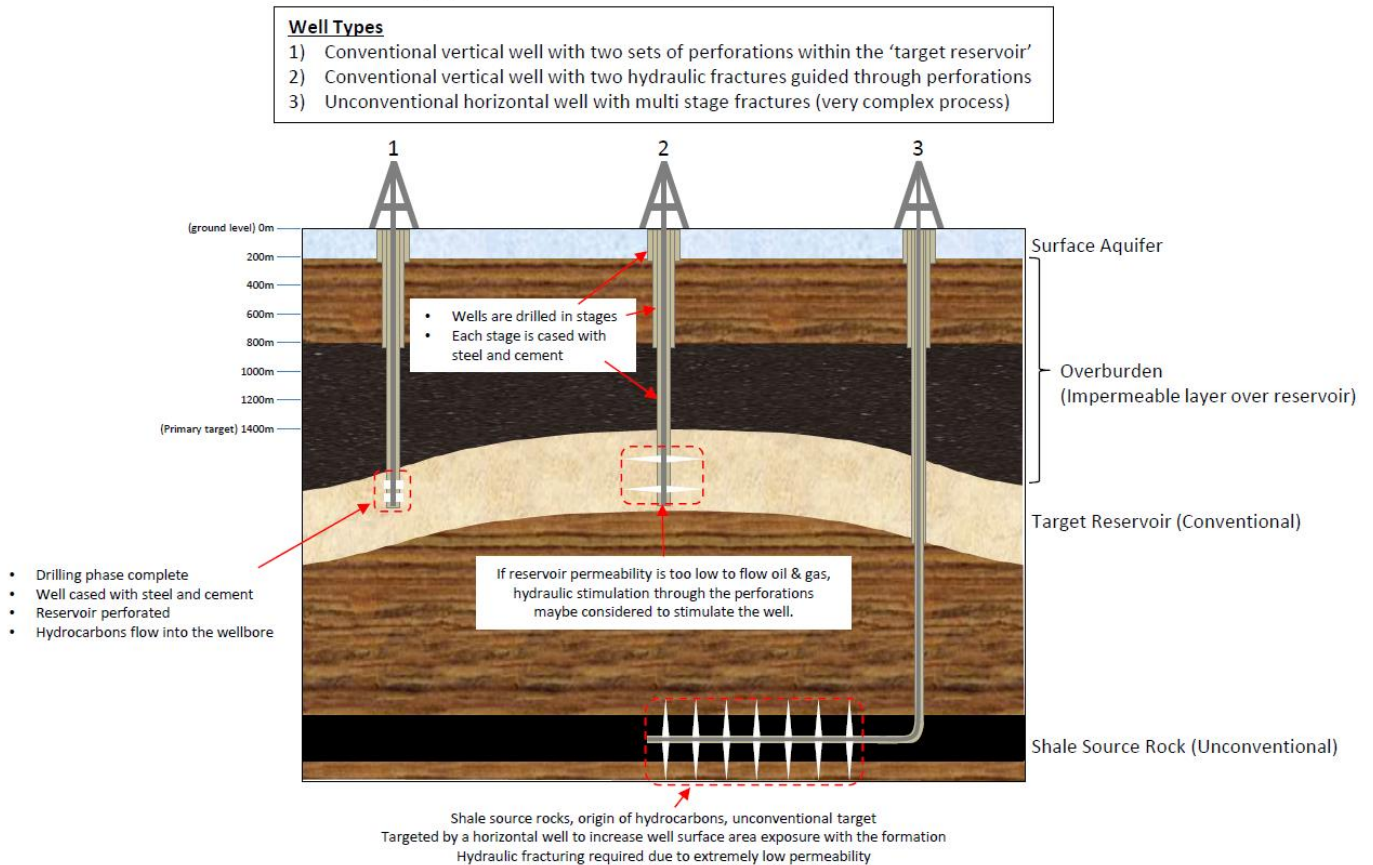
3. WHAT IS 'FRACKING'?

- 3.1 'Fracking' refers to 'hydraulic fracturing', a process sometimes used to break open rock after a well has been drilled for natural gas. The potential to use fracking depends upon the underlying geology and it is most often referred to in relation to shale gas reserves (i.e. gas trapped in shale rock).
- 3.2 Liquid is used to open up and/or extend existing narrow fractures or to create new ones. Perforations are created in the rock and fluid (a mix of water, sand, and possibly chemicals) is pumped under high pressure down the borehole through perforations into the rock. Sand props open the fractures allowing gas to flow out more readily. The chemicals are used for various purposes including providing lubrication and to kill bacteria.

3.3 Fracking can be used at the exploration (i.e. seeing what's there and how much), appraisal (i.e. how easy it is to get) and production (i.e. pumping the gas out) stages. Figure 1, below provides an overview of how shale gas extraction takes place.

Figure 1: Shale Gas Extraction

Different Applications of Hydraulic Stimulation



4. OIL & GAS IN NORTH LINCOLNSHIRE

4.1 As mentioned in paragraph 1.2 (above), the on-shore oil and gas industry is well established in the United Kingdom. Today, there are 120 on-shore sites with 250 operating wells producing conventional oil and gas across the country. In North Lincolnshire, reserves of conventional oil have been discovered at Crosby Warren to the north east of Scunthorpe as well as in the Broughton and Brigg area. The only area that has been worked is at Crosby Warren, where oil has been produced since the mid 1980's. Other exploratory wells have been drilled since the mid 1940's, looking for conventional oil and gas as well as coalbed methane. These wells are now mostly plugged and abandoned. In the case of the coalbed methane wells, there has been no further activity since exploration took place.

4.2 The British Geological Survey (BGS) has estimated that the UK has more shale gas than previously expected (1,300 trillion cubic feet of shale gas in the north of England and the Midlands). A [BGS study](#), published in 2013, examined a large area of the Bowland shales of northern England, stretching from Merseyside in the west to the Humber in east, and Loughborough in the south to Pickering in the north, and its potential for shale gas to be present.

4.3 The study suggests that the geology beneath North Lincolnshire may contain commercially viable shale gas resources. At the time of writing, it is not clear as to the exact extent of any resource and whether it is economically and commercially viable to extract.

4.4 To date no proposals have been put forward for "fracking" to extract shale gas in North Lincolnshire.

5. UK GOVERNMENT POSITION & NATIONAL POLICY CONTEXT

- 5.1 National energy policy is that oil and gas makes an essential contribution to the country's prosperity and quality of life. While renewable energy must form an increasing part of the national energy picture, oil and gas remain key elements of the energy system for years to come. There is also a commitment to maximising indigenous resources, subject to safety and environmental considerations.
- 5.2 Although the shale gas industry is in its early stages in the UK, the government considers there is great potential for it to increase our energy security, create jobs and generate substantial tax revenue. The Government hopes that shale gas will be a significant part of the future energy mix. To meet challenging climate targets there will need to be significant quantities of renewables, nuclear and gas in our energy mix.
- 5.3 The [National Planning Policy Framework \(NPPF\) \(March 2012\)](#) sets out the Government's policy on a number of planning issues. This includes minerals, under which the issue of hydrocarbon extraction falls. Paragraph 147 states that: Minerals Planning Authorities should when planning for on-shore oil and gas development, including unconventional hydrocarbons, clearly distinguish between the three phases of development - exploration, appraisal and production - and address constraints on production and processing within areas that are licensed for oil and gas. The NPPF is a material consideration in taking decisions on planning applications for oil and gas extraction.
- 5.4 The NPPF is supported by the on-line [Planning Practice Guidance \(March 2014 onwards\)](#). [Section 27](#) sets out specific guidance on minerals including planning for hydrocarbons. Again this is a material consideration in taking decisions on planning applications. It includes an explanation of the different stages involved in hydrocarbon extraction as well as guidance on how mineral planning authorities should plan for hydrocarbon extraction. Other guidance relates to the planning application process, development management procedures, Environmental Impact Assessment, determining planning applications, and site aftercare/restoration. There is also specific advice/guidance on Shale Gas & Coalbed Methane/Coal Seam Gas and how it can be extracted, the process drilling an exploratory well, and model planning conditions.
- 5.5 **Ministerial Statements** are often published on a range of planning issues. These must be taken into account in planning decisions and plan-making. In respect of shale oil and gas, two Written Ministerial Statements were been laid before Parliament in September 2015.
- 5.6 A [statement](#) laid by the Secretary of State for Energy and Climate Change entitled Shale Gas and Oil Policy set out the Government's view that there is a need to explore and develop the country's shale gas resources in a safe, sustainable and timely way, and the steps it is taking to support this. This statement reiterates, and replaces, the joint policy statement made in August 2015. A [statement](#) laid by the Secretary of State for Communities and Local Government set out further details of two of the planning measures: on identifying underperformance in respect of oil and gas applications and a revision to the recovery criteria for appeals for planning permission for shale gas.

6. LOCAL CONTEXT

- 6.1 As a unitary authority, North Lincolnshire Council is a minerals planning authority (MPA). This means that it is responsible for receiving and determining planning applications for minerals or mineral-related development within its boundaries. This includes oil and gas extraction from conventional and unconventional sources. Therefore, before any oil or gas development, including shale gas development, can take place, an operator must submit a planning application to seek planning permission at each of the three stages involved - exploration, appraisal or production. The council will also determine whether an Environment Impact Assessment should be provided as part of any planning application.
- 6.2 **It should be noted that an approval of planning permission at one stage is no guarantee that permission will be forthcoming for an application relating to a subsequent stage.**
- 6.3 Applications will be determined against the council's development plan for North Lincolnshire and other material considerations such as national planning policy. The development plan for North Lincolnshire consists of the [Local Development Framework Core Strategy DPD \(June 2011\)](#) and the [North Lincolnshire Local Plan \(May 2003\) – Saved Policies](#). These set out a range of planning policies on those matters that will need to be considered by officers and elected members when assessing proposals for hydrocarbon extraction. The Local Plan (May 2003) contains three saved policies relating to oil and gas extraction (policies M21 to M23).

- 6.4 The council have also prepared a number of Supplementary Planning Guidance notes that are material considerations. The most important is the Countryside Design Summary and Landscape Character Assessment & Guidelines (both December 1999).

7 PHASES OF EXTRACTION

- 7.1 The extraction of shale gas involves three phases: exploration; appraisal and production. **Planning permissions and licences/permits are required for each stage.**

- **Exploration:** this phase seeks to acquire geological data to establish whether hydrocarbons are present. This may involve drilling and, in the case of shale gas, fracking. We are only at the very early stages of shale gas exploration in the UK with the only exploratory drilling to date being in Lancashire. It is a short-term but intensive activity.
- **Appraisal:** this is where the operator needs further information about the extent of reserves and its characteristics to establish whether it can be economically exploited. It includes hydraulic fracturing and is usually a relatively short-term activity, typically between six months and two years.
- **Production:** This is the longer term process of extracting the oil and gas and will involve associated infrastructure such as pipelines, processing facilities and storage tanks.

- 7.2 **At each phase a new and separate planning permission and all other environmental and safety consents and permits will be required.**

8 WHAT IS THE REGULATORY FRAMEWORK FOR SHALE GAS?

- 8.1 In addition to applying for planning permission at each of the stages outlined above, before a company can start exploring for conventional or unconventional oil or gas reserves they must obtain a number of environmental and safety consents and permits.

- 8.2 This involves a number of different bodies, each of whom have a different remit. The main actors are:

- **[Department for Energy & Climate \(DECC\)](#)** – responsible for issuing Petroleum Exploration and Development Licences (PEDLs). These give the licence holder permission to drill under the licence area once other permissions and approvals are in place.

DECC assesses the risk of seismic activity caused by drilling, such as the risk of an earth tremor. They also grant consent for flares or vents - a safety device to burn off excess gases which cannot be used.

- **[Environment Agency \(EA\)](#)** - The site operator has to demonstrate to the EA that they have taken steps to protect local water courses, including groundwater resources. They also make sure that the operator is treating and disposing of waste water properly and that any emissions into the atmosphere are controlled. The operator will also have to show how they will handle any naturally occurring radioactive materials.
- **[Health & Safety Executive \(HSE\)](#)** - review the workings on the site to make sure that the operations are carried out safely to meet current legislation. Their focus is to make sure that the extraction of the gas is carried out safely including the construction of an appropriate well casing for the borehole.

9 OIL AND GAS EXPLORATION AND DEVELOPMENT LICENSES (PEDLS)?

- 9.1 The [Petroleum Act 1998](#) vests all rights to the nation's petroleum resources in the Crown. However, the government can grant licences that confer exclusive rights to 'search and bore for and get' petroleum.

- 9.2 Each of these confers such rights over a limited area and for a limited period. Licences for onshore drilling and exploration known as Petroleum Exploration and Development Licence's (PEDLs) are granted by the Department for Energy and Climate Change (DECC). Licences give a company or group of companies (a joint venture) exclusive rights in a particular geographic location to invest the considerable time and resources needed to explore and appraise the extent of oil and gas reserves, and possibly move on to production.

- 9.3 **A PEDL does not give them permission to drill. Before drilling they must first obtain all the necessary regulatory approvals.** Licences allow a company to pursue a range of exploration activities for conventional or unconventional gas. Before granting a license the DECC checks that an operator has the relevant insurance and will look at the technical competence of the operator.

- 9.4 A total of 10 PEDLs cover North Lincolnshire and some of its neighbouring local authority areas (Doncaster, East Riding of Yorkshire, North East Lincolnshire, Nottinghamshire and Lincolnshire). The first was issued in 1971, with further licenses being issued in 1987 and 2004. The remainder were issued in 2008. A map showing the extent of petroleum licenses granted to companies by the DECC in North Lincolnshire can view on their [website](#).

10 LAND & PROPERTY

- 10.1 Prior to the introduction of the [Infrastructure Act 2015](#), developers seeking access to drill for shale gas under land or property had to obtain permission from landowners to do so or go through a potentially lengthy application to the courts under the Mines (Working Facilities & Support) Act 1966 for the compulsory purchase of such rights and the payment of compensation.
- 10.2 [Section 43](#) of the Infrastructure Act 2015 introduced a new statutory right to use deep-level land to exploit petroleum or deep geothermal energy in England & Wales. This right applies to the use of land which is at a depth of at least 300m below the surface. The right may be exercised for drilling, boring, fracturing “or otherwise altering” deep-level land. It may further be used for the installation, keeping, use and removal of infrastructure; and putting any substance into deep-level land and subsequently removing it. The right allows land to be left in a different state than it was before.
- 10.3 **Companies benefitting from the right must still comply with all other regimes governing petroleum, fracking or deep geothermal activities, such as obtaining all necessary planning permissions and environmental permits.**
- 10.4 Industry has already voluntarily committed to give notice of their intention to exercise the right before doing so, and to make payments in return for the right of use to owners of the land and potentially other persons for the benefit of areas in which relevant land is situated. However, the 2015 Act creates powers for the Secretary of State to impose these obligations through regulation if the voluntary commitment is not followed. At the time of writing these have yet to be enacted.

11. PLANNING APPLICATIONS – DECISION MAKING & CONSIDERATION OF KEY ISSUES

- 11.1 Operators seeking to extract oil and gas must at each stage of the process (exploration, appraisal and production) submit a planning application to North Lincolnshire Council. As stated in paragraph 6.3, applications will be determined against the current [development plan](#) for North Lincolnshire and other relevant material considerations. All applications must be assessed on their individual merits.
- 11.2 There are a number of considerations that the council can take into account when determining proposals for shale gas extraction. The majority of these are addressed through [existing planning policy](#) (see below). It should be noted that not all policies will apply in every case. Much will depend on location.
- 11.3 These considerations include:
- **Land allocation in the relevant development plan** – *assessing whether development is in the most suitable location (Relevant Policies: CS1; CS2; RD2; M1)*
 - **Impact on surrounding communities and local residents through lighting, dust and noise** – *(Relevant Policies CS18; RD2; M1; M3; DS1; DS12)*
 - **Landscape and visual impact** – *assessing the visual impact of a new building or structure (location, size, and appearance) on the local area and on the wider landscape (including designated landscapes) (Relevant policies: CS1; CS2; CS16; LC7; LC14; M1; DS1)*
 - **Land stability and subsidence** – *assessing whether there will be any impacts of the stability of land (Relevant policies: N/A)*
 - **Traffic and transport routes** – *assessing whether new roadways, accesses, and parking are adequate and the impact on highway capacity and road safety as well as communities (CS1; CS2; RD2; T1; M1; M7)*
 - **Heritage features and archaeology** – *assessing the impact on the historic environment include any designated areas or features (Relevant policies; CS1, CS2; CS6; M4)*
 - **Public rights of way** – *assessing the impact of proposals on the public rights of way network (Relevant policies: CS25; R5)*

- **Wildlife and flora** – assessing the impact on ecology and biodiversity, including designated wildlife sites, and protected habitats/species. (Relevant Policies: CS1; CS2; CS16; CS17; LC1; LC2; LC3; LC4)
- **Water resources and flood risk** – assessing the impact of the proposed development on local water resources and whether there are any impacts on flood risk (Relevant Policies: CS2; CS19; DS1; DS13; DS14; DS15; DS16)
- **Site restoration and aftercare once the works have been completed** – assessing whether proposals include suitable site restoration (Relevant Policies: CS20; M1)
- **Consistency with national and local planning policy** – assessment against Government policy (*National Planning Policy Framework; Planning Practice Guidance; Ministerial Statements*), and local policies set out in the development plan (*Core Strategy DPD and North Lincolnshire Local Plan – Saved Policies*).

11.4 The control of drilling processes, health and safety issues including the effect on human health and site emissions are subject to approval from other regulators including DECC, the EA and the HSE. The Council is not required to delay a planning decision about shale gas exploration until the licenses from other regulatory bodies have been provided.

12 PLANNING APPLICATIONS & COMMUNITY ENGAGEMENT

12.1 Community involvement and engagement have long been cornerstones of the planning system. It is vital that communities have the opportunity to shape how their areas grow and develop.

Pre-Application Advice

12.2 Pre-application advice is an essential part of providing an efficient and effective planning service. The council encourages prospective applicants to hold early discussions about their proposals. For developers, the purpose is to give a clear steer about whether it is likely their proposal will be granted planning permission. If it is considered unlikely that planning permission will be granted the council will give them reasons for its opinion. This also provides an opportunity to discuss possible amendments that may make the proposal acceptable. At this stage the council can clarify the level of detail (e.g. supporting studies/statement) needed to help determine the application, as well as what issues need to be addressed and the potential for positive community involvement.

Community Engagement

12.3 Developers should closely examine the contents of Chapter 6 of the council's [adopted Statement of Community Involvement \(2010\)](#) and [Interim Guidance – Planning Applications in North Lincolnshire: A Guide to Community Involvement \(2015\)](#). These documents require developers to undertake community engagement/involvement on all major planning applications, and sets out the standards/requirements they should follow in doing so. Developers must provide evidence of their engagement with local communities and how they have addressed any concerns/issues raised as part of their proposals.

12.4 Development proposals can, depending on their scale and nature have significant impacts on local communities. Therefore, it is advisable that applicants putting forward major proposals should carry out their own pre-application consultation with local people. We expect local communities to be offered the chance to influence proposals in their areas at an early stage through these consultation exercises. A consultation statement should be submitted alongside the formal planning application. This should describe what engagement took place and how this influenced the final proposal.

Consultation on Planning Applications

12.5 Consultation does take on all planning applications received. Every planning application is subject to public consultation in accordance with the Council's policy and practice. Depending upon the type of application this will involve a combination of site notices, neighbour notification, and an advertisement in a local newspaper. Consultation also takes place with statutory consultees including Town & Parish Councils and other bodies such as the Environment Agency, Natural England, Historic England and Highways England. Details of how consultation takes place on planning applications can be found in the council's adopted [Statement of Community Involvement \(2010\)](#) and [Interim Guidance – Planning Applications in North Lincolnshire: A Guide to Community Involvement \(2015\)](#).

12.6 Comments can be made online via the website (<http://www.northlincs.gov.uk/planning-and-environment/planning>), by post (Development Management, North Lincolnshire Council, Civic Centre, Ashby Road, Scunthorpe, DN16 1AB), or by email (planning@northlincs.gov.uk). All comments will be available for public viewing on the website and at the Civic Centre (on request).

- 12.7 The responses submitted by statutory consultees and by objectors and supporters are ‘material considerations’ and they are fully considered before a decision is made. However, it should be noted that the number of objections or supporting representations is not important; consideration is only given to the validity of the objection or representation in planning terms regardless of whether one or 100 people hold that view.

13 COMMUNITY BENEFITS

- 13.1 The government is promoting an industry-led scheme of community benefits for unconventional gas. Operators will commit to provide £100,000 in community benefits at exploration phase, per well-site where hydraulic fracturing occurs and to sharing their proceeds with communities, providing 1% of revenues to communities that host them.
- 13.2 The Department of Energy and Climate Change have indicated that it is anticipated that community benefits associated with oil and gas development will be managed by the United Kingdom Community Foundations.
- 13.3 In January 2014, the Government announced that local authorities in England will now be able to keep 100 % of the business rates they collect from shale gas sites, rather than the usual 50%. The Government estimates that this commitment could be worth up to £1.7 million a year for a typical shale gas site. Other community benefits are being considered.
- 13.4 It is important to note that North Lincolnshire cannot consider such community benefits when assessing any future planning application that might be received, which will be determine solely on planning grounds.

14 ENVIRONMENTAL IMPACT ASSESSMENT

- 14.1 Certain planning applications for significant developments in environmentally sensitive areas are legally required to be accompanied by an Environmental Impact Assessment (EIA).
- 14.2 An EIA is a formal and detailed assessment of the likely impacts a particular development is anticipated to give rise to and how such impacts may be avoided or appropriately mitigated. Although only legally required in certain cases, the shale gas industry has undertaken to voluntarily submit an EIA for shale gas applications irrespective of whether or not one is legally required.
- 14.3 The first steps of the preparation of the EIA involve the prospective applicant submitting a scoping request by the applicant to North Lincolnshire Council.
- 14.4 The scoping request identifies a proposed site, outlines the proposed development, highlights the main environmental impacts and invites the Council to provide a ‘scoping opinion’ setting out the environmental topics and key issues that the prospective applicant should include within their EIA. This includes site issues like impact on water resources, noise, visual impact, transport and restoration of the site.
- 14.5 Providing a ‘scoping opinion’ is a technical exercise and the ‘scoping request’ is therefore shared with various specialists both within the Council and external organisations, such as the Environment Agency, for their comment and suggestions as to any additional points the EIA should consider.
- 14.6 Feedback will be used by the applicant to inform their proposals in readiness for the submission of a full planning application and EIA to the Council.
- 14.7 As a technical exercise, the scoping stage does not involve members of the public, but they will have the opportunity to comment on the proposals as part of any pre-application publicity staged by a prospective applicant and in response to the full planning application as part of the formal consultation process.

15 ENVIRONMENTAL CONCERNS ABOUT FRACKING

- 15.1 The Royal Society and Royal Academy of Engineering has carried out an independent review of the major environmental and geological risks associated with the process of fracking in the UK and the extent to which these risks can be effectively managed. The main conclusion is that the risks associated with fracking can be managed effectively in the UK provided that operational best practices are implemented and regulated effectively. A copy of the report can be found here. Public Health England (PHE) has published a draft report that concludes that the risks to public health from fracking for shale gas are low. Any problems publicised so far, such as in the US, are the result of operational failure or poor regulation.

16. SHALE GAS FRACKING SAFEGUARDS

- 16.1 The Infrastructure Act 2015 also seeks to introduce a series of shale gas fracking safeguards into the UK's overarching petroleum licensing regime. These safeguards are already broadly applied in practice. Section 50 inserts new sections 4A and 4B into the Petroleum Act 1998.
- 16.2 Section 4A sets out conditions for the granting of a well consent for hydraulic fracturing in England and Wales. Among other matters, the safeguards prohibit "associated hydraulic fracturing" at a depth of less than 1,000 metres and require a separate hydraulic fracturing consent for associated hydraulic fracturing at a depth of 1,000 metres and below. However, the 1,000 metre restriction is unlikely to be an issue in practice, given the depth at which most shale gas resources lie in the UK. Associated hydraulic fracturing is fracturing which involves the injection of more than 1,000m³ of fracking fluid at each stage, or more than 10,000m³ in aggregate.
- 16.3 It also provides for numerous safeguards to be in place in relation to environmental impacts (in particular, relating to groundwater), monitoring, consultation and providing public information.

17 MORE INFORMATION/REFERENCES

- 17.1 There is considerable information available about shale gas and fracking to assist communities, operators and decisions makers. Some of these are listed below:

General Advice & Information

Final conclusions and recommendations: Task Force on Shale Gas. December 2015 - <https://www.taskforceonshalegas.uk/news-and-events/final-conclusions-and-recommendations>

Shale Gas and Fracking: House of Commons Library Updated 15 January 2016 - <http://www.parliament.uk/briefing-papers/SN06073>

About Shale Gas and Hydraulic Fracturing (Fracking): DECC (Last updated 6th January 2016 - <https://www.gov.uk/government/publications/about-shale-gas-and-hydraulic-fracturing-fracking>

Planning on the Doorstep: The Big Issues – Fracking: Local Government Association (LGA) and Planning Advisory Service (PAS) - <http://www.pas.gov.uk/documents/332612/1099309/planning+on+doorstep+fracking+v3/caa5241a-bbfc-4a11-b5a4-9e327ab4fde0>

Policy & Regulatory Guidance

National Planning Policy Framework (March 2012), Department for Communities & Local Government - <http://planningguidance.communities.gov.uk/wp-content/themes/planning-guidance/assets/NPPF.pdf>

Planning Practice Guidance (March 2014 onwards), Department for Communities & Local Government - <http://planningguidance.communities.gov.uk/blog/guidance/>

North Lincolnshire Local Development Framework – Core Strategy DPD (June 2011), North Lincolnshire Council - <http://www.northlincs.gov.uk/planning-and-environment/planning-policy/local-dev-framework/core-strategy/>

North Lincolnshire Local Plan – Saved Policies (May 2003), North Lincolnshire Council - <http://www.northlincs.gov.uk/planning-and-environment/planning-policy/local-plan/north-lincolnshire-local-plan/>

North Lincolnshire Local Development Framework – Statement of Community Involvement (July 2010), North Lincolnshire Council – <http://www.planning.northlincs.gov.uk/planningreports/statementofcommunityinvolvement/sciupdate/app2.pdf>

Interim Guidance – Planning Applications in North Lincolnshire: A Guide to Community Involvement (2015), North Lincolnshire Council - <http://webarchive.northlincs.gov.uk/EasySiteWeb/GatewayLink.aspx?allid=59755>

Onshore Oil and Gas Exploration and Development Integration Between Regulatory Agencies (March 2013) - https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/139624/Onshore_Role_of_Regulatory_Agencies_March_2013_.pdf

Onshore Oil and Gas Exploration in the UK: Regulation & Best Practice (December 2013), Department for Energy & Climate Change -

[https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/265988/Onshore UK oil and gas exploration England Dec13 contents.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/265988/Onshore_UK_oil_and_gas_exploration_England_Dec13_contents.pdf)

Technical

The Carboniferous Bowland Shale Gas Study: Geology and Resource Estimation (July 2013), British Geological Survey/Department for Energy & Climate Change - <https://www.gov.uk/government/publications/bowland-shale-gas-study>

Assessing the Impact of Shale Gas on Climate Change: Task Force on Shale Gas, Third Interim Report 16 September 2015
<https://darkroom.taskforceonshalegas.uk/original/8879c0b838c6e09864638cbd6902b190:7f5b9e74c66410cff3253321938981d6/right-report.pdf>

Assessing the Impact of Shale Gas on the Local Environment and Health: Task Force on Shale Gas, Second Interim Report 15 July 2015 -
<https://darkroom.taskforceonshalegas.uk/original/e4d05cb29b0269c2a394685dad7516e6:c48ffe7884e9b668b8d4b7799a027874/task-force-on-shale-gas-assessing-the-impact-of-shale-gas-on-the-local-environment-and-health.pdf>

Environmental risks of fracking: - Eighth report of Session 2014-15. House of Commons Environmental Audit Committee 21 January 2015 - <http://www.parliament.uk/business/committees/committees-a-z/commons-select/environmental-audit-committee/publications/?type=&session=26&sort=false&inquiry=2026>

Shale gas extraction in the UK: - a review of hydraulic fracturing. The Royal Society and Royal Academy of Engineering June 2012 - http://royalsociety.org/uploadedFiles/Royal_Society_Content/policy/projects/shale-gas/2012-06-28-Shale-gas.pdf

Potential Greenhouse Gas Emissions Associated with Shale Gas Extraction and Use. DECC September 2013. Government response 24 April 2014: <https://www.gov.uk/government/publications/the-governments-response-to-the-mackay-stone-report-potential-greenhouse-gas-emissions-associated-with-shale-gas-extraction-and-use>