

RYEDALE GAS PROJECT



Planning, Sustainability and Need Statement

March 2010

**BARTON
WILLMORE**
Planning • Design • Delivery



Planning, Sustainability & Need Statement

Ryedale Gas Project, North Yorkshire

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1.0 INTRODUCTION

1.1 This Planning, Sustainability and Need Statement has been prepared on behalf of Moorland Energy Limited to accompany a planning application submitted to North Yorkshire County Council (NYCC), as the County Planning Authority (CPA), and the North York Moors National Park Authority (NYMNP) under the Town and Country Planning Act 1990 as amended by the Planning and Compulsory Purchase Act 2004 for the Ryedale Gas Project. The Ryedale Gas Project includes five principal elements:

- Gas production from the existing Ebberston Wellsite;
- The construction of two underground gas pipelines from the existing Ebberston Wellsite to a new Gas Processing Facility;
- A new access road between the A170 and the proposed Gas Processing Facility;
- A Gas Processing Facility at Hurrell Lane, Thornton-le-Dale; and
- An Above Ground Installation (AGI) connection into the existing National Transmission System (NTS) pipeline to the south of the Gas Processing Facility on land off New Ings Lane.

1.2 The Planning Statement sets out the details of the proposed development and should be read in conjunction with the accompanying application drawings. The Planning Statement comprises of the following sections;

- Section 2: Site and Surroundings
- Section 3: Site Selection
- Section 4: Description of the Proposed Development
- Section 5: Need
- Section 6: Planning Policy Framework
- Section 7: Sustainability Appraisal
- Section 8: Conclusions

Moorland Energy Limited

1.3 Moorland Energy Limited, hereafter referred to as Moorland Energy Energy, was formed in 2008 to participate in the onshore exploration and production of gas in the UK. Moorland Energy own an onshore Production Exploration and Development Licence, number 120 (PEDL 120) in the Cleveland Basin, North Yorkshire which is surrounded by the following proven gas fields:

- Ebberston Moor – formally known as “Lockton” which produced from 1971 to 1974;
- Wykeham – discovered and tested in 1971;
- Pickering – in production;
- Kirby Misperton – in production;
- Malton – in production;
- Marishes – in production; and
- Cloughton – a discovery which lies in the (recently expired) PEDL030 licence area.

1.4 Significant reserves of gas have been discovered at the existing Ebberston Wellsite close to Dalby Forest and other gas fields within the area have the potential to produce in excess of 100Bcf of gas. Therefore the proposed Gas Processing Facility has the potential to process gas from other gas fields in the area for the next 20-25 years. This approach is supported by Moorland Energy’s long-term commitment to the area which will provide a number of socio-economic benefits including employment and skills development, investment in social, environmental and infrastructural improvements and supporting the diversification of the local economy. Notwithstanding the local benefits, the proposed Gas Processing Facility can provide a number of national benefits including increasing the security of supply and reducing the country’s dependency on the importation of fossil fuels.

1.5 The aim of the planning application submitted by Moorland Energy is to provide the necessary infrastructure to link the Wellsite to the National Transmission System (NTS). This would be achieved through the construction of an underground gas pipeline between the existing Wellsite and the existing NTS at Thornton-le-Dale. In order that the gas meets the requirements of the National Grid it is necessary to process the gas prior to connection and, to this end, a Gas Processing Facility is proposed at Hurrell Lane. From the Gas Processing Facility, an underground gas pipeline links to the NTS via the AGI, in what is referred to as a “hot tap” connection.

1.6 Although a relatively new Company, the Moorland Energy team has extensive experience and expertise in gas exploration, processing and production. In preparing the application documentation, Moorland Energy has sought to minimise the environmental impact of the proposals and ensure minimal disruption.

- 1.7 On the basis that planning permission is obtained, Moorland Energy will operate and supervise the construction and operation of the proposed development in accordance with the requirements of the legislation and industry best practice.
- 1.8 The remainder of this Statement provides the background information for the Proposed Development. However it should be noted that some of the information contained within this document is informed by the findings of detailed environmental assessments and this Planning Statement should, therefore, be read in conjunction with the supporting Environmental Statement which has been submitted as part of this planning application for the Ryedale Gas Project.

2.0 SITE AND SURROUNDINGS

- 2.1 The aim of this Chapter is to describe the site of the Proposed Development and its surroundings. The proposed site lies in North Yorkshire, approximately 15km west of Scarborough and 30km north-east of York. North Yorkshire is England's largest rural county with a population of approximately 599,000 covering 7,770sqkm. The County is characterised by a varied landscape which includes two National Parks and approximately 72km of coastline which borders the North Sea. Outside the major urban centres of York, Northallerton, Whitby and Harrogate, the County is predominantly rural and the local settlement pattern comprises a network of towns, villages, remote residential properties and farmhouses linked by A roads, minor roads and tracks.
- 2.2 The area in which the Ryedale Gas Project is proposed is predominately rural, comprising agricultural fields, a number of scattered residential properties, farm holdings and some commercial uses. The villages of Ebberston, Thornton-le-Dale, Wilton and Allerston, and the town of Pickering are located within the vicinity of the Proposed Development.
- 2.3 The application site covers a large geographical area, extending from the existing Ebberston Wellsite located near Ebberston Common Lane to the proposed Hurrell Lane Gas Processing Facility and the AGI to the south of New Ings Lane. The proposed pipeline route between the Wellsite and the Gas Processing Facility is approximately 8.6km; firstly, running west toward Dalby Forest and subsequently south-west along the edge of the Forest; then continuing eastwards to the north of Wilton through Wilton Heights; then continuing in a south-west direction through Thornton High Fields; and, finally, continuing south between the villages of Wilton and Thornton-le-Dale to the proposed Gas Processing Facility at Hurrell Lane.
- 2.4 The Proposed Development is situated in the administrative areas of Ryedale District Council (RDC), North Yorkshire County Council (NYCC) and the North York Moors National Park Authority (NYMNP).
- 2.5 As summarised above, the Proposed Development consists of five main elements as follows:
- Gas production from the existing Ebberston Wellsite;
 - The construction of two underground gas pipelines from the existing Ebberston Wellsite to a new Gas Processing Facility;

- A new access road between the A170 and the proposed Gas Processing Facility;
- A Gas Processing Facility at Hurrell Lane, Thornton-le-Dale; and
- An Above Ground Installation (AGI) connection into the existing National Transmission System (NTS) pipeline to the south of the Gas Processing Facility on land off New Ings Lane.

2.6 The main elements of the site and their surroundings are described below.

Ebberston Wellsite

2.7 The existing Ebberston Wellsite is located approximately 6km to the north of the A170 Pickering to Scarborough Road. Planning permission for the site was granted in December 2007 (Decision Number NYM/2007/0901/FL) by the North York Moors National Park Authority.

2.8 The Wellsite forms a roughly square shaped area of land, approximately 1.61ha in extent. The site is separated from open farmland by a substantial hedgerow which aligns the North York Moors National Trail. Land to the south and south-east is primarily open farmland used for arable farming. Land to the north, west and south-west is forested. Access to the Wellsite is gained from a track off the metalled access road leading from the A170, to Givendale Head and High Scamridge Farms, and into Dalby Forest.

2.9 The site is enclosed by a 2m high post and wire fence. The top soil and sub soil has been scraped to a depth of approximately 1m where it has been used to form a 0.5m tall 'dust bund' surrounding the scraped area, and an earth bund approximately 2.5m tall aligning the eastern boundary adjacent to and inside the fence line. A number of shorter bunds of similar height have been formed in the north-western corner of the Wellsite. A geo-textile sheet has been spread across the Wellsite and covered by a thin layer of soil to secure it in place. This sheet overlaps drainage channels which form the edges of the scraped 'pan' aligning the earth bunds. Several short concrete pipe sections have been stored near the northern section of the Wellsite.

2.10 There is no significant vegetation within the Ebberston Wellsite, other than self-seeded weeds and grasses while the west-flanking earth bund features seeded grass cover. A narrow unmanaged grass strip approximately 10m wide separates the post and wire perimeter fence from the plantation to the east and north of the Wellsite. Scrub planting along the southern boundary separates the perimeter fence from the North

York Moors National Trail. To the west, a narrow gently undulating rectangular shaped field comprising crop planting separates the Wellsite from the metalled access road providing public access into Dalby Forest.

- 2.11 The existing Ebberston Wellsite lies on land at an elevation of approximately 220m AOD, which rises gradually to the west, to a height of 225m along the route of the proposed pipeline. Land to the north falls away sharply, although the perception of this is masked by the plantation of trees in this part of Dalby Forest. Land immediately to the south of the Wellsite extends for some 200m before dropping away to form a series of narrow valleys which extend down towards the A170.
- 2.12 There are no large settlements within 3km of the existing Ebberston Wellsite although several large working farms lie in close proximity, including Givendale Head Farm and High Scamridge Farm, approximately 900m to the north-west.

Pipeline Route

- 2.13 The proposed pipeline route runs from the Ebberston Wellsite to the proposed Gas Processing Facility at Hurrell Lane. It extends for 8.6km and would be accommodated in a 7.4m wide easement. The proposed route would traverse an area of predominantly agricultural land which extends from Dalby Forest southwards before dropping down an escarpment into an area typical of the Vale of Pickering. The proposed pipeline route will cross one main carriageway - the A170 - as well as a number of minor access roads and public rights of way. The route passes between two medium-sized settlements – Allerston and Thornton-le-Dale - as well as two farmsteads.
- 2.14 In respect of topography the proposed pipeline route extends to the west from the existing Ebberston Wellsite, crossing farmland which undulates between 210m and 225m AOD, across a shallow valley and rising up into the Dalby Forest. The proposed pipeline runs along a narrow ridge which extends south-west through Dalby Forest, gently sloping down to a height of approximately 200m AOD as it emerges from the forest. At this point the land drops steeply, creating an escarpment, The Wilton Heights, which aligns the Vale of Pickering running in an east-west direction and drops down towards the A170 which lies at a height of between 65m and 70m AOD. The proposed pipelines run west along the crest of the bluff before dropping down to cross the A170 between Wilton and Thornton-le Dale. The proposed pipelines then cross gently sloping farmland, dropping from 65m AOD to 25m AOD, to meet the valley floor, at 20m AOD.

Hurrell Lane Gas Processing Facility

- 2.15 The proposed Hurrell Lane Gas Processing Facility is located approximately 2km to the south-east of Thornton-le-Dale. This site, including the construction compound, is approximately 6.5ha in extent and is bounded by Hurrell Lane to the west and by New Ings Lane to the south. The A170, which passes through Allerston, Wilton and Thornton-le-Dale, is located approximately 1km to the north. A dismantled railway embankment, extending east-west, lies immediately to the north. Land surrounding the proposed Gas Processing Facility is in agricultural use, both for arable and pasture farming.
- 2.16 The site comprises a flat arable field surrounded by similar fields of arable farmland. There are few built influences in the immediate vicinity of the site. Aligning the northern boundary, the dismantled railway embankment approximately 5m in height extends east – west. The southern boundary of the site is formed by a hedgerow which aligns New Ings Lane and partially along this Lane lies an old brick and tile barn. Hurrell Lane aligns the hedgerow along the western boundary of the site. There are a number of mature hedgerow trees in this area, seen both along the hedgerow aligning New Ings Lane and along the dismantled railway embankment. A copse of mature trees is situated opposite the site adjacent to Hurrell Lane.
- 2.17 The proposed Gas Processing Facility site at Hurrell Lane is located at an elevation of 20m within farmland on the valley floor of the Vale of Pickering.

Surroundings

- 2.18 The surroundings are predominantly rural with an undulating landscape characterised by woodland and fields bounded by hedgerows. The landscape includes a number of villages, hamlets and scattered farm buildings and isolated houses. There are a number of areas of wildlife importance and features of historic or architectural importance in the area.
- 2.19 The majority of the Proposed Development is located within the National Character Area of the North Yorkshire Moors and Cleveland Hills (No. 25). This area is characterised by its upland plateau landscape and undulating land. The part of the development which is south of the A170, including the proposed Gas Processing Facility, is situated in the National Character Area of the Vale of Pickering (No. 26), which is described as gently undulating and low-lying flat Vale.

- 2.20 Vegetation surrounding the sites includes areas of plantation woodland within Dalby Forest surrounding the existing Ebberston Wellsite and the northern sections of the proposed pipeline route. These forested areas enclose the Wellsite acting as a visual screen between adjacent roads and properties. The middle section of the proposed pipeline route extends across open farmland where trimmed hedgerows up to approximately 1.8m in height form boundaries around fields of crops or grassland used for grazing. There are few hedgerow trees on the steeply sloping sides of the escarpment dropping down to the Vale of Pickering. The southern section of the proposed pipeline route, as it crosses the A170, runs through a landscape exhibiting a similar character of hedgerow bounded fields, however more hedgerow trees exist along these boundaries on the lower, gently sloping valley side landscape of the Vale of Pickering. Further south, beyond the Hurrell Lane Gas Processing Facility, where the land flattens out there are once again few hedgerow trees.
- 2.21 There are a number of areas of nature conservation importance in the area. At the point which the proposed pipeline passes through Wilton Heights, Nabgate SSSI is situated approximately 0.65km north and Ellerburn Bank SSSI is situated approximately 0.75km north. Nabgate SSSI consists of 6.7ha on Sand Dale, a north-facing slope on Corallian limestone, of significance for its species rich calcareous grassland. Part of this SSSI site, approximately 4.2ha, is also the Ellerswood and Sand Dale Special Area of Conservation, including bogs, marshes, fens, heath and grassland. Ellerburn Bank SSSI lies on Oolitic Limestone, of interest for its species rich calcareous grassland flora. Approximately 0.25km north of the existing Ebberston well-site lies Troutsdale and Rosekirk Dale Fens SSSI, consisting of 13.1ha broken up into four units, which include nationally rare fen systems.
- 2.22 Within the surrounding area there are several designated Scheduled Ancient Monuments, including a medieval settlement; several bowl barrows; the Scamridge Dikes and Oxmoor and Givendale Dikes; a medieval manorial centre; and lime kilns. Although there are no buildings listed of architectural or historic importance within the sites, there are a number within the wider landscape, generally located in the surrounding settlements of Allerston, Wilton and Thornton-le Dale. The Listed Buildings are identified on Figure 3.1 Site Context Plan. Those which are orientated towards the proposed development include:
- Scamridge Farm House, Grade II Listed (1490 metres from the proposed pipeline route);

- High Paper Mill Farmhouse and attached buildings, Grade II Listed (675 metres from the proposed pipeline route); and
- Prospect Farm House, Wilton, Grade II Listed, (675 metres from the proposed pipeline route).

2.23 There are a number of public footpaths and bridleways in the area. Public rights of way (PRsOW) in the locality of the Application Site are shown on Figure 8.1: Site Context Plan. The existing Ebberston Wellsite is located to the north of the North York Moors National Trail, a path which extends from PROW 30.21/1/2 into the Dalby Forest. The existing access track to the Wellsite and proposed pipeline runs parallel to the north of the National Trail as far as the access road to Givendale Head and High Scamridge Farms and the Dalby Forest. The proposed pipeline route crosses PROW 25.4/5/1 and then runs parallel, in a south-westerly direction, to PROW 25.4/6/1 and PROW 25.4/6/2, through an existing corridor within the Dalby Forest. The proposed pipeline, having emerged from the Dalby Forest, runs west across farmland, crossing PRsOW from Wilton over the Wilton Heights and up into the Dalby Forest, crossing 25.111/1/1 and 25.111/2/1, just north of PROW 25.111/11/2. To the north-west of the proposed pipeline, there is a network of PRsOW within the North York Moors National Park. However these are enclosed generally enclosed by woodland and landform.

2.24 There is also a network of PRsOW crossing the lower slopes and valley floor of the Vale of Pickering in the vicinity of the southern end of the proposed pipeline and the proposed Hurrell Lane Gas Processing Facility. These include PRsOW 19.172, 197/6/1, 25.97/12/1, 25.97/15, 25.97/1/1, 25.97/18/1, 25.97/1/2, 25.97/13/1, 25.97/3/1, 25.4/8/1 and 25.111/4/1.

2.25 Further details and description of the site and surroundings is included within Chapter 7 (Ecology), Chapter 8 (Landscape and Visual Impact), and Chapter 13 (Archaeology and Cultural Heritage) of this ES.

3.0 SITE SELECTION PROCESS

Introduction

- 3.1 This chapter describes the main alternatives to the Proposed Development which have been considered by Moorland Energy. A more detailed Alternatives Sites Assessment is presented in Chapter 5 of the supporting Environmental Statement.

'No Development' Alternative

- 3.2 The 'No Development' Alternative is the option of leaving the Application Site in its current state. It aims to predict the environmental conditions that would exist in the absence of the Proposed Development taking place. The Application Site would continue to remain in agricultural use, with no corresponding effects arising from traffic, landscape, ecology, noise or emissions associated with the construction and operation of the Proposed Development.
- 3.3 National Energy Policy, set out in the 2007 Energy White Paper, acknowledges that there is an urgent need for significant private sector investment in new infrastructure in order to ensure that the UK has secure energy supplies. The Ministerial Statement of May 2006 indicates clearly that the Government warmly welcomes the diversity of solutions that the market can deliver and that onshore and offshore, large and small solutions are needed. The provision of new energy infrastructure provides an essential national service. Minerals Planning Statement 1, published in 2006, states that in the short to medium term, the aim is to maximise the potential of the UK's conventional oil and gas supplies in an environmentally acceptable manner.
- 3.4 The proposed Gas Processing Facility will be able to process up to 1.1mmscmd. Without this and other on-shore reserves, the risk to UK gas supply will increase and become more susceptible to volatile markets outside the control of the UK. This is particularly the case in cold winter periods where there is likely to be a greater risk of gas supply shortages.
- 3.5 The Environmental Impact Assessment which has been carried out by Moorland Energy demonstrates that any adverse effects, whether temporary or permanent, can be satisfactorily mitigated by a range of measures and that as a result, the residual effects would either be negligible, slight or minor. Therefore, whilst the adverse environmental impacts in the vicinity of the Application Site are expected to be only slight and

temporary, the 'no development' option would result in adverse socio-economic effects and be contrary to National Energy and Planning Guidance which supports additional gas infrastructure in the UK. These adverse socio-economic impacts outweigh any beneficial impacts that would arise from the 'No Development' alternative.

Alternative Locations and Sites

Wellsites

3.6 Moorland Energy has not studied the suitability of alternative wellsites. Planning permission was granted by the NYMNPA in December 2007 for an exploratory wellsite on land at Ebberston Common Lane, Ebberston. Following the discharge of planning conditions in 2008, the site was subsequently developed and drilled in February 2009. The results of the drill stem testing indicated that there were substantial quantities of gas reserves to justify production. A meeting was held with the Chief Planning Officer of the NYMNPA and the Authority's minerals officer to discuss the principle of permitting gas production at the wellsite and a connecting gas pipeline from the wellsite to a location outside the Park boundary. Subsequently, correspondence from the NYMNPA, dated 18 March 2009, confirmed that this was the Authority's preferred option, compared to a production facility within the National Park. For this reason, an alternative wellsite has not been considered by the Applicant.

Gas Processing Facility

Search Criteria

3.7 Moorland Energy has considered a number of alternative locations for the Gas Processing Facility before identifying the Hurrell Lane site as its preferred location. Any alternative would need to accord with a number of parameters in order for a site to be suitable:

- a minimum area of 2.2ha in order to accommodate the necessary inlet facilities, compressor buildings, sweetening facility, hydrocarbon and dew point control, together with an office and maintenance building, car parking and landscaping; plus an adjacent construction compound and storage area requiring a minimum area of 1ha;
- flat or generally undulating, preferably with existing screening and landscaping;

- at least 400m from the nearest residential property in order to avoid potential disturbance from occasional noisy activities;
- an absence of known ecological, archaeological or landscape designations.
- impact on climate change arising from CO₂ emissions

Study Area

- 3.8 The Study Area comprised the area between the Ebberston wellsite, the Pickering NTS point of entry at Outgang Road, and the existing NTS gas pipeline which runs from Pickering eastwards towards Hull. Both the Pickering NTS and the existing NTS gas pipeline would, in theory, be suitable points of entry for the processed gas, with the latter via a “hot-tap” connection. In practice, an entry point to the existing gas pipeline is dependent upon sufficient capacity within the pipeline to accommodate the additional gas supply from Ebberston throughout the year, and agreement from National Grid.
- 3.9 The Study Area is traversed from east to west by the A170 Pickering to Scarborough trunk road. North of the road, the topography rises steeply from approximately 60-70m AOD up to 220m. A number of valleys or dales run from north to south, including Netherby Dale, Given Dale and Weas Dale. South of the A170, the land continues to fall from 60-70m down to approximately 20m. This part of the Study Area is criss-crossed by an extensive range drainage system, including New Ings Drain. Field boundaries are formed by trees and hedgerows and generally the field pattern is one of relatively thin strips of land running north to south.
- 3.10 The topography of much of the land between the wellsite and the A170 to the south rules out the vast majority of potential sites. A desk-top site search using the above criteria, together with a walkover of the area between the Ebberston wellsite and Pickering, identified seven potential sites. An eighth alternative is to pipe the gas from Ebberston to the existing electricity generation plant at Knapton from north-east to south-west these were:
1. Land immediately adjacent to the Ebberston wellsite, Ebberston
 2. Land south of Givendale Head Farm, Ebberston
 3. Wilton Heights Quarry, Outgang Road, Thornton
 4. Caulklands Quarry, Thornton-le-Dale
 5. Hurrell Lane, Thornton-le-Dale
 6. Broadmires Lane, Thornton-le-Dale
 7. Land adjacent to the Pickering NTS, Outgang Road, Pickering

8. Knapton Power Station, East Knapton

Evaluation of Alternative Gas Processing Sites

- 3.11 The Study Area has identified seven potential alternative locations to the preferred site at Hurrell Lane. An assessment of the alternatives has been undertaken. Two sites (Options 1 and 4) lie within the National Park where the planning policies of the Park Authority restrict gas processing and electricity generating facilities. Option 3 is a Site of Importance National Conservation and lies within an Area of High Landscape Importance. Option 2 also lies within an Area of High Landscape Value and it is likely that development would not be acceptable to the landowner. Options 1 and 2 would require construction vehicles to use Ebberston Common Lane for up to 40 weeks of the year, whilst Option 3 would require a new access road from the A170 through the National Park. Options 6 and 7 lie within 400m of residential properties. Option 8 has been discounted because it would be a significantly more inefficient method of converting the gas compared to CCGT electricity generation via the NTS. This would have adverse effects upon emissions of CO₂ compared with the preferred option at Hurrell Lane. In addition, the capacity limitations of the existing gas turbine at the Knapton Generating Station are too low to accommodate both the gas produced by UK Energy Systems Limited and by Moorland Energy.

Alternative Pipeline Routes

Pipeline Route Criteria

- 3.12 The predominant land use is agriculture and, although there are relatively few roads in the area, there are a significant number of drains and watercourses particularly south of the A170. In determining the preferred pipeline route, Moorland Energy has sought to minimise possible disruption to both the operation of local farms and the local drainage network.
- 3.13 Having identified Hurrell Lane as the most suitable location for the proposed gas processing facility, Moorland Energy and its advisers undertook an assessment of the possible pipeline routes between the Ebberston wellsite and the gas processing facility. A preferred pipeline route was identified which broadly followed the pipeline corridor of an existing 450mm (18") local transmission system gas pipeline which connects Pickering with Whitby. The alternative pipeline routes have also sought to avoid scheduled ancient monuments and designated ecological sites wherever possible. The

routes also avoid forests and woodland areas because of the resultant loss of woodland necessary to construct a pipeline trench.

Discounted Options

Option 1

- 3.14 This is an alternative pipeline route for part of the preferred route in Givendale Rigg. It is 2.3km in length and was considered as an alternative because it avoided the need to use the existing 1.5km ride within the Givendale Rigg forest.

Option 2

- 3.15 This route is 3.3km in length and, like Option 1, was considered as an alternative to part of the preferred pipeline corridor. It runs from a point 850m north of the A170, 1.1km north east of the village of Wilton, west of Weas Dale.

Option 3

- 3.16 This pipeline corridor option is 9.5km in length and follows a route south for the first 5km from the wellsite before travelling in a westerly direction to the proposed Gas Processing Facility at Hurrell Lane.

Evaluation of Alternative Pipeline Routes

- 3.17 The preferred pipeline route was chosen following both a desk-based assessment and subsequent walkovers of three alternative pipeline routes between the Ebberston Wellsite and the proposed Hurrell Lane Gas Processing Facility. Options 1 and 2 are 2.3 and 3.3km respectively in length and was considered as alternatives for part of the preferred pipeline route.
- 3.18 Option 1 avoided the existing ride within the forest at Givendale where there is an existing gas pipeline. At the time, there was some uncertainty as to whether the ride would be sufficiently wide enough to accommodate the new pipeline whilst at the same time, avoiding the easement of the existing gas pipeline operated by Northern Gas Networks. Following a walkover by Moorland Energy's pipeline engineers and discussions with Northern Gas Networks, the preferred pipeline route was selected as being suitable. Consequently, Option 1 was discounted.

- 3.19 Option 2 was identified as an alternative route for the southern part of the pipeline corridor. Option 3 is an alternative route for the entire length of the preferred pipeline route and both Options follow a more southerly alignment south of the A170 along the route of the dismantled railway line. In both cases, issues concerning soils, flood risk and drainage south of the A170 mean that laying these two options would cause difficulties in laying the pipeline. There are potential impacts upon existing drainage because of the need to cross a large number of drains and watercourses. For these reasons, Options 2 and 3 have been discounted.

Summary and Conclusions

- 3.20 Moorland Energy has not considered alternative locations for the existing Ebberston Wellsite. The Wellsite was granted planning permission in December 2007 for exploratory drilling. Following a meeting with officers of the NYMNP in February 2009, the NYMNP has confirmed that, in principle, gas production at Ebberston Wellsite would be acceptable.
- 3.21 The 'No Development' or 'Do Nothing' Option would result in no adverse environmental impacts. However, there would be a significant adverse socio economic effect as the opportunity to exploit on-shore gas reserves would be lost. Government has made clear that the UK must increase its supply of gas and gas infrastructure, both large and small schemes, in order to reduce the reliance upon reducing reserves in the North Sea and foreign imports of gas. The 'No Development' option would also not result in the creation of up to 150 construction jobs and 20 permanent jobs in an area with the highest unemployment rates since 1997. The socio-economic benefits arising from the proposed development significantly outweigh the temporary minor adverse effects arising from the construction and subsequent operation of the Proposed Development.
- 3.22 A total of seven alternative locations within a Study Area have been considered for the siting of the proposed Gas Processing Facility. Each one has been considered against a number of fixed key parameters or constraints. These parameters are:
- a minimum area of 2.2ha in order to accommodate the necessary inlet facilities, compressor buildings, sweetening facility, hydrocarbon and dew point control, together with an office and maintenance building, car parking and landscaping; plus an adjacent construction compound and storage area requiring a minimum area of 1ha;
 - flat or generally undulating, preferably with existing screening and landscaping;

- at least 400m from the nearest residential property in order to avoid potential disturbance from occasional noisy activities;
- an absence of known ecological, archaeological or landscape designations; and
- impact on climate change arising from CO₂ emissions.

3.23 Each of the seven alternative options have been considered and discounted because they did not meet one or more of the parameters. Two sites (Options 1 and 4) lie within the National Park where the planning policies of the Park Authority restrict gas processing and electricity generating facilities. Option 3 is a Site of Importance National Conservation and lies within an Area of High Landscape Importance. Option 2 also lies within an Area of High Landscape Value and it is likely that development would not be acceptable to the landowner. Options 1 and 2 would require construction vehicles to use Ebberston Common Lane for up to 40 weeks of the year, whilst Option 3 would require a new access road from the A170 through the National Park. Options 6 and 7 lie within 400m of residential properties. Option 8 has been discounted because it would be a significantly more inefficient method of converting the gas compared to CCGT electricity generation via the NTS. This would have adverse effects upon emissions of CO₂ compared with the preferred option at Hurrell Lane. In addition, the capacity limitations of the existing gas turbine at the Knapton Generating Station are too low to accommodate both the gas produced by UK Energy Systems Limited and by Moorland Energy.

3.24 Option 5 (Hurrell Lane) is therefore considered to be the most appropriate location.

3.25 Having identified Hurrell Lane, Moorland Energy considered three alternative pipeline routes for part or all of the preferred pipeline route. Option 1 avoided the existing ride within the forest at Givendale where there is an existing gas pipeline. At the time, there was some uncertainty as to whether the ride would be sufficiently wide enough to accommodate the new pipeline whilst at the same time, avoiding the easement of the existing gas pipeline operated by Northern Gas Networks. Following a walkover by Moorland Energy's pipeline engineers and discussions with Northern Gas Networks, the preferred pipeline route was selected as being suitable. Consequently, Option 1 was discounted.

3.26 Option 2 was identified as an alternative route for the southern part of the pipeline corridor. Option 3 is an alternative route for the entire length of the preferred pipeline route and both Options follow a more southerly alignment south of the A170 along the route of the dismantled railway line. In both cases, issues concerning soils, flood risk

and drainage south of the A170 mean that laying these two options would cause difficulties in laying the pipeline. There are potential impacts upon existing drainage because of the need to cross a large number of drains and watercourses. For these reasons, Options 2 and 3 have been discounted.

- 3.27 Finally, Moorland Energy has considered the scope for using all or part of the gas produced at Ebberston to generate electricity using a small turbine. The consequences arising from additional land requirements, potential effects upon the existing noise background, air emissions, the likely generation of CO₂ and its effects upon climate change have resulted in energy generation being discounted in favour of gas processing.

4.0 DESCRIPTION OF PROPOSED DEVELOPMENT

4.1 Moorland Energy is proposing to develop two pipelines from the existing Ebberston Wellsite to the proposed Gas Processing Facility at Hurrell Lane, Thornton-le-Dale. Once processed, the gas will then be fed into the National Transmission System (NTS) via a "hot tap" connection into the existing "Burton Agnes – Pickering No.6 Feeder Pipeline" which lies to the south of New Ings Lane, Thornton-le-Dale. The proposed development will allow Moorland to withdraw gas from the proven gas field at the Ebberston Wellsite for delivery into the NTS.

4.2 There are five principal elements to the Proposed Development as well as a number of associated works including;

- Gas production from the existing Ebberston Wellsite including;
 - A separator at the existing Ebberston Wellsite to separate any produced liquids from the natural gas;
 - Facilities for storing and injecting small quantities of methanol or glycol at the Ebberston Wellsite to prevent hydrate formation which could otherwise block the pipes;
 - A corrosion inhibitor at the Ebberston Wellsite to prevent corrosion of the pipelines which could be caused by the wet and sour condition of the gas;
- The construction of two underground gas pipelines from the existing Ebberston Wellsite to a new Gas Processing Facility including;
 - Construction of one 300mm and one 100mm pipeline and a fibre optic cable within a 15m-42m construction easement between the existing Ebberston Wellsite and the proposed processing station at Hurrell Lane, Thornton le Dale;
- A new access road between the A170 and the proposed Gas Processing Facility;
- A Gas Processing Facility at Hurrell Lane, Thornton-le-Dale including;
 - An inlet facility also known as a slug catcher, to ensure any liquids not separated at the Ebberston Wellsite are removed;
 - Two compressors to increase the pressure of the gas to that of the NTS;
 - A Sweetening Plant consisting of an absorber tower to circulate solvent counter current to the gas flow and remove the Hydrogen Sulphide from the gas;

- Hydrocarbon and Water Dew Point Control Plant to remove higher hydrocarbons in the gas and prevent them condensing as a liquid in the NTS;
- Liquids Handling Area for condensate stabilisation and glycol recovery, consisting of a three phase separator, holding vessels and heater;
- Meter to gauge the gas quality prior to export to the NTS;
- Safety facilities such as a High Integrity Pressure Protection System (HIPPS) for primary pressure containment protection, pressure sensing devices and a flare/vent system including the need for a sterile area;
- Water storage areas and tanks;
- Control Room, Switchgear Room and Instrument Room;
- Parking facilities for staff;
- Construction of a security fence and CCTV facilities around the perimeter of the proposed Hurrell Lane Site;
- Construction of an access road to the proposed Hurrell Lane Site from the A170 Wilton Road;
- Associated infrastructure; and
- Construction of one 300mm export pipeline from Hurrell Lane to the proposed NTS AGI in the field to the south of New Ings Lane, Pickering;
- An Above Ground Installation (AGI) connection into the existing National Transmission System (NTS) pipeline to the south of the Gas Processing Facility on land off New Ings Lane.

4.3 The main elements are described in more detail below.

The Ebberston Wellsite

4.4 The Ebberston Wellsite is located near Givendale Head Farm, Ebberston and utilises an existing access route used during the exploration and appraisal of the Wellsite in February 2009. The compound measures some 114.5m x 146m and will accommodate buildings and equipment for the separation and transfer of the natural gas and condensates (**See Figure 4.1**). Equipment and buildings will be located within the confines of the existing Wellsite compound.

4.5 During construction the following elements are proposed:

- Construction compound;
- Laydown area;

- Fabrication shed;
- Workforce facilities – messing, catering and offices;
- Security cabin;
- 16 parking spaces;
- Potable water tank; and
- Power generator.

4.6 The main equipment at the Wellsite will include:

- Wellhead;
- Choke valve;
- Two-phase gas-liquids separator;
- Hydrate inhibitor (methanol) storage and injection package;
- Corrosion and/or scale inhibitor storage and injection package;
- Slam-shut (HIPPS) valves and pipelines tie-in arrangement, incorporating double block and bleed, and pig receiver(s)/launcher(s); and
- Utility Systems.

4.7 Gas will flow from the reservoir and through the choke valve which regulates the flow rate of the gas. A horizontal two-phase wellhead separator will separate the gas and liquids, before transfer via the separate pipelines to the Hurrell Lane Gas Processing Facility. The flowing wellhead pressure will provide the driving force for the liquid (and gas) flow.

4.8 Pig launchers will allow the pipelines to be inspected and/maintained but will not be used during normal operation. Methanol is proposed for hydrate inhibition at the Wellsite, requiring a storage tank and injection pumps. Corrosion inhibitor and/or scale inhibitor may also be required for pipe-line protection.

4.9 Electrical distribution, control, shutdown systems, telecommunications, instrument air and wellhead hydraulic panel will be housed within a local equipment room on the Wellsite (normally unmanned).

4.10 The following utilities/systems will be required at the Wellsite:

- Electrical power will be supplied at 400V by the regional electrical company (REC) via a pole-mounted transformer (to be confirmed during FEED);

- Wellhead hydraulic system/panel;
- Instrument air (for actuated valves and plant utility air);
- Nitrogen cylinders (backup for instrument air); and
- Process area drains/interceptor.

4.11 The proposed rate of extraction of the gas from the reservoir is less than 1.2mmscmd and, therefore, the Proposed Development does not fall within the remit of the Infrastructure Planning Commission (IPC) which deals with developments with extraction rates in excess of 4.5mmscmd.

Gas Pipelines between the Ebberston Wellsite and the Hurrell Lane Gas Facility

4.12 Two pipelines will be laid in the same easement between the Wellsite and the Gas Processing Facility – one for gas and one for produced liquids. The gas will be conveyed to the Gas Processing Facility via a new 300mm diameter pipeline. The liquids separated at the Wellsite will be conveyed to the Gas Processing Facility via a dedicated liquids pipeline of 100mm in diameter.

4.13 During construction of the pipelines a 15m-42m working width will be required to allow for the laying down of pipe work, the movement of construction vehicles and the use of machinery which is required for the construction of the pipelines. The allotted working width will contain the development as it is being constructed and limit environmental and visual impacts. In some locations along the pipeline route, for environmental reasons, it has not been possible to allocate enough land for the 42m width and a lesser width is provided.

4.14 Once construction has been completed, the working width along the route of the pipeline will be reinstated for its former use i.e. predominantly agriculture. Moorland Energy will, however, retain a 7.4m easement during the operational lifetime of the proposed pipeline for maintenance purposes.

4.15 Soils removed for the excavation of the pipeline route will be stored on site for re-use as part of the re-instatement works. Surplus soils will be removed from the site.

The Hurrell Lane Gas Processing Facility

4.16 The proposed Gas Processing Facility will be located in a field at the junction of Hurrell Lane and New Ings Lane. The Gas Processing Facility will sweeten the sour gas so that it can be utilised in the NTS.

4.17 The Gas Processing Facility will require a compound of 322m x 177m which will be landscaped and bounded by a double security fence of 2.85m in height.

4.18 During the construction phase there will be a number of temporary buildings, compounds and equipment required to complete the construction of the Proposed Development as follows:

- Pipeline Contractor and Laydown/Storage Area;
- Construction compound;
- Storage Area;
- Offices;
- Workforce facilities – changing, drying, toilets, showers and first aid;
- Messing and catering;
- Stores – material container area;
- Laydown area;
- Fabrication area;
- Security cabin;
- Power generator;
- Potable water tank;
- Clocking station; and
- 45 parking spaces.

4.19 The principal components for the Hurrell Lane Gas Facility include:

- Gas receipt, incorporating a double block and bleed, and pig receiver/launcher, for both the gas and liquids pipelines;
- Slug-catcher (inlet separator);
- Pressure reduction heater and choke valve;
- Separator coalescer;
- Liquids handling – when liquids begin to be produced from the well, condensate and water separation and storage plant will come into operation;

- Gas sweetening for removal of hydrogen sulphide including handling of sulphur. Preliminary selection is for a redox type process;
- Gas compression;
- Gas dehydration and dew-point control (water and hydrocarbon), including mercaptans removal. Preliminary selection is for a temperature swing adsorption (TSA) system comprising of a silica gel adsorption processes;
- Custody transfer metering, to include analysis, export gas heating and back pressure control if required;
- Outlet double block and bleed and pig receiver/launcher; and
- Utility Systems.

4.20 A purpose built access road from the A170 Wilton Road running in a southerly direction to the proposed Gas Processing Facility will be developed to mitigate against any adverse traffic impacts on the local roads.

4.21 The principal equipment at the Gas Processing Facility includes:

- (i) Inlet Separation;
- (ii) Gas Sweetening (Hydrogen Sulphide Removal);
- (iii) Compression;
- (iv) Dehydration, Dew Point Control and Sulphur Compound Removal;
- (v) Gas Metering;
- (vi) Export Facilities;
- (vii) Liquids and Condensate Handling;
- (viii) Buildings;
- (ix) Utilities; and
- (x) Safety Related Equipment.

Inlet Separation

4.22 A pipeline tie-in double block and bleed arrangement and pig receiver/launcher will be required. A pig launcher for the wet gas pipeline will allow the pipelines to be inspected and/maintained but will not be used during normal operation.

4.23 From the pipeline the gas will then pass through an inlet separator, designed to separate liquids from the gas, which will also be designed to handle slugs of liquid from the gas pipeline.

- 4.24 A pressure reduction heat exchanger will be used to raise the temperature of the incoming gas prior to pressure reduction. A shell and tube exchanger is proposed utilising hot water/low pressure steam as the heating medium.
- 4.25 Pressure control valves will be used to reduce the pressure of the gas to meet the conditions required at the inlet to the gas sweetening plant (approximately 17 to 40 barg). Two control valves in parallel have initially been allowed for to accommodate the turn down.
- 4.26 Following pressure reduction the gas will pass through a coalescer separator to remove all liquids from the gas down to fine mist particle size prior to the gas sweetening plant.

Gas Sweetening Plant (Hydrogen Sulphide Removal)

- 4.27 Gas sweetening involves the removal of hydrogen sulphide (H₂S) from the gas stream. A liquid redox process has been chosen as the preferred process, based on gas flow rate and hydrogen sulphide concentration, for the gas sweetening plant.
- 4.28 The gas will enter the contactor vessel and will react with a catalyst which removes the H₂S from the gas stream. The sweet gas will exit the package via a separator to remove any liquids from the gas stream.
- 4.29 The rest of the package focuses on regenerating the catalyst and dealing with the by-product. Solid sulphur will be produced as a by-product from the gas sweetening plant, and will be sold for use by others (e.g. in fertiliser).
- 4.30 Atmospheric emissions and odours will be minimised; suitable containment or mitigating equipment will be included.

Compression

- 4.31 Compression is required in order to increase the gas pressure from the outlet of the sweetening plant, to overcome downstream pressure drops, and meet the NTS pressure requirements.
- 4.32 Based on the process conditions, the initial proposal is for electric driven (variable speed) compressors. The compression ratio required could necessitate two-stage compressors.

- 4.33 The compressors will be housed in a suitable building to provide the noise attenuation required to meet noise emission levels. Air fin type coolers are proposed for the inter-coolers and after-coolers, and knockout (KO) drums will be provided at the compression suction, discharge and inter-stage.

Dehydration, Dew Point Control and Sulphur Compound Removal

- 4.34 The gas is to meet National Grid's stringent export specification. In order to achieve this, the residual water, heavy hydrocarbons and sulphur compounds will be removed from the gas stream.
- 4.35 Inlet coalescer filters have been included to remove any free liquids and reduce any unnecessary load downstream.
- 4.36 The gas stream passes through two packed bed towers, operating in series, in order to remove any residual sulphur compounds not removed by the gas sweetening process. The chemical within these towers may need to be replaced about once a year.
- 4.37 The gas stream then passes through a further two adsorber towers which utilise a temperature swing adsorption process incorporating fixed beds of silica gel adsorbents which remove water and heavy hydrocarbons from the gas stream. Two adsorption columns/beds have been allowed for; one in operation, and one in standby/regeneration.
- 4.38 Regeneration of the adsorber beds utilises high temperature which is heated via a gas fired regeneration heater. The hot gas may be used to pre-heat the heating gas (if applicable) in a gas-gas exchanger, and is then further cooled using an air fin type cooler. The cooled gas passes through a knock out drum where the desorbed liquids are removed, and from where the gas returns to the adsorber inlet manifold. Liquids from the regenerator KO drum will be transferred to the liquids handling and storage system.

Gas Metering

- 4.39 After the dehydration and dew point control plant the gas passes through backpressure control valves then through the metering package and gas analysers, prior to export.
- 4.40 The metering package will need to be suitable for custody transfer/fiscal metering and, in combination with the gas analysers, will need to meet the appropriate National Grid requirements.

Export

- 4.41 After metering, the gas stream will exit the plant via an under ground pipeline and travel to a location close to the main National Grid gas pipeline in the area.
- 4.42 A facility known as an Above Ground Installation (AGI) will be installed to allow isolation between the National Grid pipeline and the Ryedale export pipeline.
- 4.43 Most of the equipment (i.e. valves) at this facility will be underground. Two small kiosks for an analyser and electrical/control equipment will be installed in the National Grid compound and a kiosk for electrical/control equipment will be installed in the Moorland Energy Energy compound.

Liquids Handling & Storage

- 4.44 Two-phase separation will be carried out at the Wellsite and gas and liquids transported to the Hurrell Lane Gas Processing Facility via separate gas and liquid pipelines.
- 4.45 Produced liquids will be separated into condensate and water streams at the Hurrell Lane Gas Processing Facility in the three-phase separator.
- 4.46 Condensate will be stabilised using a condensate pre-heater and electric condensate flash heater. Condensate will be pumped to, and stored in, a dedicated storage tank. Condensate will be taken off-site via road tanker (by others) and sold as feedstock for further processing in a refinery.
- 4.47 Produced water will be transferred from the three-phase separator to either a dedicated storage tank. Produced water from storage will be taken via road tanker for treatment / disposal off-site (by others).
- 4.48 In order to curtail any continuous gas flows to the ground flare, any gas evolved from the liquids separation, stabilisation and storage plant will be collected in the condensate flash drum, and recycled back to the inlet coalescer, via a flash gas compressor (and after-cooler). It is expected that the flash gas compressor will need to be a multi-stage machine due to the likely high compression ratio.

Buildings

- 4.49 A control and admin building will be provided to include, but not limited to:
- Control room;
 - Admin/offices;
 - Messing facilities;
 - Toilets/showers;
 - Electrical and instrumentation workshop;
 - Mechanical workshop; and
 - Control and shutdown systems.
- 4.50 Other buildings on the site will include the compressor building, boiler house and a separate local equipment room to house the switchgear.
- 4.51 Smaller buildings (or enclosures) will be provided for the off-gas compressor, sulphur handling system (within the H₂S removal plant), export gas analyser(s) and the emergency generator.

Utilities

- 4.52 The remaining equipment on site are utilities required for the operation of the main process equipment. These include:
- Electrical power will be supplied at 11kV by the REC from a local substation to the south west of Thornton-le-Dale. At the Hurrell Lane Gas Processing Facility voltage will be stepped down via transformers to 6.6kV for the compressor supplies (to be confirmed) and to 400V for process equipment and utilities;
 - Ground flare (including knock-out drum and knock out drum pumps) for venting and depressurising requirements;
 - Fuel gas (side steam taken from gas export manifold/NTS);
 - Boiler (to provide low pressure steam/hot water);
 - Instrument air (for actuated valves and plant utility air);
 - Nitrogen (for compressor seal buffers and purging requirements);
 - Diesel (for standby generator and firewater pump);
 - Potable water;
 - Fire protection systems;
 - Cooling water for gas sweetening plant (plus closed loop cooling water/air fin coolers for compression unit services cooling);

- Surface water drains/interceptor;
- Process area drains/interceptor; and
- Foul water drains/septic tank.

Safety

4.53 The plant will conform to the normal health and safety requirements to reflect industry best practice. The plant will include:

- (i) High Integrity Pressure Protection System (HIPPS);
- (ii) Emergency Shut Down (ESD);
- (iii) Safety Shut Down (SSD); and
- (iv) Enclosed Ground Flare.

4.54 In order to assist the assimilation of the Proposed Development into the countryside and assist the screening of view from nearby residential properties, a comprehensive landscaping scheme is proposed for the site. In particular, the scheme utilises the existing dismantled railway embankment and other existing landscaping features as natural screening to mitigate against any adverse visual impacts.

4.55 Lighting of the Hurrell Lane site will be required but this will be restricted to safety lighting as follows:

- Adjacent to roadways, footpaths and vehicle manoeuvring areas for safety reasons.
- 'Comfort' lighting to doorways; and
- Localised lighting on the equipment.

4.56 Floodlighting is not required under normal operations. A full Lighting assessment is included in Chapter 14 of the ES.

Above Ground Installation (AGI)

4.57 The export pipeline from the Gas Processing Facility will be connected to the "Pickering to Burton Agnes No.6 Feeder" which forms part of the NTS. At the point of connection there will be two adjacent compounds belonging to Moorland Energy and National Grid respectively and these are referred to as the Above Ground Installation's (AGI's). The connection will be made using a 'hot tap' process which is a physical/mechanical

process used to connect the gas pipeline from the Gas Processing Facility into a live (process active) pipeline. The connection is made underground and all piping and valves will be underground. Some ancillary infrastructure, e.g. kiosks for control equipment, valve actuators and fencing will be above ground.

4.58 **Moorland Energy AGI:** This compound will contain a buried actuated valve, used by Moorland Energy to isolate the Gas Processing Facility from the NTS. The principal components for the compound include:

- Electrical and instrumentation kiosk, containing all electrical, instrumentation and telecommunications equipment associated with Moorland Energys equipment at the AGI;
- Actuated isolation valve(s), situated below ground, with operators above ground;
- Bypass valve;
- Pressurisation bridle; and
- Drainage interceptor pit.

4.59 The AGI is sited in a compound surrounded by a 2.8m fence.

4.60 **National Grid AGI:** This compound will contain the buried actuated valve used by National Grid to isolate the NTS from the Gas Processing Facility. It will also contain the buried sample points mounted on the NTS pipe line, upstream and down stream of the connection. The principal components for the compound include:

- Electrical and instrumentation kiosk, containing all electrical, instrumentation and telecommunications equipment associated the MEL equipment at the AGI;
- Analyser kiosk, housing all gas quality analysing equipment;
- Remote operated valve controlled by NG;
- Minimum offtake connection hot tap valve, located below ground;
- Gas sample points (2 off connections to be made to existing Pickering to Burton Agnes No. 6 Feeder, below ground) for analysis of gas composition in feeder in vicinity of minimum offtake connection;
- Bypass valve; and
- Pressurisation bridle.

Hours of Working

4.61 The hours of working for construction are set out in **Table 4.1** and are to be agreed with the Planning Authority. We are proposing that construction work be undertaken

between the hours of 7.00 - 19.00 seven days a week to make efficient use of time and the longer, summer daylight hours. By working longer hours over seven days a week, the construction period can be completed over a shorter period therefore reducing disturbance.

Table 4.1: Hours of Working for Construction

Day	Start time	End time
Monday-Friday	07.00	19.00
Saturday	07.00	19.00
Sunday	07.00	19.00

- 4.62 Variations to the normal working hours may be required for certain construction activities, such as the delivery of abnormal loads, special lifting operations and other works with conditions to be agreed with the Planning Authority.
- 4.63 During and following commissioning, the Ryedale Gas Project will operate continuously (i.e. 24 hours per day, seven days a week) except for planned shutdowns. Deliveries and the export of materials during operation will, however, be restricted to daytime with no night time deliveries or deliveries on Sundays and Bank Holidays except in an emergency. **Table 4.2** shows the proposed hours of delivery.

Table 4.2: Hours of Deliveries

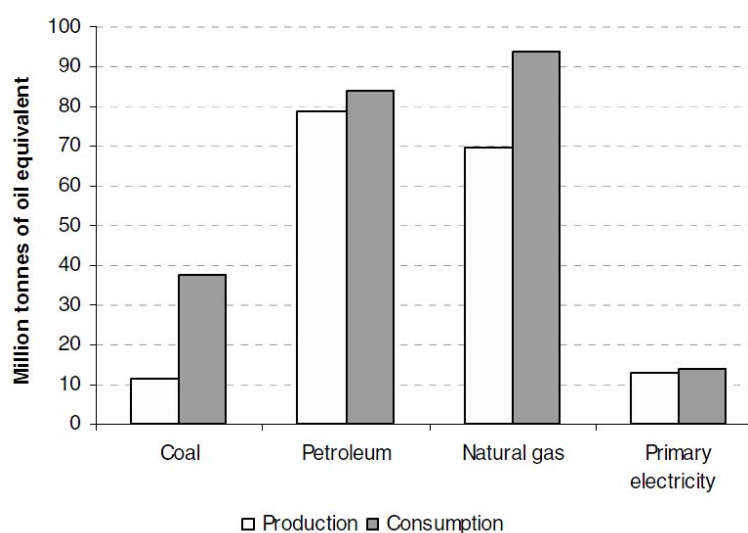
Day	First Delivery	Last Delivery
Monday-Friday	07.00	18.00
Saturday	07.00	13.30
Sunday	None	None

- 4.64 Further details of the proposed construction programme are set out in Chapter 6 of the Environmental Statement

5.0 NEED

- 5.1 Natural gas is an essential component in the supply of energy to homes, business and other premises and is very important as feedstock for a number of critical industries. The UK is highly dependent on gas supplies and is the third largest gas consumer in the world.
- 5.2 Natural gas is primary sources of energy and accounts for 40% of the UK's energy requirement. It is estimated that more than twenty million households use gas directly for cooking and heating, whilst a great number of consumer goods and products are made from the chemical processing of gas.
- 5.3 **Figure 5.1** illustrates the Primary Demand by Fuel Type according to the DECC 'Digest of UK Energy Statistics' (2009). The need to reduce carbon emissions whilst ensuring secure energy supplies means that for the forcible 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 5.1 : Production and Consumption of Primary Fuels 2008



Note: Includes non-energy use of petroleum and gas. Differences between consumption and production are made up by foreign trade, marine bunkers and stock changes.

Source: DECC, Digest of UK Energy Statistics, 2009

National Energy Policy

- 5.4 There are a number of specific references that have been made in national energy policy on the need for additional gas supply infrastructure in the UK in improving energy security and market efficiency. Gas supplies also plays a role in supporting the development of renewable energy sources, and in particular wind power. The need for additional gas supply infrastructure is urgent and this is recognised in national policy including the Statement of Need issued by the Energy Minister to Parliament on 16 May 2006.

Energy White Paper – “Our energy future – creating a low carbon economy”

- 5.5 The Energy White Paper was published by the Department for Trade and Industry (DTI) in February 2003. Its purpose was to generate a debate about a new energy policy for the UK. It states that the government’s goal is for people and businesses to be able to rely upon secure supplies of energy, including gas, at predictable prices through the market. To achieve this, the White Paper states that the UK needs a resilient and diverse energy system based upon a mix of fuel types, and much of the UK’s energy infrastructure will need to be updated.

Energy White Paper “Meeting the Energy Challenge”

- 5.6 The Energy White Paper was published by the 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.
- 5.7 The need to reduce carbon emissions whilst ensuring secure energy supplies means that the UK cannot rely on renewables 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.

**Ministerial Written Statement - Secretary of State for Trade and Industry -
Energy Statement of Need for Additional Gas Supply Infrastructure - 16th May
2006**

5.8 The statement clarifies the Government policy context for planning and consent decisions on gas supply infrastructure projects. The statement confirms that the provision of energy infrastructure is part of a delivery system that provides an essential national service. To deliver a reliable supply of energy to UK homes and businesses new energy projects will have to be encouraged. It is acknowledged that these new projects 'may not always appear to convey any particular local benefit, but they provide crucial national benefits which all localities share'.

5.9 In the context of the key goals of energy policy the statement also outlines the broad means by which the UK's energy infrastructure will be updated. There will be a requirement for:

- An expansion in infrastructure (e.g. overhead power lines and underground cables, and pipelines);
- new forms of infrastructure; and
- infrastructure development in areas that have not previously seen such development.

5.10 The continued exploitation of domestic resources is one of the methods by which the reliability of energy supplies can be improved. However the statement reiterates that:

'failure to put energy infrastructure in place will reduce the reliability of energy systems, with potentially disastrous consequences for the local, regional and national community and economy'

Regional Energy Policy

5.11 In 2005 the Government Office for Yorkshire and The Humber published its Regional Energy Infrastructure Strategy. This strategy set out the Region's key energy objectives which seek to:

- Maximise low carbon generation;
- Promote the reduction in energy demand; and

- Lead the way in delivering secure regional and national energy supplies.

5.12 In 2005 Natural Gas represented 16% of the region's energy mix making it the third most significant contributor to the region's energy balance. Given national requirements the Regional Energy Infrastructure Strategy recognises the significant role that gas plays. In order to position the future of gas both regionally and nationally the Strategy also states that efforts should be made to address strategic shortcomings relating to the future plans for gas infrastructure.

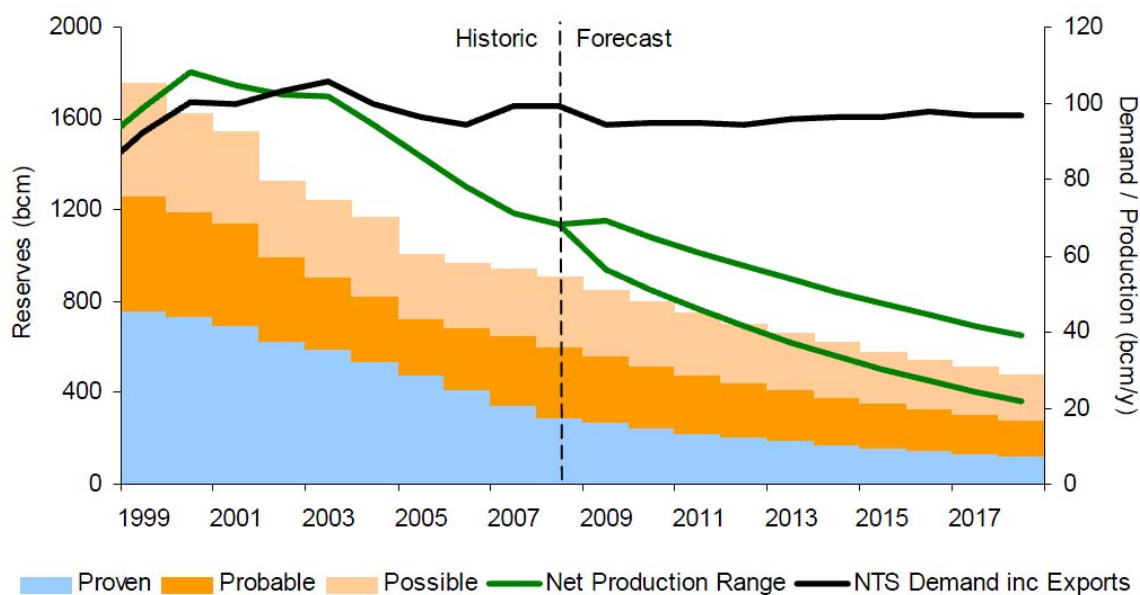
Demand

5.13 As indicated by Figure 5.1 the UK is highly dependent on gas as source of energy. Natural gas plays an important role in most aspects of everyday life, it was traditionally used for the domestic, industrial and commercial markets but since the early 1990's electricity generation has dominated growth in consumption and caused a rapid growth in the use of gas. In 2005 natural gas accounted for 32.7% of the primary fuel used in electricity generation (DCLG, Onshore Oil and Gas, 2006). It offers higher generation efficiency and lower carbon dioxide emissions than convention coal technology.

5.14 The UK's reserves of oil and gas are declining making it a net importer. **Figure 5.2** shows the latest projections published by National Grid indicated that by 2011 46% of the UK's gas would be imported and this figure would rise to 77% by 2018 (Gas Transportation Ten Year Statement, 2009). As part of the national energy strategy to ensure 'security of supply' and reduce the dependency of the UK on gas imports one of the Government's priorities is to maximise the economic production of domestic energy sources.

5.15 Even under National Grid's Gone Green Scenario (2009) for energy generation the demand for natural gas is predicated to increase in order to accommodate for any energy shortages arising through 'wind intermittency'. These latest demand forecasts highlight the importance of maximising the potential productivity of the UK's remaining gas reserves and the need for new gas supply infrastructure to help ensure security of supply.

Figure 5.2 UKCS Remaining Gas Reserves



Source: Gas Transportation Ten Year Statement, 2009

Supply

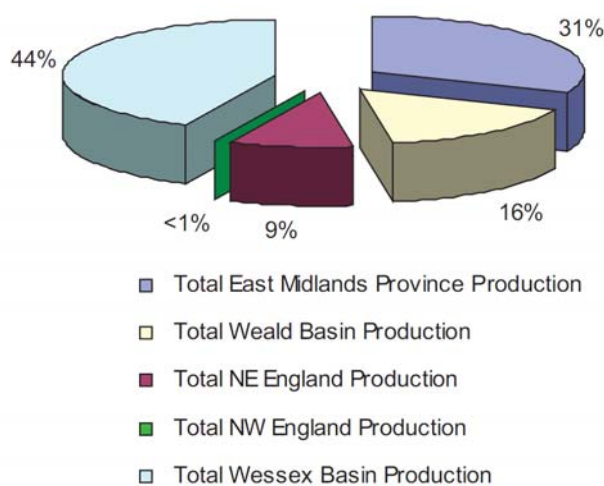
- 5.16 Although it has been widely reported that domestic reserves are declining the UK still has considerable oil and gas resources with the potential to contribute to national energy requirements. In 2006 the DTI published a background paper for the Energy Review which estimated that the oil and gas remaining to be produced 'range from 21 to 27 billion barrels of oil equivalent – this compares with production of some 35 billion barrels of oil equivalent by the end of 2005'. Furthermore the Paper suggests that:

“If estimates of the remaining geological potential are right and if investment in exploration and development can be maintained near current levels then production in 2020 could be equivalent to a million barrels or more a day higher than if investment falls away (split roughly between oil and gas production)”

- 5.17 Ensuring that the UK's indigenous resources are used to their full potential is crucial to securing the reliability of energy supplies. The systematic search for onshore oil and gas began in 1918, following concerns about supply disruptions during the First World War, with peak natural gas production reaching 800mcm/d in 2000, representing about 0.6% of total UK production. In terms of regional supply, **Figure 5.3** illustrates the

important contribution the North East makes to total onshore gas production, which dates back to the development of Eskdale Gasfield in the 1960s.

Figure 5.3 : Total Gas Production



Source: DCLG, Onshore Oil and Gas Production, 2006

- 5.18 In light of concerns relating to the risks arising from the concentration of fossil fuel reserves in fewer and further away places the viability of onshore gas reserves is becoming increasingly important. With improving exploration technology onshore discoveries are continually being made and gasfields such as the Proposed Development at Ryedale can make an important contribution to the nation's energy needs for up to 25 years.

The Role of Onshore Gas

- 5.19 As emphasised in the 2007 Energy White Paper security of energy supply is a key issue for the UK which will affect all localities. Ensuring that the UK's indigenous resources are used to their full potential plays an essential part in delivering this security, providing a reliable supply and reducing the need for imported oil and gas.
- 5.20 In the last two decades changes in consumption practices has increased the role of onshore gas in the UK energy market. Although gas was traditionally used for the domestic, industrial and commercial markets since the early 1990's electricity generation has dominated growth in consumption and caused a rapid growth in the use of gas. With factors, such as the introduction of 13.6GW of new CCGT plant, National Grid in their 2009 'Ten Year Statement' forecasted that the demand for gas is going to

continue to increase, making the need for reliable gas supplies and new infrastructure a key issue of national importance.

- 5.21 With the expansion of gas consumption, concerns relating to supply interruptions have become more prominent for the UK energy sector. The Energy Challenge published by Government in 2006 warned that if infrastructure is not forthcoming or is delayed, there is a risk of price rises, costing consumer hundreds of millions of pounds. As an indigenous resource the Ryedale Gas Project will be in operation for up to 25 years during which period it will contribute to delivery of reliable gas supplies and help to reduce the UK's susceptibility to fluctuations in the global market.
- 5.22 The UK is a major producer of oil and gas, the total value of which was £27.2bn in 2005. Although a major proportion of the total output was from offshore fields, onshore gas production makes a modest, but important contribution to supply with the additional advantage of proximity to demand. There are a number of gasfields in North Yorkshire that make an important contribution to total onshore production, which was valued at £363m in 2005. The Ryedale Gas Project will help to ensure that the Region can achieve their energy goals by offering a reliable supply of gas which will strengthen the role of Yorkshire and the Humber within the UK energy sector.

Summary

- 5.23 In light of the UK's growing dependency for imported fuel onshore gas production makes an important contribution to the national energy market. 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.
- 5.24 The Ryedale Gas Project supports the Government's regional energy strategy by maximising the economic production of domestic energy sources and introducing new gas infrastructure. Furthermore onshore 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.

6.0 PLANNING POLICY FRAMEWORK

Introduction

6.1 The Proposed Development broadly consists of production from the existing Ebberston Wellsite, two underground gas pipelines, the Hurrell Lane Gas Processing Facility, the new access road south of the A170 and the Above Ground Installation's (AGI) which extend across the following district and county authorities:

- North Yorkshire County Council;
- North York Moors National Park Authority; and
- Ryedale District Council.

6.2 For the purposes of this application the determining authorities are North Yorkshire County Council and the North York Moors National Park and this assessment has considered the appropriateness of the proposals in relation to policies contained within the Yorkshire and Humber Plan 2008, the adopted North Yorkshire Mineral Local Plan and the North York Moors National Park Core Strategy and Development Policies (2008). Although Ryedale District Council is not a determining authority for mineral applications it is a statutory consultee and, therefore, regard has also been given to relevant planning policies in the Ryedale Local Plan (2002).

6.3 The remainder of this Section presents an assessment of the relevant national, regional and local planning policy framework in relation to the Proposed Development.

National Energy Policy

Energy White Paper "Meeting the Energy Challenge"

6.4 The Energy White Paper was published by the DTI in May 2007. It sets out the Government's international and domestic energy strategy in response to the growing evidence of the impact of climate change and the need to cut greenhouse gases, rising fossil 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.

6.5 Chapter 4 of the White Paper outlines the Government's strategy for the improvement of the regulatory and policy framework to ensure the economic recovery of the UK's

fossil fuels reserves. This strategy seeks to maintain the competitiveness of the UK's gas and oil production by encouraging a high level of investment in new infrastructure and to maintain a supportive environment that attracts a wide range of companies to exploit existing and prospective fields.

National Planning Policy Guidance

Mineral Planning Statement 1: Planning and Minerals (MPS1)

6.6 MPS1 was published in November 2006 and sets out the overall policy approach to minerals planning in England. It states in its introductory paragraph that minerals including gas, are essential to the nation's prosperity and quality of life, not least in helping to create and develop sustainable communities. Furthermore minerals development is different from other forms of development because minerals can only be worked where they naturally occur. MPS1 identifies the important considerations which should be addressed in Mineral Plans which amongst other matters includes the safeguarding of reserves, supply, the protection of heritage and countryside and environmental protection. Annex 4 of MPS1 details the Government's Energy Policy and the role of onshore gas developments. The Energy Policy seeks;

- To cut carbon dioxide emissions by 60% by 2050, with real progress by 2020;
- To maintain the reliability of energy supplies;
- To promote competitive markets in the UK and beyond; and
- To ensure that every home is adequately and affordably heated.

6.7 Paragraph 3.2 of MPS1 notes that conventional gas development broadly consists of three phases – exploration, appraisal and production, for which each phase requires a separate planning permission. Where the distribution of gas involves the installation of a new pipeline MPS1 states that when formulating proposals operators should seek to avoid environmentally sensitive locations and take account of any potential impacts on nature conservation.

Minerals Planning Statement 2: Controlling and Mitigating the Environmental Effects of Minerals Extraction in England (MPS2)

6.8 MPS2 published in March 2005, sets out the principles to be followed in considering the environmental effects of mineral working in order to encourage sensitive working. Paragraph 17 of the MPS states that applications which are in accordance with the

relevant development plan should be allowed unless material considerations indicate otherwise. MPS2 continues, advising developers that any potential adverse effects on local communities, environmental damage or loss of amenity must be kept to an acceptable minimum through the design of the proposals.

Planning Policy Statement 1: Delivering Sustainable Development (PPS1)

6.9 Planning Policy Statement 1 (PPS1) sets out the Government's overarching planning policies on the delivery of sustainable development through the planning system. It states that Planning should facilitate and promote sustainable and inclusive patterns development by:

- making suitable land available for development in line with economic, social and environmental objectives to improve people's quality of life;
- contributing to sustainable economic development;
- protecting and enhancing the natural and historic environment, the quality and character of the countryside, and existing communities;
- ensuring high quality development through good and inclusive design, and the efficient use of resources; and
- ensuring that development supports existing communities and contributes to the creation of mixed communities with good access to jobs and key services for all members of the community.

6.10 Paragraph 8 states that the plan-led system plays a key role in integrating sustainable development objectives. Where the development plan contains relevant policies, applications for planning permission should be determined in line with the plan, unless material considerations indicate otherwise.

Planning Policy Statement 7: Sustainable Development in Rural Areas (PPS7)

6.11 PPS7 was published in 2004 and outlines the Government's planning policies for rural areas, including country towns and villages and the wider, largely undeveloped countryside. The policies within this document seek to ensure sustainable development within rural areas by working towards the following objectives:

- Raise the quality of life and the environment in rural areas;
- Promote more sustainable patterns of development;

- Promote the development of the English regions by improving their economic performance; and
- Promote sustainable, diverse and adaptable agricultural sectors.

6.12 On determining applications for development in the countryside Paragraph 15 states that Local Planning Authorities should continue to ensure that the quality and character of the wider countryside is protected and enhanced. PPS7 also advises LPA's to have particular regard to statutorily designated sites where greater priority should be given to restraint of potentially damaging development.

Development Plan

Yorkshire and Humber Plan

6.13 The Yorkshire and the Humber Plan is the Regional Spatial Strategy for the area and covers the period up 2026. The plan sets out the spatial priorities of regional and sub-regional significance which cover topics such as the environment, housing and the economy.

6.14 The RSS recognises that mineral extraction makes an important contribution to the region's economy. To ensure the protection of the region's resources Policy EV4 states that;

'Plans, strategies, investment decisions and programmes should safeguard mineral deposits in the region, from sterilisation by other types of development and provide for an adequate and steady supply of minerals'.

6.15 For the foreseeable future the UK will continue to need fossil fuels as part of a diverse energy mix. To ensure secure supplies of energy and help reduce the dependence on energy imports, national energy policy looks to maximise the economic production of domestic energy sources. In light of the challenges associated with energy security this proposal seeks to contribute to the supply of gas to help meet national requirements. Therefore should permission be granted for this development, it will increase the regions contribution to national mineral requirements with added benefits to the industry and consumer.

- 6.16 The RSS also notes in paragraph 10.21 that mineral extraction will need to be avoided where it would have an adverse effect on the integrity of internationally important biodiversity sites. Following detailed ecological assessments it is anticipated that the pipeline route and processing facility will not have a detrimental effect on internationally important nature conservation sites.

North Yorkshire Minerals Local Plan

- 6.17 On commencement of the Planning and Compulsory Purchase Act 2004, all existing adopted local plans and relevant structure plans were automatically saved for 3 years. As the progress for adoption of new development plans has not progressed at the speed envisaged in the Act, Local Planning Authorities wishing to retain specific policies beyond the expiry of the above mentioned 3 year period i.e. 27 September 2007, needed to receive the Secretary of State's (SoS) agreement in the form of a Direction to save such policies until the Local Development Documents are in place. The policies referred to below are 'Saved Policies', as confirmed to North Yorkshire Country Council by the SoS.

- 6.18 When determining a minerals application Policy 4/1 of the Local Plan states that where appropriate the proposal should satisfy the following criteria:

- a) the mineral deposit on the application site has been fully investigated;
- b) the siting and scale of the proposal is acceptable;
- c) the proposed method and programme of working would minimise the impact of the proposal;
- d) landscaping and screening has been designed to effectively mitigate the impact of the proposal;
- e) other environmental and amenity safeguards would effectively mitigate the impact of the proposal;
- f) the proposals and programme for restoration are acceptable and would allow a high standard of restoration to be achieved;
- g) a high standard of aftercare and management of the land could be achieved;
- h) the proposed transport links to move the mineral to market are acceptable; and
- l) any cumulative impact on the local area resulting from the proposal is acceptable.

- 6.19 In accordance with Policy 4/1 this proposal has been prepared following a detailed programme of exploration to determine the quality, nature and extent of the deposit. Once the commercially viability of this deposit was established an Alternative Sites

Assessment for the gas processing facility and pipeline was undertaken. As detailed in the Alternative Sites Assessment the gas pipeline route is considered to be the most technically feasible and anticipated to have no greater levels of environmental effects than the other options. The predicted environmental effects associated with the proposed route are detailed in the Environmental Statement (ES). However the majority of these impacts will occur temporarily during the construction period and once the pipe line is installed much of the land will be restored to its original use.

- 6.20 An Alternative Site Assessment was also undertaken for the new Gas Processing Facility and takes into account Policy 7/8 of the Local Plan. This policy assumes a presumption against the siting of Gathering Stations in the open countryside unless *'it is technically impracticable or environmentally unacceptable'* to use industrial locations. Following a review of system requirements and environmental constraints the site off Hurrell Lane was identified as the preferred option. In addition to being technically acceptable the site is well screened from the surrounding countryside and is not overlooked by any residential properties. For a full overview of all the options considered please refer to the Alternative Sites Assessment which is presented in Chapter 5 of the ES.
- 6.21 Under Policy 7/6 'Development Scheme' the council should only grant planning permission for commercial production within the framework of an overall development scheme relating to all proven deposits within the gasfield or oilfield. The policy stresses that where appropriate, applications should be accompanied by an *'Environmental Statement and schemes should provide for the full development of the proven field'*.
- 6.22 In accordance with the Screening Opinion's received by North Yorkshire County Council and the North York Moors National Park, an ES has been prepared as part of the application for the proposed works. The ES in conjunction with this Planning, Sustainability and Need Statement and other supporting documents presents the overall development scheme for the application, which includes a comprehensive assessment of all the proposed elements (works at the well site, gas processing facility, 'Hot Tap' and gas pipeline) and information relating to all deposits identified within the gasfield.
- 6.23 Policy 7/10 of the Local Plan states that planning permission for the exploration, appraisal or development of oil or gas resources will only be permitted when provision is made for the full restoration of the site and its related means of access to a beneficial after use. At the end of the life of the Ryedale Gas Project, nominally up to twenty-five years, the Hurrell Lane Gas Processing Facility and Ebberston Moor - 2 Well Site will be decommissioned and remediated. Once the gas pipeline is installed a full programme of restoration will be undertaken with an aim to return the route to a condition as close as

practicable to its original use. When appropriate, restoration schemes for the gas processing facility, well site and pipeline will be agreed in writing with North Yorkshire County Council and North York Moors National Park Authority and approved by the relevant landowners.

Minerals and Waste Development Framework

- 6.24 In accordance with the Planning and Compulsory Act 2004 North Yorkshire County Council is in the process of preparing their Local Development Framework, which when adopted will replace the current Minerals Local Plan.
- 6.25 In January 2008 the council submitted their Minerals and Waste Core Strategies for public examination, during which the Inspector expressed a number of concerns about the potential soundness of the Strategy. On the 30th March 2009 the Council received confirmation from the Government Office for Yorkshire and the Humber that the draft Minerals and Waste Core Strategies should be withdrawn. As a result of this response the Council is currently reviewing the Core Strategy and Site Allocations documents to establish how they can be taken forward.

North York Moors National Park Core Strategy and Development Policies

- 6.26 Parts of the development including the well site and a section of the gas pipeline fall within the administrative control of the North York Moors National Park Authority. The adopted development plan for the National Park is the Core Strategy and Development Policies (November 2008). This Development Plan Document supersedes all the policies contained in the former North York Moors Local Plan (2003).
- 6.27 The document comprises a mixture of Core Policies and Development Policies which seek to further the National Park purposes towards a more sustainable future. Under Core Policy C '*Natural Environment, Biodiversity and Geodiversity*' all developments, projects and activities will be expected to:
 - a) Provide an appropriate level of protection to legally protected sites and species;
 - b) Maintain, and where appropriate enhance, conditions for priority habitats and species identified in the North York Moors Local Biodiversity Action Plan;
 - c) Maintain and where appropriate enhance recognised geodiversity assets;
 - d) Maintain and where appropriate enhance other sites, features, species or networks of ecological or geological interest and provide for the appropriate management of these;

- e) Maximise opportunities for enhancement of ecological or geological assets;
 - f) Mitigate against any necessary impacts through appropriate habitat creation, restoration or enhancement on site or elsewhere.
- 6.28 As part of the ES for the proposed development detailed assessments have been undertaken and cover areas such as ecology, archaeology and visual impact. Within the National Park the main environmental effects are associated with the temporary relocation of soil for the installation of the gas pipeline. However any potential impacts will generally be confined to the route of the pipeline and a programme of habitat restoration will be undertaken in accordance with an agreed environmental management plan.
- 6.29 Under Core Policy E minerals extraction will be permitted within the National Park if it satisfies the following criteria:
- a) It is of a scale appropriate for its location in the National Park;
 - b) There are no suitable sources of previously used materials to meet the identified need;
 - c) Any waste materials from extraction will be re-used or recycled wherever possible; and
 - d) A scheme for restoration and after-use of the site based upon protecting and enhancing the special qualities of the National Park forms an integral part of the proposal.
- 6.30 The site for the Well Site lies within the National Park at Ebberston Moor -2 Well Site and currently comprises an area of hard standing and existing gas infrastructure enclosed by parameter planting. In December 2007 temporary planning permission was granted on the site for an exploratory borehole and new access road. For this application new machinery is required at the well site for the extraction and transportation of gas. As the dimensions and footprint of this new equipment is smaller than that of the previous proposals there will be no additional loss of land or significant changes in views experienced from the surrounding countryside. It is anticipated that the well site will be in operation for up to 25 years, after which time the site will be decommissioned and a programme of restoration will be undertaken. A scheme for restoration will be agreed in writing with North Yorkshire County Council and North York Moors National Park Authority and approved by the relevant landowners.
- 6.31 As explained in paragraph 6.20 there are potential environmental effects associated with the construction of the pipeline route. However the majority of these impacts will

be localised along the pipeline route and will only be for a temporary period during the construction phase of development.

Ryedale Local Plan (2002)

6.32 A section of the gas pipelines route and the site for the proposed Gas Processing Facility falls within the District of Ryedale. Although not a determining authority Ryedale 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 Ryedale Local Plan (2002).

6.33 Within the District of Ryedale the proposed pipelines pass through land designated in the Local Plan as an Area of High Landscape Value. Policy ENV3 of the Local Plan states that within Areas of High Landscape Value:

‘Large-scale development will only be permitted where it can be clearly demonstrated that the proposal would have significant economic or social benefits, is incapable of being located outside the Areas of High Landscape Value and is designed to do as little damage to the environment as practicable’.

6.34 It is anticipated that the majority of visual impacts associated with the Proposed Development will be for a temporary period and once in operation the change to existing views will generally be minor to negligible. The site for the Hurrell Lane Gas Processing Facility is located to south of this Area of High Landscape Values and is well screened from the surrounding landscape by variations in landform and existing trees.

6.35 A disused railway line runs immediately to the north of the application site for the gas processing facility. Policy T11 of the Local Plan states that where disused railway lines are identified on the Proposals Map:

‘Development which would prejudice their future use as possible cycle/footpath/horse riding routes or for potential public transport use will not be permitted.’

6.36 The proposals for the Gas Processing Facility and adjoining access road have recognised the importance of the disused railway to the local area. To minimise potential impacts the proposals for the new access road will utilise an existing farm access which

currently crosses the disused railway. It anticipated that any impacts will be temporary as a result of construction works and restricted to a small localised area at the point at which the existing farm access crosses the disused railway. When in operation the Proposed Development will not have a detrimental effect on the integrity of this linear feature.

Ryedale Local Development Framework

- 6.37 Ryedale District Council is in the process of preparing their LDF which when adopted will replace the Ryedale Local Plan. In 2006 the Council prepared a Core Strategy. However, following an independent examination, the document was found unsound in a limited number of areas. As a result of this decision, the Council is currently preparing a new document. Public consultation on the new Core Strategy is programmed for summer 2010.
- 6.38 As the new Core Strategy is not due to undergo public consultation until mid-2010 this policy review has not been able to consider any emerging planning policies.

Conclusions

- 6.39 This Section has demonstrated how the proposals for the Ryedale Gas Project have taken into account and accord with national, regional and local planning policies. In addition to this Statement, an Environmental Statement has been prepared in support of the application and covers the following environmental aspects:

- Ecology
- Landscape and Visual Impact
- Air Quality
- Noise and Vibration
- Traffic and Transportation
- Flood Risk, Hydrology and Drainage
- Archaeology and Cultural Heritage
- Lighting
- Arboriculture
- Agricultural Land and Soils
- Geology
- Socio-Economic

6.40 As part of the Environmental Statement a number of detailed environment assessments have been undertaken to ensure that the Proposed Development will not have a detrimental impact of the surrounding built and natural environment. These assessments, 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.

7.0 SUSTAINABILITY APPRAISAL

- 7.1 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 and sustainability assessments often accompany planning applications for development. In order to assist those considering or interested in this planning application, this section carries out a Sustainability Appraisal (SA) of the Proposed Development, having regard to the principles of sustainable development set out at the national, regional and local level.
- 7.2 With the exception of North Yorkshire County Council, who are still in the process of revising their Minerals Local Development Framework, both the Government Office for the Yorkshire and the Humber and the North York Moors National Park have recently undertaken Sustainability Appraisals respectively entitled the 'Final Sustainability Appraisal (integrating Strategic Environmental Assessment) of the Yorkshire and Humber RSS Revision' (April 2008) and the North York Moors National Park Authority 'Sustainability Statement, Core Strategy and Development Policies Development Plan Document' (November 2008). As part of these sustainability appraisals, SA objectives were 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

- 7.3 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.
- 7.4 Minerals Policy Statement 1 (MPS1) 'Planning and Minerals' was published in November 2006 to replace Minerals Planning Guidance 1 (MPG1) 'General considerations and the

development Plan System' (June 1996). The Government's objectives for minerals planning reflect the requirement to contribute to the achievement of sustainable development, as required by Section 39 of the Planning and Compulsory Purchase Act 2004 (MPS1, paragraph 9). These objectives are;

- to ensure, so far as practicable, the prudent, efficient and sustainable use of minerals and recycling of suitable materials, thereby minimising the requirement for new primary extraction;
- to conserve mineral resources through appropriate domestic provision and timing of supply;
- to safeguard mineral resources as far as possible;
- to prevent or minimise production of mineral waste;
- to secure working practices which prevent or reduce as far as possible, impacts on the environment and human health arising from the extraction, processing, management or transportation of minerals;
- to protect internationally and nationally designated areas of landscape value and nature conservation importance from minerals development, other than in the exceptional circumstances detailed in paragraph 14 of this statement;
- to secure adequate and steady supplies of minerals needed by society and the economy within the limits set by the environment, assessed through sustainability appraisal, without irreversible damage;
- to maximise the benefits and minimise the impacts of minerals operations over their full life cycle;
- to promote the sustainable transport of minerals by rail, sea or inland waterways; to protect and seek to enhance the overall quality of the environment once extraction has ceased, through high standards of restoration, and to safeguard the long-term potential of land for a wide range of after-uses;
- to secure closer integration of minerals planning policy with national policy on sustainable construction and waste management and other applicable environmental protection legislation; and
- to encourage the use of high quality materials for the purposes for which they are most suitable.

7.5 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.

- 7.6 MPS1 (2006) 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. MPS1 accepts that because minerals can only be extracted from where they occur, there can often be conflicts between mineral extraction and the benefits to society. Therefore MPS1, advocates an integrated approach to considering the social, environmental and economic factors to meeting the nation's need for minerals in a sustainable manner.

Regional Sustainability Strategy

- 7.7 The 'Final Sustainability Appraisal' was undertaken to provide a comprehensive assessment of all final policies in the Yorkshire and Humber RSS Revision (2008). 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. These findings were used to inform the assessment stage of the evolving draft RSS and are summarised in **Table 7.1**.

Table 7.1 : Sustainability issues/problems and implications for the RSS

Key Issues	Current Situation
Social inequalities	Yorkshire and the Humber is the 3rd most deprived in the country (of 8). Roughly 30% of the region falls within the 20% most deprived communities in England and Wales. This has worsened since 2000, with York, Leeds and North East Lincolnshire experiencing the most dramatic increase in deprivation. There are also small pockets of deprivation in other parts of the region, especially rural areas, which are masked by surrounding affluence.
Lifestyles and transport	Traffic volumes are growing and the use of public transport is falling. In the last ten years road traffic on major roads in the region has grown by over 20%. Traffic levels on major roads increased by 19% between 1993 and 2002. The region has the 4th lowest levels of road traffic of the English regions.
Regional economic prosperity	Regional unemployment levels have fallen in line with national trends and are now below the UK average, but there are still hotspots in the region. Average gross weekly earnings for employees in YH were only 88% of the national average in 2003; Gross Value Added per head was 89%. 11% of households have an income under £5,000. The business structure has a greater focus on traditional low value-added industries than the England average. Manufacturing accounts for nearly 16% of employment and 21% of Gross Value Added. Spend on research/development in Yorkshire and the Humber is one fourth of the UK average. Business start up rates in the region are among the lowest in England.
Climate	Main contributors to climate change in Yorkshire and the Humber are

change	<p>the power generation industry (58% of CO₂ emissions in 2001), the transport sector (13.5%, mostly road transport), and the domestic sector (10%). Industry, commerce, agriculture, waste, health/education and construction also contribute.</p> <p>Total emissions of greenhouse gas emissions in Yorkshire and the Humber have dropped by 7% between 1990 and 2001. This is mainly due stronger regulations, more efficient technologies and a decline in manufacturing. However emissions from road transport increased by 17% despite more fuel efficient vehicles as distances travelled increased.</p>
Biodiversity	<p>Biodiversity declined strongly in the 20th century. Some of this decline has since been reversed: successes include the improvements in river water quality and the recovery of wildlife in river corridors. But biodiversity is still threatened, e.g. by climate change. Even land developed for housing or employment or transport should accommodate wildlife.</p>
Water demand and capacity	<p>Water resources are already a problem in much of the region, particularly the east and south-east. Nationally, water use per person is increasing. Climate change is expected to result in higher temperatures and drier summers which will lead to lower river flows in the summer months and, at the same time, increased demand for public water supply and agriculture.</p>
Waste production	<p>The amount of household waste produced in the region rose from 477 to 509 kilograms per person per year between 1998/9 and 2002/3. The region had the second lowest per capita household waste production of the English regions. The amount of household waste recycled rose from 29 kg per person per year in 1998/99 to 58 kg/per person per year in 2002/03 (the 2002/3 England average being 75kg). Yorkshire and the Humber is third lowest of the regions in household waste recycled. In 1998/9 the region was the biggest producer of industrial and commercial waste of the English regions. Much of this was toxic, flammable or otherwise harmful.</p>
Demographic trends	<p>Yorkshire and the Humber had the 3rd lowest population increase of all the regions during 1998-2002. Rural populations have increased more than urban ones, with the largest increases in Selby, York and Richmondshire. Hull's population fell by almost 5% in the same period.</p> <p>From 1998 to 2002, the population aged 80-84 rose by 15%; ages 55-59 rose by 20%; ages under 10 fell by around 7%; and ages 25-29 fell by 16%. Rural areas have lower proportions of young people, and in-migration is increasing this trend. The trend towards an ageing population looks set to continue, with implications for service provision. In the future, fewer economically active people will support an increasingly older and retired population.</p>
Rural and urban landscapes	<p>Landscape is a key sustainability issue for RSS because it:</p> <ul style="list-style-type: none"> • is the physical template on which spatial activity takes place; • is subject to significant changes through development, climate change etc. has a major 'cultural' role in that the landscape bears the imprint of past, present and future society. <p>Particular challenges for landscapes are:</p> <ul style="list-style-type: none"> • coastal erosion and estuarial flooding; • inland flooding and flood management; • siting of renewable energy & waste management facilities; • restoration of coalfields, quarries and contaminated land; • pressure on urban greenspace and streetscapes from infill development and urban fringe development; • pressure on rural landscapes and their tranquillity, from new

	<p>'urban' development and transport infrastructure. Change to the landscape is inevitable and is not the same as a 'threat'.</p>
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(Source: Final Sustainability Appraisal of the Yorkshire and Humber RSS Revision, 2008)

7.8 The environmental characteristics illustrated in Table 7.1 above, must be reflected in the sustainability appraisals objectives of the Yorkshire and Humber RSS Revision. The objectives listed below were used in the appraisal process for the development of the policies of the RSS and as a result reflect the key issues in Yorkshire and the Humber.

- Good quality employment opportunities available to all;
- Conditions for business success, economic growth & investment;
- Education & training opportunities which build the skills & capacity of all the population;
- Conditions and services to engender good health;
- Safety and security for people and property;
- Vibrant inclusive communities which encourages a sustainable population profile and ensures that excluded and disconnected groups also participate in decision making;
- Culture, leisure and recreation activities to all;
- Local needs met locally;
- A transport network which maximises access whilst minimising detrimental impacts;
- A quality built environment and efficient land use patterns, that make good use of derelict sites, minimise travel and promote balanced development;
- Quality housing available to everyone ensuring the provision of affordable homes;
- Bio-diverse and attractive natural environment
- Minimal pollution levels. If environmental impacts are a significant result of the activity consider an environmental impact assessment;
- Minimise greenhouse gas emissions and a managed response to the effects of climate change. If environmental impacts are a significant result of the activity consider EIA; and
- Prudent & efficient use of energy and natural resources with minimal production of waste.

7.9 The Proposed Development represents a major infrastructure investment in the Region which will generate employment opportunities and help to support the sustainable objectives of the Yorkshire and Humber RSS. In the context of a declining

manufacturing industry this development will help to strengthen the local economy and improve the skills of the population in sectors such as construction and energy. In accordance with the screening opinions received from North Yorkshire County Council and the North York Moors National Park Authority, an Environmental Statement (ES) has been prepared as part of the application for the Proposed Development and covers areas including ecology, archaeology and visual impact. It is anticipated that many of the potential environmental effects arising from the development will occur temporarily during the construction period and once the gas pipelines are installed much of the land will be restored to its original use. Where direct effects can not be avoided the ES has proposed a suitable programme of off-site and on-site mitigation.

Local Sustainability Strategy

- 7.10 Following instruction from the Government Office for Yorkshire and the Humber North Yorkshire County Council are currently in the process of revising their Core Strategy and as yet have not produced an accompanying Sustainability Appraisal. The current strategy for promoting sustainable development is outlined within the introductory section to the adopted North Yorkshire County Council Minerals Local Plan. This strategy recognises that North Yorkshire has extensive mineral reserves and seeks to achieve a 'balance between satisfying the need for minerals and the need to protect the environment, which maximises the sustainability of both'.
- 7.11 In 2008 the North York Moors National Park prepared a sustainability appraisal to accompany the North York Moors National Park Core Strategy and Development Plans Document. The purpose of this statement was to show how sustainability considerations have formed an integral part of the production of the Core Strategy and how the document is consistent with meeting sustainability objectives. The objectives used as part of this appraisal process are outlined in **Table 7.2** below:

Table 7.2 : Detailed Appraisal Objectives

Objective No	Objective
1	Maintain and enhance the special landscape, local distinctiveness and settlement character
2	Minimise pollution releases to levels that do not damage natural systems, human health and quality of life.
3	Reduce the causes and manage the effects of climate change.
4	Reduce the risk of flooding ensuring development and land use changes are not vulnerable to flooding, or increases the risk of flooding elsewhere in the catchment area/coastal zone.
5	Avoid damage to designated sites and protected species maintaining and enhancing where appropriate biodiversity;

	avoiding irreversible losses.
6	Encourage consumers to meet their needs with less energy input and through the use of renewable energy technologies.
7	Preserve and enhance the archaeological and historic environment
8	Promote concepts of design orientation and aspects of development that improve energy efficiency and encourage the use of sustainable resources.
9	Encourage waste reduction, reuse, recovery and recycling.
10	Protect and enhance human health.
11	Protect and enhance access to key community facilities and services including leisure and recreation services including leisure and recreation services by means which minimise environmental impacts on the Park and its communities.
12	Support the provision and retention of key facilities and services ensuring that local needs are met locally whenever possible.
13	Quality employment opportunities available to all that create a vibrant local economy.
14	Maintain and enhance the viability and vitality of local communities.
15	Develop a tourism product that provides sustainable benefits to the local community and its economy.
16	Manage natural resources in a way, which sustains their environmental qualities as well as their productive (or economic) potential.

(Source: North York Moors National Park Authority 'Sustainability Statement' to accompany the Core Strategy and Development Policies Development Plan Document (November 2008))

- 7.12 The detailed sustainability objectives raised in Table 7.2 form the basis for the appraisal of the Proposed Development as set out in **Table 7.3** below.

Table 7.3: Summary of the impact of Proposed Development against the detailed sustainability objectives

Objective No	Objective	Impact of the Proposed Development
1	Maintain and enhance the special landscape, local distinctiveness and settlement character	<p>A high level of consideration has been given to local landscape character and in particular the National Park when determining the design, siting and layout of the Proposed Development.</p> <p>To protect local distinctiveness a detailed landscape and visual assessment has been undertaken as part of the supporting ES. It is anticipated that the majority of the visual impacts will occur temporary and once the pipelines are installed much of the land will be restored to its original use. The proposals for the Gas Processing Facility also include a high quality landscaping scheme which takes into account the sensitivity of the locality and when implemented will minimise the change in views experience from the surrounding</p>

		countryside.
2	Minimise pollution releases to levels that do not damage natural systems, human health and quality of life	A detailed geology assessment has been undertaken as part of the ES and a comprehensive Management Plan will be prepared to prevent the risk of contamination as a result of any spillages at the Hurrell Lane Gas Processing Facility.
3	Reduce the causes and manage the effects of climate change	The Proposed Development will ensure that there is an improved supply of gas in the UK which will assist in reducing the need for imports from abroad.
4	Reduce the risk of flooding ensuring development and land use changes are not vulnerable to flooding, or increases the risk of flooding elsewhere in the catchment area/coastal zone	The ES provides a flood risk assessment which concludes that the proposals will not exacerbate or add to the risk of flooding.
5	Avoid damage to designated sites and protected species maintaining and enhancing where appropriate biodiversity; avoiding irreversible losses	As part of the ES a detailed ecological assessment was undertaken and concluded that the Proposed Development would not have any direct or indirect effects on any statutory designated sites. The assessment predicated that the construction works would have a direct effect on some local badger sets but with appropriate mitigation measures in place it was anticipated that the residual effects would not be significant.
6	Encourage consumers to meet their needs with less energy input and through the use of renewable energy technologies	In addition to the development of renewable energy technologies, the exploitation of domestic gas reverses forms an integral part of the UK's national energy strategy. The Proposed Development seeks to contribute to the supply of gas to help meet national requirements and reduce the dependence on energy imports.
7	Preserve and enhance the archaeological and historic environment	Where possible the proposals have sought to avoid and preserve heritage sites of a national or local importance. In the North York Moors National Park the pipeline route is tightly constrained by Oxmoor Dikes designated as a Scheduled Monument. Following detailed archaeological assessments and consultation with English Heritage it was confirmed that a physical break in the monument's structure offered sufficient space for the pipeline to be routed without having a detrimental effect on the integrity of this historic site.
8	Promote concepts of design orientation and aspects of	The design proposals make the most efficient use of natural resources and

	development that improve energy efficiency and encourage the use of sustainable resources	incorporate the use of modern plant and machinery to improve energy efficiency.
9	Encourage waste reduction, reuse, recovery and recycling	Not relevant to the proposals
10	Protect and enhance human health	To ensure that the health and safety of the local community is not being compromised a comprehensive and robust health and safety report has been prepared for the proposed development. This report covers areas such as the identification of potential risks, health and safety procedures and the maintenance and monitoring of all plant machinery.
11	Protect and enhance access to key community facilities and services including leisure and recreation services including leisure and recreation services by means which minimise environmental impacts on the Park and its communities	It is anticipated that the Proposed Development will have positive socio-economic benefits that support the provision and retention of key facilities. These benefits are likely to include the use of local services and leisure facilities by construction workers and other site operatives.
12	Support the provision and retention of key facilities and services ensuring that local needs are met locally whenever possible	
13	Quality employment opportunities available to all that create a vibrant local economy	In the context of a declining manufacturing industry both regional and local development plans have highlighted the need to strengthen and diversify the local economy. The Proposed Development would generate construction and operation jobs. Other than specialist personnel, the development of the processing facility and pipeline will require skilled and semi-skilled personnel who could be sourced locally. The development, particularly during construction, would provide a broad range of employment opportunities including site managers, engineers, technicians, landscapers and hauliers.
14	Maintain and enhance the viability and vitality of local communities	The Proposed Development will improve the quality of life for local residents through the provision of employment and industry diversification. The proposals are also likely to enhance the viability of local communities through the use of local services and leisure facilities by construction workers.

15	Develop a tourism product that provides sustainable benefits to the local community and its economy	<p>Where practicably feasible the construction works will be undertaken outside of peak tourist seasons. When operational the majority of the development will be underground and it is anticipated that the impacts on the tourism industry will be negligible. The site for Hurrell Lane Gas Processing Facility is well screened from the surrounding countryside by changes in topography and existing vegetation, whilst the proposals incorporate high quality landscaping to minimise any visual change from sensitive receptors.</p> <p>The use of local leisure facilities and services by construction workers will provide positive benefits for the local tourism industry, which is likely to give a boost to the local economy outside of peak tourist seasons.</p>
16	Manage natural resources in a way, which sustains their environmental qualities as well as their productive (or economic) potential	This project promotes the principles of sustainability through the exploitation of the UK's existing reserves to meet national gas requirements. An Environmental Statement has been prepared as part of this planning application to assess the environmental implications of the proposed development. Where impacts cannot be avoided the ES has provided suitable mitigation measures to ensure the protection of the environment and local amenity.

7.13 As illustrated in **Table 7.3** the Proposed Development is consistent with regional and local sustainability objectives as it will unlock the potential productivity of a domestic gas reserve, whilst incorporating design solutions and migration measures which will protect the environment and local amenity. In addition to the benefits listed in Table 10.3 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 gas will be crucial to the UK's energy requirements and furthermore to the delivery of sustainability objectives at both national and local levels.

7.14 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 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

- 7.15 The proposals have sought to meet many of the sustainability objectives set out in **Table 7.3** 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.

8.0 SUMMARY & CONCLUSIONS

- 8.1 Government policy promotes the principle of recovering the nation's hydrocarbon reserves wherever possible, providing that environmental issues are identified and appropriate mitigation measures are established. It is for the industry to demonstrate that adverse environmental effects have been removed altogether or reduced to a level acceptable to the local community and relevant statutory bodies and agencies.
- 8.2 Consultation with the three local Parish councils of Thornton-le-Dale, Wilton and Allerston and Ebberston and Yedingham were also undertaken to engage and inform the local community of the Proposed Development. On the 5th and 6th March public exhibitions were held by Moorland Energy in Thornton-le-Dale and Allerston. These events provided an opportunity for local residents to ask questions about the Proposed Development and address any concerns which they had.
- 8.3 Extensive consultation has been undertaken with North Yorkshire County Council, the North York Moors National Park Authority and relevant statutory consultees to ensure that the Environmental Impact Assessment assesses all known likely environmental effects arising from the Proposed Development. The Environmental Statement concludes that the Proposed Development will not have a significant adverse environmental effect, subject to the implementation of appropriate mitigation measures. Planning policy recognises that mineral reserves can only be mined where they naturally occur and an Alternative Sites Assessment was undertaken and is presented in Chapter 5 of the ES, to illustrate the assessments and conclusions which have been drawn in locating the proposed gas processing facility and pipeline route. A more detailed explanation of the pre-application consultations that have been undertaken with the local planning authorities, statutory consultees and local community is presented in the Statement of Community Involvement which has been prepared in support of this planning application.
- 8.4 This Planning Statement has demonstrated how the proposals for the Ryedale Gas Project have taken into account and accord with national, regional and local planning policies. The Planning Statement in conjunction with the supporting Environmental Statement have demonstrated how the Proposed Development has made the best use of natural resources and how environmental effects have been reduced to an acceptable level. The applicant trusts that the local community and relevant statutory bodies and agencies concur with the evidence outlined in this Statement, to the extent that its proposals can be supported

8.5 In conclusion, the Ryedale Gas Pipeline Project 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 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 development of onshore gasfields such as those proposed in Ryedale, the UK will be subject to volatile energy prices and, at worst energy shortages.

