

Planning, Sustainability and Need Assessment

Proposed Broadford Bridge-1 Exploratory Well Site
Land at Wood Barn Farm, Adversane Lane,
Broadford Bridge, West Sussex

July 2012

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and Need Assessment**

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Land at Wood Barn Farm, Adversane Lane,
Broadford Bridge, West Sussex**

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1.0 INTRODUCTION

Overview

1.1 This Planning, Sustainability and Need Statement has been prepared by Barton Willmore LLP on behalf of Celtique Energie Petroleum Ltd, to accompany a planning application for the development of an exploratory well site on land at Wood Barn Farm, Adversane Lane, Broadford Bridge, West Sussex. The application has been submitted to West Sussex County Council (WSSCC) under the provisions of Town and Country Planning Act 1990 as amended by the Planning and Compulsory Purchase Act 2004. The application seeks planning permission for the following elements;

- The construction of an access road and well site compound;
- The mobilisation of drilling equipment and the development of an exploratory borehole;
- The testing and appraisal of any hydrocarbons discovered; and
- The restoration of the site should no hydrocarbon be found or if reserves are commercially unviable; or
- The retention of the well site for production, subject to further planning permission, should reserves be commercially viable.

1.2 This Planning, Sustainability and Need Statement sets out the details of the proposed development and should be read in conjunction with the accompanying technical assessments and planning application drawings. The Statement comprises of the following Sections;

- Section 2: Site and Surroundings
- Section 3: Description of the Proposed Development
- Section 4: Need
- Section 5: Planning Policy Framework
- Section 6: Sustainability Appraisal
- Section 7: Summary and Conclusions

Celtique Energie Weald Ltd

1.3 Celtique Energie Weald Ltd is an independent upstream Exploration and Production (E&P) company with a number of projects focused on onshore Europe including the UK, France, Germany, Italy, Poland, Romania and Switzerland. Celtique Energie has

experience in the development of onshore reserves for both oil and gas, employing state of the art technical approaches to seismic data acquisition combined with the use of modern drilling facilities and operational technology. Celtique Energie is committed to sustainable development of high quality energy infrastructure to ensure that reserves are developed responsibly and in an environmentally sensitive manner.

- 1.4 Notwithstanding their other operations in Europe, Celtique Energie has a number of Petroleum Exploration and Development Licences (PEDL) in the UK including Cheshire, the East Midlands and Southern England. A summary of these Licences are included below in **Table 1.1**;

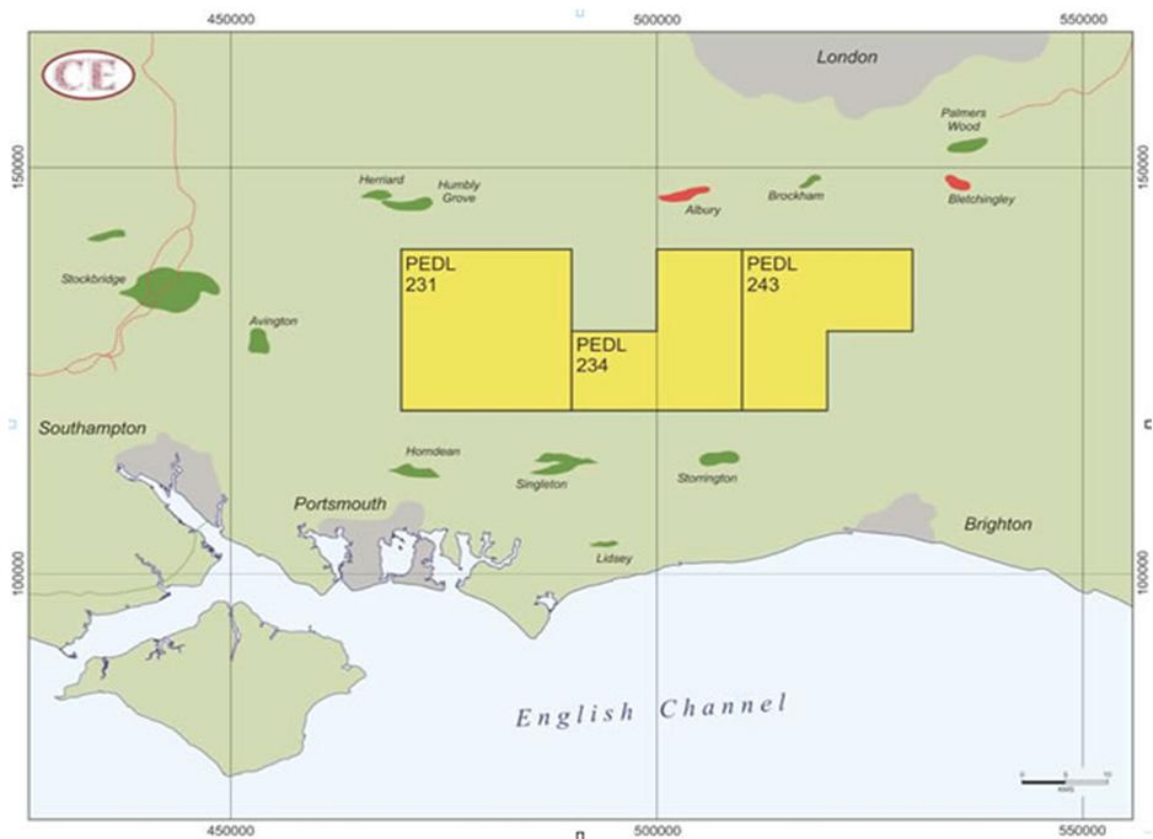
Table 1.1: PEDL Summary

Region	Licence	Basin	Size (sq.kms)
Cheshire	PEDL 197	Cheshire Basin	200
East Midlands	PEDL 180	East Midlands Basin	100
East Midlands	PEDL 181	East Midlands Basin	540
East Midlands	PEDL 182	East Midlands Basin	40
East Midlands	PEDL 201	East Midlands Basin	100
East Midlands	PEDL 241	East Midlands Basin	110
Southern England	PEDL 231	Central Weald Basin	400
Southern England	PEDL 232	South Weald Basin	94
Southern England	PEDL 234	Central Weald Basin	300
Southern England	PEDL 243	Central Weald Basin	300

- 1.5 The summary highlights a number of Licences throughout the three Regions and in four separate Basins, with a collective acreage of 2,184 sq km. The proposed development falls within PEDL 234 and PEDL 243 in the Central Weald Basin.

The Central Weald Basin

- 1.6 The Central Weald area is located in countryside to the south west of London, close to the large, south east energy market and in proximity to major gas trunk lines and refineries. The area of the Licences PEDL 231, 234 and 243 amount to a contiguous 1,000 sq km (247,000 acres) and is identified in **Figure 1.1**, below.

Figure 1.1: The Central Weald Basin

- 1.7 The Central Weald basin has oil and gas potential in the Jurassic Liassic shales, and a series of oil and gas discoveries have been made in the area, in shallow horizons. Celtique Energie have identified several larger, deeper Triassic prospects and leads in the Triassic sands which are sealed by overlying shales, sourced by underlying Palaeozoic shales. The exploration of these geological features is the subject of this planning application and the target Prospect is referred to as the "Willow Prospect" which falls within PEDL 234 and PEDL 243.

PEDL 234 and PEDL 243

- 1.8 PEDL 234 and PEDL 243 cover an area of 600 sq km, and the location and extent of these Licences are illustrated in **Figure 1.1** above. Both Licences were awarded in July 2008 and are valid until July 2014, with the option of a five year second term, subject to completion of the work programme. PEDL 234 and PEDL 243 are held by Celtique Energie Weald Ltd (50%) and Magellan Petroleum (UK) Ltd (50%). It is common practice in the onshore oil and gas industry for a PEDL to be held by two or more operators and this is called a Joint Venture (JV). A joint venture spreads the financial risk associated with onshore oil and gas developments between operators, with one operator often taking the lead on the proposals.

- 1.9 The proposed development falls on land at Wood Barn Farm, Adversane Lane, Broadford Bridge, West Sussex, and was identified following a robust and comprehensive Alternative Sites Assessment (ASA) which accompanies the submission of the planning application. The application seeks permission to explore and appraise the potential of the Willow Prospect, and the proposed development would be constructed and operated by Celtique Energie, in accordance with statutory requirements and best practice. Celtique Energie has extensive experience in onshore oil and gas exploration, and in preparing the application they have sought to minimise the environmental impact of the proposals and ensure minimal disruption.
- 1.10 The remainder of this Statement provides background information on planning, sustainability and need, our conformity with planning policy frameworks, measures for environmental mitigation and the role of onshore oil and gas projects in ensuring security of supply in the UK. There are a series of detailed environmental assessments which have informed and accompany the planning application submission, and this Statement should be read in conjunction with these documents.

2.0 SITE AND SURROUNDINGS

2.1 The aim of this Section is to describe the site of the Proposed Development and its surroundings.

Application Site

2.2 The proposed Application Site lies in the County of West Sussex and the District of Horsham, approximately 7km to the south east of Horsham and 3km to the south of Billingshurst. The Application Site, including the main drill site and associated infrastructure lie within the Parish of West Chiltington.

2.3 At present the Application Site consists of agricultural land which forms part of a larger field in pastoral use. With the exception of the field's northern boundary, the Site is enclosed from the surrounding countryside by existing woodland blocks. The most significant areas of woodland consist of Pocock's Wood to the north west and Prince's Wood approximately 150m to the east, the latter of which is designated as Ancient Woodland.

2.4 Access to the Application Site is obtained via an existing agricultural track which passes north along the eastern extent of Pocock's Wood before diverting north east towards the main farm yard associated with Wood Barn Farm and joining the B2133. An alternative access point off the B2133, lies approximately 340m to the north east of the Application Site and 280m to the south of Wood Barn Farm.

Surroundings

2.5 The local area forms part of the Low Weald which lies to the east of the South Downs National Park and is generally characterised by gently undulating farmland enclosed by mature hedgerows and scattered woodland blocks. The settlement pattern comprises a network of farmsteads and associated agricultural workings alongside smaller villages, groups of residential properties and individual cottages and homes, some of which are Listed Buildings. The closest area of development lies approximately 300m to the south east Application Site and consists of a number of poultry houses at Homefield Farm. Further to the east of the poultry houses is the main farm house and other detached properties associated with the hamlet of Broadford Bridge.

- 2.6 With the exception of the hamlets of Broadford Bridge and Aversane the most significant area of development is the village of Billingshurst which lies approximately 3km to the north of the Application Site. There are a number of transport routes which travel through the area including the A29, A272, B2133 and the Pulborough to Parbrook railway line as well as countless other smaller farm roads and tracks.
- 2.7 In addition to the areas of woodland immediately surrounding the Application Site, there are a number of large areas of ancient woodland within the local area including, Marringdean Wood and Steepwood Copse. Notwithstanding the areas of ancient woodland, there is also extensive non-ancient woodland and tree coverage throughout the local area.
- 2.8 Due to the rural nature of the area and the working farms, there is a network of public footpaths and bridleways which run through Billingshurst and offer access to farmed fields, residential properties and the countryside for visitors and residents. There are no Public Rights of Way crossing the Application Site with the closet footpath passing approximately 320m to the north west between Wood Barn Farm and Gay Street Farm.

3.0 DESCRIPTION OF PROPOSED DEVELOPMENT

3.1 Celtique Energie is proposing to develop a temporary well site including access track and ancillary infrastructure, for the exploration, testing and evaluation of hydrocarbons in the Willow Prospect.

3.2 The proposals involve the construction of a temporary well site within an enclosed compound, and the directional drilling of an exploratory borehole into the Willow Prospect. Should hydrocarbons be encountered, preliminary short term "drill stem" testing (DST) will be undertaken to assess economic viability. Should no hydrocarbons be encountered or upon completion of the drill stem testing, all structures, buildings and enclosures will be removed and the site restored. If suitable quantities of oil or gas are encountered the valve or "Christmas Tree", access and hardstanding will be retained on site whilst an application is prepared and submitted to WSCC for production. The Proposed Development consists of the following principle elements:

- i) Site clearance involving the excavation and removal of top soil;
 - ii) Temporary screening bunds on the northern and eastern boundaries of the well site compound to store excavated topsoil and subsoil;
 - iii) Access track constructed using crushed stone;
 - iv) A drilling rig, most likely the MR7000 or similar, and ancillary drilling equipment for construction of an exploratory borehole;
 - v) The mobilisation of ancillary testing equipment;
 - vi) Staff car park to provide up to 12 spaces within the compound but outside of the drilling area;
 - vii) Concrete chamber sunk into the ground acting as a Cellar to include large diameter pipework as a starting point for drilling;
 - viii) Purpose built tanks for the storage of semi-dry drilling mud and rock cuttings;
 - ix) External lighting to drill rig including rig floor, mud tanks and pumps, catwalk, doghouse and site cabins;
 - x) On site water storage tankers and a portable skip for on-site refuse collection;
 - xi) Erection of 5 Portable cabins providing temporary office accommodation and essential 24-hour staff living accommodation and laboratories;
 - xii) Noise attenuation and dust control procedures will operate on site including effective silencers and damping down runways as the weather dictates.
- 3.3 The planning application seeks permission for four phases – construction, drilling, testing and retention or restoration, as detailed in **Table 3.1** below. These Phases

might not be carried out consecutively depending on for example, the availability of equipment or staff, the need for site maintenance or off site laboratory testing, and the applicability of the Phases is also dependent upon whether oil or gas, or neither are encountered. Moreover, the technical constraints associated with the drilling and maintenance of an exploratory borehole means that until operations begin on site, it is difficult to anticipate how long it will take to complete the development. Therefore both best case and worst case scenario have been illustrated in **Table 3.1** so that environmental impacts associated with the Proposed Development will never be “worse” than those identified in this ES.

Table 3.1 Timescales and Phasing of the Proposed Development

Phase	Best Case Scenario	Worst Case Scenario
Phase 1 Construction	6 weeks	6 weeks
Phase 2 Mobilisation and drilling	6 weeks	10 weeks (includes a 4 week contingency)
Phase 3a Testing (gas)	1 week (includes mobilisation, 1 wk test with rig and flaring)	2 weeks (includes mobilisation, 2 weeks test with rig and flaring)
Phase 3b Testing (oil)	2 weeks – (1 week mobilisation, 1 week testing with rig and flaring)	14 weeks (2 weeks mobilisation, 12 weeks testing, but rig will not be at site during an extended test such as this)
Phase 4a Restoration	6 weeks	6 weeks
Phase 4b Retention	1 month	30 months

- 3.4 It is anticipated that the best case scenario will apply but the worst case scenario allows for any contingencies required during the operation of the development. As a worst case scenario, a 4 week contingency has been included during mobilisation and drilling in case maintenance of the borehole, drill rig or other ancillary equipment is required. Should planning permission be granted for a period of three years and the discharge of conditions, development of the Site, drilling and testing undertaken within 6 months, the worst case scenario is that the site would be retained for a period of up to 30 months whilst an application for production is prepared and submitted.

- 3.5 Based on the above, it is the worst case scenario which will be assessed in the ES although it should be noted that the impacts are anticipated to be considerably less than those detailed in this ES, as the best case scenario is the likely development programme.
- 3.6 The main elements of the Proposed Development and the associated processes are described in more detail below. This Chapter should be also read in conjunction with Chapter 6 which has been prepared by Richard Elliott Associates Ltd and describes the construction programme for the Proposed Development.

Phase 1: Construction of the Access Road and Well Site (6 Weeks)

- 3.7 Phase 1 will last for up to 6 weeks and involves the construction of the highway entrance, new access track and the well site.

Site Clearance and Top Soil Removal

- 3.8 Where practicable, site clearance operations will take place outside of the bird breeding season and would be carried out between September and February. If it is necessary to undertake any activities between mid-May and late August, the Application Site will be checked by a suitably qualified ecologist for the presence of nesting birds.
- 3.9 In terms of topography, the Application Site generally rises in a north easterly direction between 25-30m AOD. At the main well site area this change in land form results in a height difference of just over 1m from corner to corner. As a result of the existing site levels, surplus soil will be excavated from the higher corner and moved to the opposite corner to level the site in a 'cut and fill' operation.
- 3.10 All excavated soils will be retained on site for future reinstatement of the Application Site and access road. The topsoil will be stripped off using an excavator and placed in a stockpile as close as possible to the point of excavation. This limits the disturbance of the soil structure and the amount of tracking over both the topsoil and the exposed site formation.
- 3.11 Topsoil removed from the main well site will be placed as a bund along the eastern boundary of the well site compound as illustrated in **Drawing 3261/BB/10A**. The topsoil removed from the access road will be placed in a strip alongside the northern extent of the access road and near to the entrance off the B2133. The positioning of the proposed bunds adjacent to the access road is shown in **Drawing 3261/BB/07B** and

3261/BB/08A. The height of bunds along the access road and enclosing the well site compound will not exceed 4.5m. A more detailed description of the ground works associated with the site clearance and top soil removal is contained within Chapter 6.

Site Entrance and Access Track

- 3.12 The Application Site entrance is situated off the B2133 and utilises an existing field access located between two mature Oak trees, as shown in **Drawing 3261/BB/07B**. The access to the Application Site from the B2133 has been designed to allow for “right turn in/left turn out” only, so that neither of the Oak trees need to be removed (**Drawing 3261/BB/15**). To allow sufficient width for vehicles to enter the Application Site it is proposed that a section of hedgerow, shown on **Drawing 3261/BB/07B** will be removed. The value of this section of hedgerow has been surveyed as part of the ecology assessment contained at Chapter 7 of this ES. Notwithstanding the fact that this section of hedgerow is considered to be species poor, as part of the proposed mitigation measures it will be replaced. The replacement hedgerow will be species-rich, enhancing the existing species-poor hedgerow. A comprehensive assessment of the potential ecological impact of the Proposed Development and a full description of all the proposed mitigation measures is presented at Chapter 7 and 14 of this ES.
- 3.13 As illustrated in **Drawing 3261/BB/07B** and **Drawing 3261/BB/08B**, the route of the proposed access track passes west along an existing agricultural track before deviating in a south westerly direction at Pocock’s Wood towards the entrance of the main drill site. Passing places have been incorporated every 350m along the route of the access track to ensure there are safe opportunities for vehicles to pass.

Well Site Compound

- 3.14 The compound layout as it will be constructed is illustrated in **Drawing 3261/BB/09A**, and the compound during drilling operations is illustrated in **Drawing 3261/BB/10A** with cross sectional views illustrated in **Drawing 3261/BB/13**. The compound is largely rectangular with a width (west to east) of approximately 55m and a length (north to south) of approximately 78m. An inceptor ditch and small retaining bund will be constructed around the compound to collect rain water runoff and contain any potential contaminants such as fuel and oils used in operating the site preparation and drilling machinery. The contents of the ditches will be removed from the Application Site by a tanker and will be taken to a registered disposal site. Due to the contours of the land, some soil moving operations would be required to create a level platform. As stated at paragraph 4.11, and illustrated on **Drawing 3261/BB/09A**, the existing top-

soil would be stripped and stored as temporary bunds along the eastern boundary.

- 3.15 The internal site surface would be formed with crushed stone compacted on top of a geotextile layer with a nominal fall to a perimeter interceptor ditch. The interceptor ditch would be 600mm deep and 1.2m wide and lined with Bentomat geomembrane falling to a corner sump area.
- 3.16 A number of the activities during the construction phase, such as the laying of crushed stone for the access road and the internal well site surface, require transportation. A detailed description of the anticipated traffic movements associated with this Phase and the potential impact on the local highway network is presented in the transport assessment at Chapter 10 of this ES.

Phase 2: Mobilisation of the Drill Rig and Drilling Operations (6-10 Weeks)

Mobilisation

- 3.17 Transporting (to site) and erecting the drill rig is termed 'mobilisation' and takes place over a period of up to three days. A detailed description of the traffic movements associated with the mobilisation and drilling phase is contained at Chapter 10 of this ES.
- 3.18 The precise specification of the drill rig will not be known until a contractor has been selected, although the Applicant is likely to use the MR7000 drilling rig (or similar) which is a typical rig used for onshore UK drilling. The maximum height of the rig mast would be no more than 36m above ground level.
- 3.19 All of the major components associated with the drill rig including the on-site water tanks, pipe store, mud and fuel tanks and essential 24 hour staff living accommodation including mess, shower and WC, are contained within the main drilling compound, as shown in **Drawing 3261/BB/10A**. The mass and scale of the proposed well site compound is determined by the size and layout of the drill rig including the associated equipment and infrastructure, and the processes which need to be undertaken to explore the borehole in a safe, sensitive and satisfactory manner.

Drilling Operations

- 3.20 Once commenced, drilling and associated operations would be on a 24 hours per day basis and based on a worst case scenario would last for up to 10 weeks. The drilling operations involve the drilling of an exploratory borehole into the anticipated Willow

Prospect at a depth of approximately 2,500 metres below the ground. Drilling of the borehole will not have any surface impacts. The drilling and casing programmes would be designed in accordance with standard petroleum industry practice established and managed by the Department for Energy and Climate Change (DECC), taking into account the anticipated geology, pressures and objectives of the borehole. 24 hour drilling is necessary to prevent the open hole section of the well which is being drilled, from collapsing and therefore lengthening operations.

Water Supply

- 3.21 Water would be required for the drilling fluids whilst drilling the borehole, dealing with the possible loss of fluids to formation in the early drilling stage and emergency fire-fighting contingencies. The supply of water would be delivered by 5000 gallon capacity tanker to two on-site storage tanks. It is estimated there would be an initial requirement of up to 36,000 gallons per day (8 tanker loads) for the first three days of drilling reducing to 10,000 gallons per day (two tanker loads) thereafter.

Waste Disposal

- 3.22 Semi-dry drilling mud and rock cuttings would be collected in purpose built tanks which would be located on either a concrete pad or in skips and transported from the Application Site by road for disposal at an authorised waste disposal facility in proximity to the Application Site. The contents of the portable toilets would also be removed periodically to an approved disposal site. The contents of the surface water collection ditch and compound sump would be emptied as necessary and transported by road tanker for disposal at an approved location. A portable skip for refuse collection would be provided and its contents disposed of periodically to a Licenced waste disposal site in proximity to the Application Site.

Personnel

- 3.23 Approximately 15 staff will be required during the construction of the well site and access road and normally, 12 staff will be on-site during drilling operations. Staff car parking will be made available within the Application Site, as shown in **Drawing 3261/BB/10A**.

Lighting

- 3.24 As discussed above, to prevent the well from collapse the operation would be carried

out for 24 hours per day. In order to operate 24 hours a day, lighting would be required during the hours of darkness. The position of the lights within the Application Site and on the drill rig can be seen on **Drawing 3261/BB/12A**. Lights will consist of the following:

- Five freestanding 3 metre high fluorescent lights facing inwards and downwards towards the Application Site;
- Six Tungsten filament bulkhead lights located on site cabins;
- Two horizontal strip lights at cabin level adjacent to the rig; and
- Inward facing lighting within the derrick of the drilling rig.

3.25 A comprehensive assessment of the proposed lighting scheme is presented at Chapter 12 of the accompanying ES.

Environmental Safety

3.26 Site specific Emergency Response Procedures will be put in place in consultation with the emergency services. Drilling and any subsequent testing operations will be conducted in accordance with good oilfield practice and all relevant controlling bodies and British Standards. Should any emergency situation occur the well would be instantaneously "closed in" by means of the fitted Blowout Preventer. The adoption of normal emergency procedures applicable to oilfield operations would ensure compliance with the U.K. onshore environmental safety control regime.

Health and Safety

3.27 Borehole operations would be undertaken as required by the Borehole Sites & Regulations 1995 (Ref. 4.1), the Management of Health & Safety at Work Regulations 1992 (Ref. 4.2), the Construction (Design & Management) Regulations 2007 (Ref. 4.3), the Offshore Installations & Wells (Design & Construction etc) Regulations 1996 (Ref. 4.4) and the Applicant's Health & Safety Manual. All construction, drilling, possible testing and restoration activities would be carried out in accordance with DECC procedures.

Phase 3a: Short Term Testing and Evaluation - Gas (1-2 weeks)

3.28 The Applicant plans to drill to the target sections, log the borehole and if hydrocarbons are found, set production casing and run a short duration Drill Stem Test (DST). The

testing programme would begin with a short clean-up flow of the gas to remove any water or condensates which would be undertaken via an onsite separator tank, before the routine flare programme (**Drawing 3261/BB/11A**).

3.29 A routine flare programme involves piping the gas from the separator to the flare and testing the gas flow rate in sunlight hours only, for no longer than two weeks. This process requires just a small amount of gas which would then be burnt off by the burners rather than released untreated into the atmosphere. There are three potential gas flaring systems which could be used on the site and are categorised as;

1. A basic flare;
2. A shielded flare; or
3. A re-burning flare or Clean Enclosed Burner (CEB).

3.30 A basic flare consists of an open flame in an excavated pit surrounded by a bunded area on three sides with a designated safety exclusion zone, as shown in **Drawing 3261/BB/11A**. The flare pipe enters the pit on the open side and is laid horizontally at ground level to minimise the height of the flare above the bund. This method will create minimal noise or vibration. A shielded flare is similar to a basic flare but includes an external protective covering to provide a shield to the flames and heat. Both of these processes cause a slight rumbling noise. A re-burning flare or CEB, is a fully enclosed burner which completely encloses the flare so flames are not visible. In the flaring process itself, inside a CEB the gas is mixed with air in a diffuser and burned to achieve total combustion. This process does produce some noise, and a CEB is normally only used if high volumes of gas are discovered.

3.31 As illustrated in **Drawing 3261/BB/10A**, the flare pit is located in the south east corner of the proposed well site compound and is enclosed by soil bunds to limit radiated heat. This flare area is constructed during the site construction phase to avoid disruption when the drilling rig is on site, and uses subsoil excavated from the Application Site to add screening to the flare.

3.32 Noise during gas testing will be no worse than the levels provided for the CEBs which is measured at 65dB at 200 yards for CEB model 4500 (Appendix 4.2). Noise levels will be limited due to the short term nature of a routine gas flare programme. A comprehensive description of the anticipated noise levels associated with this testing phase and the potential impacts on local receptors is presented within the noise assessment at Chapter 11 of this ES.

Phase 3b: Short Term Testing and Evaluation - Oil (2-14 weeks)

- 3.33 If oil is detected in the rock and mud samples recovered whilst drilling the well, and subsequent analysis confirms the presence of oil, the well will be tested to see if the oil will flow freely and in sufficient quantities to justify further appraisal. The duration for well testing of oil typically takes approximately two weeks to complete. If, as indicated in **Table 3.1**, the testing phase is extended to 14 weeks, the rig would be dismantled and taken off site and would not be on site for this extended period. The rig demobilisation is the reverse process to the earlier mobilisation, leaving the wellhead in place and a cabin on the Application Site for monitoring staff.
- 3.34 The surface equipment will be the same as for gas testing. However, as natural oil always contains an element of gas and water which must be separated prior to testing at least three additional tanks will be required to store the liquids produced from the well. From the storage tank the oil is passed through the separator and any gas is flared off or if it contains any hydrogen sulphides, it will be burnt off or tankered off-site to an approved location in the vicinity of the Application Site.
- 3.35 Flaring during oil testing will be at the same noise level as those identified above in Phase 3a. A generator would be required on-site for power and this is likely to be the P165E1 generator or similar which is stated as being 70dBA at 7m. Further details on noise can be found in Chapter 9.

Phase 4a: Restoration (6 weeks)

- 3.36 Should no hydrocarbons be encountered or upon completion of the DST, the well would be abandoned by plugging the borehole in accordance with DECC's normal procedures. This involves cutting the steel casing approximately 1.5m below the surface and capping the borehole with a steel plate. Decommissioning of the rig would take approximately three days. All structures including welfare and support buildings, the drill rig, storage tanks, the well cellar and sump-lining would be removed. Any remaining drilling mud and cutting waste would be removed from the site along with the pit liner and perimeter ditch-lining.
- 3.37 In restoring the site all stone is removed, and the soil which has been stored in the on-site bunds, is replaced. Where the hedge has been removed, this section of hedgerows will be replanted with young whips of native variety hedgerow plants that are protected by wooden post and rail fences with rabbit netting to deter rodents.

- 3.38 The post and wire fences would be left up to protect the freshly worked soils from livestock and the farmer would usually take them down at his own convenience. The aftercare of the site is also sub-contracted to the farmer so he can time the work to suit his own operations.
- 3.39 Stored subsoil and top soil would be loose spread over the re-graded ground and subsoil to relieve compaction. The Application Site would be re-contoured and allowed to regenerate naturally without the use of grass seed or planting and possibly replanted with trees in the future.
- 3.40 The proposed reinstatement programme would be agreed with West Sussex County Council in writing prior to commencement of the works.

Phase 4b: Retention (1-30 Months)

- 3.41 If commercially viable deposits of oil or gas are located and tests prove positive, the Application Site may be retained whilst future options are considered. These options are outside the scope of this assessment but may involve further testing or re-appraisal of seismic data and re-drilling to reach a different area underground.
- 3.42 In the event of retention, the Application Site would be cleaned as for restoration but the stone surface, drainage ditches and the cellar would be left in place. A safety cage would be built around the wellhead valve assembly and all valves closed, pending a decision either to plug and abandon the well or to carry out further works.
- 3.43 All fence lines would be retained and maintained, and gates across the entrance would be locked to deter unauthorised access.

4.0 NEED

4.1 Seismic data for the Willow-1 Prospect has indicated that there may potentially be both oil and natural gas deposits within the Triassic rock structure. This planning application therefore makes provisions for the exploration and appraisal of both minerals and this Section considers the "need" for their extraction in light of the UK's supply of and demand for fossil fuels.

Establishing the "need" for Fossil Fuels

4.2 The oil and gas industry accepts the importance of involving the local community in the development of minerals applications but the issue of local concern versus national need is a common issue faced by the industry. One of the main reasons for this recurring contention, is because there is no definition of "need" or an accepted methodology of how to prove the need for the development of oil or gas reservoirs. This is despite national policy and Government statistics supporting the development of our indigenous supplies and modern energy infrastructure.

4.3 Oil is an important feedstock for a number of critical industries including agriculture, transport services, manufacturing companies, and energy, petrochemical and medicinal suppliers. A number of substances which are produced from oil and their subsequent uses are highlighted below in **Table 4.1**;

Table 4.1 Substances Produced from Oil and their Uses

	Substance	Uses
Lowest boiling point	gases	Propane and butane gas for lighter fuel
	naphtha	Chemicals for medicines, plastics, paints and cosmetics
	gasoline	Petrol for vehicles
	kerosene	Jet fuel and paraffin
	diesel oils	Diesel fuel
	lubricating oils	Machine oil, waxes and polishes
Highest boiling point	fuel oil	Fuel for ships and central heating
	residue	Bitumen for road surfaces and roofing materials

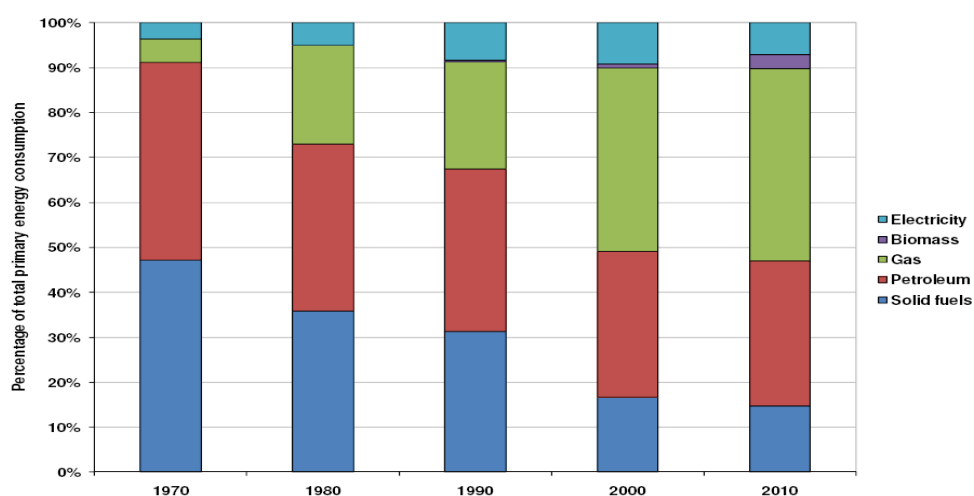
Source: Oil and Gas UK, January 2012

4.4 Data on "Energy Trends – Supply and use of crude oil, natural gas liquids and feedstocks" from DECC published 29 March 2012 illustrates that indigenous crude oil production in 2011 was 16.3% lower than in 2010 whilst the indigenous production of Natural Gas Liquids (NGL) was 30.8% lower over the same period. DECC conclude that these decreases stem from a number of unexpected slowdowns on the UK Continental Shelf (UKCS), as well as general decline in UK production from the UK's established fields. There are a number of crude oil fields in the UK and internationally which have passed their peak production and the increase in demand combined with the stagnation and even decline in supply, has seen oil prices increase significantly in the last decade.

4.5 Natural gas is one of the UK's primary sources of energy and in 2011, accounted for over 40% of the UK's energy mix. It is estimated that more than twenty million households use gas directly for cooking, heating and the use of home appliances, whilst a great number of consumer goods and products are made from the chemical processing of gas. For example, natural gas is used to produce steel, glass, paper, clothing, brick and electricity, and is an essential raw material for many common products including paints, fertiliser, plastics, anti-freeze, dyes and medicines.

4.6 **Figure 4.1** illustrates the total primary energy consumption by fuel (UK) from 1970 – 2010, according to the DECC "Digest of UK Energy Statistics" (2011). The need to reduce carbon emissions whilst ensuring secure energy supplies means that for the foreseeable future, gas will be a primary source of energy in the UK. As natural gas in particular, is used to generate electricity, the already high demand for the National Gas Transmission System is set to grow at a peak rate of around 2.1% per annum (National Grid, Gas Transportation Ten Year Statement 2009).

Figure 4.1: Total Primary Energy Consumption by Fuel (UK) 1970 - 2010



Source: Digest of UK Energy Statistics, DECC, 2011

- 4.7 **Figure 4.1** illustrates that since 1970, total primary energy consumption in the UK has changed from the predominant use of solid fuels to an increasing, and now dominant, use of natural gas as the primary source of energy consumption in 2010. This data illustrates the sustained and significant demand for natural gas in the UK, and our continuing dependency on and the need for indigenous supplies and infrastructure. Without further investment and extraction of our indigenous fossil fuel supplies, there is a concern that international competitive markets may not be able ensure that sufficient capacity is made available during times of peak demand.

The Demand for Oil and Gas

- 4.8 The demand for oil and gas in the UK has exceeded our domestic supply since 2004 for gas and 2006 for oil, with figures on "Oil and Gas Projections" produced by DECC in March 2010 indicating that by 2025 the UK will be dependent on foreign imports for oil and gas, by 60% and 68% respectively. The UK's onshore oil and gas industry fully supports the development of renewable energy technology but still has a responsibility to meet the nation's need for fossil fuels until such a time when our demand for energy can be satisfied by renewable energy sources. The ability for renewable energy sources to meet the demands for energy in the UK is likely to take longer than anticipated with renewable energy sources currently providing a relatively small percentage of the UK's energy mix.
- 4.9 Fuel mix disclosure data from DECC shown below in **Table 4.2** and as defined in the Electricity (Fuel Mix Disclosure) Regulations (2005), illustrates that during the period 1 April 2010 to 31 March 2011 the UK fuel mix consisted of the following energy sources;

Table 4.2 UK Fuel Mix

Energy Source	%
Coal	28.9
Natural Gas	44.2
Nuclear	17.3
Renewables	7.9
Other	1.7

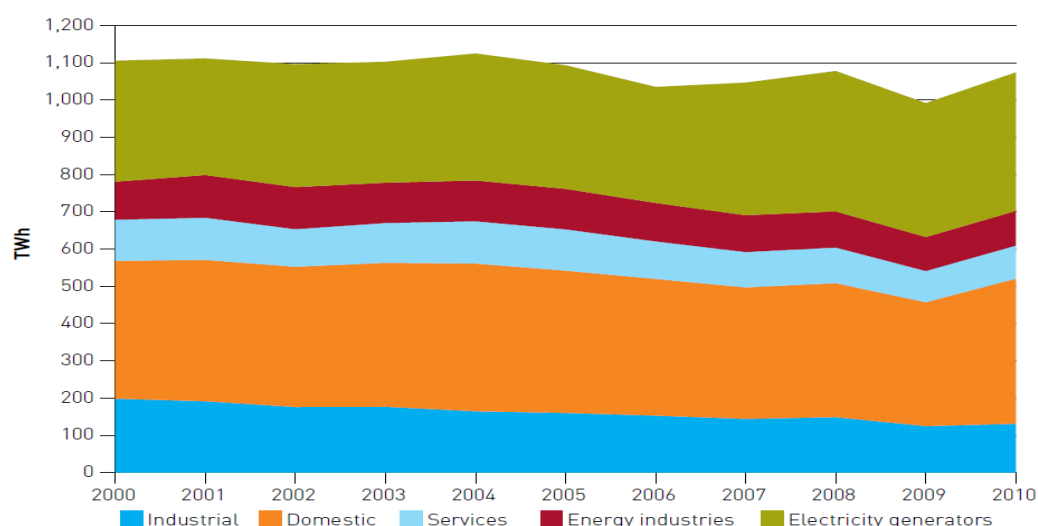
Source: Fuel Mix Disclosure Data, DECC, 2011

- 4.10 The data in **Table 4.2** clearly illustrates the UK's dependency on natural gas for energy at 44.2% whilst renewable energy sources only currently provide approximately 7.9% of the UK's energy supply. As the Coalition Government encourage the development of low carbon energy sources through national policy and initiatives, it is important to

acknowledge that fossil fuels will still form a part of our energy mix for the foreseeable future.

- 4.11 Quarterly data from DECC on the supply and use of crude oil, natural gas liquids and feedstock's published on 29 March 2012, states that exports of crude oil and NGLs in 2011 were 24.5% lower compared with 2010 whilst imports of crude oil and NGLs increased by 5.5% over the same period. The net importation of crude oil and NGL products widened substantially from 8.8 million in 2010 to 21.1 million in 2011, with net imports supporting around a third of the UK's refinery demands in 2011 which is almost double the 2010 figure. These figures show the increasing demand for oil and natural gas and the decreasing indigenous supplies available thus increasing our dependence on foreign imports which reduces our security of supply and can lead to shortages in supply and substantial price increases.
- 4.12 Information from the "Statutory Security of Supply Report" (SSSR) published by DECC and Ofgem in November 2011, indicates that the demand for gas is split roughly into thirds between electricity generation, domestic use and a combination of industry/services and energy industries (page 22). Further details on the consumption of natural gas are shown below in **Table 4.3**.

Table 4.3 Consumption of Natural Gas from 2000 to 2010

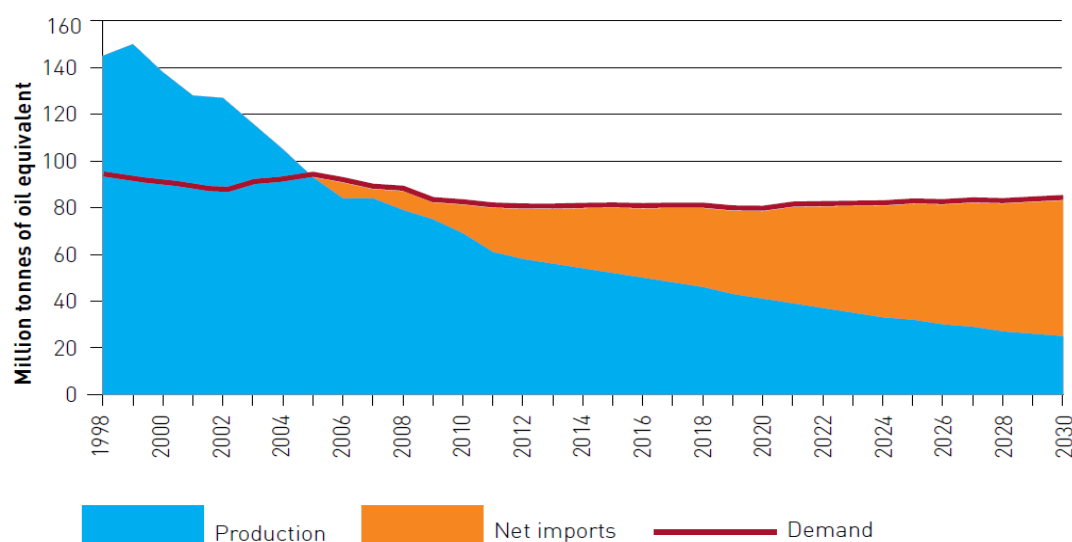


Source: SSSR, page 23

- 4.13 The demand for gas varies on a daily basis although demand tends to be much lower in the summer compared to winter which is largely driven by the need to heat homes and businesses. In comparison, demand for industrial purposes and electricity generation tends to be less seasonal and driven by the price of gas relative to the prices of other fuels and the price of electricity (SSSR, page 23).

- 4.14 The SSSR (2011) shows that the latest projections indicate that UK oil production is expected to continue falling whilst demand is expected to remain at the current rate of around 90 million tonnes of oil equivalent per year (**Chart 4.1**).

Chart 4.1 UK Oil Production And Demand, Forecast To 2030



Source: DECC Demand and Projections Forecast, SSSR (2011)

- 4.15 The demand for oil comes from its use in a number of critical industries as previously highlighted in this Chapter, and as a number of produced substances including aviation and vehicle fuel, lighter fuel, paraffin and Bitumen for road surfaces and roofing materials. The SSSR (2011) suggests that we currently rely on oil for almost all of our motorised transport needs with transport accounting for around 75% of final consumption of oil products in the UK in 2010, around 49 million tonnes. In the last decade, demand for oil has increased as a result of the growth in the aviation sector and the use of diesel vehicles whilst its use in power generation has decreased. Whilst the UK is a net exporter of petroleum products, the UK is increasingly reliant on importing other products to meet demand using significant quantities of diesel road fuel and aviation fuel (SSSR, page 45).

The Supply of Oil and Gas

- 4.16 The UK has been a net importer of gas since 2004 and is becoming increasingly dependent on foreign supplies to meet energy demands. The UK has seen net imports of gas increase from 11 bcm per year in 2006 to 37.5 bcm in 2010 with the UK growing increasingly dependent on imports from Norway and Qatar (**Table 4.4**).

Table 4.4 Natural Gas Imports and Exports

	2006	2007	2008	2009	2010
					bcm
Imports from:					
Belgium	2.77	0.59	1.11	0.72	1.23
The Netherlands	0.83	6.96	8.23	6.32	7.92
Norway	14.28	20.52	25.79	23.68	25.16
Liquefied Natural Gas	3.42	1.35	0.81	10.05	18.53
<i>of which:</i>	-	-	-	-	-
Algeria	1.88	0.60	0.28	1.76	1.05
Australia	-	-	-	0.07	-
Egypt	1.13	0.16	-	0.53	0.11
Nigeria	-	-	-	-	0.33
Norway	-	-	-	0.17	0.81
Qatar	0.07	0.24	-	5.56	14.54
Trinidad & Tobago	0.33	0.35	0.53	1.96	1.51
Yemen	-	-	-	-	0.16
	-	-	-	-	-
Total Imports	21.30	29.43	35.94	40.77	52.84

Exports to:	-	-	-	-	-
	-	-	-	-	-
Belgium	5.47	4.67	4.18	5.64	8.72
The Netherlands	0.31	0.58	0.94	1.19	1.44
Norway	-	0.01	0.04	0.02	0.01
Republic of Ireland	4.30	4.63	4.93	4.94	5.12
	-	-	-	-	-
Total Exports	10.07	9.90	10.09	11.80	15.29
	-	-	-	-	-
Net Imports	11.22	19.53	25.85	28.97	37.55

Source: DECC, Digest of UK Energy Statistics, 2011 (table 4.5)

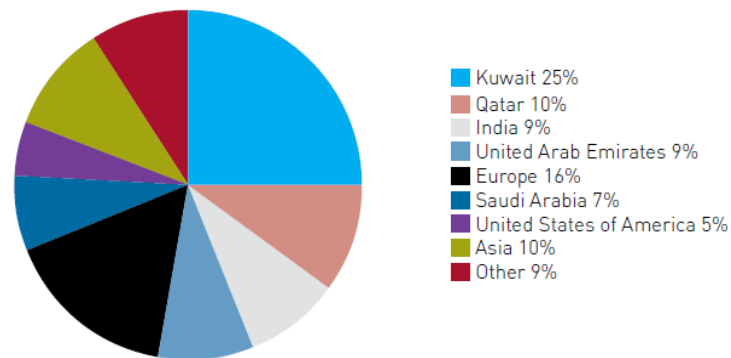
4.17 The dependency on foreign imports for gas supply creates further risk to security of supply although the UK does maintain capacity for gas storage. The ability to meet demands for gas, whether on a particular day or over a more prolonged period such as a severe winter, is particularly important in a security of supply context (SSSR, page

41). Price, production conditions and contractual agreements all have an impact on the supply of natural gas from each of the sources of supply – UK production, imports from Europe or Liquid Natural Gas (LNG), and storage.

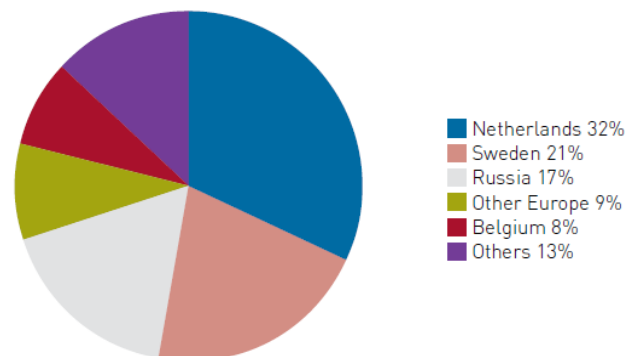
- 4.18 As the demand for oil is likely to continue due to its use in transport and aviation, foreign supplies are likely to form a growing form of supply as UK production continues to fall. The UK is increasingly dependent on the middle east and Norway for the supply of aviation and diesel fuel (**Chart 4.2**).

Chart 4.2 Sources of UK Aviation and Diesel Imports, 2010

UK aviation fuel imports by country, 2010



UK transport diesel imports by country, 2010



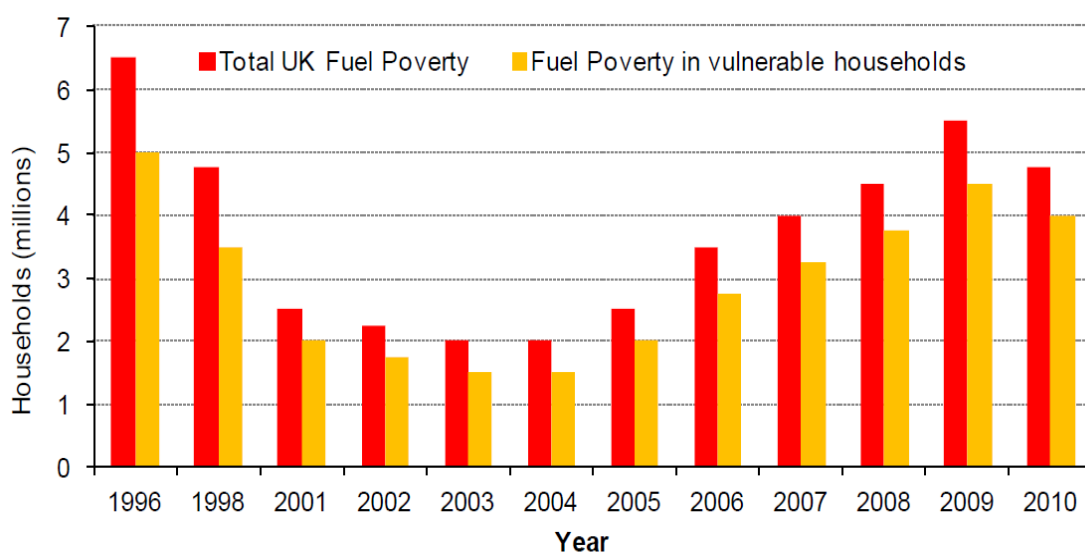
Source: SSSR, page 46

- 4.19 As our dependence on oil for fuel within the transport sector is anticipated to grow, our dependency on foreign exports is likely to increase in the UK over the next 20 years (SSSR, page 46). More energy efficient engines and alternative fuels are required to reduce this dependency and help to ensure security of supply.

Ensuring Security of Supply

- 4.20 The development of renewable energy sources and their integration into our existing energy infrastructure will require significant investment and development before it will replace the demand for oil and natural gas. During this transition, it is important that our security of supply is increased to prevent the detrimental impact that a restricted fossil fuel supply would have on our economy and society, in particular vulnerable groups living in or on the edge of fuel poverty.
- 4.21 In January 2010, a Gas Balancing Alert (GBA) was issued by National Grid as the UK experienced one of the coldest winters since the mid 1980's, in which demand for gas was likely to outstrip supply, leaving households without power (BBC News, 2010; Met Office, 2011). **Chart 4.3** (below) illustrates the levels of fuel poverty in the UK (all households and vulnerable) from 1996 to 2010¹.

Chart 4.3: Fuel Poverty in the UK, 1996 to 2010



Source: Annual Report on Fuel Poverty Statistics, DECC, 2012

- 4.22 DECC's Annual Report on Fuel Poverty Statistics (2012) states that between 2004 and 2009 energy prices have increased significantly for oil and gas at over 75% and 122% respectively (page 10). Whilst the North Sea provides the majority of our domestically produced natural gas, the onshore industry still plays a vital role in helping to deliver security of supply, as well as other important local economic and social benefits including employment, employee spending and agricultural diversification.

¹ Data unavailable for 1997, 1999 and 2000

Supporting Economic Growth

4.23 Notwithstanding the contribution our indigenous supplies of oil and gas, make to ensuring the continued running of our homes, business and transport systems, it also makes a significant contribution to economic growth and employment. The Digest of UK Energy Statistics (DUKES) published 28 July 2011, summarises the energy industries contribution to the economy in 2010;

- 3.9% of GDP;
- 9.9% of total investment;
- 51.8% of industrial investment;
- 173,000 directly employed (7% of industrial employment);
- Many others directly employed e.g. estimated 207,000 in support of UKCS activities.

4.24 The energy industry therefore plays a vital role in supporting the UK economy through investment and employment, whilst also supporting local economies through employee spending and agricultural diversification. Whilst operational equipment including the drill rigs and production facilities come with a fully trained crew, many operators in the industry seek to employ suitably qualified local companies to undertake landscaping and site construction works, as well as using local suppliers for aggregates, temporary accommodation buildings, security fencing and other ancillary equipment. Furthermore, the industry also has an indirect impact on economic growth by providing the energy and infrastructure which is required to power UK businesses, homes and transport systems. The Government is therefore responsible for ensuring reliable supplies and investments are promoted and this is reflected in national energy policy.

National Policy on Energy and Need

4.25 National energy policy clearly identifies the need for additional oil and gas infrastructure in the UK, in order to improve energy security and market efficiency. The need for additional energy infrastructure and supplies is urgent, and this is recognised in the following national policy.

The Energy White Paper: "Meeting the Energy Challenge" (2007)

4.26 The Energy White Paper was published by the former DTI in May 2007. It sets out the Government's international and domestic energy strategy in response to growing

evidence of the impact of climate change and the need to cut greenhouse gases, rising fuel prices, a growing awareness of the risks of relying upon oil and gas imports from a small concentration of countries, and the need for the market to make substantial new investment in power stations, the electricity grid and gas infrastructure.

- 4.27 The need to reduce carbon emissions whilst ensuring secure energy supplies means that for now, the UK cannot rely on renewable energy sources alone. In terms of promoting a diverse energy mix it is stressed by the White Paper that fossil fuels will continue to play an essential role in the UK's energy system for the foreseeable future. To ensure 'security of the supply' a crucial element of the Government's energy strategy is to maximise the economic production of our domestic energy sources which, together with the UK's energy saving measures, will help reduce our dependence on energy imports.

Overarching National Policy Statement for Energy (EN-1) (2011)

- 4.28 On 18th July 2011 the House of Commons debated and approved the six National Policy Statements for Energy (NPS). The energy NPSs set out national policy against which proposals for major energy projects will be assessed.
- 4.29 In terms of future energy supply the Government states that fossil fuel plays a vital role in providing reliable electricity supplies and;

'...provides diversity in our energy mix. They will continue to play an important role in our energy mix as the UK makes the transition to a low carbon economy, and Government policy is that they must be constructed, and operate, in line with increasingly demanding climate change goals'.

- 4.30 In regard to the need for further infrastructure, in particular gas related development, Government policy states that:

'whilst the gas market is largely robust to a range of adverse events, the risk of shortfalls in supply cannot be ruled out, nor the risk that there may need to be significant rises in wholesale gas prices in order to balance the market. Further infrastructure – beyond that which exists or is under construction at present – will be

needed in future in order to reduce supply or price risks to consumers'

The Energy Act (2011)

- 4.31 On 18 October 2011, the Energy Bill received Royal Assent and became the Energy Act 2011. The Energy Act is part of a step change from the Coalition Government to make energy more efficient for homes and businesses, and improve our energy framework to enable energy supplies from secure low carbon technology, and fair competition in energy markets.
- 4.32 Part 2 of the Act is entitled "Security of Energy Supplies" and Chapter 1, Part 79 sets out legislation for Ofgem to provide an Annual Report on "future demand for, and supply of, electricity in Great Britain" and under Part 80 what "electricity supply capacity is required". The first of these Annual Reports was published in 2010 and is considered below. Chapter 3 deals with "Upstream Petroleum Infrastructure" and in supporting the acquisition of rights to use upstream petroleum infrastructure, Part 82 also acknowledges that the Secretary of State should take into consideration "(f) the need to maintain security and regularity of supplies of petroleum".

Annual Energy Statement (2010)

- 4.33 The Annual Energy Statement (AES) published in 2010 acknowledges the mission of the Government to "support the transition to a secure, safe, low-carbon, affordable energy system in the UK". The AES acknowledges the following;

"Demand for fossil fuels is set to increase with the huge rise in population and wealth of emerging economies. In parallel, as recent events in the Gulf of Mexico have shown, the costs and risks of extracting fossil fuels from more remote locations are rising. With the UK's own oil and gas resources declining, unless we act now, we will become more vulnerable to high and volatile oil and gas prices" (page 2).

- 4.34 In securing oil and gas supplies, the Government acknowledges the use of new sources of gas (shale gas) and notes that in light of the Deepwater Horizon incident, there is a need for "the highest standards of safety management and tough environmental standards" rather than a moratorium against such developments. The AES states that

recent gas disputes in Europe only underline the importance of the need to improve our energy security, develop low carbon sources of supply while also reducing energy consumption. The AES notes that the UK's own indigenous supplies of oil and gas remain important and "we must maximise economic production while applying effective environmental and safety regulations".

- 4.35 As a point of action (Action 11) the AES states that the forthcoming Energy Security and Green Economy Bill will seek to ensure that access to UK oil and gas infrastructure is available to all companies. "This will help the exploitation of smaller and more difficult oil and gas fields, allowing us to make the most of our natural resources".

The Annual Energy Statement (2011)

- 4.36 The Annual Energy Statement (AES) was delivered by the former energy minister Chris Huhne, to Parliament on 23 November 2011, and describes the progress of the Coalition Government on their energy policies and emerging initiatives including the Green Deal. The AES reflects a crucial part of DECC's strategy to reduce the amount of energy we use. In respect of electricity, DECC are "working to secure Britain's energy supplies" and the AES notes that the UK needs "significant new investment in power plants and infrastructure to meet future demand". The 2011 White Paper on electricity market reforms aims to attract infrastructure investment for a diverse mix of energy sources including "renewables, new nuclear and fossil fuels – including carbon capture and storage". Each of these energy sources are considered as being "important" and over the past year, the Government has "introduced a range of policies to support them".
- 4.37 In respect of technologies, the AES again highlights that "fossil fuels will remain important" and that "gas will continue to feature strongly in our energy mix" with Government policies being "designed to allow new gas plant to be built". The AES also recognises that between 2001 – 2009, fuel poverty doubled due to the increasing cost of fuel. The AES states that the energy sector also makes a significant contribution to employment and the economy, providing more than half of our industrial development. The AES concludes that the UK "must secure huge investment in our energy sector" to build the power plants that will fuel our prosperity and the infrastructure that will deliver it.

The National Planning Policy Framework (2012)

- 4.38 The National Planning Policy Framework (NPPF) was published in March 2012 and

recognises that minerals “are essential to support sustainable economic growth and our quality of life”. In this regard, the NPPF also states that;

“it is therefore important that there is a sufficient supply of material to provide the infrastructure, buildings, energy and goods that the country needs” (para 142).

- 4.39 At a national level, the need for modern energy infrastructure and the development of indigenous supplies is clearly supported through policy. This is further evidenced by a number of Government reports and research on energy mix, security of supply and demand which are considered below.

Summary

- 4.40 In light of the UK’s growing dependency for imported fuel, UK onshore oil and gas production makes an important contribution to the national energy market, economic growth and employment, and securing supplies. Ensuring that the UK’s domestic resources are used to their full potential is especially important considering the increased competition for energy resources in the face of growing global energy demand.
- 4.41 The Proposed Development supports the Government’s national energy strategy by maximising the economic production of indigenous energy sources. Furthermore onshore oil and gas production helps to increase the reliability of the UK’s energy supply arrangements and prevent interruptions to supply which could ultimately have harmful consequences for local, regional and national communities and economies.
- 4.42 Whilst this Chapter has dealt with national policies on the need for energy infrastructure and therefore for the Proposed Development, the following Chapter now considers the planning policy framework which has informed its design and location.

5.0 PLANNING POLICY FRAMEWORK

National Planning Policy

National Planning Policy Framework

5.1 The National Planning Policy Framework (NPPF) was published in March 2012 and sets out the Government's requirements for the planning system. The principle objective of the NPPF is a presumption in favour of sustainable development, which should be seen as a 'golden thread' running through both plan-making and decision-taking. In regard to the determination of planning applications this means:

'approving development proposals that accord with the development plan without delay; and

- **where the development plan is absent, silent or relevant policies are out-of-date, granting permission unless:**
- **any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or**
- **specific policies in this Framework indicate development should be restricted**

5.2 With the exception of waste, the NPPF replaces most of the planning policy guidance notes and planning policy statements including Minerals Policy Statement 1 (Planning and Minerals) and Minerals Policy Statement 2 (Controlling and Mitigating the Environmental Effects of Minerals Extraction in England).

5.3 Section 13 of the NPPF covers minerals development and stresses the essential role that minerals plays in encouraging 'sustainable economic growth'. The Framework seeks to ensure that there is 'sufficient supply of material to provide the infrastructure, buildings and energy and goods that the Country needs'. The NPPF also acknowledges that 'minerals are a finite resource' and can 'only be worked where they are found'.

5.4 The NPPF provide guidance to LPA's when determining planning applications for mineral extraction the following of which is of relevance to the development of an exploratory well site:

- **give great weight to the benefits of the mineral extraction, including to the economy;**
- **ensure, in granting planning permission for mineral development, that there are no unacceptable adverse impacts on the natural and historic environment, human health or aviation safety, and take into account the cumulative effect of multiple impacts from individual sites and/or from a number of sites in a locality;**
- **ensure that any unavoidable noise, dust and particle emissions and any blasting vibrations are controlled, mitigated or removed at source and establish appropriate noise limits for extraction in proximity to noise sensitive properties;**
- **provide for restoration and aftercare at the earliest opportunity to be carried out to high environmental standards, through the application of appropriate conditions, where necessary. Bonds or other financial guarantees to underpin planning conditions should only be sought in exceptional circumstances;**

5.5 Further to the considerations above the NPPF states that Minerals Planning Authorities should also when planning for on-shore oil and gas development, including unconventional hydrocarbons:

'... clearly distinguish between the three phases of development (exploration, appraisal and production) and address constraints on production and processing within areas that are licensed for oil and gas exploration or production'

5.6 In accordance with European Regulations on Environmental Impact Assessments (EIA), relevant environmental assessments have been undertaken in support of this planning

application to ensure that the proposals do not have unacceptable effect on the natural or historic environment and human health. In accordance with industry standards the Application Site is sited more than 300m from the nearest residential property, however a noise assessment has to ensure that the proposals do not have a detrimental impact on nearby receptors. In view of the buffer provided by the surrounding woodland and subject to the implementation of standard construction and operational practices it is anticipated that the proposals will not have a significant impact in terms of noise.

Technical Guidance to the National Planning Policy Framework

- 5.7 The document provides additional guidance to LPAs to ensure the effective implementation of the planning policy set out in the National Planning Policy Framework in relation to mineral extraction.
- 5.8 Paragraph 20 of the technical guidance states that Mineral Planning Authorities (MPA) are 'expected to ensure that plan proposals do not have an unacceptable adverse effect on the natural or historic environment or human health'. The guidance advises that a programme of works should be agreed 'which takes account, as far as is practicable, of the potential impacts on the local community over the expected duration of operation'. The drilling period will only last up to 8 weeks and a programme of works for the Proposed Development is outlined at Section 3 of this Statement.
- 5.9 Paragraph 23 of the technical guidance makes it clear that 'unavoidable dust emissions are controlled, mitigated or removed at source'. It is not anticipated that the Proposed Development will give rise to significant dust emissions. However standard industry measures such as wheel washing will be employed to ensure compliance with appropriate environmental standards.
- 5.10 The technical guidance recognises that all minerals operations will 'have some particularly noisy short term activities that cannot meet the limits set for normal operations'. In accordance with the NPPF the application is supported by a detailed noise assessment to ensure that unavoidable noise emissions are controlled, mitigated or removed at source.
- 5.11 In summary, the findings of the noise assessment showed that the predicted noise levels from on-site operations were below permissible noise limits, for all phases of the Proposed Development, thus a negligible effect is expected.

Regional Planning Policy

The South East Plan (2009)

- 5.12 On the 10th November 2010 a High Court judgement in the case brought by Cala Homes, considered that the powers set out in section 79 [6] of the Local Democracy, Economic Development and Construction Act 2009 could not be used to revoke all Regional Strategies in their entirety. As the effect of this decision is to re-establish Regional Strategies as part of the development plan this Chapter has considered the relevance of policies contained within the Regional Spatial Strategy (RSS) – the South East Plan (2009).
- 5.13 Mineral planning policies in the RSS are underpinned by sustainable development as a key principle and in providing minerals for both regional and national needs, developments should;
- Safeguard the region’s naturally occurring minerals and encourage the use of suitable alternative construction materials where appropriate
 - Protect the environment and local amenity
 - Minimise the adverse impacts of the transport of minerals and construction materials (RSS, para 10.61).
- 5.14 The RSS accepts that mineral working can have an adverse impact on the environment and local amenity and as a result extensive mineral workings will remain unavailable for development. The RSS promoted planning policies which manage specific impacts including noise, dust, good site management and effective restoration.
- 5.15 Minerals are identified as making a crucial contribution to economic and development activity with oil currently being extracted in Hampshire and Surrey. The RSS acknowledges that there is no specific regional planning policy regarding hydrocarbons, and it therefore notes the importance of planning authorities considering the availability of resources as part of the preparation of mineral development documents (RSS, para 10.98).

County Planning Policy

West Sussex Minerals Core Strategy

5.16 In light of the changes and proposed changes to the planning system under the Coalition Government including the revocation and restoration of the RSS and the Localism Bill, work on the West Sussex Mineral Core Strategy has been suspended. The Minerals Core Strategy Preferred Options were published in January 2007 and therefore hold little weight in the determination of planning applications. The planning application will therefore be considered below in the context of the adopted Minerals Local Plan (2003).

West Sussex Minerals Local Plan (2003)

5.17 A central objective to the West Sussex Local Plan is the principle of sustainable development and Policy 1 states;

POLICY 1: THE MINERAL PLANNING AUTHORITY IS COMMITTED TO THE PRINCIPLE OF SUSTAINABLE DEVELOPMENT. MINERAL WORKINGS WILL BE PERMITTED ONLY WHERE: -

(a) WORKING PRACTICES WHICH CAUSE LEAST ENVIRONMENTAL HARM WILL BE FOLLOWED; AND

(b) OPPORTUNITIES TO CONSERVE AND ENHANCE THE ENVIRONMENT ARE INCORPORATED IN PROPOSALS TO RECLAIM THE LAND TO A STANDARD APPROPRIATE TO THE AGREED AFTER USE.

5.18 The Local Plan accepts that minerals are a finite resource and can only be worked where they naturally occur. In this respect, "natural mineral resources should not be sterilised by development which could take place elsewhere" (Local Plan, para 3.4). National, regional and local planning policy emphasise the value of the countryside and acknowledge the pressures being experienced in trying to balance conservation and development needs. National planning policy encourages the exploration and production of gas reserves in the UK which increases the security of domestic supply. There is potential for large quantities of both oil and gas in West Sussex and the Local Plan states;

"The main sources for hydrocarbons in West Sussex are the faults and folds in the Corallion Beds and the lower Oolites of the Jurassic period which have created

structures that have trapped oil and gas. These extend under the whole County” (Local Plan, para 2.46 and **Figure 5.1**, below).

Figure 5.1 Hydrocarbon Reserves in West Sussex



Source: West Sussex Minerals Local Plan, page 15

- 5.19 The Local Plan states that the underlying geology provides the foundation of the landscape of the County and that conflicts arise when minerals become of economic interest (Local Plan, para 4.1). The Mineral Planning Authority promote the preference for extraction outside of areas protected by statutory designation, although as previously acknowledged minerals can only be worked where they naturally occur and therefore planning applications for mineral working will need to satisfy certain criteria before receiving approval (Local Plan, para 4.4). It is also noted that the “best and most versatile” agricultural land must be protected from irreversible development.

POLICY 14: MINERAL WORKING MAY BE PERMITTED ON THE BEST AND MOST VERSATILE AGRICULTURAL LAND. WHERE THIS OCCURS, PRIORITY WILL BE GIVEN TO ENSURING THAT THE PHYSICAL CHARACTERISTICS OF THE LAND ARE RESTORED, SO FAR AS IT IS PRACTICAL TO DO SO, TO WHAT THEY WERE WHEN THE LAND WAS LAST USED FOR AGRICULTURE. THE APPROPRIATE FIVE YEAR AFTER-CARE SCHEMES WILL BE REQUIRED TO FOLLOW RECLAMATION. VARIATIONS FROM AN AGREED SCHEME WILL REQUIRE THE AGREEMENT OF THE MINERAL PLANNING AUTHORITY AFTER CONSULTATION WITH THE DEPARTMENT FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS

- 5.20 The benefits of mineral workings must outweigh the environmental disadvantages with particular regard to sustainable development principles. Planning application will be rigorously examined to take account of the likely impact of mineral workings in the countryside.

- 5.21 The Local Plan acknowledges that mineral working can affect residential amenity and the built environment through, for example, noise, dust and traffic impacts. Policy 19 states that:

POLICY 19: IN CONSIDERING PLANNING APPLICATIONS FOR MINERAL EXTRACTION ATTENTION WILL BE GIVEN TO THE EFFECT UPON RESIDENTIAL AND OTHER AMENITY, AND MEASURES TO MITIGATE THE IMPACT.

- 5.22 In accordance with Policy 19 assessments covering noise, flood risk and transport have been undertaken in support of this planning application and are contained within the accompanying Environment Statement. These assessments demonstrate that the proposals do not have an adverse impact upon residential amenity or where necessary mitigation measures have been proposed to reduce effects to an acceptable level.
- 5.23 Mineral working sites must be reclaimed at the earliest opportunity and should be practicable and appropriate to the area. Policy 20 states;

POLICY 20: PLANNING PERMISSION FOR MINERAL EXTRACTION WILL ONLY BE GRANTED WHERE PROPOSALS FOR RECLAMATION WOULD BE PRACTICABLE AND APPROPRIATE FOR THE LOCATION, AND THAT RECLAMATION WOULD BE COMPLETED AT THE EARLIEST OPPORTUNITY.

- 5.24 Planning applications for mineral workings will only be approved where a comprehensive restoration programme including aftercare and after use, is agreed with the planning authority. **Policy 22** states;

POLICY 22: PLANNING APPLICATIONS FOR MINERAL WORKING WILL ONLY BE APPROVED WHERE THEY INCORPORATE EITHER DETAILED PROPOSALS FOR RECLAMATION, OR THE PRINCIPLES OF RECLAMATION REQUIRING THE SUBMISSION AND AGREEMENT OF MORE DETAILED PROGRAMMES AT A LATER DATE (OR DATES) TO BE AGREED WITH THE MINERAL PLANNING AUTHORITY. PROGRESSIVE RESTORATION WILL BE REQUIRED IN ACCORDANCE WITH PHASED WORKING SCHEMES, UNLESS IT CAN BE DEMONSTRATED THAT THIS IS NOT PRACTICABLE.

- 5.25 The Local Plan accepts that “exploration can normally be undertaken quickly and relatively unobtrusively” providing that a programme of reclamation is included as an integral part of the planning application submission (para 5.9). In the event that the Applicant does not discover commercially viable quantities of hydrocarbons the Site will be restored in accordance with a restoration programme agreed with the MPA.

- 5.26 The location of hydrocarbon deposits is dependent upon seismic and other geological data which is most commonly carried out by the PEDL operator, and therefore the Local Plan does not allocate or identify hydrocarbon reserves or potential working areas. The onus is therefore on the developer to provide evidence as to why a particular site has been chosen and its suitability, and this is concluded in Policy 26 and supported by Policy 27 which state;

POLICY 26: APPLICATIONS FOR THE EXPLORATION, APPRAISAL AND/OR COMMERCIAL DEVELOPMENT OF OIL OR GAS RESOURCES WILL BE PERMITTED WHERE IT IS DEMONSTRATED TO THE SATISFACTION OF THE MINERAL PLANNING AUTHORITY THAT THE PROPOSAL PRESENTS THE BEST OPTION IN COMPARISON WITH OTHER ALTERNATIVE SITES WITHIN THE AREA OF SEARCH AND THAT THE PROPOSAL IS ACCEPTABLE IN RELATION TO THE SURROUNDING AREA. PARTICULAR ATTENTION WILL BE GIVEN TO

- (A) THE IMPACT ON OTHER COUNTRYSIDE RESOURCES;**
- (B) THE SITE ACCESS AND THE ROUTING OF HEAVY VEHICLES;**
- (C) THE MEANS OF PROTECTING NEARBY RESIDENTS AND AMENITIES FROM THE EFFECTS OF THE OPERATIONS;**
- (D) THE SAFEGUARDING OF PUBLIC RIGHTS OF WAY; AND**
- (E) THE SAFEGUARDING OF WATER SUPPLIES AND THE WATER ENVIRONMENT.**

POLICY 27: PERMISSION FOR HYDROCARBON EXPLORATION WILL NORMALLY BE GRANTED SUBJECT TO COMPLIANCE WITH THE ISSUES ADDRESSED IN POLICY 26 HAVING REGARD TO THE LIMITED DURATION AND AREA OF THE ACTIVITY.

- 5.27 A number of technical assessments have been undertaken as part of this planning application and give regard to the considerations listed in Policy 26. As part of the ES and in accordance with Policy 26 an alternative sites assessment has been undertaken and accompanies this planning application submission. The purpose of the alternative sites assessment is to identify sites which offered the potential for the development of an exploratory well site, within the Search Area identified by the Applicant. The assessment involved a desk-based review of the environmental and planning constraints followed by a number of site visits. Of the sites that were assessed, the proposed site at Wood Barn Farm was identified as the most suitable site for development in light of all planning, environmental and transport issues, as well as technical constraints associated with exploratory drilling.
- 5.28 Applicants are also advised that a working scheme and details of all plant and machinery will be required, with Policy 51 and 52 stating;

POLICY 51: APPLICANTS WILL BE REQUIRED TO INCLUDE IN PLANNING APPLICATIONS A SATISFACTORY WORKING SCHEME TO SHOW HOW WORKING WITHIN THE SITE IS INTENDED TO PROGRESS AND TO SHOW HOW RECLAMATION WILL FOLLOW CLOSE BEHIND EXCAVATION. UNWORKED AREAS WILL BE REQUIRED TO CONTINUE IN USE FOR FARMING OR BE MANAGED TO AN AGREED SPECIFICATION. APPROPRIATE ACCESS TO RECLAIMED AREAS WILL BE REQUIRED TO ENABLE AN APPROVED AFTERCARE SCHEME TO COMMENCE AT THE EARLIEST OPPORTUNITY.

POLICY 52: DETAILS WILL BE REQUIRED OF THE SITING AND APPEARANCE OF BUILDINGS, MACHINERY AND PLANT TOGETHER WITH PROPOSALS FOR THEIR REMOVAL WHEN NO LONGER REQUIRED IN CONNECTION WITH THE DEVELOPMENT.

5.29 In accordance with policies 51 and 52 a description of the Proposed Development is presented at section 3 of this Statement and outlines in detail the works involved with the construction and operation of the proposed well site. The planning application also includes plans detailing the appearance of buildings, machinery and plant during the different phases.

5.30 An ecology assessment has been undertaken in support of the planning application, and in accordance with Policy 53 the proposals will not result in the loss of any valuable habitats or trees. Furthermore appropriate measures have been proposed to ensure the protection of existing areas of woodland including Prince’s Wood located approximately 150m to the east, which is designated as Ancient Woodland.

POLICY 53:

- (a) APPLICATIONS FOR MINERAL WORKINGS WILL BE REQUIRED TO INCORPORATE SATISFACTORY MEASURES FOR THE RETENTION, PROTECTION AND MAINTENANCE OF EXISTING TREES, HEDGEROWS AND SHRUBS WHERE APPROPRIATE.**
- (b) THE PROVISION OF SOIL BUNDS AND PLANTING WILL BE REQUIRED WHERE NECESSARY TO SCREEN WORKINGS AND TO CONTRIBUTE TO FINAL RECLAMATION SCHEMES.**

5.31 Public Rights of Way and their amenity should be safeguarded and promoted, with views from public areas across mineral workings taken into consideration along with proposals for landscaping and screening. Policy 55 clarifies this position, stating;

POLICY 55: PUBLIC RIGHTS OF WAY WILL BE SAFEGUARDED AND PROMOTED. THE AMENITY OF RIGHTS OF WAY, (PARTICULARLY VIEWS ACROSS WORKINGS) WILL BE TAKEN INTO ACCOUNT IN CONSIDERING PROPOSALS FOR LANDSCAPING AND SCREENING MINERAL SITES. WHERE STOPPING UP IS NECESSARY TO ENABLE EXTRACTION TO TAKE PLACE, STEPS WILL BE TAKEN WHERE PRACTICABLE TO SECURE THE PROVISION OF ALTERNATIVE PATHS AFFORDING CONNECTIONS TO OTHER HIGHWAYS IN SUCH A WAY AS TO MAINTAIN THE INTEGRITY OF THE RIGHTS OF WAY NETWORK AS A WHOLE AND TO PROVIDE ACCESS TO SUCH PARTS OF THE ORIGINAL PATHS AS DO NOT NEED TO BE STOPPED UP. ALTERNATIVE PATHS AND ANY NECESSARY DIVERSIONS OF EXISTING PATHS WILL BE REQUIRED TO BE IN PLACE IN GOOD TIME. WHERE APPROPRIATE, RECLAMATION PROPOSALS WILL BE SOUGHT TO INCREASE THE RIGHTS OF WAY NETWORK AND TO ENSURE THE REINSTATEMENT AT THE EARLIEST OPPORTUNITY OF THE ORIGINAL RIGHT OF WAY.

- 5.32 In accordance with Policy 55, the proposals will not have a direct impact on any Public Rights of Way. The impact of the proposals on the views experienced from PROWs in the surrounding countryside has been assessed as part of the supporting landscape and visual impact assessment. In view of the existing level of screening and its temporary nature it is anticipated the Proposed Development will not have an adverse impact on existing PROWs.
- 5.33 The Local Plan also seeks to promote measures to protect the quality of water supplies and ensure that mineral extraction would have no adverse impact on the water table. Policy 56 states:

EXTRACTION WILL HAVE NO ADVERSE EFFECT UPON THE WATER TABLE WHICH WOULD BE LIKELY TO CAUSE SIGNIFICANT ENVIRONMENTAL DAMAGE, FLOODING OR ADVERSELY AFFECT WATER RESOURCES.

- 5.34 Flood Risk was "scoped out" of the ES as pre-application discussions with WSCC and the Environment Agency (EA) indicated that there was no flood risk in the area, and that the Proposed Development would not create a flood risk. A groundwater assessment was carried out and concludes that there are no major aquifers present and a limited local reliance on groundwater for water supplies. The risk of groundwater pollution is therefore considered to be inherently low but is reduced further by the incorporation of mitigation measures such as use of water-based, non-toxic drilling fluids which are industry standard.
- 5.35 As in commonplace in the development of hydrocarbon well sites and in accordance with Policy 58 set out below, the soil which is stripped or cut from the construction of the

site will be retained, to prevent the site being reinstated with non-native soil.

POLICY 58: APPROPRIATE STRIPPING, HANDLING AND STORAGE OF SOILS PRIOR TO AND DURING MINERAL WORKING WILL BE REQUIRED IN ORDER TO PROTECT ITS QUALITY PENDING RE-SPREADING. SOILS REQUIRED FOR RESTORATION MUST BE RETAINED ON THE SITE.

Furthermore this soil will be appropriately handled as such that its quality is protected.

- 5.36 Following on from Policy 56, Policy 59 advocates the imposition of suitable conditions to ensure the proper control of drainage and the efficient discharge of water from any mineral working sites;

POLICY 59: CONDITIONS WILL BE IMPOSED UPON PLANNING PERMISSIONS TO ENSURE THAT THE DRAINAGE AND DISCHARGE OF WATER IS EFFICIENTLY AND PROPERLY CONTROLLED WITHIN THE SITE.

- 5.37 In accordance with Policy 59, the risk of local ground and surface water contamination will be removed by well-engineered site preparation, including the use of HDPE linings or similar, and the capture of all surface runoff via an interceptor ditch system.
- 5.38 A noise assessment has been undertaken and accompanies the planning application to address the requirements of Policy 60 of the Local Plan;

POLICY 60: CONDITIONS WILL BE IMPOSED REQUIRING THAT ACCEPTABLE MAXIMUM LEVELS OF NOISE ARE NOT EXCEEDED AND APPROPRIATE MONITORING POINTS WILL BE IDENTIFIED ON SITE BOUNDARIES AND/OR AT APPROPRIATE LOCATIONS OUTSIDE THE SITE.

- 5.39 Noise from on-site construction works were assessed against fixed noise limits of 65dB (daytime), 55dB (evening and weekend) and 45dB (night). Due to the large separation distance between the Application Site and the closest noise sensitive premises, the predicted noise levels from on-site operations were below the proposed noise limits for all phases of the Proposed Development, thus a negligible effect was expected. Although no significant noise effects have been identified as a result of the proposals, in accordance with Policy 60, the assessment has recommended that noise monitoring is undertaken to ensure that the noise limits used within the assessment are not exceeded.
- 5.40 The Local Plan seeks to suppress dust levels from mineral workings and Policy 61 states;

AND BY WATERING (OR BOWSING) AREAS REGULARLY USED BY VEHICLES, AND BY THE USE OF DUST EXTRACTORS.

POLICY 61: CONDITIONS WILL BE IMPOSED UPON PLANNING PERMISSIONS WHERE APPROPRIATE TO SUPPRESS DUST LEVELS BY SUCH MEANS AS SPRAYING WATER ON MATERIAL AT APPROPRIATE STAGES IN PROCESSING,

5.41 In accordance with regular well site practice, the Site will be constructed and operated in accordance with standard industry measures to suppress dust levels.

5.42 Protection of the local amenity is important in choosing a location for the development of a hydrocarbon well site. Measures to protect local amenity through the control of lighting, working hours associated with the operation of the site and buffer zones have been incorporated into the proposals in support of Policies 62, 63 and 64;

POLICY 62: CONDITIONS WILL BE IMPOSED ON PLANNING PERMISSIONS TO CONTROL THE ARTIFICIAL LIGHTING OF SITES IN THE INTERESTS OF LOCAL AMENITY.

POLICY 63: WHERE APPROPRIATE CONDITIONS CONTROLLING HOURS OF WORK WILL BE IMPOSED ON PLANNING PERMISSIONS INVOLVING MINERAL WORKING, PROCESSING AND ANCILLARY OPERATIONS, IN ORDER TO SAFEGUARD RESIDENTIAL AMENITIES.

POLICY 64: BUFFER ZONES TO REDUCE THE IMPACT OF OPERATIONS UPON THE NEIGHBOURHOOD MAY BE REQUIRED, PARTICULARLY IN RELATION TO RESIDENTIAL AREAS AND OTHER NOISE SENSITIVE USES.

Local Planning Policy

Horsham District Council Core Strategy (2007)

5.43 The proposed exploratory well site falls within the District of Horsham. Although not a determining authority Horsham District Council is a statutory consultee for the purposes of this minerals application and therefore it is important to consider relevant policies in the adopted Horsham District Core Strategy (2007).

5.44 The Horsham Core Strategy sets out "the key elements of the planning framework for the District, primarily over the period to the end of March 2018, but with a view to providing the basis for a longer term spatial strategy within which the economic, social

and environmental needs of the District can be met” (para 1.3, Core Strategy). The Core Strategy Spatial Objectives are;

- 1) To protect and enhance the diverse character and local distinctiveness of the District;**
- 2) To integrate the need for protection of the natural, built and historic environment (including the natural resources) of the District with the need to allow the continued evolution of both the countryside and the character and environment of settlements;**
- 3) To ensure that new development in the District is of high quality;**
- 4) To enable the provision of a sufficient number of dwellings to meet the requirements of regional planning policy to 2018, including that specified by the West Sussex Structure Plan 2011 – 2016;**
- 5) To provide for business and employment development needs, particularly for existing local businesses;**
- 6) To meet the diverse needs of the communities and businesses of the District;**
- 7) To promote and enhance community leisure and recreation facilities, and to assist the development of appropriate tourism and cultural facilities;**
- 8) To enhance the vitality and viability of Horsham town centre and the centres of the smaller towns and villages in the District;**
- 9) To reduce the expected growth in car based travel by seeking to provide choice in modes of transport wherever possible.**

5.45 The Core Strategy takes full regard of the need to ensure sustainable development and the protection of the landscape character of the District. In this respect Policy CP2 states;

POLICY CP 2

Environmental Quality

The high quality management of the District's environment will be encouraged and supported through a combination of promotional measures, including grant aid where appropriate, and careful appraisal of development proposals to ensure that they provide for enhancement by:

- a. minimising the emission of pollutants, including noise, odour and light pollution, into the wider environment;
- b. having no adverse effects on water quality, reduce water consumption, reducing flood risk to new development and ensuring that flood risk to existing development is not increased;
- c. minimising waste generation and the consumption and use of energy, including fossil fuels, and taking account of the potential to utilise renewable energy sources;
- d. utilising sustainable construction technologies; and
- e. incorporating facilities for recycling of water and waste.

5.46 The Proposed Development supports the principle of sustainable development by encouraging the exploitation of indigenous hydrocarbons which will ultimately help to support the UK's energy needs. In accordance with Policy CP2 the proposals take full account of the environmental constraints with the area and the planning application is accompanied by technical assessments to ensure the environmental quality of the area is maintained.

Horsham District Council General Development Control Policies (2007)

5.47 Whilst the Core Strategy forms the overarching document in the Local Development Framework (LDF), the Horsham District Council General Development Control Policies (GDGP) document sets out the policies which planning applications for the use of land and buildings will be determined against. "For proposals on sites where no specific policy applies, applications will be considered on their merits and against the spatial objectives set out in the Core Strategy" (para 1.6, GDGP).

5.48 The GDGP acknowledges that trees and woodland make a significant contribution to the character of the District and **Policy DC6** states;

POLICY DC 6

WOODLAND AND TREES

Felling of protected trees will only be permitted in exceptional circumstances, and, where unavoidable, replacement planting with suitable species will be required.

Applications for surgery to protected trees where the proposals are contrary to best arboricultural practice, and/or would detract from the amenity value of the trees in question will be refused.

- 5.49 In accordance with Policy DC 6 the proposals will ensure the protection of existing trees and woodland as evidenced in the Landscape and Visual Impact Chapter of the ES. Tree roots, Ancient Woodland and the substantial Oak trees which line the B2133 have been taken into consideration in the well site design.
- 5.50 In regard to archaeological assets Policy DC10 states;

POLICY DC 10

ARCHAEOLOGICAL SITES AND ANCIENT MONUMENTS

Planning permission will not be granted for proposals that would cause unacceptable harm to important archaeological sites or their settings. Where there is evidence that archaeological remains may exist on a site, the Council will require applicants to submit an archaeological assessment prior to the determination of a planning application.

If, in exceptional circumstances, permission is granted on such sites, preservation in situ of important archaeological remains will be sought.

If preservation of archaeological remains by record is agreed to be appropriate, the applicant will be required to arrange and fund the excavation, investigation, recording, reporting and publication of findings to an acceptable professional standard. Where practicable, measures should be taken to raise awareness of any archaeological work during the construction phase.

- 5.51 There are no Scheduled Monuments within 2km of the Application Site. Discussions with the County Council have indicated that the existing field pattern is medieval and that the site was located in the Wealden glass-working areas of the 16th and 17th century. As a result, the Council recommended in their Scoping Response dated 13 June 2012 that a Heritage Statement should be submitted with the application. This should include an archaeological risk assessment along with measures for further field-based assessment if required, to mitigate the impact of groundwork's on buried archaeological features. A Heritage Statement therefore accompanies the planning application.
- 5.52 There are a number of Listed Buildings within the surrounding area including Broadfield Bridge Farmhouse, a Grade II listed building approximately 480m to the south east of the Application Site. Policy DC13 seeks to protect the setting of such buildings and states;

POLICY DC 13

LISTED BUILDINGS

Development affecting a Listed Building or its setting will not be permitted unless the proposal:

- a. **has no adverse effect on the special architectural or historic character and appearance of the building or its setting;**
- b. **uses building materials, finishes and building techniques, including those for features such as walls, railings, gates and hard surfacing, that respect the Listed Building and its setting;**
- c. **incorporates landscaping, where appropriate, having regard to the character and appearance of the Listed Building;**
- d. **is of appropriate scale and design;**
- e. **results, where relevant, in the removal of unsympathetic features and the restoration or reinstatement of missing features; and,**
- f. **would ensure the continued preservation and use of the building.**

Proposals involving the total or partial demolition of a Listed Building will not be granted unless it can be demonstrated that;

1. **its condition makes it uneconomical to repair, renovate, or adapt to any reasonable use; or,**
2. **in the case of partial demolition it would improve the character and appearance of the building or protect features of interest and importance.**

- 5.53 The Proposed Development has been sited away from areas of residential development and is well screened from the surrounding landscape by extensive areas of existing woodland. In view of the Site's enclosed nature it is not anticipated that the Proposed Development will have a detrimental impact on these Listed Buildings.
- 5.54 It has therefore been demonstrated that the proposals for the proposed well site have been informed by and developed in accordance national, regional and local planning policies. In addition to this Planning Statement, a number of environmental assessments have been undertaken as part of the accompanying ES. The ES, in combination with this Statement, illustrate that no significant adverse impacts will occur as a result of the development or that where applicable, mitigation measures have been proposed to limit impacts.

6.0 SUSTAINABILITY APPRAISAL

- 6.1 The planning system seeks to deliver sustainable development within the UK, and Sustainability Appraisals are carried out by local planning authorities (LPA) as part of the preparation of their plans. Sustainability assessments often accompany planning applications for development and therefore in order to assist those considering or interested in this planning application, this section carries out a Sustainability Assessment of the Proposed Development. The SA has regard to the principles of sustainable development set out at the national, regional and local level.
- 6.2 In preparation for the Regional Spatial Strategy (RSS) for the South East, a Sustainability Appraisal was carried out by the Government Office for the South East (GOSE) in April 2009. West Sussex County Council (WSSCC) undertook a Scoping Report for the Sustainability Appraisal of the Minerals and Waste Development Framework (MWDF) in April 2009, and Horsham District Council carried out a Scoping Report for the Sustainability Appraisal of the Core Strategy Review Consultation Document in September 2009. As part of these sustainability appraisals, objectives were and are being developed, against which the emerging development plans would be tested. The remainder of this Chapter will consider the sustainability of the Proposed Development in relation to these regional and local objectives.

National Sustainability Strategy

- 6.3 In 2005, the Government published a new national sustainability strategy 'Securing the Future' which built upon the 1999 strategy entitled 'A Better Quality of Life – A Strategy for Sustainable Development'. The aim of the strategy is to meet the needs of current and future generations and five guiding principles have been identified to meet this aim which include;
- Living within environmental limits;
 - Ensuring a strong, healthy and just society;
 - Achieving a sustainable economy;
 - Promoting good governance; and
 - Using sound science responsibly.
- 6.4 In summary, the Government's sustainability strategy 'Securing the Future' (2005) aims to evolve and develop, rather than depart from, the aims of the 1999 sustainability strategy 'A Better Quality of Life – A Strategy for Sustainable Development'. The 2005

strategy has stronger international and societal dimensions with an explicit focus on environmental limits and four agreed priorities including sustainable consumption and production, climate change, natural resource protection and sustainable communities.

- 6.5 The National Planning Policy Framework recognises the importance of minerals in achieving sustainable development through the provision of an adequate and steady supply of materials for buildings, infrastructure and goods that society, industry and the economy needs. The NPPF accepts that because minerals can only be developed from where they naturally occur there can often be conflicts between mineral extraction and the benefits to society. Therefore the NPPF advocates an integrated approach to considering the social, environmental and economic factors in meeting the nation's need for minerals in a sustainable manner.

Regional Sustainability Strategy

- 6.6 The GOSE undertook a Sustainability Appraisal in April 2009, on the final revisions to the RSS in preparation for its publication. This Appraisal was undertaken to provide a comprehensive assessment of all final policies in the RSS for the South East (2009). As part of the appraisal process wide-ranging consultation was undertaken and baseline data was collected to identify the key sustainability issues for the region and these findings were used to inform the assessment stage of the draft RSS.
- 6.7 The RSS reflects on the key sustainability objectives adopted in the Integrated Regional Framework and developed by the Regional Assembly, GOSE and South East of England Regional Development Agency. The sustainability objectives of the Regional Sustainability Framework informed the development of the RSS and therefore reflect the key issues of the South East (**Table 6.1**).

Table 6.1: The Regional Sustainability Framework objectives

1. To ensure that everyone has the opportunity to live in a decent, sustainably constructed and affordable home suitable to their need
2. To improve the health and well-being of the population and reduce inequalities in health
3. To reduce poverty and social exclusion and, by improving their performance, close the gap between the most deprived areas in the South East and the rest of the region

4. To raise educational achievement levels across the region and develop the opportunities for everyone to acquire the skills needed to find and remain in work
5. To reduce crime and perceptions of disorder
6. To create and sustain vibrant communities which recognise the needs and contributions of all individuals
7. To improve accessibility to all services and facilities including the countryside and the historic environment
8. To encourage increased engagement in cultural activity across all sections of the community in the South East and promote sustainable tourism
9. To ensure high and stable levels of employment so everyone can benefit from the economic growth of the region
10. To sustain economic growth and competitiveness across the region by focusing on the principles of smart growth: raising levels of enterprise, productivity and economic activity
11. To stimulate economic revival in deprived areas
12. To develop a dynamic, diverse and knowledge-based economy that excels in innovation with higher value, lower impact activities
13. To develop and maintain a skilled workforce to support long-term competitiveness of the region
14. To improve efficiency in land use through the appropriate re-use of previously developed land and existing buildings, including re-use of materials from buildings, and encourage urban renaissance
15. To reduce the risk of flooding and the resulting detriment to public wellbeing, the economy and the environment
16. To reduce air pollution and ensure air quality continues to improve
17. To address the causes of climate change through reducing emissions of greenhouse gases
18. To ensure that the South East is prepared for the impacts of climate change
19. To conserve and enhance the region's biodiversity
20. To protect and enhance the region's countryside and historic environment
21. To improve the efficiency of transport networks by enhancing the proportion of travel by sustainable modes and by promoting policies which reduce the need to travel
22. To reduce the global, social and environmental impact of consumption of resources by using sustainably and ethically produced, local or low impact products
23. To reduce waste generation and disposal, and achieve the sustainable management of waste

24. To maintain and improve the water quality of the region's rivers, ground waters and coasts, and to achieve sustainable water resources management
 25. To increase energy efficiency, security and diversity of supply and the proportion of energy generated from renewable sources in the region.
- 6.8 The RSS identifies energy developments as infrastructure (utility services: gas supply, electricity supply) and notes that whilst some aspects of infrastructure provide social benefits, the role of most infrastructure is to prevent serious detriments.
- 6.9 The Proposed Development will help to achieve the Region's sustainability objectives by improving energy security and supply and encouraging economic growth. An Environmental Statement (ES) has been prepared as part of the application for the Proposed Development and covers areas including ecology, transport and visual impact. It is anticipated that many of the potential environmental effects arising from the development will occur temporarily. Where direct effects cannot be avoided the ES has proposed a suitable programme of mitigation.

Local Sustainability Strategy

- 6.10 Formal preparation of the West Sussex Minerals and Waste Core Strategy was suspended last October. On 13 May 2011, a decision was made by the Council to build on the work carried out as part of the preparation of the Core Strategy and commence work on separate minerals and waste plans, commencing with the Waste Plan in the first instance.
- 6.11 Prior to the suspension of work on the Core Strategy, the County Council completed several rounds of informal engagement on a series of background papers. As part of preparation of the Council's Local Development Framework a Sustainability Appraisal Scoping Report was published by the Council in May 2009. The purpose of this Scoping Report was to ensure that the Sustainability Appraisal would be comprehensive and robust enough to support the preparation of the Core Strategy DPD. The objectives which were formulated as part of this Report are outlined in **Table 6.2** below:

Table 6.2: Detailed Appraisal Objectives

Objective Ref	Objective
A	To protect and, where possible, enhance the amenity of residents and neighbouring land-uses
B	To protect and, where possible, enhance the health and well-being of the public
C	To protect and, where possible, enhance the amenity of users of the PROW and other users of the countryside
D	To reduce the risk of flooding and resulting detrimental impact on public well-being, the economy, and environment
E	To provide an adequate supply of minerals and suitable waste facilities to meet social need and support economic growth.
F	To protect and, where possible, enhance the vitality and viability of the local economy
G	To protect and, where possible, enhance the vitality and viability of the local tourism industry
H	To minimise transport of minerals and waste by roads. Where road use is necessary, to minimise use of rural roads and maximise use of the Strategic Road Network and Advisory Lorry Routes
I	To protect and, where possible, enhance landscape and townscape character and quality
J	To protect and, where possible, enhance the historic environment
K	To make the best use of previously-developed land and reduce the need for greenfield sites
L	To protect and, where possible, enhance biodiversity and geodiversity
M	To safeguard and use mineral resources wisely and encourage, where possible, the use of secondary materials
N	To reduce the amount of waste, increase the re-use and recycling of materials and reduce the amount of waste going to landfill.
O	To reduce air pollution and to protect and, where possible, enhance air quality, including reducing the emission of greenhouse gases.
P	To minimise the use of the best and most versatile land and protect and, where possible, enhance soil quality
Q	To protect and, where possible, enhance water resources, water quality and the function of the water environment
R	To mitigate the causes, and adapt to the effects, of climate change, including by reducing greenhouse gas emissions and promoting the use of renewable energy.

(Source: West Sussex Minerals and Waste Development Framework, Sustainability Appraisal Scoping Report, May 2009)

6.12 The detailed sustainability objectives raised in Table 7.2 form the basis for the appraisal of the Proposed Development as set out in **Table 6.3** below.

Table 6.3: Summary of the Impact of Proposed Development Against the Detailed Sustainability Objectives

Objective Ref	Objective	Impact of Proposed Development
A	To protect and, where possible, enhance the amenity of residents and neighbouring land-uses	Although the Proposed Development has been sited away from areas of residential development a number of assessments have been undertaken as part of the planning application covering noise, transport and visual impact.
B	To protect and, where possible, enhance the health and well-being of the public	There assessment demonstrate that no adverse effects will occur as a result of the proposals or that where applicable mitigation measures will be to implemented to reduce effects to an acceptable level.
C	To protect and, where possible, enhance the amenity of users of the PROW and other users of the countryside	The proposals will not have a direct impact on any existing PROWs. The impact on PROWs passing within the vicinity of the Site has been considered as part of the supporting landscape and visual impact assessments. In view's of it's temporary nature and the level of natural screening it is not anticipated that the proposals will have a significant impact on the view experienced from these receptors.
D	To reduce the risk of flooding and resulting detrimental impact on public well-being, the economy, and environment	A number of assessments have been undertaken as part of the ES covering flood risk and hydrology, ecology, transport, noise and socio-economic impact. With the implementation of standard industry measures it is considered that the development will not have a significant adverse effect on the local environment. Furthermore it is anticipated that the Proposals will have a minor beneficial impact on the local economy.
E	To provide an adequate supply of minerals and suitable waste facilities to meet social need and support economic growth.	In light of the UK's growing dependency for imported fuel, onshore oil and gas exploration makes an important contribution to the meeting the UK energy demand and as such supports economic growth. Ensuring that the UK's domestic resources are used to their full

Objective Ref	Objective	Impact of Proposed Development
		potential is especially important considering the increased competition for energy resources in the face of growing global energy demand.
F	To protect and, where possible, enhance the vitality and viability of the local economy	<p>The Proposed Development is anticipated to generate employment for approximately 57 people in trades identified as having a readily available labour force.</p> <p>Indirect economic benefit will be introduced to the District through the procurement of locally supplied services and materials. Moreover, the Proposed Development supports agricultural diversification and provides a steady income to supplement an existing agricultural business.</p>
G	To protect and, where possible, enhance the vitality and viability of the local tourism industry	The Proposed Development Site is not located within an area of high landscape value and will not have a direct impact on any features of national or local archaeological importance. Furthermore it is anticipated that the Proposed Development will have a positive impact on the economy/tourism industry through the use of local services by visiting engineers and site operatives.
H	To minimise transport of minerals and waste by roads. Where road use is necessary, to minimise use of rural roads and maximise use of the Strategic Road Network and Advisory Lorry Routes	<p>In view of its temporary nature the transport movements associated with the Proposed Development are not considered to be high.</p> <p>Of all the phases, site construction usually generates the most traffic. However construction traffic would amount to less than 10% of total daily traffic volumes on the identified construction traffic access routes. No significant transport effects are therefore expected from the construction phase of the Proposed Development</p>
I	To protect and, where possible, enhance landscape and townscape character and quality	The site benefits from extensive woodland screening which generally obscures open views of the Site from the surrounding countryside.

Objective Ref	Objective	Impact of Proposed Development
		<p>Whilst the Proposed Development has some adverse landscape effects, these are most significant during the construction and mobilisation and drilling phases, due to loss of the agricultural landscape affecting both land use, and landscape character.</p> <p>If during the exploration phase commercial quantities of hydrocarbons are not discovered the site will be restored to greenfield land and as such the residual effect is considered low beneficial/negligible.</p>
J	To protect and, where possible, enhance the historic environment	<p>The Proposed Development will not have a direct impact on any features of national or local archaeological importance.</p> <p>There are a number of listed buildings within the vicinity of the Site. However in view of its temporary nature it is not anticipated that the well site will have an adverse impact on the setting of these buildings.</p>
K	To make the best use of previously-developed land and reduce the need for greenfield sites	As stressed in National Planning Guidance minerals can 'only be worked where they are found'. Although for technical reasons it is not feasible to locate the development on brownfield land the proposals have been designed to minimise the use of natural resources. Furthermore the planning application is for a temporary period and will be restored to greenfield land if commercial quantities of hydrocarbons are not discovered.
L	To protect and, where possible, enhance biodiversity and geodiversity	<p>The Application Site is not within 1km of any areas designated for their nature conservation value and the Application Site itself was assessed as being of land of low ecological value.</p> <p>With the exception of a small area of hedgerow, the proposals have sought to retain existing vegetation.</p>
M	To safeguard and use mineral resources wisely and encourage, where possible, the use of secondary materials	N/A

Objective Ref	Objective	Impact of Proposed Development
N	To reduce the amount of waste, increase the re-use and recycling of materials and reduce the amount of waste going to landfill.	N/A
O	To reduce air pollution and to protect and, where possible, enhance air quality, including reducing the emission of greenhouse gases.	It is not anticipated that the Proposed Development will not result in high levels of dust or CO2 emissions. Nevertheless standard industry measures such as wheel washing will be implemented to ensure that effects to local air quality will be negligible.
P	To minimise the use of the best and most versatile land and protect and, where possible, enhance soil quality	As part of the construction of the well site the soil will be stripped and carefully stored in the form of bunds to ensure that the soil structure is not compromised. If commercial quantities of hydrocarbons are not discovered the Site will be restored in accordance with a restoration programme to be approved by the MPA.
Q	To protect and, where possible, enhance water resources, water quality and the function of the water environment	A Flood Risk and Hydrology Assessment has been undertaken as part of the ES and indicates that that there are no major aquifers present and a limited local reliance on groundwater for water supplies. The risk of groundwater pollution considered to be inherently low but is reduced further by the incorporation of mitigation measures such as use of water-based, non-toxic drilling fluids etc, which are industry standard.
R	To mitigate the causes, and adapt to the effects, of climate change, including by reducing greenhouse gas emissions and promoting the use of renewable energy.	In conjunction with renewable energy, the Proposed Development will help to sustain a diverse energy base which is crucial to ensuring a sustainable energy supply.

6.13 As illustrated in **Table 6.3** the Proposed Development is consistent with regional and local sustainability objectives as it seeks to make the best use of domestic energy reserves, whilst incorporating design solutions and mitigation measures which will protect the environment and local amenity. In addition to the benefits listed in Table 7.3 hydrocarbons, especially natural gas, also plays an integral role in renewable energy strategies for energy generation. Under National Grid's Gone Green (2009) scenario

there is additional need for gas supply as the primary back up for wind intermittency. Therefore it is clear that for the forcible future oil and gas will be crucial to the UK's energy requirements and furthermore to the delivery of sustainability objectives at both national and local levels.

- 6.14 In conclusion, the Proposed Development forms part of a sustainable energy supply for the UK. It assists in ensuring that the UK has a long-term sustainable energy supply that reduces reliance on the import of oil and gas with its financial and political uncertainties. The UK needs to ensure, as part of a sustainable development strategy, that it has security of supply and a less volatile energy market. Without the exploitation of viable domestic reserves the UK will be subject to volatile energy prices and, at worst, energy shortages.
- 6.15 The proposals have sought to meet many of the sustainability objectives set out in **Table 6.3** by making best use of existing resources and landscape. The proposals seek to enhance the landscape and nature conservation attributes of the site and ensure that the amenity, health and economic well being of the population are protected. Sustainable development is about protecting future generations from the adverse consequences of current actions and secure energy supply is vital to the well being of all households and businesses.

7.0 SUMMARY AND CONCLUSIONS

- 7.1 This Planning, Sustainability and Need Statement has been prepared by Barton Willmore LLP in support of the development of the Broadford Bridge-1 exploratory well site at Wood Barn Farm, Adversane Lane. The application has been submitted to West Sussex County Council (WSCC) under the provisions of Town and Country Planning Act 1990 as amended by the Planning and Compulsory Purchase Act 2004. As detailed herein, the Proposed Development consists of four separate Phases and has been assessed in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2011.
- 7.2 The Applicant, Celtique Energie Weald Ltd, is an independent upstream Exploration and Production (E&P) company with a number of projects focused on onshore Europe including the Central Weald basin in the UK. Celtique Energie is committed to sustainable development of high quality energy infrastructure to ensure that reserves are developed responsibly and in an environmentally sensitive manner. The Proposed Development falls within PEDL 234 and PEDL 243 which together cover an area of 600sqkm.
- 7.3 The proposed development falls on land to the south east of Wood Barn Farm, Adversane Lane, Broadford Bridge, West Sussex, and was identified following a robust and comprehensive Alternative Sites Assessment (ASA) which accompanies the submission of the planning application. The application seeks permission to explore and appraise the potential of the Willow Prospect, and the proposed development would be constructed and operated by Celtique Energie, in accordance with statutory requirements and best practice. Celtique Energie has extensive experience in onshore oil and gas exploration, and in preparing the application they have sought to minimise the environmental impact of the proposals and ensure minimal disruption.
- 7.4 Construction of the well site and access road is anticipated to take 6 weeks with drilling likely to be completed in 6 weeks due to the anticipated shallow formation of the reservoir. A 4 week contingency has been included in the anticipated timescales in case maintenance of the borehole, drill rig or other ancillary equipment is required. Should planning permission be granted for a period of three years and the discharge of conditions, development of the Site, drilling and testing undertaken within 6 months, the worst case scenario is that the site would be retained for a period of up to 30 months whilst an application for production is prepared and submitted.

- 7.5 Based on the above, it is the worst case scenario which will be assessed in the ES although it should be noted that the impacts are anticipated to be considerably less than those detailed in this ES, as the best case scenario is the likely development programme.
- 7.6 The siting, layout and design of the Proposed Development has been a result of significant research, site visits and investigation to ensure the most technically and environmentally suitable site has been identified. The Proposed Development has been located to minimise visual intrusion and limit noise effects to neighbouring properties. An existing field access has been incorporated into the scheme to provide access off the B2133 and the junction of these two roads has been carefully designed to ensure that none of the substantial Oak trees which line the road will need to be removed. Careful consideration has been given to mitigating effects on the local landscape and ecology, and all assessments have been carried out in accordance with European policy on EIA development, and national, regional and local planning policy.
- 7.7 The demand for oil and gas in the UK has exceeded our domestic supply since 2004 for gas and 2006 for oil, with figures on "Oil and Gas Projections" produced by DECC in March 2010 indicating that by 2025 the UK will be dependent on foreign imports for oil and gas, by 60% and 68% respectively. The UK's onshore oil and gas industry fully supports the development of renewable energy technology but still has a responsibility to meet the nation's need for fossil fuels until such a time when our demand for energy can be satisfied by renewable energy sources. The ability for renewable energy sources to meet the demands for energy in the UK is likely to take longer than anticipated with renewable energy sources currently providing a relatively small percentage of the UK's energy mix.
- 7.8 In respect of the need for the development, there is significant data from the Department for Energy and Climate Change (DECC) which evidences the decrease in production of our indigenous oil and gas supplies, and our increasing dependence on foreign imports to satisfy energy demands. DECC conclude that these decreases stem from a number of unexpected slowdowns on the UK Continental Shelf (UKCS), as well as general decline in UK production from the UK's established fields. Since 1970, total primary energy consumption in the UK has changed from the predominant use of solid fuels, to an increasing and now dominant use of natural gas as the primary source of energy consumption in 2010.
- 7.9 This data illustrates the sustained and significant demand for natural gas in the UK, and our continuing dependency on and the need for indigenous supplies and infrastructure.

Without further investment and extraction of our indigenous fossil fuel supplies, there is a concern that international competitive markets may not be able ensure that sufficient capacity is made available during times of peak demand. The dependency on foreign imports for gas supply creates further risk to security of supply although the UK does maintain capacity for gas storage. The ability to meet demands for gas, whether on a particular day or over a more prolonged period such as a severe winter, is particularly important in a security of supply context. Price, production conditions and contractual agreements all have an impact on the supply of natural gas from each of the sources of supply – UK production, imports from Europe or Liquid Natural Gas (LNG), and storage.

- 7.10 The development of renewable energy sources and their integration into our existing energy infrastructure will require significant investment and development before it will replace the demand for oil and natural gas. During this transition, it is important that our security of supply is increased to prevent the detrimental impact that a restricted fossil fuel supply would have on our economy and society, in particular vulnerable groups living in or on the edge of fuel poverty. Notwithstanding the contribution our indigenous supplies of oil and gas, make to ensuring the continued running of our homes, business and transport systems, it also makes a significant contribution to economic growth and employment.
- 7.11 The Proposed Development is consistent with regional and local sustainability objectives as it seeks to make the best use of domestic energy reserves, whilst incorporating design solutions and mitigation measures which will protect the environment and local amenity. Hydrocarbons, especially natural gas, also play an integral role in renewable energy strategies for energy generation. Under National Grid's Gone Green (2009) scenario there is additional need for gas supply as the primary back up for wind intermittency. Therefore it is clear that for the foreseeable future oil and gas will be crucial to the UK's energy requirements and furthermore to the delivery of sustainability objectives at both national and local levels.
- 7.12 It is considered that the Application Site is the most technically and environmentally suitable site for the Proposed Development which has been designed taking into consideration national, regional and local planning policy. The ES along with this Planning, Sustainability and Need Statement conclude that there will be no detrimental impacts to the local environment and that the Proposed Development is in accordance with the planning policy framework, as such that planning permission should be granted.