



Unconventional Oil and Gas in the UK

June 2013

The development of unconventional gas (and more recently unconventional oil) resources in the US has transformed the energy market there, with the US predicted to become a net-exporter of both oil and gas by 2020.

Concern about the UK's energy needs in the next 20 years and, in particular, security of supply has recently moved up the political agenda. In December 2012 the UK government published its gas generation strategy. It sees gas as an integral part of the UK's electricity generation mix until at least 2030. An important part of the strategy is to explore and potentially develop the UK's unconventional gas resources. A further announcement of government work in this area was made in the 2013 budget.

Although shale oil production was pioneered in Scotland in the late 19th and early 20th centuries, the development of the unconventional oil and gas industry in the UK and continental Europe has not so far replicated the US. Common explanations for this refer mainly to the higher population density and greater environmental concerns than in the US. The lack of a well-developed onshore services sector in Europe and different land rights to those in the US and Canada are also seen as barriers to development.

Nevertheless, the UK government is keen to promote exploration of potential onshore unconventional gas resources in the UK. It is currently consulting with industry on the amendments to the tax regime that may be required in order to encourage exploration and development and is expected to publish proposals on

these in summer 2013. In addition, it has lifted the moratorium on hydraulic fracturing (fracking) which was imposed following seismic tremors associated with Cuadrilla's exploration activities in the north west of England and is currently working on an updated strategic environmental assessment prior to proceeding with the next onshore licensing round.

This has already led to some activity in the industry. Cuadrilla intends to carry out more onshore exploration and iGas have recently completed a capital raising in order to undertake exploration activities in the north west of England. While it is unlikely that the UK will develop an unconventional gas sector on anything like the same scale as the US, some in the industry see it as an opportunity to use the extensive oil and gas expertise in the UK to develop the onshore services sector, which can then be used to tap the greater potential for unconventional resources in continental Europe and beyond.

The purpose of the remainder of this note is to provide an overview of the UK onshore licensing regime and the regulatory framework and the other main issues that are likely to arise in relation to onshore exploration and appraisal activities.

Onshore licensing regime

In the UK, all rights to hydrocarbons are vested in the Crown. The Crown's rights are administered by the Secretary of State for Energy and Climate Change and the Department of Energy and Climate Change (DECC). In particular, DECC is responsible for the allocation and administration of licences for exploration, development and production of hydrocarbons.



Allocation of licences

The UK's onshore licensing regime is very similar to its offshore regime. Licences are generally issued in competitive licensing rounds. These are initiated by publication of a notice in the Official Journal of the European Union. The relevant notice will normally set out the criteria on which DECC will assess bids. These criteria will usually include an assessment of the technical and financial capabilities of the applicants and their proposed work programmes. Licensing rounds are not auctions and cash bids are not required. DECC has a residency requirement which usually requires an applicant to have a place of business in the UK or to make the application through a UK subsidiary.

The next onshore licensing round to take place will be the 14th. As mentioned above, this round was suspended in light of the seismic tremors events that occurred in connection with Cuardilla's drilling activities near Blackpool. DECC is currently reviewing an environmental assessment prior to proceeding with the round. It is expected that this round will include significant areas in which unconventional gas resources may be located.

Licence conditions

A UK onshore licence is called a Petroleum Exploration and Development Licence (PEDL).

Aside from the committed work programme, the main conditions of a PEDL are set out in model clauses. These are prescribed by legislation.

The conditions of the model clauses for PEDLs are very similar to UK offshore licences. They are divided into terms. Progress from one term to the next is dependent on satisfaction of certain conditions and the relinquishment of certain areas within the licence. Under the standard (or "traditional") conditions, a PEDL has an initial term of six years, a second term of five

years and a third term of 20 years. Except with DECC agreement, the licence holder is required to relinquish at least 50% of the licence area at the end of the initial term.

An applicant can also apply for a PEDL on "promote" terms under which the initial term is divided into two sub-terms of three years, with the licence being capable of being relinquished after the first sub-term. The committed work programme is split between the sub-terms. This allows smaller and less financially capable firms to complete a limited work programme (such as obtaining seismic data) in the first sub-term before (for example) having to give a firm commitment to drill in the second sub-term.

Regulatory framework – exploration/appraisal activities

In February 2013, the UK Onshore Operators Group published onshore shale gas well guidelines for the exploration and appraisal phase (available at www.ukoog.org.uk). These provide information on the regulatory requirements and set out industry guidelines and best practice.

As with offshore licences, exploration drilling requires DECC consent. In addition, however, planning and environmental consents will also be required along with, in some cases, a Coal Authority consent.

An overview of the main consents and notifications required for exploration/appraisal activities is set out below. It should be noted that Scotland and England and Wales have different planning and environmental legislative regimes and regulators, although for most practical purposes the requirements are very similar.

Licence conditions

Activity	Requirement
Seismic surveys	21 days' notice required together with evidence of consultation with the relevant planning authorities and that planning permission has been given (if required).
Exploration/appraisal drilling Abandonment of wells	DECC consent. If well testing is expected to last for more than 96 hours, a separate well test consent will also be required from DECC.
Well testing operations for longer than 96 hours	DECC consent.

Planning

In the first instance, planning applications are determined by the relevant local planning authority in Scotland (being the local council) or the mineral planning authority in England and Wales (being the county council). In addition in Scotland, the Scottish Government can decide to determine any application which it considers is in the national interest.

Activity	Requirement
Seismic surveys	Planning permission unlikely to be required unless: <ul style="list-style-type: none"> the survey period will exceed 28 days; large explosive charges are to be used; or the survey will be carried out in a sensitive area or near to residential buildings, a hospital or a school.
Exploration and appraisal drilling/hydraulic fracturing	Planning permission required. An environmental impact assessment (EIA) may be required as part of the planning process if the activities are likely to have significant environmental effects and fulfil certain other criteria.
Abstraction/disposal of flow back fluids	The production of flow-back fluid from hydraulic fracturing is controlled through the waste management plan which must be agreed as part of the planning permission. See below in relation to additional environmental permits. If pollutants are to be discharged into the water environment an environmental permit (in England and Wales) or controlled activities regulations (CAR) licence (in Scotland) may also be required.

Coal Authority

The UK Coal Authority owns the UK's coal deposits and regulates activities that relate to or might impact upon them.

Activity	Requirement
Exploration/appraisal drilling where well intersects, disturbs or enters a coal seam	UK Coal Authority consent required.

Environmental

The environmental regulator in England and Wales is the Environment Agency (EA). In Scotland, it is the Scottish Environment Protection Agency (SEPA).

The main environmental risk in relation to hydraulic fracturing is possible interference with ground water. Consequently, the key environmental regimes of which operators need to be aware are the environmental permitting regime (in England and Wales) and the CAR regime (in Scotland).

Activity	Requirement
Exploration/appraisal drilling	England and Wales: Notice to EA of intention to drill. EA may then require operator to take appropriate action to protect ground water quantity and quality. Scotland: CAR licence for wells deeper than 200m.
Abstraction of surface or groundwater for fracturing	Environmental permit or CAR licence may be required depending on the volume to be abstracted.
Injection of fracturing fluid into a well	Environmental permit or CAR licence may be required.
Abstraction/disposal of flow back fluids	If pollutants are to be discharged into the water environment an environmental permit or CAR licence may be required. See above in relation to additional controls which may be imposed through the waste management plan agreed as per the planning permission. An additional authorisation in relation to naturally occurring radioactive materials (NORM) is likely to be required unless the operator can demonstrate that flow-back fluids will contain NORM below specified thresholds.

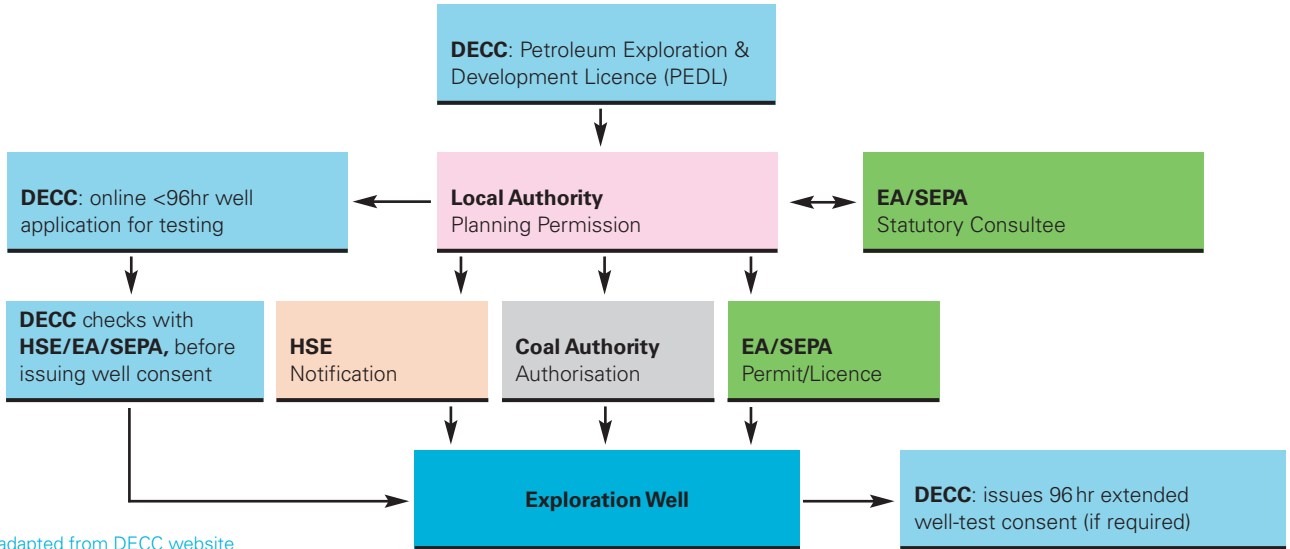
Health and Safety

The Health and Safety Executive (HSE) is the UK Government department which is responsible for health and safety. General UK health and safety legislation in relation to the equipment and methods used will apply to exploration and appraisal activities. In addition, there are specific regulations relating to onshore drilling.

Activity	Requirement
Drilling, altering or abandoning a well and any other activity which involves a risk of accidental release of drilling fluids	21 days' notice to HSE prior to commencement of operation.

Process

The various steps through the regulatory process are set out in the following flowchart:



Source: adapted from DECC website

UK Office for Unconventional Gas

While the relevant regulators have stated that they will cooperate with each other in relation to the consents required in relation to unconventional oil and gas exploration and development, it remains to be seen how well this will work in practice.

The UK Government recognises that the lack of a single regulator who has responsibility to deal with all aspects of exploration and development activity may hamper efforts to develop the UK's unconventional oil and gas resources. This is especially the case given that local issues are likely to be at the forefront of any planning decisions. The Government has established the Office for Unconventional Gas and Oil within DECC which it says will "join up responsibilities across government departments to provide a single point of contact for investors and streamline the regulatory process". The Office will not however be a one stop shop for regulatory consents and will play more of a coordinating role.

Land use/availability

While the rights to hydrocarbons are vested in the Crown, the grant of a licence from DECC does not include any rights to occupy land for exploration or production. These rights will need to be sought from private landowners.

Common practice is for the operator to seek an option to acquire a lease of the drilling site. The option will also allow the operator to carry out exploration/appraisal activities on the land prior to it being exercised.

The option period can vary, but market practice is for a term of three years during which the operator can require that a lease be granted. This can be extendable, either on an annual basis by giving notice, or be

extendable subject to the grant of planning permission when an application has been made but not yet approved.

At present the common term of a lease for a drilling site is in the region of twenty-five to thirty-five years. While this is a matter for agreement between the parties, it is likely that the period will be equivalent to the remaining period of the licence (on which please see above).

A recent Supreme Court case in England and Wales confirmed that horizontal drilling below a private landowners' land without permission constitutes trespass. The position is likely to be the same in Scotland. Accordingly, rights to drill will need to be obtained from all owners of land under which a well will pass and not just from the owner of the site of the well pad.

In addition, if there are any third party rights to mines and minerals, rights in favour of utilities or statutory undertakers or if the subsurface is not owned by the surface landowner, these will have to be dealt with as part of the negotiations.

If agreement cannot be reached between the operator and the relevant landowner(s), an application can be made to court for an order granting the necessary rights. If the court decides to make such an order it will require compensation to be paid by the operator. This compensation is calculated on the basis of what would be fair and reasonable between a willing operator and a willing landowner having regard to the conditions of the order. In practice, this court procedure is little used although the principles upon which a court would calculate the compensation payable can be used as a starting point in negotiations with landowner(s) in relation to rent.

Community benefits

Local perception of the risks and benefits of an onshore unconventional oil and gas development is likely to be an important element in the planning of any onshore activities. The UK Government's policy is that local communities should receive tangible benefits from hosting developments. The Office for Unconventional Gas and Oil is looking at how benefits may be provided and intends to develop proposals on this by summer 2013. While any substantial community benefits are unlikely to be provided by operators until the production phase, this point may be raised during consultations with stakeholders prior to the exploration and appraisal phase. The models for the provision of community benefits that are being developed in relation to onshore wind projects may well be adapted for use in relation to onshore unconventional oil and gas developments.

These models include:

- An opportunity for investment by a community body (or members of the community individually) in exchange for an equity participation in the development.
- The establishment of a fund by the operator which is then managed by a third party or by a community body, who decides how to spend the contributions made by the developer. (In Scotland a charitable

body, Foundation Scotland, has been set up through which communities can receive advice on community benefits from wind farms and which can be used to manage funds provided by operators).

- The making of grants by the operator to specific projects or to existing community bodies engaged in activities.

Barriers to development?

There has been a good deal of commentary that the UK's regulatory regime and land rights may restrict the development of its unconventional resources (and the consequent benefits that this could bring). However, operators in both the UK's onshore conventional and offshore sectors are used to dealing with a strict regulatory regime and the UK's land rights have not so far been a significant issue in relation to the development of conventional resources. Accordingly, we do not see these issues as being insurmountable barriers to future development. Rather, the key issues at this stage appear to be whether the geology of the UK will support economically viable unconventional production and whether the proposed new tax regime will provide sufficient incentives to encourage operators to invest.

If you require advice on any of the matters raised in this paper, please get in touch with any of our lawyers listed here or your usual Shepherd and Wedderburn contact.



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