

# On-shore oil and gas development in Hampshire

## Frequently Asked Questions (FAQs)

**September 2022 (FAQ - Version 18)**

*This document has been prepared by Hampshire County Council. The purpose of this document is to address FAQs associated with conventional and unconventional on-shore oil and gas in Hampshire. The FAQ considers the following issues:*

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*It is important to note that planning policy for minerals development in Hampshire (including oil and gas) is prepared by the County Council alongside other partner Minerals Planning Authorities in Hampshire. The adopted [Hampshire Minerals and Waste Plan \(2013\)](#) (HMWP) was prepared by the County Council in partnership with Portsmouth City Council (PCC), Southampton City Council (SCC), the New Forest National Park Authority (NFNPA) and the South Downs National Park Authority (SDNPA). Following the adoption of the HMWP (2013), a separate partnership was established between the County Council, SCC, PCC and the NFNPA to implement and monitor the Plan. Therefore, some of the content of this FAQ is relevant to this new partnership. This includes the adoption of the [Oil and Gas Development in Hampshire Supplementary Planning Document \(2016\)](#). The SDNPA are not part of this formal partnership although there is a Service Level Agreement between the County Council and the SDNPA for the monitoring requirements of the HMWP (2013).*

*All information contained in this FAQ is based on information available at the time of its publication (September 2022). It will be updated, as required.*

## What is conventional and unconventional oil and gas and how is it exploited?

### 1) What is conventional oil and gas?



The definition of conventional resources is set out in national guidance. 'Conventional' oil and gas refers to oil and gas resources (also known as 'hydrocarbons') which are situated in relatively porous sandstone or limestone rock which form reservoirs.

Conventional oil and gas resources can be found on-shore as well as off-shore (e.g. the North Sea).

There is a history of conventional oil and gas exploration and production in Hampshire (see [question 41](#)). Drilling into a conventional resource would normally (not in all instances) result in at least some flow of oil and gas immediately.

Conventional onshore oil and gas extraction does not include the extraction of shale oil or gas (see [question 2](#)).

### 2) What is unconventional oil and gas?

The definition of unconventional resources is set out in national guidance. Oil or gas produced from shale is often referred to as 'unconventional' as it is considered to be from unconventional sources. It occurs where oil and gas has become trapped within

the shale rock itself rather than conventional reservoirs. It is typically found at far greater depths than conventional oil and gas resources.

Geologists have known for years that substantial deposits of unconventional oil and natural gas are trapped in deep shale formations.

As shale is less permeable (or easily penetrated by liquids or gases), it requires a lot more effort to extract the oil or gas from the rock. This means that an unconventional accumulation has to be stimulated in some way before it will begin to flow e.g. through hydraulic fracturing (see [question 6](#)) and other processes. Technological advancements over the last decade have made the extraction of unconventional shale oil or gas possible and therefore, economically viable.

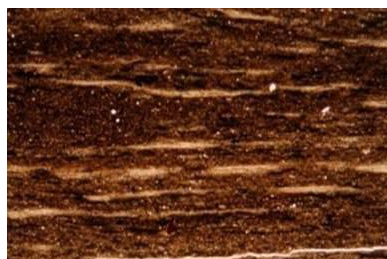
### **Shale oil**

Unconventional shale oil is produced from shale rock fragments. Unconventional oil is extracted using techniques different to those uses than the conventional (oil well) method.

The resulting oil can be used as a fuel or upgraded to meet refinery feedstock specifications.

The potential for shale oil in Hampshire is currently largely unknown except for the assessment of the Weald Basin undertaken by the BGS (see [question 42](#)).

### **Shale gas**



Unconventional gas relates to shale gas, coal bed methane and underground coal gasification.

Shale gas is found within organic-rich shale beds.

Shale gas is produced directly from the rock which makes it different to conventional extraction which is from reservoirs (see [question 1](#)). Shale gas is mostly comprised of methane and is found deeper in the ground than conventional reservoirs. This means it requires deeper wells and, in some cases, lateral well extensions into the shale (see diagram under [question 4](#)).

The potential for shale gas in Hampshire is unknown (see [question 42](#)).

### **3) What is underground gas storage?**

Natural gas can be stored for an indefinite period of time in storage facilities for later consumption. It is commonly held in an inventory (for example depleted oil and gas reservoirs) underground under pressure. Underground storage provides greater and deeper storage options than storage on the surface. Depleted reservoirs are capable of holding injected natural gas. The use of reservoirs also allows for the re-use, with

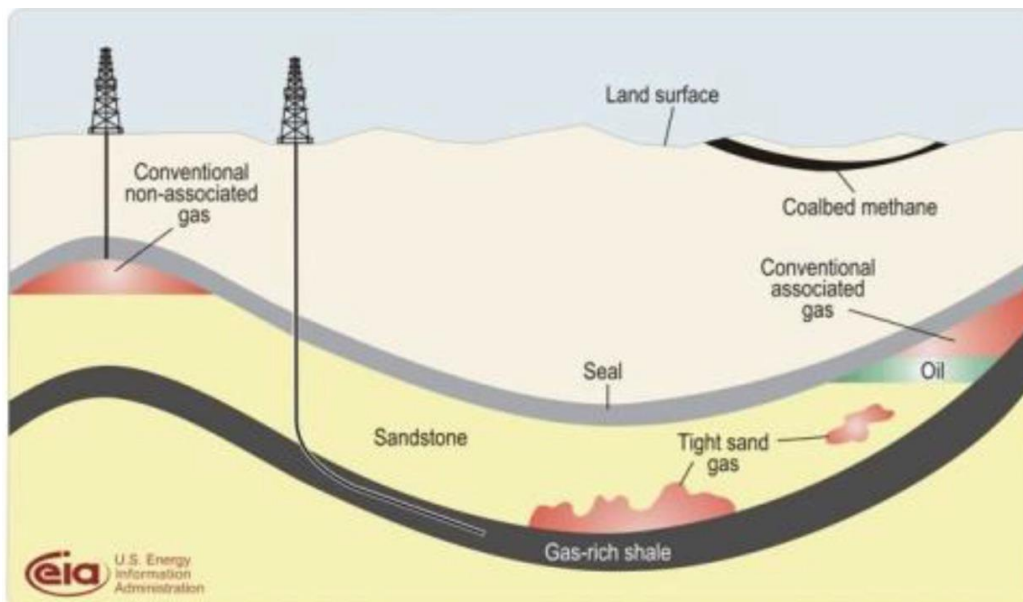
modification, of the extraction and distribution infrastructure remaining at productive oil and gas fields.

The United Kingdom is reliant on gas imports (see [question 7](#)). Therefore, gas storage has an economic importance as it can help manage gas supply, particularly during periods of peak demand to prevent interruptions of supply. Underground gas storage takes place at one of Hampshire's oil fields (see [question 41](#)).

#### 4) What are the differences between conventional and unconventional onshore oil and gas?

The following diagram illustrates the differences between onshore conventional and unconventional oil and gas activity.

##### Extraction of conventional and unconventional oil and gas



The key outward differences between conventional and unconventional oil and gas is flow rate and the depth of drilling.

All oil and gas development takes place in phases which may differ between conventional and unconventional oil and gas activity (see [question 18](#)).

#### 5) How is unconventional oil and gas exploited?

The [United Kingdom Onshore Operators Group](#) provides more information on the drilling process.

The Environment Agency has produced a useful explanatory note on [different acidisation processes](#) that are commonly used in both the oil and gas extraction.

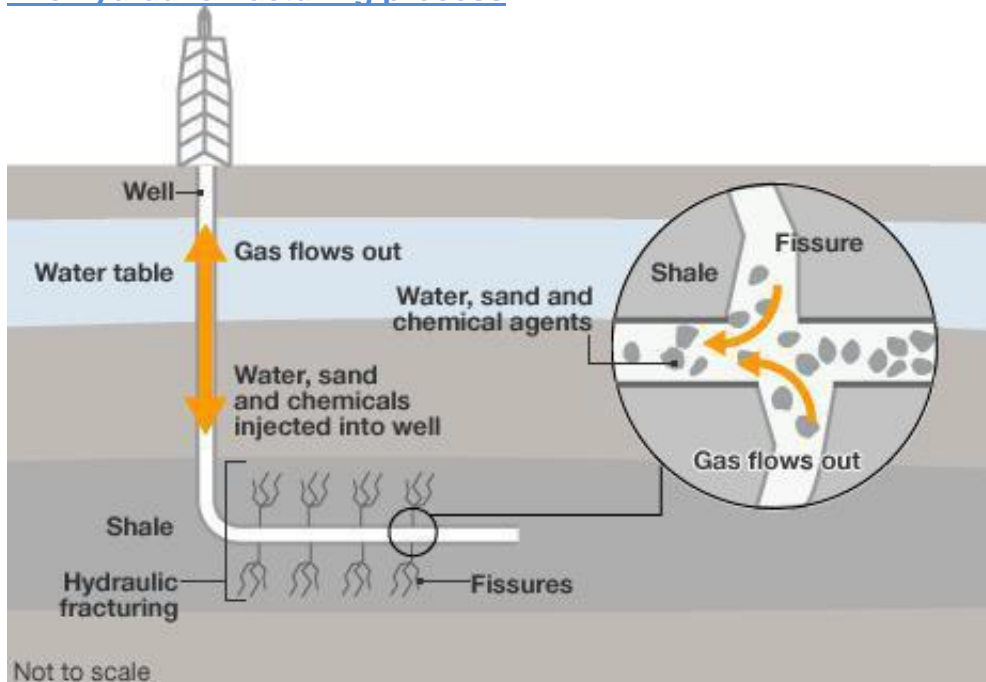
## 6) What is hydraulic fracturing ('fracking')?

Hydraulic fracturing is a technique which can be used in the extraction of all types of oil or gas from rock formations by injecting fluid, usually water, at high pressure into the rock to create narrow fractures to stimulate the oil or gas. Other materials such as sand are pumped into the fractures to keep them open, allowing the resources to be extracted. If hydraulic fracturing is used, a well does not become an unconventional well as the nature of the hydrocarbon accumulation has not changed.

The water used in the hydraulic fracturing process normally contains small quantities of other substances to improve the efficiency of the process. All chemicals used in the hydraulic fracturing process require pre-approval from the [Environment Agency](#) (see [question 11](#)).

The following diagram summarises the hydraulic fracturing process.

### The hydraulic fracturing process



Source: Government guidance

Hydraulic fracturing will only occur for a limited period as part of an oil or gas development. Typically a horizontal well would be 'fracked' for a few days to a few weeks.

The United Kingdom has a history of hydraulic fracturing for conventional oil and gas developments to help extraction of conventional oil and gas by improving flow rates as well as for other engineering operations.

The [British Geological Survey](#) (BGS) provide more information on the hydraulic fracturing process.

## Why are oil and gas important to the United Kingdom?

### 7) Why are oil and gas important?

Oil and gas (also known as 'hydrocarbons') are primary sources of energy. They play a central role in the economy of the United Kingdom. However, oil and gas are both finite natural resources which are being depleted through our energy requirements. There are also wider climate implications with the use of fossil fuels.

The whole of Hampshire requires oil or gas in one way or another, largely due to its use in a large number of everyday products (see [question 17](#)).

Accordingly, there is a national and local need to sustainably secure oil and gas resources and to support sustainable growth of the economy.

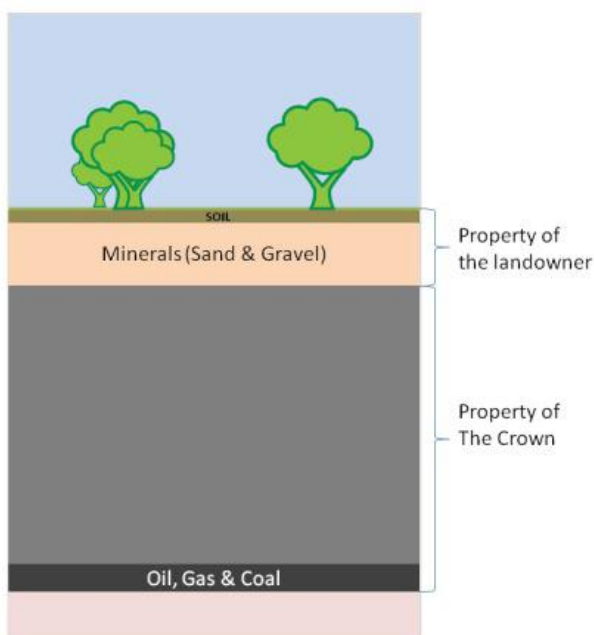
Unconventional oil and gas (such as shale) is emerging as a form of energy supply nationally but is not an activity which currently takes place in Hampshire (see [question 42](#)). The Government's current position on shale gas and oil is set out under [question 23](#).

## Oil or gas mineral rights

### 8) Who owns the mineral rights for oil and gas?

A landowner does not own the rights to conventional or unconventional oil and gas reserves which may lie beneath their landholdings. The [Petroleum Act 1998](#) vests all rights and ownership of hydrocarbon resources to the Crown.

### Illustration of minerals property rights in the UK



Source: Hampshire Authorities, 2015

## Concerns raised about potential impacts on the environment, community and economy

### 9) What are the main concerns being raised about unconventional oil or gas extraction and associated hydraulic fracturing?

Hydraulic Fracturing is a process which has come under intense scrutiny in the United Kingdom in recent years.

The main environmental concerns related to unconventional shale oil or gas extraction being raised by interested parties in Hampshire include:

- water quantities, potential impact on water resources and water supply (see [question 10](#));
- chemical usage (see [question 11](#));
- potential seismic impacts (see [question 12](#));
- waste disposal (see [question 13](#));
- impact on climate change (see [question 14](#));
- safety (see [question 15](#));
- the effectiveness of the planning and regulatory systems to deal with proposals (see [questions 26- 33](#)); and

Other concerns include impact on the environment, impact on health and amenity, HGV movements, noise, impact on designated sites, restoration and aftercare (see [questions 26, 27 and 45](#)).

The Oil and Gas Development in Hampshire [event](#) in June 2014 highlighted many of these concerns (see [question 25](#)).

### 10) Will oil and gas development impact water resources and how will water resources be protected?



It is important that any oil or gas development (conventional or unconventional) does not have a significant impact on water resources, particularly when these feed into local water supplies. This issue is therefore a very important consideration in the planning process, and other regulatory regimes (see [question 32](#)).

Aquifers are very important as they help to provide us with the water we need and as such, are protected during oil and gas development. This means that the risk of water contamination is low provided operations follow industry standards and obey the necessary regulations.

The water required for oil and gas development may be obtained from the local mains water supply (subject to agreement from the relevant utilities company) or taken ('abstracted') from surface or groundwater (if permitted by the [Environment Agency](#) (EA)).

For any oil or gas development which has hydraulic fracturing associated with it, water is an essential part of the process as it is injected, at pressure, into the shale rock to help with the gas extraction process (see [question 6](#)). Water use is greatest at the production stage. Evidence shows that, ensuring best practice is followed, this process and any subsequent extraction takes place at a depth greater than the groundwater to ensure that the risk to aquifers is considered to be negligible.

### *Consideration through the planning and regulatory processes*

The National Planning Policy Framework sets out the basis for minerals policy in the United Kingdom (see [question 22](#)). Locally, the adopted [HMWP \(2013\)](#) includes a policy (*Policy 10: Protecting health, safety and amenity*) which considers the protection of water resources (see [question 25](#)). Its associated Supplementary Planning Document also provides more guidance on the expectations for planning applications for oil and gas in Hampshire.

The EA provide a critical role in protecting water resources (see [question 32](#)). The UK regulatory regime already ensures that hazardous substances are not allowed to enter groundwater.

### *Water supply*

When proposing a site for oil and gas development, developers must ensure that there is sufficient water and infrastructure for their operations. The volume of water required will depend on each individual site and the nature of the processes which are to be undertaken.

Water companies will assess the amount of water available before agreeing to supply an operator. If the operator applies for a licence to extract water, it will be granted by the EA only where a sustainable water supply is available. This will follow the submission of details of their plans for assessment of risks and the acceptability of issuing permits. This is a particularly important issue in Hampshire as the south-east of England is considered to be an area of water stress (i.e. where there is high demand for supply).

In the UK, the regulations prevent flowback fluid contaminating water sources by requiring the operator to:

- make appropriate plans for storing fluid safely and not in open pits;
- design the site so spills are avoided (and are contained if they do happen);  
and
- dispose of flowback fluid safely.

The operator must obtain an [Environmental Permit](#) for the disposal of flowback fluid from the EA and have an agreed Waste Management Plan in place (see [question 32](#)).

There is an opportunity to reduce the overall water consumption associated with oil and gas developments by recycling and re-using the flowback water in certain instances.

## 11) What chemicals could be used in hydraulic fracturing in the United Kingdom?

Any chemicals used in hydraulic fracturing fluids would have to be assessed by the [Environment Agency](#) (EA) (see [question 32](#)). The operator will have to demonstrate that any chemicals are not hazardous in their permit application.

In the event that unconventional oil and gas activities resume, operators would need to disclose the chemical constituents of fracturing fluids and additives on a well-by-well basis (subject to appropriate protection for commercial sensitivity), along with a brief description of their purpose and any hazards they may pose to the environment. The EA holds powers for the disclosure of chemicals used in the hydraulic fracturing process.

Some fluids used as part of the hydraulic fracturing process will return to the surface (flowback). Any excess liquid would be contained and if necessary removed for treatment at an appropriate facility (see [question 13](#)). The subsequent disposal of any chemicals or waste water used is therefore important to ensure there is no risk of contamination to land or groundwater. This is also regulated by the EA.

## 12) Does oil or gas development cause contamination, subsidence or seismic activity and if so how will this be prevented?

The risk of contamination of ground, surface or soils will need to be appropriately addressed in any proposal for oil or gas development. This will include on-going management as part of any development. Mitigation measures which are used to prevent contamination include lining of wells, contained drainage systems and monitoring.

The potential for unconventional oil or gas development to cause subsidence has been raised as a concern when hydraulic fracturing is used. Globally, there are no documented cases of fracturing operations causing subsidence large enough to cause damage at the surface. Subsidence can happen when rock is compressed and collapses in on itself. But shale rock is not easily compressed, so subsidence is unlikely. Unlike coal mining, shale oil or gas production does not remove large quantities of rock from underground which can cause subsidence.

Another environmental concern relating to hydraulic fracturing is its potential to result in seismic activity. As with subsidence, there are no documented cases of global shale gas operations (at any phase of development) causing tremors large enough to cause damage to infrastructure on the surface or injury. This includes the small (2.2 magnitude) earth tremor which occurred near Blackpool in April 2011. This tremor led to the Royal Society and Royal Academy of Engineering (RSRAE) to carry out an independent review of the scientific and engineering evidence relating to the technical aspects of the risks associated with hydraulic fracturing (see [question 15](#)). Investigations were completed and concluded that the seismic events may have been caused by the unconventional gas extraction activities nearby. As a result, a series of safeguards were recommended to prevent a similar situation occurring in the future.

In December 2012, the Government announced that exploratory hydraulic fracturing for shale gas could resume, subject to new controls. The Government also concluded that 'appropriate controls are available to mitigate the risks of seismic activity'. The safeguards are required and monitored.

The [North Sea Transition Authority](#) (NSTA) ensures that appropriate monitoring and control arrangements are in place to regulate seismic activity caused by hydraulic fracturing (in real time) and agreed, before consent is granted. The NSTA also set a number of requirements on developers relating to monitoring and reporting procedures, prior assessment of geology, submission of a Hydraulic Fracturing Plan (HFP) and undertaking detailed risk assessments.

### 13) How will any waste generated through oil and gas development be managed?

It is likely that each stage of oil and gas development will generate some form of waste which will require management or disposal. Waste generated may include:

- drill cuttings from drilling activities; and
- flowback water.

Some of the wastes generated, such as drill cuttings, will require disposal (e.g. to landfill).

In the UK, flowback water will be collected and contained on-site in close tanks on site. Water may be subject to pre-treatment on site prior to conventional water treatments. In some instances, flowback water may be suitable for re-use on site following treatment. Where water cannot be reused, the water will need to be discharged to the sewer system or transported to a waste water treatment works for treatment.

Flowback water associated with both conventional and unconventional developments may contain minerals (such as salts) and Naturally Occurring Radioactive Materials (NORM) at low levels. Procedures for the management of NORM are well established in the UK.

### 14) Will oil and gas development cause emissions and will it impact the climate change and the renewable energy agenda?



Emissions to air are a consideration associated with oil and gas development where a development may result in dust, particulates, NO<sub>x</sub> and fugitive gas. Proposals for oil and gas development will be expected to address these potential impacts.

Existing legislation, monitoring and controls of emissions by the Environment Agency (EA) help to mitigate potential impacts. The long history of conventional oil and gas development

in the United Kingdom (UK) means that the carbon footprint associated with this practice is more known than for unconventional oil and gas.

Concerns have been raised that oil and gas development does and will continue to contribute towards climate change, in particular through the generation of Greenhouse Gases (GHG). Any emissions of methane from unconventional oil and gas operations, including leakage, will need to be taken into account in the UK's GHG inventory and count towards UK carbon budgets and international commitments on emissions reduction.

The Government has indicated that it is essential to develop as clear a picture as possible about the environmental impact of all fossil fuels including conventional and unconventional oil and gas. In 2013, a report was published on potential GHG emissions associated with shale gas extraction and use and set out a number of [recommendations](#) and the Government fully accepted its recommendations in 2014.

The Government believes that the production of shale gas is likely to be able to help the UK meet its carbon reduction targets by providing a 'bridge' to a low-carbon future and as we move away from the use of oil and coal. Further data to inform future assessments is expected to emerge from studies presently being conducted.

Hampshire County Council declared a [Climate Emergency](#) in June 2019. The Hampshire 2050 Commission of Inquiry recognised our changing climate as the biggest long-term issue facing Hampshire. Two targets have been set for the County Council, and these also apply to Hampshire as a whole:

1. to be carbon neutral by 2050; and
2. preparing to be resilient to the impacts of temperature rise.

A [Climate Change Strategy](#) has been established and sets out how the Council will meet the two targets of becoming carbon neutral by 2050 and to build resilience to a two-degree rise in temperature.

### ***Consideration through the planning and regulatory processes***

In the UK, all oil and gas operators must minimise the release of gases as a condition of their licence from the [North Sea Transition Authority](#).

Planning permissions, associated permits and consents for oil and gas developments may require monitoring or the imposition of further limits on emissions. In particular, any planning application would be required to minimise the release of emissions to the atmosphere, in accordance with the policies and provisions of the [HMWP \(2013\)](#) (see [question 25](#)).

Ultimately, emissions from oil and gas development will be determined by the design and planning conditions associated with each particular development. Operators must also submit a Waste Management Plan to the EA (see [question 32](#)).

Hampshire County Council as Minerals Planning Authority visit all permitted oil and gas sites within its administrative boundary to ensure the operator complies with the conditions attached to their planning permissions (see [question 45](#)). Operators must also monitor air quality and share their results to the relevant environmental regulator (the EA) or, when appropriate, to the Health and Safety Executive (HSE). Operators must be able to show that their activities, including flaring during exploration, have not led to air pollution at levels higher than those set out in their environmental permits.

When it can't be economically used, natural gas must be 'flared' to reduce its GHG emissions. In the UK, natural gas may only be 'vented' (released into the air) when necessary for safety.

### **Gas and renewable energy**

Another concern often raised is that the development of the unconventional oil and gas industry will undermine the renewable energy agenda in the UK. The Government has stated its commitment to meeting its legally binding target to cut emissions by at least 80% by 2050 and its renewable energy target by 2020. The Government strongly supports the roll-out of low carbon energy across the UK and considers the need for a diverse energy mix including renewables, nuclear and gas.

It is anticipated that gas generation will continue to play a major role in the UK's electricity provision over the coming decades, alongside low carbon technologies. Unconventional gas production would, in the first instance, replace declining offshore gas production. Beyond that point, use of gas could displace use of coal and oils, with a positive effect on GHG reduction.

### **15) Is the extraction of oil or gas safe?**

Oil and gas operations in the United Kingdom (UK), as with other industrial activities, are regulated under a number of different stringent regimes. The regulators have issued many pieces of guidance relating to safety (see [questions 30-33](#)) as well as potential health impacts (see [question 34](#)).

All oil and gas development in Hampshire will require planning permission when issues of safety and subsequent monitoring (see [questions 26](#) and [45](#)) will be addressed. All operators must comply with a comprehensive set of health and safety regulations on well design, construction, operation and monitoring to minimise the risk of leaks. Drilling for all oil or gas operations must be undertaken in accordance with best industry practice and standards established by the industry body, the UK Onshore Operators Group, in consultation with the Government, the Environment Agency (EA) and Health and Safety Executive (HSE).

In relation to shale oil and gas, the Government's Chief Scientific Advisor commissioned the Royal Society and Royal Academy of Engineering (RSRAE) to carry out an [independent review of the scientific and engineering evidence relating to the technical aspects of the risks associated with hydraulic fracturing in the United Kingdom](#) (UK). The main conclusion of the RSRAE report was that the risks associated with hydraulic fracturing for shale gas can and could be managed

effectively in the UK provided that operational best practices are implemented and enforced through regulation. The findings have been accepted by the Government.

## Where does the UK's oil and gas come from?

### 16) Where does the United Kingdom (UK) get the oil and gas it needs from?

The UK's production of conventional oil and gas from onshore and offshore fields helps to meet the demand for oil and gas.. The UK also relies on imports of oil, largely from Norway as well as Nigeria, Russia and Algeria.

The production of conventional natural gas in the UK has been declining in the last few decades as reserves deplete, particular in the North Sea. As a result, evidence is showing that the UK is becoming increasingly reliant on imports of gas to meet its energy needs. Imports of gas via pipeline connections with Europe as well as seaborne deliveries of liquefied natural gas (LNG) now account for more than half of the UK's natural gas supply.

It is important to note that the likely future interest in exploration and production of oil and gas is highly dependent on our energy requirements, the price of oil and gas and getting the necessary consents such as planning permission (see [question 26](#)) and Environmental Permits (see [question 32](#)).

Production of unconventional gas could help to reduce UK energy prices. However, the actual impact on energy prices in the UK is not currently known. It is also important to note that the energy market is quite different in the US than in Europe.

## What are the uses and potential benefits of oil and gas?

### 17) What are the potential uses and benefits of extracting conventional and unconventional oil and gas?

Oil and gas provide the energy source or raw material to make a wide range of products used in modern life. Oil is refined to produce petroleum for use as a transport fuel, whilst natural gas can be used as an energy source for electricity.

Both oil and gas can also be used for domestic heating (e.g. heating houses, buildings and water) and are important fuels for industry.

Oil is also used to make other by-products such as:

- medicines;
- DIY items (such as paints);
- toiletries and cosmetics (e.g. as shampoo, toothpaste, contact lenses, soaps, shaving foam, lipstick);
- textiles and clothing;
- household items (e.g. as washing powder and cleaning products);
- vehicle maintenance (e.g. as coolant, antifreeze);
- packaging and bottles;
- plastics and rubber;

- tyres;
- asphalt (e.g. for roads surfacing); and
- industrial materials (e.g. as adhesives, solvents, pipes, cleaners).

Natural gas is the raw material for plastics.

Shale oil can be used immediately following its extraction as a fuel or upgraded to meet refinery feedstock specifications. The refined products can be used for the same purposes as those derived from crude oil.

The economic benefits of oil and gas development can be seen at both a local and national level. The local economic impact is considered to be significant in supporting local services, associated businesses and direct employment. The potential for providing a local supply of resources, rather than relying on imports, will also have economic benefits. Proponents of shale oil and gas extraction point to the economic benefits from the extraction of large amounts of formerly inaccessible oil and gas resources.

## Exploration, appraisal and production of oil and gas

### 18) What are the phases of onshore oil and gas activity?

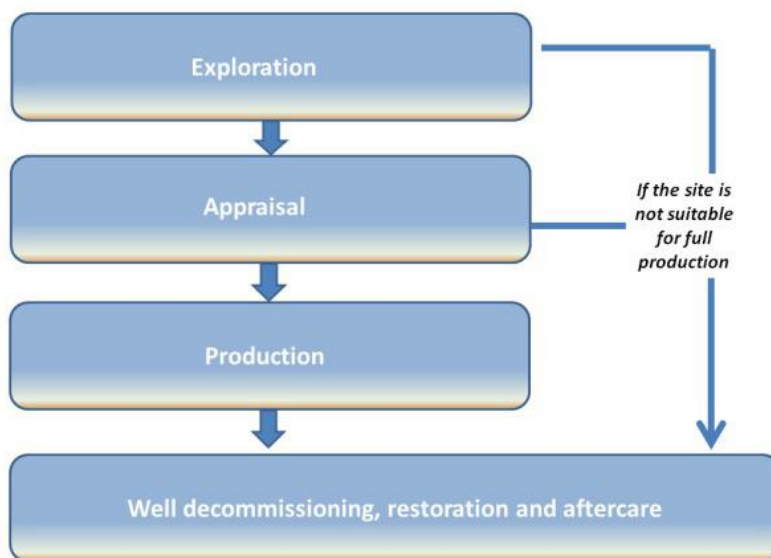
Oil and gas development, like other mineral uses, is a temporary land use, although it can often take place over a long period of time. What an oil or gas site looks like will be different depending on each site (see [question 19](#)). Some initial activities may be considered to be [permitted development](#) meaning it does not require planning permission.

The nature of the oil and gas exploration, appraisal and processing operations are very different from other mineral workings (e.g. sand and gravel extraction) and are significantly less intrusive in terms of their limited land-take. They can also be more flexible in their locational requirements.

There are three phases of onshore (conventional and unconventional) oil and gas development as highlighted below as well as well decommissioning and subsequent restoration and aftercare. Planning permission is required for each phase of oil and gas development from the relevant Hampshire Minerals Planning Authority (MPA) (Hampshire County Council, Portsmouth and Southampton City Councils or the New Forest or South Downs National Park Authorities) (see [questions 26](#) and [27](#)). Planning applications should be submitted to the relevant MPA depending on its location and which administrative boundary the proposal falls within.

The phases are summarised below.

### Phases of oil and gas development



Source: Hampshire Authorities, 2015

A summary of what each phase involves for conventional and unconventional resources is highlighted below.

Table 1: What takes place at each phase of oil and gas development

	<b>Exploration</b>	<b>Appraisal</b>	<b>Production</b>
<i>Length of time phase lasts</i>	3-6 months	6 months – 2 years	Up to 20 years, dependant on the scale of the reserve
<i>Liaison Panel requirement</i>	Potentially, dependant on size of the site, its location and planning issues	Potentially, dependant on size of the site, its location and planning issues	For some existing and all new production sites
<i>Is planning permission required from the MPA?</i>	Yes	Yes	Yes
<i>Are other consents required from EA / HSE / NSTA?</i>	Yes	Yes	Yes
<i>Data collection requirements</i>	Geological mapping, geophysical and seismic investigation and other data collection	Further seismic work, long term flow testing, drill boreholes and wells	

<i>Well design</i>	Wells designed to log and take samples		Larger well pad
<i>What infrastructure will be built?</i>	Could include Rigs and other associated infrastructure	Could include associated rigs, other associated infrastructure and gathering stations	Could include associated rigs, other associated infrastructure, underground storage, pipelines and gathering stations
<i>Test drilling?</i>	Yes		
<i>Well drilled</i>			Yes – Vertical / horizontal drilling
<i>Any Additional requirements?</i>			Pad or Field Development Plan
<i>If an Unconventional well:</i>		Hydraulic fracturing could take place if geology requires it	Hydraulic fracturing could take place to improve flow rate
<i>Decommissioning and restoration</i>	Will include making the site safe, removal of site infrastructure, restoration of the site to its former condition or to enhanced or a more beneficial after use. A period of aftercare will commence following restoration. It is important to note that decommissioning and restoration could take place within any of the three stages set out above.		

On completion of drilling operations, a well may be suspended to allow for future testing. If it is concluded that there is no commercially viable oil or gas resources present or if the extraction of resources has been completed, then the well will be abandoned, in accordance with the latest Oil and Gas United Kingdom Standards.

### 19) What does an oil or gas site look like?



What an oil or gas site looks like on the ground will depend on its location, its design and the type and phase of development taking place (see [question 18](#)).

The location of a site will be determined by the results of geological and seismic surveys which will determine where viable oil or gas deposits may be located. These will be used as a guide to determine potential locations of sites. An example of a size of an exploration site is one hectare.

Preparing a site involves ensuring that it can be properly accessed and that the area where the equipment will be placed has been properly graded. Drilling pads, roads and any other associated infrastructure will be built and maintained.

The site constructed will be large enough to accommodate the drilling equipment and onsite water storage requirements, staff facilities, parking and space for vehicle deliveries and movements.

The well will be situated on a pad and will normally consist of a vertical well and potentially a small number of lateral extensions.

The site will normally be vacated after the exploration stage.

The appraisal phase may involve additional drilling at another site away from the exploration site or additional wells at the original exploration site.

A rig will be on site for the duration of the exploratory phase. It will also be used to drill any further boreholes which may be required within the appraisal and production stages.

For both types of development, the production phase is likely to require a larger well pad than for previous stages. Production pads may be different sizes from location to location, depending on the specific geology and surface location.

The level and number of HGV movements associated with a site will vary depending on the phase of the development and whether the site is a conventional or unconventional oil or gas site.

Typically, sites will contain a number of vertical wells and associated underground laterals on a site, which would be about two hectares (five acres) in size.

Associated equipment such as pipelines and gas processing facilities may be required at the production stage and will be constructed subject to additional planning permissions. For oil sites, this may also include 'nodding donkeys'.

Once drilling has been completed, surface activity will diminish significantly as wells start to produce oil or gas.

When all of the oil or natural gas that can be recovered economically from a reservoir has been produced and production ceases, the facilities will be dismantled. Wells will be filled with cement and pipes cut off 3-6 feet below ground level. All surface equipment will be moved and all pads filled in. The sites will then be restored to their former use, or, in some circumstances, an appropriate new use (see [question 47](#)).

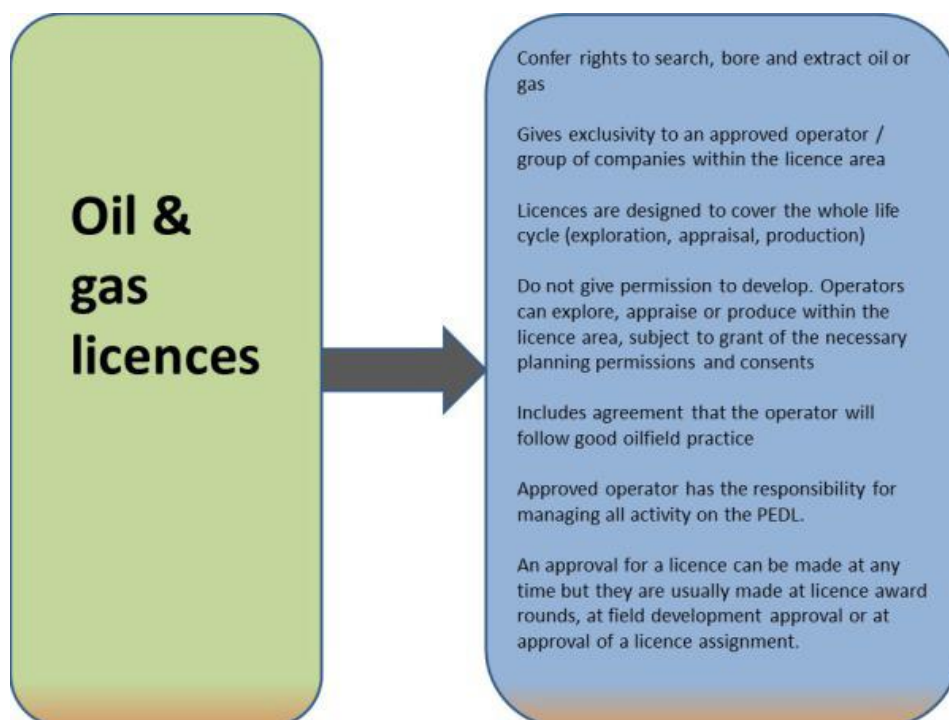
## Oil and gas licencing

### 20) What are oil and gas licences?

The North Sea Transition Authority (NSTA) is responsible for administering and periodically issuing the oil and gas licencing system in the United Kingdom (UK) (see [question 31](#)). Hampshire County Council (or any of the other Hampshire Mineral Planning Authorities (MPA)) do not issue licences for oil and gas development.

Licences give a company or group of companies (a joint venture) exclusive rights to explore for, and develop, the resource in a particular geographic location. The companies may be either British or foreign, but there are minimum residence requirements. Licences allow a company to pursue a range of activities for conventional or unconventional oil or gas subject to planning permission (see [question 26](#)) and the necessary associated consents (see [questions 30-33](#)). A summary of what a licence means is summarised below.

### Oil and gas licences



Source: Hampshire Authorities, 2015

More information on the licencing process can be found on the [NSTA website](#). Applicants for licences can come from a single company or from a group of companies.

Licences do not give consent for drilling or any other operations or development. Potential operators will also need to obtain the following before any development can commence:

- consent from the landowner;
- planning permission of each stage of development (explorations, appraisal and production) (see [questions 18 and 26](#)) from the MPA;
- regulatory consents (such as from the Environment Agency) (see [question 32](#)); and
- any additional consents (including well consent) for drilling operations (see [question 31](#)).

The granting of a licence of the exploration of the resource does not imply that planning permission would be granted for the extraction of the resource (see [question 26](#)).

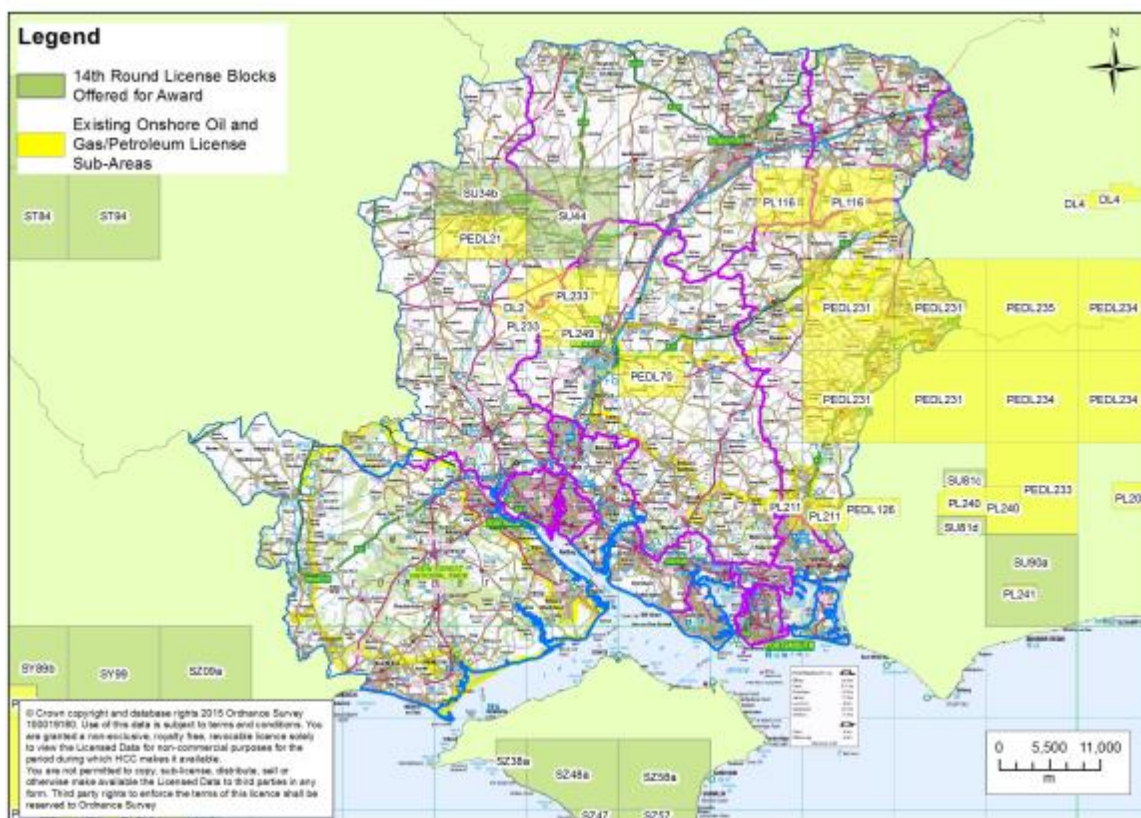
Under licencing agreements, operators will agree to follow good oilfield practice.

## 21) Are there any oil and gas licences (conventional or unconventional) in Hampshire?

Hampshire has a number of licence areas which were issued through previous rounds of licencing. The last [round of licencing](#) was issued in 2015 (14th Onshore Oil and Gas Licensing Round).

Hampshire has a number of oil and gas licences. Existing licences in Hampshire are outlined in the following map.

### Oil and gas licences in Hampshire



Source: Hampshire Authorities, 2015

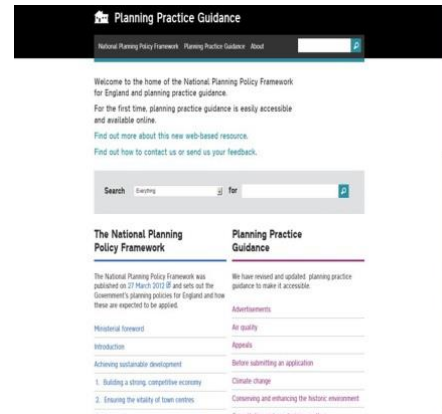
Based on information available from the North Sea Transition Authority at the time of the publication of this FAQ, the existing licences are located across Hampshire, although there are no current licences in the New Forest National Park administrative area.

## Current planning policy and guidance for oil and gas

### 22) What is current national planning policy on onshore oil and gas development?

Current national planning policy for onshore oil and gas is outlined in the following:

- [National Planning Policy Framework \(NPPF\)](#): sets out minerals planning policy for onshore oil and gas in England through a section on facilitating the sustainable use of minerals which includes oil and gas development; and
- [National Planning Practice Guidance \(NPPG\)](#): a live online guidance document which should be read alongside the NPPF which includes a section within it on Planning for Hydrocarbon Extraction.



### 23) What is the current Government position on unconventional oil and gas development?

In 2019, the Oil and Gas Authority report published a report that concluded that it is not possible with current technology to accurately predict the probability of tremors associated with fracking. On the basis of the report, the Government states that fracking will not be allowed to proceed in England and was paused. It was also confirmed by the government also that it would not be taking forward proposed planning reforms for shale gas developments at that time. These proposals were consulted on in 2018. A [moratorium](#) on fracking in England was declared with immediate effect.

On 8 September 2022, Prime Minister Liz Truss has announced the ban on fracking will be lifted as part of plans to accelerate the UK's domestic energy supply. More rounds of licencing are also expected.

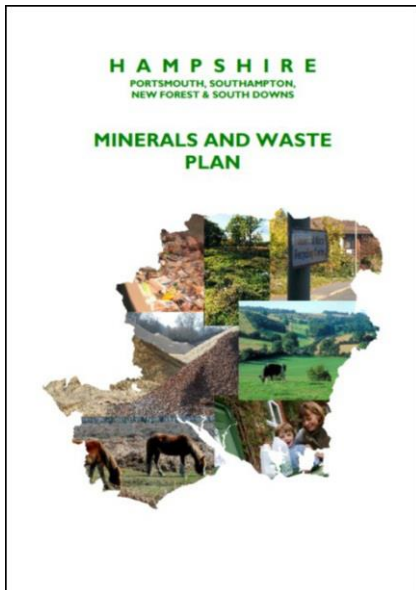
### 24) What do the Government's recent announcements, consultations and guidance documents on onshore oil and gas cover?

The Government has issued a number of consultations and guidance documents relevant to oil and gas development since 2014. These include the following:

- [Amendments to Permitted Development Rights drilling boreholes for groundwater monitoring for petroleum exploration](#);
- [Infrastructure Act \(2015\)](#);
- [Proposals to reform the procedures for gaining underground access to oil or gas deposits and geo thermal energy \(May 2014\)](#);
- [Regulatory Roadmap](#);
- The [moratorium](#) on fracking.

On 8 September 2022, Prime Minister Liz Truss has announced the ban on fracking will be lifted as part of plans to accelerate the UK's domestic energy supply. More rounds of licencing are also expected.

25) What is Hampshire's current planning policy for onshore oil and gas (conventional and unconventional)?



Adopted planning policy for minerals and waste in Hampshire is set out in the [HMWP \(2013\)](#) which was prepared by Hampshire County Council in partnership with Portsmouth City Council, Southampton City Council, the New Forest National Park Authority and the South Downs National Park Authority, as minerals and waste planning authorities (MWPAs).

The [HMWP \(2013\)](#) provides a robust planning framework for minerals and waste development in Hampshire. The [HMWP \(2013\)](#) policies will be used by the MWPAs to determine any proposal for conventional or unconventional oil or gas development within their administrative boundaries. The [HMWP \(2013\)](#) does not allocate any sites for onshore conventional or unconventional oil and gas

development in Hampshire. A proposal would be considered on their own merits against the relevant policies and supporting text of the plan including a specific oil and gas policy (*Policy 24: Oil and gas development*) as well as policies relating to *protecting the environment (policies 2-9) and maintaining communities (such as protection of water resources, protection of health, safety and amenity, managing traffic impacts etc.) (policies 10-14).*

As oil and gas resources are found much deeper in the ground than other mineral resources, the HMWP does not safeguard (protect) oil and gas deposits as they are less threatened by surface development in comparison to other mineral resources (such as sand, gravel and brick-making clay). All existing and operational oil and gas sites in Hampshire are safeguarded (through *Policy 16: Safeguarding-mineral infrastructure*).

Due to the significant uptake in interest on issues associated with oil and gas development, the Hampshire Authorities (Hampshire County Council, Southampton City Council, Portsmouth City Council and the New Forest National Park Authority) held an event on 'Oil and Gas Development in Hampshire' on 5 June 2014. A [Summary Report](#) was prepared setting out the main issues, themes and topics discussed on the day, with outcomes and recommendations.

The Hampshire Authorities considered the recommendations outlined in the report to undertake further work on oil and gas issues, in particular the preparation and adoption of a [supplementary planning guidance](#).

## Planning process for oil and gas development

### 26) What will a planning application for onshore oil and gas development entail?

Obtaining planning permission is one of the main requirements that operators must meet before any conventional or unconventional oil and gas development can take place. A Minerals Planning Authority (MPA) will determine whether the activity is acceptable in planning terms at the particular location proposed, after consultation has taken place (see [question 27](#)).

The planning system controls the development and use of land in the public interest and this includes:

- ensuring that new development is appropriate for its location taking account of the potential effects (including cumulative effects) of pollution on health, the natural environment or on general amenity; and
- the potential sensitivity of the area or proposed development to adverse effects from pollution.

In doing so, the focus will be on:

- whether the development itself is an acceptable use of the land;
- what the potential impacts of those uses (e.g. on communities and the environment) may be and any control (mitigation) measures; and
- health and safety issues or emissions themselves where these are subject to approval under other regimes (see [question 31-33](#)).

Hampshire's District and Borough Councils do not grant planning permission for oil and gas development although they will be consulted on any proposal within or impacting their administrative area (see [questions 26 and 28](#)).

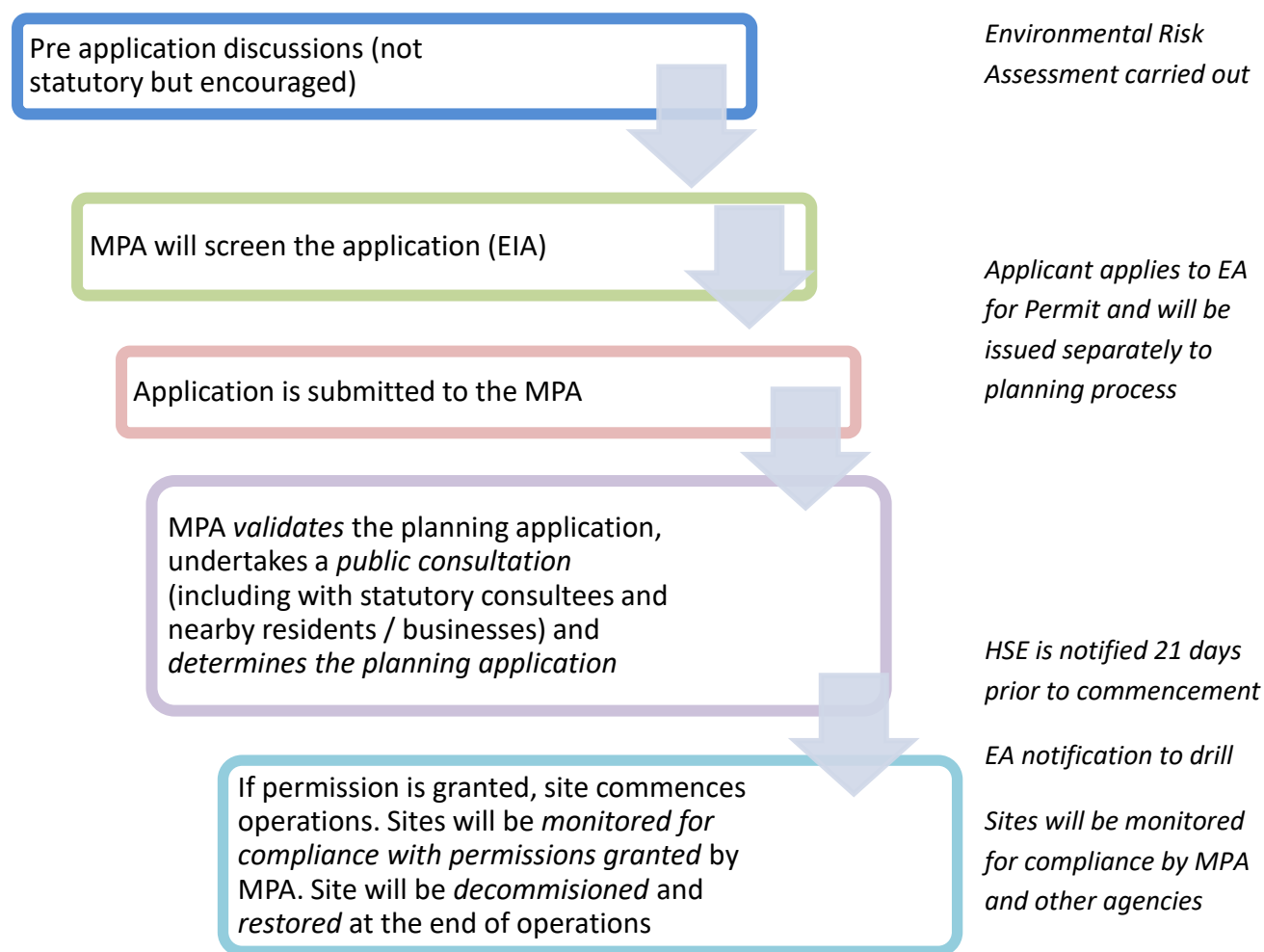
In some cases, minor works may be considered to be permitted development and would not require planning permission from the MPA.

Before any oil or gas development can take place, an operator must submit a planning application to the relevant MPA to seek planning permission (see [question 26](#)) for each phases of oil and gas development (see [question 18](#)).

Oil and gas developments are not currently considered to be a part of the major infrastructure regime which means all proposals will be dealt with by the MPA.

The following diagram summarises the planning process for oil and gas development.

## The Planning Process and regulatory process

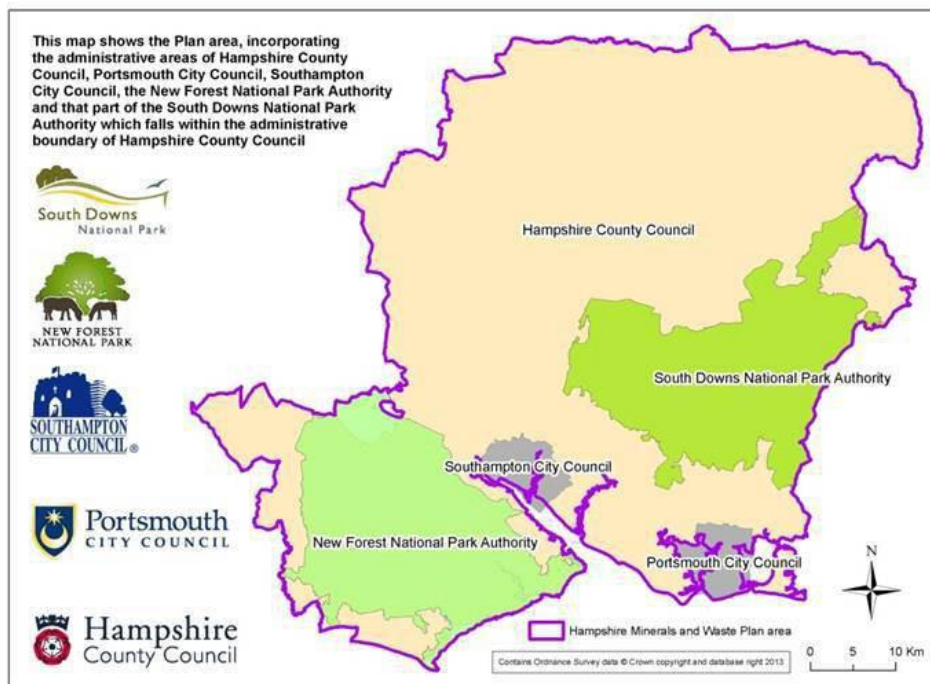


More information on the planning process is set out under [question 27](#). How the planning process links to the regulatory process is set out in [question 30](#).

### **27) What is the role of the Minerals Planning Authority once an application has been submitted?**

Hampshire County Council is a Mineral Planning Authority (MPA). Southampton and Portsmouth City Council's and the New Forest and South Downs National Park Authorities are also MPAs within their own administrative areas in Hampshire. The administrative areas for each MPA are set out on the following map.

## Administrative areas of the Minerals Planning Authorities in Hampshire



Source: Hampshire Authorities, 2015

The MPA has the responsibility of processing and determining any planning application for onshore oil and gas development within in their administrative area. The County Council's [Development Management Charter](#) sets out the expectations of their development management service.

### *Pre-application discussions*

[Pre-application discussions](#) are encouraged by the County Council in advance of any planning application for oil and gas development being submitted. The County Council will engage in discussions with operators (and other interested parties where relevant). Applicants are also encouraged to undertake pre-application discussions on the likely nature of any planning application with other key consultees (e.g. the [Environment Agency](#) (EA)).

### *Validation of a planning application*

The MPA will determine whether a standard planning application or if an Environmental Impact Assessment (EIA) application is required. This will depend on the type and nature of the proposal (see [question 27](#)). An operator can make a formal request to the MPA, under the [Town and County Planning \(Environmental Impact Assessment\) Regulations](#), for an EIA Screening Opinion. Preparation of an EIA will include:

- baseline and ongoing monitoring of key issues such as water, air, noise;
- an assessment of key issues including cumulative impacts;
- mitigation measures; and
- proposed monitoring.

The MPA will then screen a proposal. An EIA will be required if a proposal is considered to have a likely significant effect. An EIA is mandatory for all proposals for the extraction of more than 500 tonnes of oil or 500,000 cm<sup>3</sup> of gas under schedule 1 of the Regulations.

### *Consultation*

Once a planning application for onshore oil and gas has been submitted to the MPA, and is considered to be [valid](#) it will be advertised, and local communities and interested parties will be consulted (see [question 28](#)).

Any proposal for oil and gas development will also include consultation with statutory consultees such as Natural England, Historic England and the Environment Agency (EA) (see [question 32](#)) as well as other interested parties such as the Health and Safety Executive (see [question 33](#)) and Public Health England (see [question 34](#)).

Appropriate bodies and Councils (other MPAs, District, Borough, Parish or Town Councils) will also be consulted on any planning application received which may impact their area or interests.

### *Determining a planning application*

The MPA will rigorously assess and scrutinize all proposals for oil and gas development within its administrative area. All proposals for oil and gas development will be considered on their individual merits and will only be granted planning permissions where they are considered to be acceptable and in accordance with the policies of the [HMWP \(2013\)](#) (see [question 25](#)) as well as its associated supplementary planning guidance. It is also the role of the MPA to consider representations received on a proposal.

### *Consideration of key issues*

The location, scale and character of any future proposal for oil or gas development will only be known when a planning application is submitted to the MPA for consideration. At this stage its potential impacts (including impacts on health, the environment, local amenity) will be fully considered. These include the issues identified in the following diagram:

## What issues will the Minerals Planning Authority take into account?



lighting



dust



air quality



internationally, nationally & locally designated sites



noise associated with the operations



site restoration & aftercare



soil resources



archaeological & heritage features



flood risk



land stability / subsidence



landscape character, impact on agricultural land & risk of contamination



Water resources

**Is the proposal considered to be 'sustainable'?**

Source: Hampshire County Council, 2014

Other issues such as on public safety, site storage facilities and waste disposal may also be important considerations.

The potential impact of oil and gas development on water resources is a very important consideration (see [question 10](#)).

### *Oil and gas exploration in National Parks*

There are known oil and gas resources within Hampshire's two National Parks and exploration already takes place within the South Downs National Park. There are other examples nationally of where oil and gas development takes place within designated areas. This includes Western Europe's largest oilfield at Wytch Farm, Dorset and sites in Surrey all of which are located within designated areas for nature conservation.

The potential impact of a proposal in Hampshire on national park designations will be taken into account in detail at the planning application stage. The Government has recently announced new guidance on unconventional oil and gas development in areas of designation such as National Parks, Areas of Outstanding Natural Beauty and heritage sites. There are also relevant policies and guidance in the [HMWP \(2013\)](#) and the Oil and Gas Development in Hampshire Supplementary Planning Document (2016).

The restoration of an oil or gas site is an essential part of the planning process (see [question 47](#)).

The potential impact on property prices is not an issue which can be taken into account by a MPA in decision making.

Where planning permissions for oil and gas development are granted, the County Council will expect Liaison Panels to be established (see [question 44](#)).

The Government announced [tax breaks for shale gas](#) in 2013. These tax breaks are similar to those breaks which are already in place for renewable energy. Potential financial schemes or incentives associated with oil or gas development will not be taken into account when planning applications are being considered and determined by the MPA. This is because such funding sits outside of the planning process which means it is not considered to be relevant to any proposals for oil and gas development.

### [Links to the regulatory system](#)

After planning permission is granted, a number of other consents and licenses are required before development can commence (see [questions 30-33](#)).

The MPA is responsible for ensuring sites are restored through monitoring conditions attached to the planning permission (see [question 45](#)).

## [28\) How will local communities be consulted on any planning application submitted for oil or gas development in Hampshire?](#)

Public consultation forms an important and essential part of every minerals planning application (including oil and gas) in Hampshire.



Involving the community in the preparation of minerals and waste policy documents and dealing with planning applications for minerals, waste and County Council developments in Hampshire

*A guide for elected members, local communities, other local planning authorities, developers and other interested parties*

Adopted November 2017

The [Town and Country Planning \(Development Management Procedure\) Order 2013](#) included changes to the notification of landowners when development is proposed.

The views of interested parties will then be taken into account when the Mineral Planning Authority (MPA) grants or refuses planning permission.

The County Council encourage community representations on minerals (and waste) proposals in their local area. Local knowledge is considered to be vital to informing decisions on the potential impact of minerals (or waste) development on an area.

Public consultation on any planning application received will be undertaken in line with the provisions of the adopted [Statement of Community Involvement](#).

The Council has prepared some guidance on [preparing representations to planning applications](#).

Statutory consultees such as Natural England, Historic England, the Environment Agency (see [question 32](#)) and local planning authorities (District, Borough, Parish and Town Councils) will be consulted on oil and gas proposals which are relevant to their interests and local areas. Other interested parties may also be notified and consulted on the proposal for oil and gas development (such as the Health and Safety Executive (see [question 33](#))) where their interests are relevant to a proposal.

Potential impacts of a proposal on surrounding areas (e.g. outside of Hampshire) will be taken into account and local communities outside of will be consulted as required.

In Hampshire, all planning applications received by the County Council are also available to view at the following locations:

- [online](#);
- At Hampshire County Council offices (by appointment during normal office hours); or at the relevant District or Borough Council offices (by appointment during normal office hours).

The [Office for Unconventional Gas and Oil](#) (OUGO) has also made it a priority to help interested parties understand the facts about unconventional oil and gas. (see [question 31](#)).

For unconventional oil and gas development, the oil and gas industry's own Charter sets out that communities must be engaged from the very start of any planning application process (see [Question 38](#)).

## 29) If planning permission is granted, what else is required before oil and gas development can commence?

If the Minerals Planning Authority (MPA) grants planning permission to explore oil or gas resources, a number of other consents need to be put in place before development can commence. This includes the following:

- Notifying the HSE of well design and operational plans;
- Appoint an independent inspector to look at well inspector and construction;
- Serving notice of the intention to drill;
- Applying for consent to drill (NSTA); and
- Advising the BGS.

Following exploration, if operators then wish to go into production (to actually extract gas), the company must gain:

- a new planning permission from the relevant MPA;
- a Field Development Consent; and
- an Environmental Permit from the Environment Agency.

Where planning permissions for oil and gas development are granted, the County Council will expect Liaison Panels to be established (see [question 44](#)).

## Other regulatory agencies and consents for oil and gas development

### 30) How does the planning process link to other regulatory regimes?

Oil and gas operations in the United Kingdom (UK), as with other industrial activities, are regulated under a number of different stringent regimes. National planning practice guidance clearly states that these regimes are separate but complementary to the [planning process](#). A summary of how the planning and regulatory systems link is under [question 26](#).

The Government believes that the existing regulation systems are fit for purpose. Some issues which may be of importance and relevance to the planning process may be covered by other regulatory regimes. This may include issues such as:

- mitigation of seismic risks;
- design, construction and integrity of wells;
- operation of surface equipment on the well pad;
- chemical content of hydraulic fracturing fluid;
- flaring or venting of any gas produced as part of the exploratory phase;
- final off-site disposal of water and mining waste; and
- well decommissioning, completion of development and restoration.

Where the planning system overlaps the regulatory system, the Minerals Planning Authority (MPA) will assume that other regulatory regimes [operate effectively](#). Whilst these issues may be put before MPAs as part of the planning process, MPAs will not need to carry out our own assessment on issues as they can rely on the assessment of other regulatory bodies. However, before granting planning permission, the MPA will need to be satisfied that these issues can and will be adequately addressed by taking the advice from the relevant regulatory body. This is why it is important that statutory consultees are consulted on minerals planning applications.

Following exploration, a well is likely to be suspended and abandoned for a period of time. Health and Safety Legislation requires (with regards to its well design and construction) that, so far as reasonably practicable, there is no unplanned escape of fluids.

It is important to note that the UK's regulatory regime is very different to the regime operated in the United States.

### 31) What is the role of the North Sea Transition Authority in relation to oil and gas development?

The North Sea Transition Authority (NSTA) regulates and influences the oil, gas and carbon storage industries. The NSTA replaced the Oil and Gas Authority (OGA).

The NSTA is responsible for regulating offshore and onshore oil and gas operations in the UK which includes:

- issuing Petroleum Licences that give consent to drill and give operators exclusive
- rights to explore for and develop the resource (see [question 20](#));

- oil and gas exploration and production;
- oil and gas fields and wells;
- oil and gas infrastructure; and
- carbon capture and storage (CCS) licensing.

Their duties also include the following:

- Control of seismic risk through licencing;
- Flaring and venting controls;
- Determines applications to drill (well consents);
- Would review any Environmental Risk Assessments (shale);
- Would review any Fracturing Plans (shale); and
- Has a role to play in decommissioning.

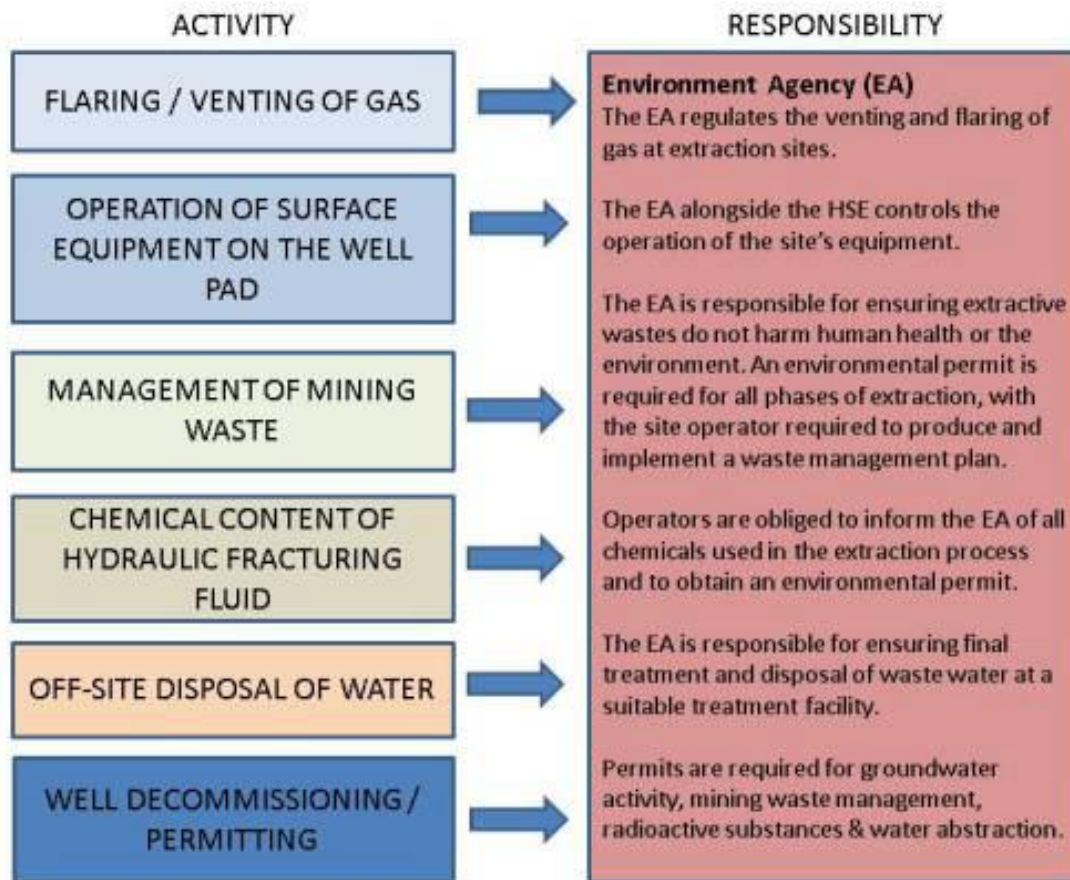
The [Office for Unconventional Gas and Oil](#) (OUGO) aims to promote the safe, responsible, and environmentally sound recovery of unconventional oil and gas resources. It has been set up specifically to co-ordinate the activity of the regulatory bodies and departments in the oil and gas industry. The OUGO has also made it a priority to help interested parties understand the facts about unconventional oil and gas, including supporting local authorities' engagement with their communities to help resolve any issues. One of OUGO's main aims is to help interested parties understand the facts about unconventional oil and gas.

### **32) What is the role of the Environment Agency (EA) in relation to oil and gas development?**

The EA is a public body whose responsibility is to protect the environment in England. Hampshire is covered by the EA's South East region offices.

Before any oil or gas operation commences in the UK, operators must submit details of their plans to the EA for assessment of risks and the acceptability of issuing permits. The EA's responsibilities include:

## Responsibilities of the EA



Source: Hampshire Authorities, 2015

The EA are a statutory consultee in the planning process for planning applications for onshore oil and gas exploration, appraisal or production.

In England, onshore oil and gas exploratory activities require Environmental Permits issued under the [Environmental Permitting Regulations \(2010\)](#) and other permissions from the EA as environmental regulator, depending on the methods used and the geology of the site. The EA advise operators to undertake pre-application discussions on the content of planning applications when applying for Environmental Permits. An Environmental Permit will be required by the EA for the different phases of oil and gas development. This will require the operator to produce and implement a Waste Management Plan. There are different types of [environmental permits](#).

Environmental Regulations require a notice to be served on the EA to 'construct a boring for the purposes of searching for or extracting minerals'.

Public consultation on all Environment Permits applications received by the EA associated with oil and gas development will take place.

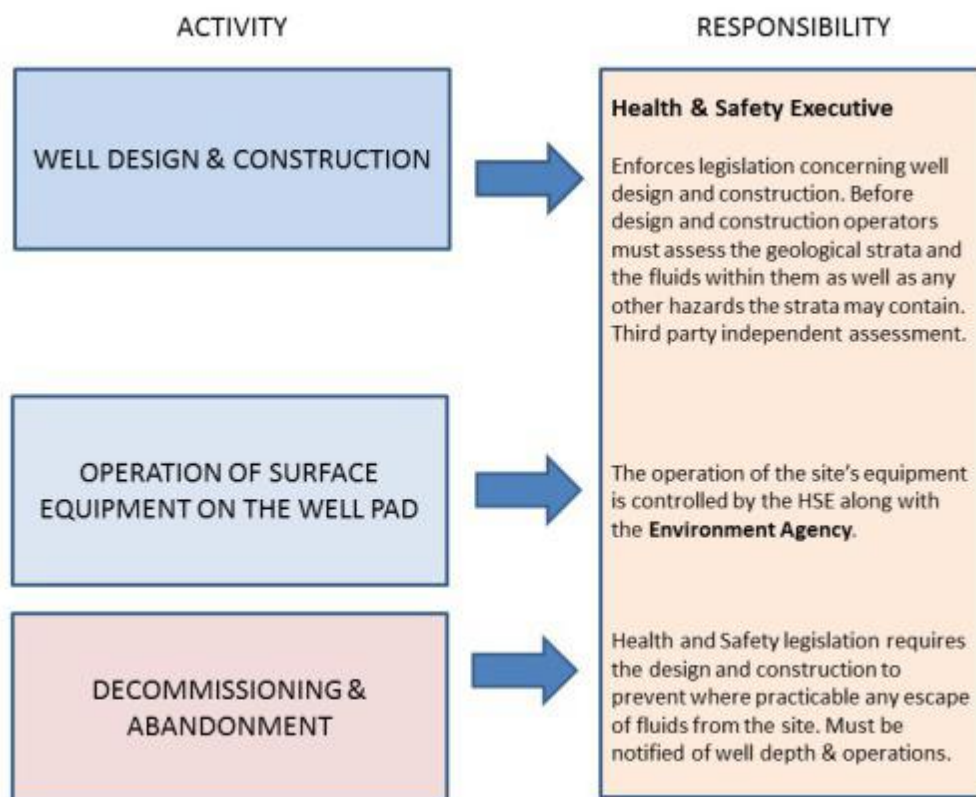
The chemical content of hydraulic fracturing fluid are also covered by the Environmental Permitting regime as operators are obliged to inform the EA of all chemicals that they may use as part of any hydraulic fracturing process (see *question 11*). The EA has powers to require full disclosure of chemicals used in hydraulic fracturing in England and Wales and assesses the hazards presented by hydraulic fracturing fluid additives on a case-by-case basis. Environmental aspects of oil and gas operations are monitored by the EA as regulator, in particular when permits are granted (see [question 45](#)).

The EA issued [draft technical guidance for onshore oil and gas exploratory operations](#) in 2013. The EA also issued a [joint working strategy with the Health and Safety Executive](#) in 2012.

### 33) What is the role of the Health and Safety Executive (HSE) in relation to oil and gas development?

The HSE monitors all phases of oil and gas operations from a well integrity, safety and site perspective. The HSE's main role in relation to both conventional and unconventional oil and gas developments is to regulate the health and safety risks to people from these operations. The HSE's responsibilities include:

#### Responsibilities of the HSE



Source: Hampshire Authorities, 2015

In doing the above, the HSE works closely with the Environment Agency (EA) and the Government to ensure that all material considerations are addressed.

When wells are abandoned, operators should inform the HSE to show that the process complies with Oil and Gas United Kingdom Guidelines.

The EA issued a [joint working strategy with the Health and Safety Executive](#).

## Other organisations with an interest in oil and gas development

### 34) What is the role of Public Health England in relation to oil and gas development?

Public Health England (PHE) is an executive agency of the Department of Health. PHE has reviewed the literature on the potential public health impacts of exposures to chemical and radioactive pollutants as a result of shale gas extraction. This led to the publication of a [finalised report on potential public health impacts of exposures to chemical and radioactive pollutants as a result of the shale gas extraction](#) in June 2014. The PHE have concluded that based on currently available evidence, the potential risks to public health in the vicinity of shale gas extraction sites are low if shale gas extraction is properly run and regulated.

### 35) What is the role of the United Kingdom Onshore Operators Group (UKOOG)?

UKOOG are the representative body for oil and gas companies in the United Kingdom (UK). UKOOG have issued [industry guidelines](#) covering best practice for unconventional well operations in the UK which were developed with the Environment Agency and the Health and Safety Executive. The UKOOG have set out their commitment to shale oil and gas community engagement in their Community Charter (see [question 38](#)).

### 36) What is the role of the British Geological Survey (BGS) in relation to oil and gas?

The BGS is the principal supplier of national capability in geoscience. It advances understanding of the structure, properties and processes of the solid Earth system through surveys, monitoring and research.

The BGS requires information on any borehole that is intended to penetrate to a depth of more than 30 metres or the deepening of an existing well as part of oil and gas developments. For oil and gas wells, operators must submit information on core and cutting samples to the BGS.

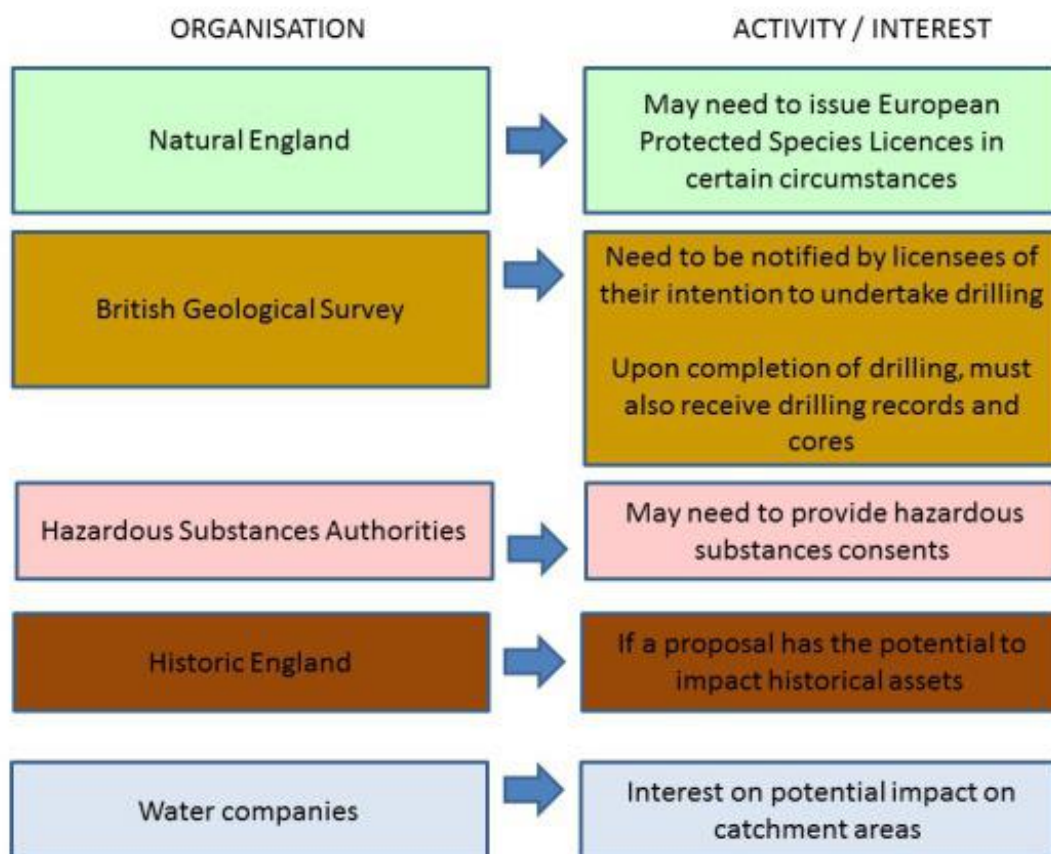
The BGS has completed an estimate of the amount of shale oil and shale gas in the Weald Basin (see [question 40](#)).

The BGS has [published information on aquifers and shales in the United Kingdom](#). The purpose of this work has been to set out spatial relationships between principal aquifers and some of the major shale and clay units in England and Wales. This is done through a series of [national scale aquifer / shale separation maps](#) and supporting information about the geology and hydrogeology of the rocks. The BGS have also mapped the principle aquifers in the UK as well as aquifer and shale separation.

### 37) What other bodies may be involved in the process of consenting oil and gas extraction?

Other bodies which may be involved in the consenting of the process include:

#### Other bodies who may be involved in consenting



Source: Hampshire Authorities, 2015

There may also be additional consents and orders, such as temporary road orders, which must be obtained.

## Community Benefits

### 38) What community benefits can be associated with oil and gas developments?

Minerals developments such as oil and gas can provide community benefits in their host areas. Community benefits may be as a result of the actual development (e.g. through the restoration of the site) or through associated community benefits schemes (which sit outside the planning process) which can be used to address local issues or fund local projects.

In Hampshire, community funds associated with many sand and gravel extraction and landfill sites have already been used to fund local infrastructure improvements.

The unconventional oil and gas industry has set out their commitment to shale oil and gas community engagement in its [Community Charter](#). Through the Charter, the industry has committed to a package for communities that host unconventional oil and gas development in their area. This includes:

- engagement with local communities, residents and other consultees at each of the three stages of operations (exploration, appraisal or production), beginning in advance of any operations and in advance of any planning application;
- £100,000 in community benefits to be provided per well-site where hydraulic fracturing takes place at the exploration stage;
- 1% of revenues at the production stage will be paid out to communities;
- operators will publish evidence each year of how these commitments have been met; and
- regular review of the Charter as the industry develops and operators consult further with local communities.

The Government have estimated that community benefit funding could be worth £5-£10 million for a typical producing site over its lifetime.

The United Kingdom Onshore Operators Group (UKOOG) have stated their commitment to working with independent and experienced organisations to ensure that communities receive complete transparency and are fully engaged throughout any distribution of any associated community benefits. UKOOG have also indicated that they will work with local communities to establish community fund panels in locations where shale oil and gas extraction takes place and this panel will be independent of the operators or UKOOG.

The Government have indicated that it is anticipated that community benefits associated with oil and gas development will be managed by the [United Kingdom Community Foundations](#). Once a board has been established, the board will be free to spend the funds from oil and gas developments, subject to the board's scheme approval process.

In January 2014, the [Government announced](#) that local authorities in England would be able to keep 100% of the business rates they collect from shale gas sites, rather

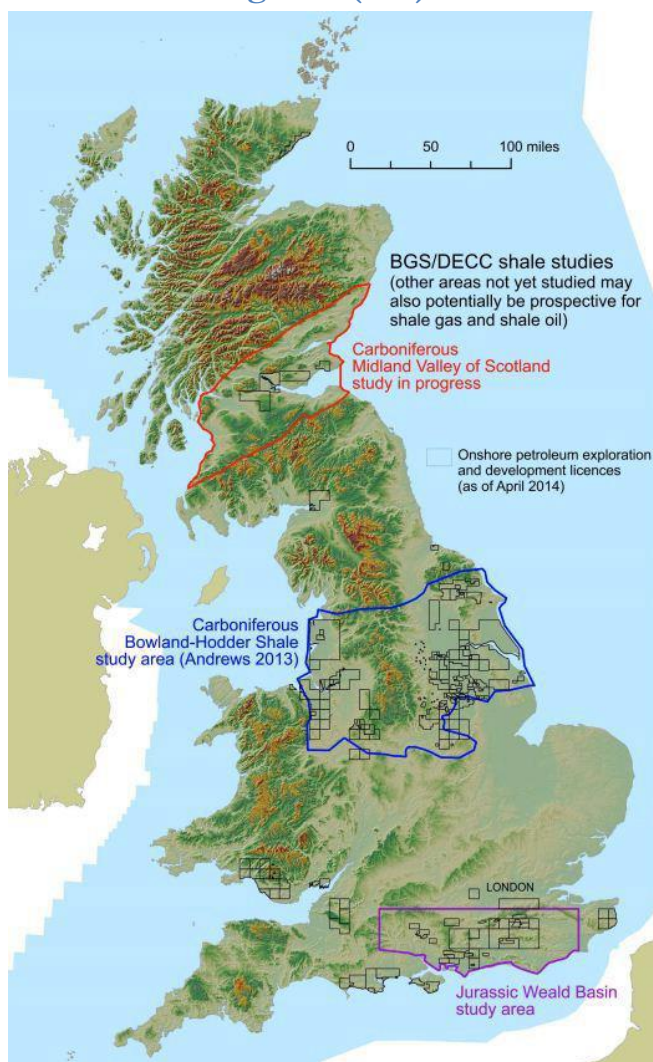
than the usual 50%. The Government have estimated that this commitment could be worth up to £1.7 million a year for a typical unconventional site.

It is important to note that the issue of community benefits and potential tax breaks for shale oil and gas will not be taken into account in the planning process (see [question 26](#)) when the suitability of the proposal will be assessed.

It is also important to note that the Community Infrastructure Levy (CIL) cannot be applied to oil and gas development unless the associated infrastructure (e.g. offices) is covered by the relevant district or borough council charging schedule. In Hampshire, minerals development is exempt from the CIL charging schedules which have been adopted to date.

## Current unconventional oil and gas (shale) extraction in the United Kingdom and globally

### 39) Does unconventional oil and gas development currently take place in the United Kingdom (UK)?



Source: BGS, 2014

It is estimated that there are large reserves of unconventional oil and gas beneath the UK, largely in the north and south east of England as well as parts of Scotland. However, it is not known what proportion of this could be economically viable to access currently.

The British Geological Survey (BGS) has undertaken some assessment of potential for unconventional shale oil and gas nationally as demonstrated in the following map. As part of this work, the [BGS issued a study on the potential for shale oil or gas in the Weald Basin](#) which covers parts of Hampshire (see [question 42](#)).

Unconventional oil and gas drilling is currently at very early stages in the UK, with only exploratory drilling being undertaken previously (prior to the [moratorium](#)), for shale gas, in a small number of locations.

No production of unconventional oil or gas is currently taking place in the UK.

## Hampshire's Geology

### 40) Where can I find out more information on the geology of Hampshire?

The British Geological Society (BGS) has a [useful summary of Hampshire's geology](#).

In Hampshire, unconventional oil and gas would only relate to the potential for shale oil and gas. Other unconventional resources such as coal bed methane will not be found in the County due to its geology.

The potential for the extraction of shale oil in Hampshire and indeed in the wider south east of England has been investigated by the BGS (see [question 42](#)). It is uncertain whether Hampshire has any potential for shale gas at this stage.

## Current on-shore oil and gas activity in Hampshire

### 41) What onshore oil and gas exploration, processing or production currently takes place in Hampshire?

Minerals can only be worked where they are found (where they naturally occur) so options of economically viable and environmentally acceptable sites for the extraction of mineral resources may be limited. Hampshire has known oil and gas resources due to its geology. Oil and gas deposits are found at much deeper levels in the ground than other minerals, such as sand and gravel, which are also worked in Hampshire.

Historically there has been quite a lot of borehole exploration for conventional oil across Hampshire. This has largely been concentrated in the south-east, central and north-east parts of the county and has resulted in the development of three productive conventional oil fields at:

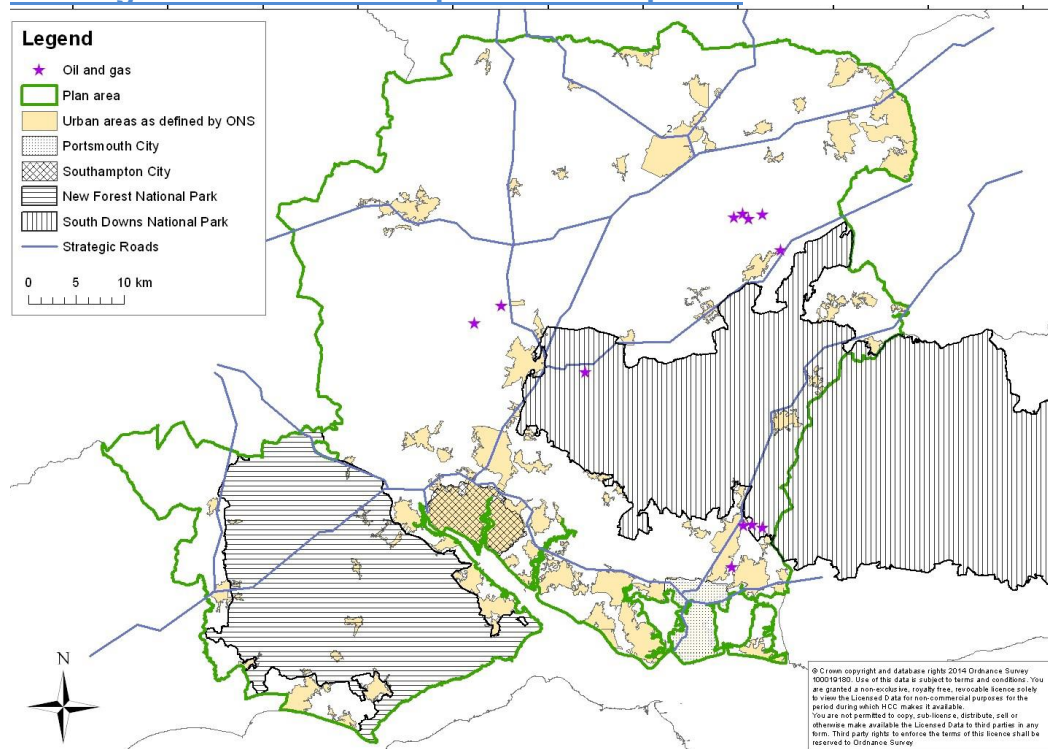
- South Wonston, near Winchester;
- Humbly Grove near Alton; and
- Horndean.

Humbly Grove also stores gas underground.

The following map highlights the locations of current conventional oil and gas activity in Hampshire. The sites identified on the map either have planning permission for the exploration or the production of oil and gas. These sites do not extract unconventional oil or gas.

The three conventional oilfields have been operating for a number of years and are all currently in production. The oilfields are comprised of a central production centre with satellite well sites supporting them. There are also examples of other exploratory sites in Hampshire which have not led to production.

### Existing Oil and Gas Development in Hampshire



Source: Hampshire Authorities, 2015

The Hampshire Mineral Planning Authorities annually publishes a [Monitoring Report](#) (MR). The MR will include information on any oil or gas sites that have been granted planning permission or where enforcement action has taken place within the last reporting period. It will also assess the implementation of the policies of the adopted [HMWP \(2013\)](#), including policies relating to oil and gas. Hampshire County Council also publishes a list of all minerals (and waste) sites in Hampshire on its [website](#).

## Is there potential for unconventional oil or gas in Hampshire?

### 42) Is there potential for unconventional shale oil or gas extraction in Hampshire?

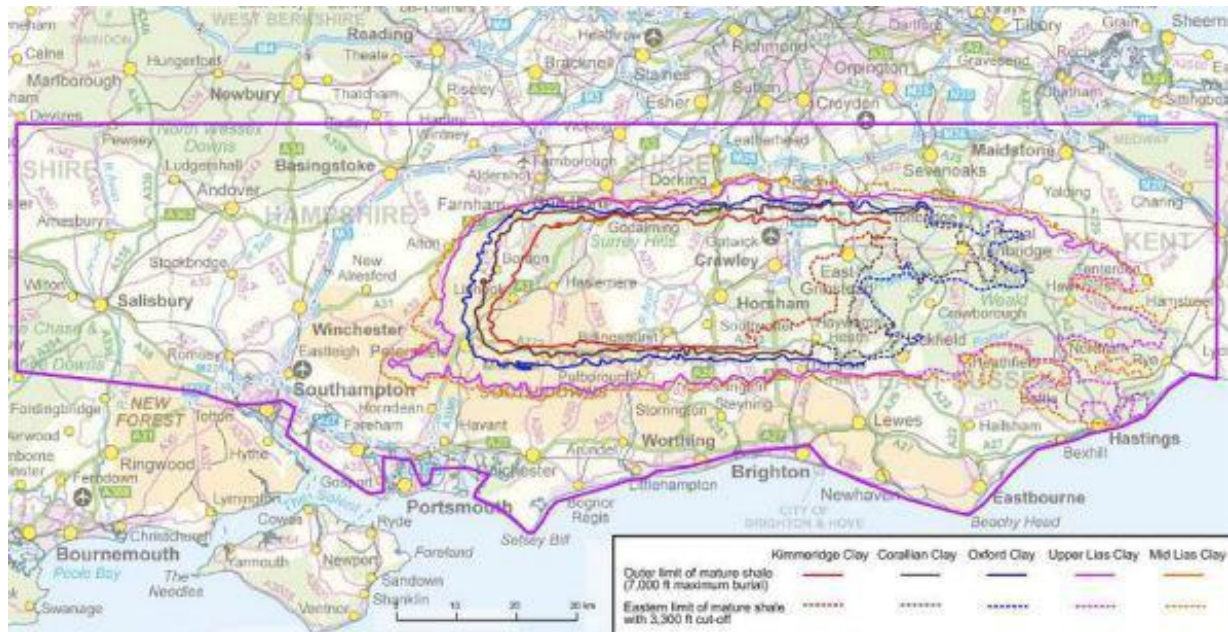
The British Geological Survey (BGS) undertook a study (published 2014) that estimated the amount of shale oil and gas in the Weald Basin in south-east England.

The Weald includes parts of east Hampshire. The study has estimated the level of unconventional oil and gas resources in the basin and has concluded that the Weald Basin contains:

- between 2.20 and 8.57 billion barrels (bbl) or 293 and 1143 million tonnes (but the central estimate for the resource is 4.4 billion bbl or 591 million tonnes) of shale oil;
- and that there is no significant gas resources which have been recognised using the current geological model within the study.

The following map highlights the findings of the assessment and its impacts on Hampshire.

### BGS assessment of the Weald Basin



Source: BGS, 2014

The estimates for the amount of shale oil in the Weald Basin reflect the geological uncertainty and represent the estimated total amount of oil present in the rocks. It is not known what percentage of the oil present in the shale within the Weald basin could be commercially extracted. The study has indicated that in order to estimate the shale oil reserve, drilling and testing of new wells will be required to give a better idea of oil production rates.

The lack of significant gas resource in the Weald Basin is thought to be largely due to the fact that the shale has not reached the geological maturity required to generate gas to date. However the study notes that:

- this does not preclude the potential presence of shale gas generated at an early stage of maturity in association with oil; or the
- presence of biogenic gas occurring at shallower depths or the presence of gas within deeply-buried pre-Jurassic shales that cannot be imaged or modelled using current geological and geophysical data.

Even though the research has shown that there is potential for unconventional resources in parts of Hampshire, this does not mean it can be recovered. Any recovery will depend on whether it is practicable and/or feasible to extract and if

planning permission and associated regulatory licences and consents are granted to allow such a development to take place.

There has been no assessment of the potential for unconventional oil or gas in the rest of Hampshire, for example in the Wessex Basin in the south west of Hampshire.

**43) Are there any known proposals for the extraction of unconventional oil (shale oil or gas development (shale gas) and associated hydraulic fracturing in Hampshire?**

The Hampshire Mineral Planning Authorities have not been informed of any intention to submit a planning application for this type of development to date.

**How will local communities be kept informed of the operation of oil and gas sites if planning permission is granted?**

**44) How can local communities be kept informed of the operation of oil and gas sites once sites have planning permission?**

Local communities and interested parties will continue to be consulted on any further planning applications at existing oil and gas developments which may be submitted to Hampshire County Council (or the other Minerals Planning Authorities in Hampshire) after the initial planning permissions are granted (see [question 28](#)).

Hampshire already has a number of [Liaison Panels](#) which allow local communities to be actively involved in the construction phase, operation of minerals (or waste) sites as well as the restoration and after-use of development sites. This includes panels at some of Hampshire's existing oilfields.

Liaison Panels help to ensure continued communication and co-operation between the relevant Hampshire Authority, local communities (including neighbouring communities outside of Hampshire), the operator, the relevant Hampshire District or Borough Council and other interested parties following planning permission being granted for minerals (and waste) developments.

In line with the provisions of the [HMWP \(2013\)](#), the Hampshire Authorities will expect all new 'major' oil and gas sites, to be accompanied by a Liaison Panel. Liaison Panels should be established and managed by the relevant operator of a site. Other minor minerals developments may also benefit from the establishment of Liaison Panels, and these may be set up as and when required.

The Council has prepared a protocol on the [establishment of liaison panels](#).

## Monitoring of oil and gas development and enforcement

### 45) If planning permission were to be granted for oil and gas development, how would it be monitored by the Minerals Planning Authority?

Planning permissions for any phase of oil and gas development (whether conventional or unconventional) granted by Hampshire County Council will be subject to active monitoring. Monitoring helps to ensure that all development is compliant with relevant planning permissions (and associated conditions or legal agreements) granted.

Monitoring involves unannounced visits to sites, where experienced officers assess compliance with the planning permissions (conditions and any associated legal agreements) granted. All oil and gas sites in Hampshire (within the County Council administrative area) have at least four unannounced monitoring inspections per annum.

If required, the Hampshire Minerals Planning Authorities have powers to take enforcement action to ensure compliance with planning permissions granted, where it is expedient to do so. The expectations of the councils monitoring and enforcement functions is set out in the [Planning Enforcement and Site Monitoring Plan](#).

### 46) What monitoring is undertaken by the regulators?

In addition to the monitoring undertaken by the Minerals Planning Authority (see [question 45](#)), the regulators also monitor oil and gas sites.

Any Environmental Permits granted by the Environment Agency (EA) will also be subject to separate monitoring (see [question 32](#)). The Health and Safety Executive (HSE) will also monitor the operations once drilling has commenced (see [question 33](#)). Oil and gas operators also have a duty to monitor the drilling process as part of the development and will often have to report this to the EA or HSE if this is required.

## How will an oil or gas site be restored?

### 47) What happens after an oil or gas development has been completed?

If it is concluded that there is no commercially viable oil or gas resources present or if the extraction of resources has been completed, then the well will be abandoned and dismantled, in accordance with the latest Oil and Gas United Kingdom Standards. Wells will be filled with cement and pipes cut off below ground level. All surface equipment will be removed and all pads filled in. The well will also be made safe. The site will then be restored to its former condition or to enhanced or a more beneficial after use. Planning permissions granted will include a condition(s) relating to restoration and aftercare, as appropriate.

Restoration involves returning the land to an acceptable condition. It may include restoration to its original use or to other land uses such as areas of nature

conservation, agriculture, forestry or recreation. The types of restoration applicable to all minerals development is set out in the [HMWP \(2013\)](#) through *Policy 9 (Restoration of quarries and waste sites)*.

A period of aftercare will commence following restoration to ensure that the land returns to a state that is the same or better than it was prior to operations commencing. The successful completion of the restoration of the site will be subject to monitoring (see [question 45](#)).

## House searches and oil and gas

### 48) Why are oil and gas licence areas or existing oil and gas sites highlighted in house searches?

#### *Existing oil and gas sites*

Existing oil and gas sites are safeguarded to ensure they are protected from encroachment from other forms of development which may impact their operation. This is why they may be flagged up in a search. If a site has been highlighted in a search, it will be due to the location of the site in proximity to the property the search relates too. More information on all oil and gas sites can be found on the County Council [website](#).

#### *Oil and gas licence areas*

If a search is highlighting the location of an oil and gas licence area, it is important that the nature and role of licence areas are understood. Hampshire already has a number of oil and gas licence areas which were issued through previous round of licencing. [Questions 20-22](#) provides more information on this issue and what this means for Hampshire.

Oil and gas licences give an indication of where there are viable oil or gas resources. They often cover large areas. Licences do not show where there is permission to extract this resource. An operator would still need to apply for and gain planning permission as well as other associated consents before any development commences (see [question 20](#)). It is important to highlight that Hampshire County Council are not responsible for identifying oil and gas licence areas.

In the event that a proposal is submitted for planning permission in a licence block, local communities and interested parties would be consulted on the proposal (in line with our [Statement of Community Involvement](#)).

## Where can I find out more information?

If you wish to discuss the contents of this FAQ please contact the Planning team at Hampshire County Council. This can be done in the following ways:

**Hampshire County Council website:**

[www.hants.gov.uk/landplanningandenvironment/strategic-planning](http://www.hants.gov.uk/landplanningandenvironment/strategic-planning)

**By email:** [planning@hants.gov.uk](mailto:planning@hants.gov.uk)

**By telephone:** 0300 5551389 (Hantsdirect)

**In writing:** Development Management and Minerals and Waste Policy (Planning), Economy, Transport and Environment Department, Hampshire County Council, The Castle, Winchester, Hampshire. SO23 8UD.

**FAQ produced by Hampshire County Council (updated September 2022)**

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