



LIGHTSOURCE
RENEWABLE ENERGY LIMITED

PLANNING, DESIGN AND ACCESS STATEMENT

SOLAR PHOTOVOLTAIC INSTALLATION



MILL HILL FARM, SHERIFF HUTTON,
YORK, NORTH YORKSHIRE, YO60 6QN

DOC REFERENCE: Mill Hill Farm

DATE: 31st March 2015

Lightsource Renewable Energy Limited
7th Floor, 33 Holborn
London
EC1N 2HT

Company Number 7129343

CONTENTS

Executive Summary.....	i
1 Introduction	1
1.1 General.....	1
1.2 Application Structure.....	1
1.3 The Need for Renewable Energy in the UK.....	2
1.4 About Lightsource.....	3
2 Site Development.....	4
2.1 Site Selection.....	4
2.1.1 Phase 1: Desktop Assessment.....	4
2.1.2 Phase 2: Site Visit	5
2.2 Pre-Application Engagement with the Council.....	6
3 Site Context	7
3.1 Site Description.....	7
3.2 Local Context.....	7
4 Proposed Development.....	8
4.1 Proposed Use.....	8
4.2 Amount, Scale and Appearance.....	8
4.3 Layout.....	11
4.4 Landscaping.....	12
4.5 Access.....	12
4.6 Recommended Conditions.....	13
5 Key Benefits of the Proposal	15
5.1 Renewable Energy Generation and Security of Supply	15
5.2 Biodiversity and Habitat Enhancement	15
5.3 Farm Diversification and Support	16
5.4 Community Benefit	16
5.4.1 Community Benefit Fund.....	16
5.4.2 Employment Opportunities	17
5.4.3 Carbon Footprint Reduction	17
5.5 Health.....	17
6 Assessment.....	18
6.1 Use of Agricultural Land.....	18
6.2 Landscape and Visual Impact.....	19
6.3 Amenity.....	19

6.4	Ecology	20
6.5	Cultural Heritage	20
6.6	Flood Risk	21
6.7	Glint and Glare	21
6.8	Waste	22
6.9	Health.....	22
6.10	Construction.....	23
6.11	Decommissioning.....	23
7	Planning Policy	24
7.1	International Policy	24
7.2	National Policy	24
7.2.1	National Energy Policy	24
7.2.2	National Planning Policy.....	25
7.3	Local Planning Policy	28
7.3.1	Rydale Plan – Local Plan Strategy September 2013 (Amended January 2015)	28
7.4	Grid Connection Legislation.....	43
8	Conclusion	44
	Appendix A – Use of Agricultural Land	45
	Appendix B – Comparison of Energy Generation Options.....	50

Prepared by	Jessica Gittoes	Position	Senior Planner
Reviewed by	Penelope Laurenson MRTPI	Position	Head of Planning

EXECUTIVE SUMMARY

- The proposal is for a 5MW solar farm, capable of generating enough clean electricity to power 1300 typical households.
- The solar farm would avoid 2200 tonnes of carbon dioxide emissions associated with electricity generation each year, thus reducing the carbon footprint of Sheriff Hutton and Farlington. This is the equivalent of 500 large family cars off the road.
- There are no local or statutory ecological designations on the site and the proposed solar farm will not have any significant adverse impact on landscape, ecology or hydrology. It is envisaged that the proposal will:
 - integrate into the surrounding landscape through the intervening topography, existing landscape features; proposed new planting and low profile nature of the site;
 - provide a net gain of biodiversity through a number of appropriate mitigation and sensitive design measures, and a wide range of enhancement measures set out in the biodiversity management plan;
 - manage the disposal of surface water runoff through the implementation of shallow swales alongside internal tracks
- The Landscape and Visual Impact Assessment (LVIA) demonstrates that the proposed development will be successfully accommodated within the existing landscape without causing any unacceptable long-term harm to the landscape character, visual amenity or existing landscape attributes of the area. The development will result in localised landscape and visual effects which will be mitigated by extensive landscaping, including the planting of woodland blocks and new native hedgerows and trees.
- The Ecology Appraisal considers the potential for impacts on birds, terrestrial mammals, amphibians, reptiles and invertebrates. Overall impacts are considered to be negligible and with appropriate mitigation and sensitive design measures, impacts on protected and notable species will be avoided. The inclusion of habitat enhancement measures such as the creation of brush and log piles for reptiles and amphibians, mammal gates along the perimeter fencing and wide buffer strips of species-rich wildflower meadow will serve to provide a net biodiversity gain at a local level.
- The development is entirely situated in Flood Zone 1 and will involve the introduction of a very small area of impermeable land associated with buildings and stone surfaced access tracks. Whilst it is not considered that there will be any significant detrimental effect caused either within the site or to the surrounding area by future surface water runoff from the solar farm, shallow swales will be formed alongside the roads as a precautionary measure.
- The Archaeology and Cultural Heritage Assessment, which forms part of this application has established that no designated heritage assets will be physically impacted upon by the proposals. Although it has been identified the proposed solar farm has the potential to impact upon the setting of Grade II Listed Cornborough Villa, new woodland planting is proposed along the southern half of the western boundary of the site which will mitigate potential impacts to the setting of this building.

- The site is comprised of Agricultural Land Grade 3b, which is considered to be of poor value agricultural land and sheep will be grazed under and between the rows of solar panels, which allows for a dual productive use of the site, through the generation of renewable energy and the continued agricultural use of the land.
- At the end of the solar farm's life, the site will be decommissioned, with all infrastructure removed from the site, and the site restored to its original condition for future agricultural use.
- The majority of the components of the solar farm can be recycled or reused at the end of the solar farms operational life.
- The proposed solar farm is consistent with national and local policy, and will contribute to the country's renewable energy generation targets.

1 INTRODUCTION

1.1 GENERAL

This planning, design and access statement has been prepared in support of a planning application for full temporary permission for the development of a ground mounted photovoltaic (PV) solar energy generation system (solar farm). The solar farm has been designed to accommodate sheep grazing on site, thus providing a dual productive function of renewable energy generation and agricultural production.

The site is located at Mill Hill Farm, Sheriff Hutton, York, North Yorkshire, YO60 6QN. The application area is 11.8 hectares in size and part of a larger 22.4ha field. It is proposed to install solar modules covering approximately 2.95ha of the 11.8ha field. The proposed solar panels and associated infrastructure will cover only 25% of the site as sufficient gaps must be provided between the rows of panels, to avoid one row shading another, and sufficient setbacks need to be provided from boundary vegetation, particularly on the southern boundary to avoid shading. The design of the proposed Layout Plan has been prepared to maximise energy production within the available area of land, taking into account the site specific constraints. The grassy avenues between the rows of panels, and the grass growing beneath the panels, will be grazed by sheep.

The purpose of the development is to convert daylight into electricity. This solar development will have a generation capacity of approximately 5 megawatts (MW), which is enough to power 1300 typical homes¹, and save approximately 2200 tonnes in CO₂ emissions per annum – the equivalent of removing 500 standard cars from the road each year.

1.2 APPLICATION STRUCTURE

This Planning and Design and Access Statement is accompanied by the following reports:

- Statement of Community Involvement
- Landscape and Visual Impact Assessment (including Planting Plan)
- Ecological Appraisal
- Confidential Badger Annex
- Biodiversity Management Plan
- Heritage Assessment
- Flood Risk Assessment
- Construction, Decommissioning and Traffic Management Method Statement
- Noise Assessment
- Transport Statement

¹The intensity and duration of daylight levels in any given location is steady and predictable when compared year on year (though obviously this fluctuates throughout the year). Therefore the annual daylight levels in a given location can be estimated relatively accurately without extensive prior monitoring (as required for wind turbines). Determining the number of typical households that a solar farm will generate electricity for is a simple calculation whereby the average yearly daylight yield is multiplied by the energy output capacity of the solar panels (minus expected losses, which varies around the country depending on the quality of the grid, but is typically around 10%). This number is then divided by 3,300kwh, which is the Ofgem stated national average for yearly electricity usage for a typical household in the UK.

We use the average number of households the solar farm is likely to generate power for annually as a representative figure to put the capacity in to perspective. Of course, the electricity will be used by a mix of residential dwellings, businesses, factories and farming operations depending on the demand from nearby energy users at any given time of day.

- Agricultural Land Grade Assessment
- Glint and Glare Assessment

The following plans are also enclosed:

- Site Location Plan
- Layout Plan
- Topographic Survey
- Mounting Frame and Panel Elevation
- Fence Elevation
- Inverter Elevation
- Transformer Elevation
- Switchgear Elevation
- CCTV Camera Elevation
- Composting Toilet Elevation
- Storage Building
- DNO Building Details
- Communications Building

1.3 THE NEED FOR RENEWABLE ENERGY IN THE UK

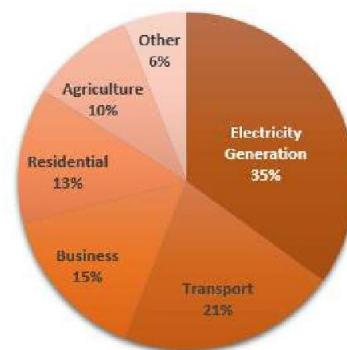
Energy generation is required to meet the electricity demands of households, businesses, factories and services in the UK. The availability of electricity is fundamental to supporting the modern way of life. Aside from the very few living off-grid, the majority of us require on-demand electricity both in our homes and businesses, and electricity black outs cause significant disruptions.

A significant proportion of UK electricity supply is generated from fossil fuels. Declining reserves of fossil fuels in the UK Continental Shelf are making the UK increasingly reliant on imports at a time of increased global demand.² Around a fifth of power stations in the UK are due to close within this decade as they come to the end of their operational lives or are deemed too polluting.³

With a large proportion of the UK's energy being generated from fossil fuels, we are exposed to potential energy security issues, including fluctuating international market prices and disruptions to fuel supplies through geopolitical conflicts.

Our reliance on fossil fuels also makes us one of the world's more prolific emitters of greenhouses gases and other pollutants. Based on 2013 figures, the UK is the 12th largest emitter of carbon dioxide in the world.⁴

In 2012, the single largest contributor to these emissions was the electricity generation sector which creates 35% of the UK's carbon emissions, with the transport sector in second place at 21%.⁵ The pie chart opposite shows the UK carbon emissions breakdown by sector.



² Department of Energy and Climate Change (2012) *Energy Security Strategy*, www.decc.gov.uk

³ Department of Energy and Climate Change (2012) *Energy Security Strategy*, www.decc.gov.uk

⁴ European Joint Research Centre and Netherlands Environmental Assessment Agency (2015) *EDGAR – CO2 time series 1990 – 2013 per Region/Country*

The UK Government is committed to meeting its legally binding targets for reducing the country's carbon footprint, and a key component of this strategy is increasing the levels of renewable energy generation in the UK. This will also have the benefit of insulating the UK from volatility in the global fossil fuel markets, by increasing our energy self-sufficiency.

These two key reasons (security of supply and carbon dioxide footprint reduction) for increasing our renewable electricity generation capacity are well recognised by the Government, and as discussed later in this report, the NPPF clearly states that applicants are not required to demonstrate the overall need for renewable or low carbon energy in the UK.

Solar PV is a proven technology⁶ – having been in commercial production since the 1950s – and it has a significant role to play in increasing the capacity of our electricity generation from renewable sources.

1.4 ABOUT LIGHTSOURCE

Lightsource Renewable Energy Ltd (Lightsource) is the United Kingdom's leading solar energy generator. We are primarily focused on utility scale ground and roof mounted photovoltaic installations, which we maintain and operate, selling the electricity generated either for use on the national grid network, or directly to a specific high energy user. We have also installed solar panels on the roofs of over 100 schools across the United Kingdom, providing them with clean energy as well as a learning resource kit.

Lightsource are committed to the long term maintenance of our solar farms, we have internal Asset Management and Operations and Maintenance teams, with regionally based staff who manage all of our built assets.

For more information on Lightsource and our existing portfolio of solar sites please visit our website: www.lightsource-re.co.uk.

⁵ Source: Department of Energy and Climate Change (2014) *Statistical Release: 2012 UK Greenhouse Gas Emissions, Final Figures*

⁶ It is sometimes quoted that solar panels have a low efficiency. What this is referring to is the ratio of actual energy produced versus potential energy generation if the sun stayed at the midday position 24 hours a day. Obviously daylight levels vary throughout the day, growing stronger toward midday, and weaker at sunrise and sunset – this does not mean that solar panels themselves are inefficient – it is just the natural limitation on the amount of energy they are realistically able to produce from natural daylight, compared to the amount they would be able to produce if daylight levels were always at their peak.

2 SITE DEVELOPMENT

2.1 SITE SELECTION

Site selection is critical to ensuring that an efficient, technically and economically viable solar farm can be developed without causing significant adverse environmental impacts.

Of the hundreds of potential sites we assess every year at Lightsource, we proceed to planning with less than 10% of these, with the other 90% either unviable technically, unable to achieve grid connection, or considered inappropriate from a planning policy and environmental impact point of view. The stages of our site selection process are detailed below.

2.1.1 PHASE 1: DESKTOP ASSESSMENT

Our site selection process begins with a detailed desktop assessment assessing the following four critical criteria:

1. Technical suitability of the site for operating a solar PV system
 - Site size (minimum of 20acres)
 - Irradiation (daylight) levels and potential energy yield
 - Orientation and topography
 - Access point
2. Grid connection feasibility
 - Availability of grid capacity
 - Proximity of nearest overhead line (11/33kV)
 - Likely ease/difficulty of accessing point of connection
3. Planning Issues
 - National and Local level designations (landscape, ecology, heritage)
 - Heritage assets
 - Flood risk
 - Agricultural land grading
 - Neighbouring land uses
 - Potential visual receptors
4. Site Availability
 - Landlord looking to diversify farm operations who is willing to rent/sell land for a solar farm development

At the desktop stage, the following area was assessed:



It was considered that the site merited further investigation through a site visit.

2.1.2 PHASE 2: SITE VISIT

A key focus for the site visit is assessing the potential a site has for unacceptable visual impact. Other criteria assessed on site include:

1. Technical suitability of the site for operating a solar PV system
 - Confirmation of site orientation and topography
 - On-site shading
 - Confirmation of appropriate access for construction traffic
2. Grid connection feasibility
 - Proximity of nearest overhead line (11/33kV)
3. Planning Issues
 - Actual visual receptors, and extent of site visibility
 - Potential for additional planting to screen views
 - Flora and fauna

The site visit confirmed that the site is well contained as a result of surrounding vegetation, the surrounding landform and the presence of Sheriff Hutton substation to the south-western corner of the site. Views of the site are limited to the site itself and areas adjacent to the site boundaries.

An appraisal of the subject site taken forward in this planning application is provided in Section 3.

2.2 PRE-APPLICATION ENGAGEMENT WITH THE COUNCIL

We began our site specific pre-application engagement with an initial meeting with Ryedale District Council at the site on 25th February 2015 to discuss the proposal. The Council suggested locating the buildings in the southwest corner of the field and ensuring the materials and colours of the buildings remain in character with the surrounding agricultural setting. Following discussions, Lightsource incorporated the above suggestions into the layout design. Buildings have been located next to the existing Sheriff Hutton substation, and centrally within the site to ensure they are well concealed. Lightsource can agree the preferred materials and colours of the buildings with the Council during the planning application process. A colour commonly accepted by local planning authorities is RAL 6005 Moss Green.

An indicative layout was then developed, which was used as the basis for an Environmental Impact Assessment Screening Opinion, which was submitted on 5th March 2015. The Council's Screening Opinion determined that an Environmental Statement was not required for the proposal (Council ref: 15/00265/SCR).

This application is accompanied by a Statement of Community Involvement, which sets out the pre-application engagement undertaken with the local community and other stakeholders.

3 SITE CONTEXT

3.1 SITE DESCRIPTION

The 11.8ha field is currently used for growing winter wheat crops. The site has the following characteristics:

- The field is relatively flat in the western section, with the eastern section gently sloping to the southeast.
- The site comprises of Agricultural Land Grade 3b, which is considered to be of poor value.
- The site is currently a single medium sized arable field, bounded by a low gappy hedgerow and Cornborough Road to the north, a more intact hedgerow and the track to Cornborough Manor to the east and a post and wire fence to the west. There is an intact hedge along the western half of the southern boundary and the eastern half is currently open. The Foss Walk long distance footpath runs along the southern boundary of the site and the existing Sheriff Hutton substation lies just outside the south-western corner of the site.

3.2 LOCAL CONTEXT

The site is located within an agricultural setting. The local area has the following characteristics:

- The site is located approximately 1.2km to the west-north-west of the village of Sheriff Hutton and approximately 1.7km east of the small village of Farlington.
- The surrounding area generally consists of medium and large scale arable fields, divided by hedgerows, some with hedgerow trees, and small blocks of woodland. The closest area of woodland to the site is the semi-mature woodland on the northern side of Cornborough Road to the north of the site.
- There are numerous scattered private dwellings, farms and smaller communities within the area. The closest to the site include the group at Cornborough Manor 160m west of the site, the property 240m west-north-west of the site, Cornbrough Grange 150m north-north-east of the site and Mill Hill Farm 210m east-south-east of the site.
- The Howardian Hills Area of Outstanding Natural Beauty (AONB), is 2.8km north of the site at the closest point, and the Registered Park and Garden of Sheriff Hutton Park, is 2.3km east-south-east of the site at the closest point.
- The nearest heritage asset is Grade II Listed Cornborough Villa 160m to the west of the site. It has been established that no designated heritage assets will be physically impacted upon by the proposals and proposed woodland planting will mitigate any impact to the setting of Grade II Listed Cornborough Villa.

Detailed descriptions of the visual, ecological, and archaeological setting of the site are provided in the relevant reports accompanying this application.

4 PROPOSED DEVELOPMENT

4.1 PROPOSED USE

Lightsource proposes to install and operate an array of photovoltaic (PV) solar panels on the site, as shown in the accompanying Layout Plan, to convert daylight into electricity. The PV panels will have an energy generation capacity of approximately 5MW, and will output electricity equivalent to the power requirements of 1300 typical households per year. The energy generated will be fed directly into the local power grid network for use by the nearest points of demand.

The solar farm will be a temporary, medium term, use of the site. At the end of its operational life (approximately 30 to 35 years), all equipment associated with the solar farm will be removed from the site, and the land restored to its former condition.

4.2 AMOUNT, SCALE AND APPEARANCE

The solar farm will be comprised of the following components, shown in the Layout Plan and Elevations.

Solar Panels: Solar PV panels, with a combined energy generation capacity of approximately 5MW, will be installed. The panels will be approximately 1.650m x 0.995m x 0.05m.

The mounted solar panels will have a maximum height of 2.5m above ground level and at the lower end will be 800mm above the ground, allowing for sheep to graze the grass beneath the panels.

The glass surfaced panels are coated to maximise daylight absorption, and thus minimise glare potential.

Mounting Frames: The panels will be attached in a 3 in landscape configuration to mounting frames at an angle of 30 degrees, to optimise daylight capture. The panels are fixed in place and will not move to 'track' the sun. The mounting frames will be made of either galvanized aluminium or steel and will have a rough matt finish, rather than a polished finish.

The mounting frames are pile driven into the ground, and no concrete foundations are required. The base of the frame piles are thin 'H' or 'Z' shapes, thus they have very little impact on the ground and do not require any prior excavation. The frames are driven to a depth of approximately 1.5m. At the end of their operational life when the site is decommissioned, the frame piles are simply pulled out from the ground causing minimal ground disturbance.



Ninnis Solar Farm, Cornwall



Frame structures prior to attachment of panels

Inverters: The panels generate Direct Current (DC) electricity which must be converted into Alternating Current (AC) before being feed into the local electricity grid network.

Central inverters are housed in a cabin like structure of approximately 2.9m high x 4.5m long x 1.5m wide and painted green. The Central Inverter is mounted on a concrete base. The proposed layout plan includes 3.



Inverter Building, Hatchlands Solar Farm, Devon

Transformers: The transformer transforms electrical energy from one circuit to another, and allows for the energy generated to be fed into the local grid network. The transformer will either be housed in a cabinet similar to the Inverter, or externally, surrounded by a fence and accompanied by a switchgear cabinet. The proposed layout plan includes 2 transformers.



Transformer in background, switchgear in foreground.

Substations: Substations are the onsite point of connection from where electricity flows into the grid network via the connection cable. The substation house the site switchgear which acts as a safety mechanism to protect the solar farm from any fault in the grid network and vice versa. It disconnects electrical circuits if there is a fault in the system, much like a household fuse box.

Two sets of switchgear are required, one to shut the grid off from the solar farm (referred to as the DNO Substation) and a second to shut the solar farm off from the grid (referred to as the Client Side or Customer Substation).



DNO Substation, Little Trevease Cornwall

The DNO requires a security light to be affixed to the exterior of the DNO substation for health and safety reasons – if an emergency repair crew is required in hours of darkness the light allows them to safely access the substation to undertake the repair work. The motion sensor light only activates when the substation is approached; it will not be illuminated on a permanent basis. No other site lighting is required or proposed.



Customer Substation, Tavells Farm, Hampshire

Perimeter Fence: A 2m high agricultural timber and wire fence will be installed around the solar farm. This fence type has been selected for its appropriateness in a rural setting, and its visual permeability.

The purpose of the fence is to deter theft or vandalism, and prevent unauthorised access to the solar farm. The solar farm will be an unmanned site, and whilst solar farms are safe and we regularly take educational tours through our operational sites, it is important that unauthorised or unaccompanied access is prevented in case there is a fault in the system that presents a health or safety risk.



Fence at Tavells Solar Farm, Hampshire

Security Cameras: In order to monitor the site and detect any unauthorised access, motion sensor CCTV cameras will be erected around the site perimeter on poles of approximately 3 metres in height as shown on the Layout Plan. The cameras are directed into the solar farm, avoiding impinging on the privacy of nearby properties, and employ infrared technology so no lighting is required.



CCTV camera in left hand corner of above photo.

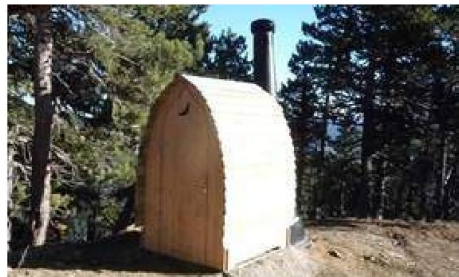
Communications Building: A communications building is required to enable 24hour remote monitoring of performance and security. The monitoring equipment rapidly identifies any faults, as well as relaying security camera footage. The proposed building will measure approximately 3.6m in length x 3m in width and 2.5m in height. An aerial and/or satellite dish may be affixed to the cabinet if reception issues necessitate it.



Communications Building, Little Trevease, Cornwall

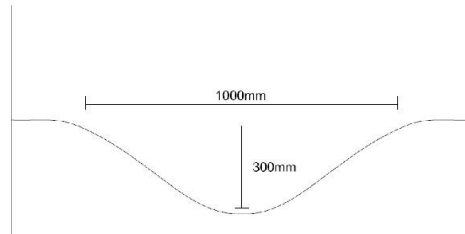
Composting Toilet

A composting toilet is provided on site for Operations and Maintenance staff, and for tours of the site by community groups, schools or councillors. The toilet is waterless, chemical free and self-composting, made from sustainably logged wood, thus it is compatible with the environmental aims of the development. The toilet uses a dehydration process resulting in an odour free compost which is collected annually for further processing off-site.



Swale: It is proposed to construct a swale to improve runoff and reduce flood risk on site.

The location of the proposed swale is shown in the Flood Risk Assessment accompanying this application, and the cross section opposite provides the elevation.



The rows of the panel arrays will form a regular pattern, and the grass growing beneath and between the rows of panels will help to green the appearance of the site. The intention is to minimise views of the scheme such that it blends into the landscape. Although solar farms consist of built infrastructure mixed with natural elements, they are not necessarily unattractive, and can form features of interest.

Visual montages showing “before” views and “after” visual simulations of what the proposed development will look like are included with the accompanying Landscape and Visual Impact Assessment. The below photos show examples of some of Lightsource’s operational solar farms, to show what solar farms look like. Lightsource is happy to take Council staff and Councillors to visit one of our operational solar farms should they wish, so that they are able to see one close up and gain an appreciation for what the proposed development will look like once constructed.



Higher Pirzwell Solar Farm, Devon



Barton Solar Farm, Devon



Ninnis Solar Farm, Cornwall



Benbole Solar Farm, Cornwall

4.3 LAYOUT

The proposed Layout submitted with this application has been prepared by Lightsource’s in house Technical Team to make the most efficient use of the land available, whilst taking into account on site features such as shading from boundary vegetation and accommodating grazing.

If planning permission is granted, then Lightsource will engage a specialist Engineering, Procurement and Construction (EPC) firm to prepare the final detailed design layout and construct the solar farm,

and will also finalise details with the Distribution Network Operator for their substation. The proposed Layout and elevations are based on informed assumptions of the most likely options for equipment and their positioning, however it may be that availability of equipment, or specific site requirements, mean that the final detailed design differs in some minor respects from the proposed layout. To address this, Lightsource proposes a Condition as outlined in Section 4.6 of this report.

The total area of the development will be 11.8 hectares, with the area of ground covered by the rows of solar panels and associated infrastructure totalling 25% of the site area; the remainder of the site being grassed land constituting the gaps between the rows of solar panels, and between the fence and the solar farm.

The plans accompanying this application include:

- Site Location Plan
- Layout Plan
- Topographic Survey
- Mounting Frame and Panel Elevation
- Fence Elevation
- Inverter Elevation
- Transformer Elevation
- Switchgear Elevation
- CCTV Camera Elevation
- Composting Toilet Elevation
- Storage Building
- DNO Building Details
- Communications Building

4.4 LANDSCAPING

A planting plan is included with this application showing the proposed landscaping work. This will be implemented in the first planting season following completion of the solar farm.

The landscaping work will include two woodland blocks, one along the southern section of the western boundary and another along the eastern section of the northern boundary. New hedgerow and hedgerow trees will be incorporated along the southern and eastern boundaries. A 5m wide buffer strip between the existing vegetation/proposed planting and the security fencing will be seeded to create a species-rich wildflower meadow. A species diverse grassland seed mix will be used beneath and between the solar panels. The extensive planting on site which will provide a net ecological benefit.

4.5 ACCESS

The proposed access to the site during both construction and decommissioning is the existing access track off Cornborough Road along the western boundary of the site. An alternative temporary access (for construction purposes only) is from Cornborough Road along the northern boundary. This access is provided as an alternative following discussions during the community engagement process (further details are in the Statement of Community Involvement accompanying this application). This access will be subject to consultation with the Ryedale District Council and the Highway Authority.

Construction Traffic: This application is accompanied by a Construction, Decommissioning and Traffic Management Method Statement which provides detail on levels of construction traffic, how the site will be accessed and how construction traffic will be managed.

It is considered that the relatively low levels of traffic to be generated during the construction period will not result in any material adverse impact on traffic safety or traffic flows in the surrounding roading network.

Operational Traffic: Traffic generation during the operational life time of the solar farm will primarily be restricted to maintenance visits, including:

- 2-3 grass cuts a year (if sheep grazing does not keep grass sufficiently short).
- 2-4 visits per year to wash panels – this will involve bringing in a water cube on the back of a flatbed 4x4.
- Operations and Maintenance staff will visit the site a couple of times a month – this will be in a transit van or 4x4 type vehicle.
- 4 visits per year to read the electricity meter – this will be in a transit van or 4x4 type vehicle.

As solar farms are still relatively new in many areas of the UK, Lightsource also occasionally undertakes educational tours of our operational solar farms.

Decommissioning Traffic: Decommissioning of the site will take approximately half the time that construction takes, and will require similar levels of traffic as the construction phase to remove infrastructure from site. Further detail is provided in the Construction, Decommissioning and Traffic Management Method Statement.

4.6 RECOMMENDED CONDITIONS

As detailed in Section 4.3 above, the final detailed design for the solar farm, as prepared by the EPC we engage to construct it, may have some minor differences from the proposed layout, though we always endeavour to keep these to a minimum. To ensure Council approval of the final detailed design layout and elevations prior to construction, Lightsource proposes the following pre-commencement condition:

“Prior to commencement of the development, full details of the final locations, design and materials to be used for the panel arrays, inverters, transformers, control room, switchgear substations and CCTV cameras shall be submitted to the local planning authority and agreed in writing.”

Alternatively, the Council may wish to attach a condition listing the approved plans, thus allowing for a Variation of Condition to be sought to amend the plans as required based on the final detailed design, for example:

“The development hereby permitted shall be carried out in accordance with the following approved plans, unless otherwise agreed in writing with the local planning authority:

- *Layout Plan*
- *Mounting Frame and Panel Elevation*
- *Fence Elevation*
- *Inverter Elevation*
- *Transformer Elevation*

- *Switchgear Elevation*
- *CCTV Camera Elevation”*

In order to condition the removal of the solar farm as part of the planning permission, Lightsource recommends the following condition wording:

“Within 6 months of the cessation of energy generation from the development, all infrastructure associated with the solar farm will be removed from the site, and the site restored to its original condition.”

Although solar farms have low operating costs, they are relatively expensive to develop, therefore if the Council requires a specific time bounded condition for decommissioning, then Lightsource requests that this be 30 years and 6 months from the date that construction starts on site. This will provide for 30 years of electricity generation, and 6 months for later decommissioning. We recommend the following wording:

“Within 6 months of the cessation of energy generation from the site, or a period of 30 years and 6 months following completion of construction, whichever is the sooner, all infrastructure associated with the solar farm will be removed from the site and the site restored to its original condition.”

If the later condition is used we recommend including an additional condition requiring notice to be given to the LPA of the start of construction, for example:

“Written notice is to be given to the LPA at least 5 days prior to construction starting on site.”

5 KEY BENEFITS OF THE PROPOSAL

The proposal will result in a wide range of environmental benefits, as well as financially benefiting the local community. This is against limited, localised impacts, as discussed in Section 6.

5.1 RENEWABLE ENERGY GENERATION AND SECURITY OF SUPPLY

As discussed, increasing the capacity of renewable electricity generation in the UK is critical for reducing the country's carbon emissions and for improving our energy self-sufficiency to avoid the volatility in the global fossil fuel market.

A range of energy generation methods are required to ensure security of supply on the national grid network, and all options have their advantages and disadvantages. A comparison of solar farms with other energy generation options is provided in Appendix B.

5.2 BIODIVERSITY AND HABITAT ENHANCEMENT

The RSPBs 2013 'State of Nature' report found that approximately 60% of British wildlife is in decline, much as a result of agricultural intensification and subsequent habitat loss.⁷ The RSPB and Natural England have both identified the opportunity that solar farm development presents for providing substantial wildlife gains, due to the extent of the unutilised area between panel rows and bordering the installation, combined with the low levels of disturbance from humans or machinery within the sites once operational.^{8,9} Wildlife habitats can be provided in these areas that will boost numbers of bees and other pollinating and predatory insects, and provide enhanced feeding opportunities for birds and small mammals.¹⁰

In managing these habitats, nutrient input to the land and watercourse will also be significantly reduced in comparison to arable use. Soil health is essential for long term sustainability of farming, and solar farms could play an important role by resting soils through the life of the solar farm, allowing soil nutrients to restore naturally, without the need for regular use of fertilizers.¹¹

The majority of the application area currently has low ecological value, being cultivated farmland. The following measures are proposed to enhance the biodiversity values of the site and provide a net ecological benefit.

- Woodland blocks, species rich hedgerow and tree planting.
- A 5m wide buffer strip between the hedgerows and the security fencing will be seeded to create a species-rich wildflower meadow.
- A species diverse grassland is recommended for use beneath and between the solar panels to introduce a range of species to the site.

⁷ State of Nature Partnership (2013) *State of Nature: The State of Nature in the UK and its Overseas Territories*, www.rspb.org.uk/Images/stateofnature_tcm0-345839.pdf

⁸ Natural England (2011) *Solar parks: maximising environmental benefits*, Natural England Technical Information Note TIN101

⁹ State of Nature Partnership (2013) *State of Nature: The State of Nature in the UK and its Overseas Territories*, www.rspb.org.uk/Images/stateofnature_tcm0-345839.pdf

¹⁰ RSPB (2011) *Solar Power*, RSPB Briefing March 2011

¹¹ BRE (2014) *Biodiversity Guidance for Solar Developments*, Eds G.E. Parker and L Greene

- The creation of brash and log piles for reptiles and amphibians. The structures will create cover, provide additional structures to existing habitat and enhance prey availability and act as a basking habitat and hibernation site for reptiles and amphibians.
- External fencing on site will be subject to the placement of an appropriate number of badger gates.

The first solar farms in the UK were constructed in 2011, and a recent study of a selection of these by an independent ecologist identified numerous biodiversity gains when compared with agricultural fields used as controls in the study.¹²



Flower colonisation of Tavells Solar Farm, Hampshire



English Partridge at Wilburton Solar Farm, Cambridgeshire

5.3 FARM DIVERSIFICATION AND SUPPORT

Around half of all UK farms undertake some form of activity that is outside of the core business of farming in order to support farm operations – this is farm diversification. Diversification can result in a more productive use of part of the farm estate and can provide a constant form of income to the farm as a balance to the traditional fluctuations in farm incomes; this can then be reinvested in farming activities.

Diversification into renewable energy will increase farm income security, reducing the farm owner’s vulnerability to agricultural subsidy cuts and commodity price changes. Moreover, it can serve to protect the farming tradition by removing the incentive, seen increasingly often on farms, to sell parcels of land to maintain income for the benefit of the remainder of the holding. In this instance the solar farm represents an opportunity to provide a dual use of the site, harvesting the sun’s energy to generate electricity, and agricultural production through the grazing of sheep.

5.4 COMMUNITY BENEFIT

5.4.1 COMMUNITY BENEFIT FUND

Lightsource believes that the local communities housing major renewable energy developments should be recognised for their contribution to our country’s need for secure, ‘home-grown’, cleaner forms of energy. Lightsource is committed to providing a long term commitment to benefit the host communities of our solar farms.

¹² Parker, C and McQueen, C (2013) *Can Solar Farms Deliver Significant Benefits for Biodiversity?*, Preliminary Study July-August 2013, Unpublished Report

A community benefit fund of £1000 per/MW installed capacity each year for 20 years has been offered to the Sheriff Hutton Parish Council. This is an unconditional offer and does not require support from the Parish Council for the proposal, nor are they expected to withhold any objection.

In addition to this, since April 2013, local authorities have been able to keep all business rates generated by renewable energy schemes, rather than it being collected nationally. The business rates for solar farms are approximately £4000p/MW per annum, and thus approximately £20,000 per year for this proposal. In the case of this development 80% of the business rates will be kept by Ryedale District Council and 20% will go to North Yorkshire County Council.

5.4.2 EMPLOYMENT OPPORTUNITIES

There are likely to be work opportunities generated for local contractors during the construction and on-going operation of the solar farm. The specialist Engineering, Procurement and Construction firms engaged by Lightsource to undertake detailed design and construction of our solar farms, typically employ local contractors as part of their work force during the construction period. As part of the community engagement process Lightsource has specifically sought to develop a database of local suppliers and contractors whose services could be engaged during and post construction.

Lightsource also typically engages local contractors to undertake general maintenance activities on site, as well as employing regionally based Operations and Maintenance staff to manage the operational solar farms.

5.4.3 CARBON FOOTPRINT REDUCTION

The local area will benefit from a reduction in their carbon footprint. The electricity generated by the solar farm will enter the local grid network and will be utilised at the closest points of demand, meaning that more of the electricity used by Sheriff Hutton and Farlington will be from a clean renewable source, as opposed to from the burning of fossil fuels.

5.5 HEALTH

The electricity generation sector is the single largest contributor to CO₂ emissions in the UK through the burning of fossil fuels. An increase in our renewable, zero and low carbon energy generation capacity will result in a reduction not only in our carbon emissions, but also in the other air pollutants that are emitted during the burning of fossil fuels. Prolonged exposure to elevated levels of air pollution affects the human respiratory and inflammatory systems. The emissions associated with energy generation through fossil fuel burning, including sulphur dioxide, nitrogen oxide, and carbon dioxide, as well as fine particulates, are particularly problematic for people with lung or heart conditions. Whilst the impact of this particular solar farm alone is unlikely to result in a measureable impact on air quality or people's health – the cumulative positive impact of a growing zero and low carbon energy sector will reduce air pollution, and thus reduce the risk posed to human health.

6 ASSESSMENT

6.1 USE OF AGRICULTURAL LAND

The proposal involves the development of a solar farm within 11.8ha of agricultural land. Appendix A to this report sets out the necessity for locating the proposed solar farm on agricultural land.

The use of agricultural land will not jeopardise food production in the UK. Meeting the Government's target of 10GW of solar energy generation solely through ground-mounted systems would require the use of less than 0.05% of all agricultural land in the UK.¹³

The solar farm will be a passive installation, harvesting the sun's energy to generate electricity for human consumption – aside from the obvious visual difference, the outcome is little different to growing crops of rapeseed, poplar and willow for biofuel rather than food, and in fact solar PV requires significantly less land for the same energy output as biofuel crops, with even the most efficient biofuels requiring 29 times the land area as solar PV¹⁴.

The use of agricultural land for solar farms can actually be a positive, providing opportunities for a dual productive use of the site – clean energy generation combined with agricultural production through grazing. There are also significant opportunities for habitat and biodiversity enhancement, as discussed.

In the case of the proposed solar farm, the design specifically provides for an ongoing agricultural use of the site through sheep grazing. Lightsource has found sheep grazing to be beneficial in the operation and maintenance of our solar farms, as it largely avoids the need for mowing between and beneath the rows of panels.

The site is within land classified as Agricultural Land Grading is 3b which is considered to be poorer value land, and not 'best and most versatile'.

The proposed development will be a temporary use of the land. Solar farms do not involve the introduction of large areas of hard surfaces, and all infrastructure can be easily removed at the end of the solar farm's operational life, followed by a return to sole agricultural production.



Lamb underneath array at Newlands Solar Farm, Devon

¹³ Based on 'World Bank Indicators – United Kingdom Land Use statistics', and assuming total installed capacity of 10GW of solar farms.

¹⁴ Greyer, R et al (2013) 'Spatially Explicit Life Cycle Assessment of Sun-to-Wheels Transportation Pathways in the US', *Environmental Science and Technology*, 47(2), pp 1170-1176

6.2 LANDSCAPE AND VISUAL IMPACT

The main impact associated with solar farms is the visible change to the site within which it is built. A number of existing features in the wider landscape filter and restrict visibility of the proposed solar farm. These include existing hedgerows, woodland to the north, the plateau landform of the site, the surrounding landform and the presence of Sheriff Hutton substation.

The potential effects on the landscape character will be confined to the site itself and to areas immediately adjacent to the site boundaries. Of the rights of way in the surrounding area, only the users of Foss Walk long distance footpath will experience views of the development. The solar farm will be visible for approximately 600m from the south-western corner of the site at Sheriff Hutton substation to Mill Hill Farm. New native hedgerow and tree planting will mitigate views from this footpath overtime. Furthermore, the community have expressed interest in the installation of information trail boards which can be provided by Lightsource to engage footpath users and provide information on the technology, planting and biodiversity enhancement measures and habitats.

Of the roads in the surrounding area the development will only be visible from Cornborough Road for approximately 700m as the road passes the site. Views will be over and through gaps in the northern boundary hedgerow. New native hedgerow and tree planting to fill in the gaps in the boundary hedgerow will reduce visibility.

The development would not be visible from any of the nearby settlements. Only the properties in close proximity to the site would have views of the development, these are as follows:

- The group of properties at Cornborough Manor, 150m west of the site at the closest point - There would be direct views of the development above and between intervening trees and hedgerows, mainly from upper windows.
- Cornbrough Grange, 150m north-north-east of the site - There would be direct views of the development above and between intervening trees and hedgerows, mainly from upper windows, and from the access.

The proposed woodland planting will mitigate visual impact from these receptors.

6.3 AMENITY

Solar farms are not noisy developments. The PV panels, which comprise the main feature of solar farms, do not generate any perceptible noise. The inverter cabinets are fitted with cooling fans, which generate a small amount of noise whilst the solar farm is operating during the day. However, the cabinets trap the majority of noise generated. Solar farms only operate during daylight hours, thus there is no noise generated at all in the evening, night and early morning, when ambient noise levels are typically lowest.

In accordance with the requirements of Ryedale District Council, a noise assessment has been undertaken detailing the predicted noise levels of the solar farm during the day and night-time periods. Noise model calculations indicate that noise rating levels from the solar farm will range between 3 to 7dB below the background during the daytime period and between 7dB below and 1dB above the background during the night-time period. Due to the very low predicted noise levels at existing receptors, mitigation measures are not required to reduce noise from the proposed solar farm during the daytime or night-time periods.

The graph below shows some typical noise levels as a comparison.

The solar farm does not involve any moving components; therefore there is no potential for any vibration impact. The development will not result in any emissions. To the contrary it will in fact help to reduce the level of CO₂ emissions in the UK associated with electricity generation.

6.4 ECOLOGY

The site does not form part of any statutory or non-statutory designated site for nature conservation. The site is predominantly comprises of intensively managed arable land in an agricultural landscape with little species diversity and is generally of low value to wildlife. Arable habitat will be lost as part of the proposed development but land beneath the solar panels will be converted to grassland and managed by grazing in the long term. The field margins, defunct species-poor and species rich hedgerows and boundary trees offer more valuable habitat at a local level. The panels and layout have been designed to retain these more valuable features and habitat loss associated with the proposed development footprint will be limited to arable habitat.

The Ecological Appraisal has indicated that there will be no significant impact to ecological receptors. The preliminary survey has confirmed that the site supports a range of bird species, mainly those associated with hedgerow and woodland edge. Due to the potential presence of ground nesting bird species (e.g. skylark) within the site, it is recommended that initial development works are undertaken outside of the usual breeding bird season (March-August, inclusive).

It is considered reasonably unlikely that impacts to great crested newts (GCNs) will occur. In addition any corresponding reduction in extent of terrestrial habitat (arable field margin), will be minimal as the site is very unlikely to be of critical importance for the functionality of GCN populations. The following precautionary measures will be sufficient to minimise risk of adverse impacts:

- Undertaking site clearance works (arable field margin) during the GCN breeding period, i.e. during the period May-July (inclusive) when GCN are most likely to be occupying waterbodies rather than the terrestrial habitat on site;
- Retain the arable field margins where possible and protect the arable field margins with 'heras' type fencing during construction;
- Providing guidance to all site staff on procedures to follow should a GCN be discovered during works; and
- Ceasing all clearance operations in the event that GCN are recorded. In this eventuality European Protected Species licensing/mitigation procedures would need to be discussed with the licencing authority (Natural England).

The creation of grassland under and between the solar panels will provide an ecological net gain of terrestrial habitat for reptiles and amphibians. The measures proposed to enhance the biodiversity values of the site and provide a net ecological benefit are detailed further in section 5.2.

6.5 CULTURAL HERITAGE

The Archaeology and Cultural Heritage Assessment confirms no designated archaeological assets of national significance are recorded within the site itself. There is no evidence to indicate the presence of remains within the boundary of the site which would preclude development. It anticipated that no further investigative work will be required.

There are eight Scheduled Monuments, three Grade I Listed Buildings, four Grade II* Listed Buildings and one Registered Park and Garden within 5km of the site. Within 1km there are two Grade II Listed

Buildings. Cornborough Hall located 790m to the north of the site and Cornborough Villa located 160m west of the site.

Cornborough Hall will not be impacted upon by the proposed solar farm. In respect of its setting, the proposed solar farm and the building will not be inter-visible due to the presence of intervening vegetation. Neither will the solar farm be visible on the private approach to the Hall. There will be no impact to setting elements that contribute towards the importance of the Hall.

The importance of the Grade II listed Cornborough Villa, located 160m west of the proposed solar farm lies primarily within its fabric. Setting elements that contribute towards the significance of the house comprise its rural setting. The immediate rural surrounds, which are more pertinent to a building of this nature, will not be impacted upon. The character of the land in the immediate vicinity of the building, comprising as it does pasture and extant ridge and furrow, is different to the character of the land within the site and therefore envelops the building within a 'separate' landscape. In addition, on the approach/exit to the building from/towards the main road, the site is screened from view by a mature hedgerow and the eye is naturally drawn to the west where views are more open. The presence of a sub-station on this approach should also be noted when considering the importance of setting beyond that of the property's curtilage. The Archaeology and Cultural Heritage Assessment concludes the proposed woodland planting will mitigate any impact to the setting of Grade II Listed Cornborough Villa.

6.6 FLOOD RISK

The proposed development of a solar farm at the subject site will not result in any discernible change to quantity or rate of run-off from the site. The development will not increase the risk of flooding on either the subject site, or the surrounding areas. Any risk of erosion due to concentration of runoff will be mitigated by the cultivated soil and thick sward of tussocky grass and its maintenance regime. Any potential runoff from the internal stoned access tracks will be reduced by the use of permeable materials and collected in shallow swales to be located along the tracks. No other drainage features will be necessary and the site is suitable for its proposed use as a solar farm.

6.7 GLINT AND GLARE

There is sometimes a misconception that PV panels might result in significant adverse glint and glare effects, with reflected sunlight creating a nuisance or even a safety risk for planes or traffic. This is not the case. The glass used to make the panels is not like window glass; it is specifically designed to absorb as much daylight as possible to convert to electricity, and therefore has a low level of reflectivity when compared to surfaces such as window glass, water or snow. Less than 9% of total incident visible light is reflected by PV panels, whereas normal glass reflects about 17%.

The potential for glint and glare from a solar farm is much lower than the potential for glint and glare from other man-made structures such as poly tunnels and glass houses, as well as natural features such as water or snow. A glint and glare assessment accompanies this application and concludes that the reflection from the solar farm will be similar to that from other reflective sources in the ambient environment regularly encountered by pilots and a concern is considered unlikely.

Glint refers to a specular reflection, produced as a direct reflection of the sun off of a surface. Glare refers to a continuous source of brightness, being the general reflection of a bright sky rather than a direct reflection of the sun.

In summer, once the sun reaches sufficient height in the south eastern sky, sunlight will fall directly on the panels and there may be a slight chance of glint occurring, however, the reflected beam will be directed back into the sky toward the south west. During the winter, the location of the sun in the sky means light would be reflected back into the sky toward the west-southwest. Because most of the reflections from the panels will be skyward, the solar farm will not create a traffic hazard, or nuisance to residential properties.

This skyward reflection does not create a safety hazard for aeroplanes. In Germany and the USA it is common for PV systems to be installed on airport terminal buildings, or within airport grounds, and in 2012 solar panels were installed on the terminal buildings at Birmingham and Gatwick Airports in the UK.

6.8 WASTE

The solar farm will not produce any waste, therefore no onsite waste storage or waste collection is required during operation.

6.9 HEALTH

Solar farms do not present a health risk to the site or surrounding area, however as they are relatively new in many parts of the UK it is important to address some concerns that have come up on other planning applications.

- **From Wind/Storm Conditions:** Static loading calculations have been analysed for the site to ensure the framework and panels remain in situ during strong wind events.
- **From Solar Panels:** The solar panels that Lightsource use are based on silicon technology – silicon is the second most abundant element in the Earth’s crust, and is most commonly found in sand. Physical damage to the glass cover plate of a solar panel would permit rain water in to the solar cells, and whilst this would impact on performance, it would not result in the leakage as the solar panels do not include water soluble components. Poor performance would quickly be picked up on our performance monitoring systems and replacement would be organised for any damaged panels
- **From EMFs:** An electric field is a phenomenon generated between two objects at different voltages, and a magnetic field is generated by current flowing in one or more electrical conductors. Together these constitute electromagnetic fields (EMFs). EMFs are produced by overhead power lines, cables and electrical equipment.

The EMFs produced by solar farms are many times below the internationally recognised safety guidelines, making such a study of the specific output of the proposed solar farm superfluous to the reasonable information requirements required for a solar farm planning application.

The UK Government policy on EMFs is to comply with the ICNIRP (International Commission on Non-Ionizing Radiation Protection) 1998 Guideline, in line with EU recommendations. All equipment installed within the solar farm is required to meet European (CE), UK electrical and EMR standards and legislation.

Solar panels (which make up the majority of the solar farm) produce Direct Current energy, and have much lower EMF outputs than household appliances operating off the Alternating

Current grid network. The underground cable, connecting the solar farm to the existing overhead line, will have a magnetic field voltage of less than 1uT in the ground directly above it – this is at least 100 times lower than the ICNIRP guidelines. There are no electric fields associated with underground cables, because of their protective sheath. The existing overhead line is likely to have an electric field of approximately 240V/m directly under the line; this is less than 5% of the ICNIRP guidelines (5kV/m or 5000V/m).

6.10 CONSTRUCTION

The Construction, Decommissioning and Traffic Management Method Statement accompanying this application provides detailed information regarding the construction activities associated with developing the proposed solar farm. It is considered that any adverse effects on the surrounding area arising from the construction period will be minor and temporary only in nature.

6.11 DECOMMISSIONING

PV modules have an operational life of over 30 years, with most Tier 1¹⁵ panels still working at 80% of the original capacity after their 25 year warranty period, thus it is not anticipated that many will need to be replaced over the life of the system. Once the panels reach the end of their life, or earlier if a term is imposed through planning conditions, the site will be decommissioned, all infrastructure removed, and the site restored to its original state.

The Construction, Decommissioning and Traffic Management Method Statement accompanying this application provides detailed information regarding the decommissioning process.

¹⁵ Lightsource only use Tier 1 panels in their solar farms. 'Tier 1' refers to the top 20% of panels in terms of the efficiency, performance, and longevity.

7 PLANNING POLICY

7.1 INTERNATIONAL POLICY

The UK is a signatory to the EU Renewables Directive (2009), under which our legally binding target is for 15% of total UK energy consumption to be generated from renewables by 2020, with this target rising to 80% by 2050.

The UK's Renewable Energy Strategy (RES) sets out how the UK will increase its renewable energy generation and reduce greenhouse gas emissions. The Strategy is based on a scenario of 30% of electricity, 12% of heat and 10% of transport being generated from renewables by 2020. In 2012 UK electricity generation from renewable sources was 11.3%, an increase of 1.9% from 2011,¹⁶ and in 2013 this had risen to 13.9%.¹⁷ A substantial increase will be required in order to achieve 30% within the next five years.

On behalf of the European Union, the Vienna University of Technology and the Energy Economics Group published an assessment of the progress each EU member state has made towards meeting their 2020 targets. In relation to the UK, the report states that *"it is not expected that its 2020 RES [Renewable Energy Sources] target can be achieved under baseline conditions...Thus, the UK is a candidate for importing surplus RES deployment of other Member States that are not needed for their own target fulfilment. The energy produced from RES has to nearly double in 2020 to fulfil the UK target when compared to the baseline case."*¹⁸ Unless the rate of deployment for renewable energy generation schemes increases, the UK is likely to miss its legally binding targets.

7.2 NATIONAL POLICY

7.2.1 NATIONAL ENERGY POLICY

The UK Government is committed to meeting our renewable energy targets, which are set out in national policy through the Climate Change Act of 2008. Section 13 of this Act states that there is a duty for the Secretary of State to prepare proposals and policies for meeting carbon reduction targets. These obligations fall to Local Planning Authorities.

In 2011 the Department of Energy and Climate Change published the UK Renewable Energy Roadmap, which was updated in 2013. This presents the framework for the delivery of renewable energy deployment in the UK; it reiterates the Government's commitment to meeting our renewable energy targets. 2013 also saw the publication of the UK Solar PV Strategy Roadmap which states that *"Solar photovoltaic (PV) technology is a mature, proven technology and is a reliable source of renewable energy with an important role to play in the UK energy generation mix."* Paragraph 13 of this Strategy notes that presently solar PV accounts for 12% of renewable electricity capacity in the UK.

There are a raft of other National guidance documents relating to energy and renewable energy more specifically which support the Government's aim to significantly increase the amount of electricity generated in the UK from renewable sources.

¹⁶ Department of Energy and Climate Change (2013) *Digest of UK Energy Statistics*

¹⁷ Department of Energy and Climate Change (2014) *Digest of UK Energy Statistics (DUKES)*

¹⁸ Vienna University of Technology & Energy Economics Group (2014) *2020 RES Scenarios for Europe – Are Member States Well on Track for Achieving 2020 RES Targets?*

7.2.2 NATIONAL PLANNING POLICY

The National Planning Policy Framework (NPPF) was published on 27th March 2012, replacing all national level Planning Policy Statements, Planning Policy Guidance, and regional planning guidance for England. The central theme of the NPPF is the presumption in favour of sustainable development, as detailed in Paragraph 14. There can be a tendency to overlook this starting point, which requires that in decision taking Local Planning Authorities:

- Approve development proposals that accord with the development plan without delay; and
- Where the development plan is absent, silent or relevant policies are out of date, grant permission unless:
 - Any adverse impact of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the NPPF taken as a whole; or
 - Specific policies in the NPPF indicate that development should be restricted.

Part 10 is of direct relevance to renewable energy generation. Paragraph 97 states that in order to increase the use of renewable and low carbon energy generation:

“...local planning authorities should recognise the responsibility on all communities to contribute to energy generation from renewable or low carbon sources”.

It goes on to state that LPAs should have *“a positive strategy to promote energy from renewable and low carbon sources; [and] design their policies to maximise renewable and low carbon energy development while ensuring that adverse impacts are addressed satisfactorily.”*

Paragraph 98 advises that when local authorities are determining planning applications, they should:

- *“not require applicants for energy development to demonstrate the overall need for renewable or low carbon energy and also recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions; and*
- *approve the application if the impacts are (or can be made) acceptable...”*

As is discussed in Section 6 of this report, it is considered that the potential impacts of the proposed solar farm development are, or can be made, acceptable in this specific location, given the careful site selection and proposed mitigation measures.

Other sections of the NPPF are also relevant to the development of a solar farm in the countryside, these include:

- Paragraph 28, which states that in supporting strong rural communities, local plans should *“promote the development and diversification of agricultural businesses”*. As discussed previously, solar farm development can be seen as a form of farm diversification, to provide additional income to support agricultural production on the rest of the farm unit.
- Paragraph 118 notes that adverse impacts on biodiversity should be avoided, and net gains promoted where possible. The Biodiversity Management Plan recommends the creation of brash and log piles for reptiles and amphibians and mammal gates. The Planting Plan will introduce woodland blocks, native hedgerow and hedgerow tree planting, species-rich wildflower meadow between the hedgerows and the security fencing and a grazing seed mix beneath and between the solar panels.

- Paragraph 112 states that when “*development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of higher quality land*”. The necessity for using agricultural land is set out in Appendix A. The site is Agricultural Land Grade 3b and therefore does not constitute the best and most versatile agricultural land. In addition, the development does not represent a permanent development of agricultural land for non-agricultural purposes. At the end of the lifetime of the solar farm, it will be removed from the site and agricultural uses can continue.
- Paragraph 115 notes that great weight should be given to conserving National Parks, the Broads and AONBs. In selecting sites for development, Lightsource has specifically avoided such areas.
- Paragraph 128 states that when determining planning applications local authorities should require an applicant to describe local heritage assets, and prepare a desk-based assessment, and where necessary, a field evaluation, where the proposed development site has or has the potential to include heritage assets. An assessment of actual and potential heritage assets is provided with this planning application.

On the 6th March 2014, the Department for Communities and Local Government launched the Planning Practice Guidance web-based resource. This guidance replaced previous planning guidance documents and Circulars.

The Planning Practice Guidance website includes a section for Renewable and Low Carbon Energy, the key theme of which builds upon the wording of Paragraph 98 of the NPPF, highlighting the importance of renewable energy generation to the UK’s security of electricity supply and greenhouse gas reduction targets, but making clear that planning permission will only be granted where the impacts at the specific site are, or can be made, acceptable.

With respect to large scale ground mounted solar farm developments the Planning Practice Guidance provides the following relevant factors for local authorities to consider:

- “*Encouraging the effective use of land by focusing large scale solar farms on previously developed and non-agricultural land, provided that it is not of high environmental value.*” While the use of brownfield land is encouraged here, the use of greenfield sites is not restricted, though such sites require additional measures beyond that for brownfield sites, as noted below. Whilst the DCLG is encouraging the use of previously developed land through planning guidance, it is worth noting that the last full dataset of the National Land Use Database for Previously Developed Land was published in 2010, the Homes and Community Agency received piece meal data in both 2011 and 2012, and datasets have not been commissioned by the Government since then.
- “*Where a proposal involves greenfield land, whether (i) the proposed use of any agricultural land has been shown to be necessary and poorer quality land has been used in preference to higher quality land; and (ii) the proposal allows for continued agricultural use where applicable and/or biodiversity improvements around arrays.*” Appendix A sets out the necessity for the use of low grade agricultural land for this proposal. Sheep will graze the site and proposed biodiversity enhancements include new planting of woodland blocks, native hedgerow and hedgerow trees, seeding of species-rich wildflower meadow, creation of brash and log piles for reptiles and amphibians and provision for mammal gates within the fence line.

- *“Solar farms are normally temporary structures and planning conditions can be used to ensure that the installations are removed when no longer in use and the land is restored to its previous use.”* As detailed in the Construction, Decommissioning and Traffic Management Method Statement accompanying this application, the solar farm will be fully decommissioned at the end of its operational life, with all infrastructure removed from site. This temporary use means that the site will remain as greenfield land and will not meet the definition of ‘previously developed land’.
- *“The proposal’s visual impact, the effect on landscape of glint and glare and on neighbouring uses and aircraft safety.”* The proposal’s visual impact is analysed in detail in the accompanying Landscape and Visual Impact Assessment, which concludes that the proposed development will be successfully accommodated within the existing landscape without causing any unacceptable long-term harm to the landscape character, visual amenity or existing landscape attributes of the area. The potential effect of glint and glare is addressed in Section 6 of this report, it is not considered to present either adverse safety or visual impacts.
- *“The extent to which there may be additional impacts if the solar arrays follow the daily movement of the sun.”* This proposal does not involve moving panels; the panels are fixed in place at an optimal angle for daylight absorption.
- *“The need for, and impact of, security measures such as lights and fencing.”* The required security measures include a 2m high fence, CCTV cameras, and a motion sensor light above the door of the Distribution Network Operators substation. No perimeter lighting or permanent site illumination is required. The proposed fence has been selected for its appropriateness in an agricultural setting.
- *“Great care should be taken to ensure heritage assets are considered in a manner appropriate to their significance, including the impact of proposals on views important to their setting. As the significance of a heritage asset derives not only from its physical presence, but also from its setting, careful consideration should be given to the impact of large scale solar farms on such assets. Depending on their scale, design and prominence, a large scale solar farm within the setting of a heritage asset may cause substantial harm to the significance of the asset.”* A heritage Desk Based Assessment looking at archaeology, listed buildings, and other heritage assets and their setting has been prepared and accompanies this application. This report concludes that the solar farm will not result in substantial harm. It has been established that no designated heritage assets will be physically impacted upon by the proposals and proposed woodland planting will mitigate any impact to the setting of Grade II Listed Cornborough Villa located 160m to the north of the site.
- *“The potential to mitigate landscape and visual impacts through, for example, screening with native hedges.”* The Landscape and Visual Impact Assessment accompanying this application considers mitigation measures, and a Planting Plan is enclosed. The landscaping work will include two woodland blocks, native hedgerow and hedgerow trees, species-rich wildflower meadow and a grazing seed mix.
- *“The energy generating potential, which can vary for a number of reasons including, latitude and aspect.”* The viability of the site to generate energy from natural daylight is a critical element of our site selection process. This site has been assessed by our Technical

Department as suitable for a solar farm with a generating capacity of 5MW, which is equivalent to the energy requirements of 13000 typical UK homes.

On the 22nd April 2014 The Rt Hon Gregory Barker MP wrote to all Local Authorities regarding the Solar PV Strategy. Whilst noting a desire to focus solar PV growth on roof space and previously developed land, he also noted that *“There is still a place for large-scale field-based solar in the UK’s energy mix.”* He reiterated the point that such proposals must be ‘sensitively placed’, and pointed to the guiding principles in the Solar PV Strategy, being:

- *“Support for solar PV should ensure proposals are appropriately sited, give proper weight to environmental considerations such as landscape and visual impact, heritage and local amenity, and provide opportunities for local communities to influence decisions that affect them.”*

As discussed throughout this report, the proposal is considered to be appropriately sited and will avoid any significant environmental impact, including with respect to visual, heritage and local amenity impacts. As set out in the Statement of Community Involvement accompanying this application, Lightsource has engaged with the local community in a meaningful way, providing information about our proposal and ensuring that there were opportunities for local feedback to inform the design process.

7.3 LOCAL PLANNING POLICY

The relevant local planning framework is made up of Ryedale District Council Local Plan Strategy adopted 5th September 2013.

7.3.1 RYDALE PLAN – LOCAL PLAN STRATEGY SEPTEMBER 2013 (AMENDED JANUARY 2015)

SP1 GENERAL LOCATION OF DEVELOPMENT AND SETTLEMENT HIERARCHY

Ryedale’s future development requirements will be distributed and accommodated in line with the Spatial Strategy Summary and on the basis of the following hierarchy of settlements:

Principal Town - Primary Focus for Growth

- *Malton and Norton (including Old Malton*)*

Local Service Centres (Market Towns) – Secondary Focus for Growth

- *Pickering*
- *Kirkbymoorside*
- *Helmsley*

Local Service Centres (Service Villages)- Tertiary Focus for Growth

- *Amotherby and Swinton*
- *Ampleforth*
- *Beadlam and Nawton*
- *Hovingham*
- *Rillington*
- *Sherburn*

- *Sheriff Hutton*
- *Slingsby*
- *Staxton and Willerby*
- *Thornton le Dale*

If a formal review of housing land supply triggers a requirement for further development sites, the search for sites may include additional settlements which, at the time are found to contain:

- *a school*
- *a convenience store or food shop which offers basic food for the preparation of a meal*
- *a reasonable daily bus service which would enable residents to access employment facilities, shops and community and educational facilities at higher order settlements*

In allocating and releasing development sites at the above locations:

- *the use of deliverable and developable Brownfield land will be prioritised and development will be guided to areas with lowest flood risk, taking account of the vulnerability of types of development and the need to achieve sustainable development and in accordance with the requirements of the Government's latest flooding guidance*

Additionally as part of the site selection process, the Local Planning Authority have regard to the deliverability and developability of sites and their ability to:

- *deliver against the Objectives and Policies of the Plan, policy standards and Community Infrastructure Levy (CIL) requirements*
- *support access on foot to centrally located shops, services and facilities*
- *be compatible with neighbouring land uses*
- *avoid adverse impacts on interests of acknowledged importance*
- *be accommodated without detriment to the character of the settlement and its setting*
- *satisfactorily address highway capacity and safety*

In all other villages, hamlets and in the open countryside development will be restricted to that:

- *which is necessary to support a sustainable, vibrant and healthy rural economy and communities, or*
- *which can be justified in order to secure significant improvements to the environment or conservation of significant heritage assets in accordance with the National Enabling Development Policy and Policy SP12 of this Plan, or*
- *which is justified through the Neighbourhood Planning process*

Development Limits and Town Centre Commercial Limits

Development Limits and Town Centre Commercial Limits are as defined on the adopted Proposals Map.

The York Green Belt

That part of the York Green Belt falling within the Plan area is as defined on the adopted Proposals Map. Proposals for development within the Green Belt will be considered against national policy.

Neighbourhood Plans

Neighbourhood Plans which align with the Settlement Hierarchy will be supported. Where neighbourhoods wish to plan for higher levels of development at the Principal Town or other Local Service Centres these will be supported where:

- *this is reflective of the settlement's role within the Settlement Hierarchy***
- *existing or improved infrastructure is capable of being provided to support additional levels of growth*
- *sufficient land is available to ensure growth aspirations can be delivered*
- *the Neighbourhood Plan would not prejudice the ability of other settlements to deliver their strategic requirements*

**The village of Old Malton is adjacent to the northern boundary of Malton. A planned approach to the future development needs of the Principal Town considers the three settlements in their entirety.*

***and in the case of Thornton-le-Dale and Ampleforth, are consistent with the strategic development plan policies of the North York Moors National Park Authority*

As discussed in Section 2.1, site selection is critical to ensuring that an efficient, technically and economically viable solar farm can be developed without causing significant adverse environmental impacts. Of the hundreds of potential sites we assess every year at Lightsource, we proceed to planning with less than 10% of these, with the other 90% either unviable technically, unable to achieve grid connection, or considered inappropriate from a planning policy and environmental impact point of view. This site has been through a rigorous site selection process and is considered the proposal will not have a significant adverse impact on the surrounding natural, built and historic environment.

SP12 HERITAGE

Distinctive elements of Ryedale's historic environment will be conserved and where appropriate, enhanced. The potential of heritage assets to contribute towards the economy, tourism, education and community identity will be exploited including:

- *The nationally significant prehistoric archaeological landscapes of the Yorkshire Wolds and the Vale of Pickering*
- *The individual and distinctive character and appearance of Ryedale's Market Towns and villages*
- *Large country houses and associated estates and estate villages, with Castle Howard being of international importance*
- *The unique distribution of Saxon churches on the fringe of the Vale of Pickering and the North York Moors, including Kirkdale and Stonegrave Minsters*
- *Victorian churches throughout the Yorkshire Wolds*
- *Medieval features including relatively large numbers of deserted medieval villages, moated manorial sites and granges, such as Kirkham Priory and notable castle sites, including Sheriff Hutton and Bossall Hall, Pickering and Helmsley*
- *The network of historic field systems across the District and in particular, the historic field patterns around Pickering and other settlements on the northern side of the Vale of Pickering*
- *The Roman Derwentio site at Malton*

To assist in protecting the District's historic assets and features, the Council will:

- *Encourage the sensitive re-use and adaptation of historic buildings and will, where appropriate, support flexible solutions to the re-use of those historic buildings identified as at risk where this would remove a building from English Heritage's At Risk Register or local records of buildings at risk.*
- *Seek to ensure the sensitive expansion, growth and land use change in and around the Market Towns and villages, safeguarding elements of the historic character and value within their built up areas, including Visually Important Undeveloped Areas*, as well as surrounding historic landscape character and setting of individual settlements*
- *Consider ways in which planning obligations can be used in conjunction with the allocation of sites at the Service Villages in the Vale of Pickering to secure increased protection, management and/or understanding of archaeological assets*
- *Work with North Yorkshire County Highways, Town and Parish Councils to provide highway improvements and street furniture that are appropriate to the historic context of individual towns and villages*
- *Work with partners and landowners to encourage sensitive land management in the Vale of Pickering and the Wolds*
- *Work with and support local estates to identify appropriate ways in which to manage their historic landscapes, features and buildings*
- *Support, in principle, the small scale extraction of local building stone that would enable the repair and restoration of high grade or recognised heritage assets and features*
- *Work with local communities to identify local features of historic interest and value for example through Parish Plans and Village Design Statements*
- *Support new development proposals aimed at educating and raising awareness of Ryedale's historic environment*

Designated historic assets and their settings, including Listed Buildings, Conservation Areas, Scheduled Monuments and Registered Parks and Gardens will be conserved and where appropriate, enhanced. Development proposals which would result in substantial harm to or total loss of the significance of a designated heritage asset or to the archaeological significance of the Vale of Pickering will be resisted unless wholly exceptional circumstances can be demonstrated. Proposals which would result in less substantial harm will only be agreed where the public benefit of the proposal is considered to outweigh the harm and the extent of harm to the asset.

In considering and negotiating development proposals, the Council will seek to protect other features of local historic value and interest throughout Ryedale having regard to the scale of any harm or loss and the significance of the heritage asset.

Proposals for Enabling Development necessary to secure the future of a heritage asset which would be otherwise contrary to the policies of this Plan or contrary to national policy will be carefully assessed against the policy statement and guidance provided by English Heritage – Enabling Development and the Conservation of Significant Places. In addition to the criteria embodied within the national statement, in considering the extent to which the benefit of an Enabling Development proposal outweighs a departure from this Plan or national policy, the following local criteria will also be used to inform the decision making process –

- *The Enabling Development proposed can be accommodated without material harm to the character of the North York Moors National Park and the Howardian Hills Area of Outstanding Natural Beauty and landscapes identified as being of local value*
- *Enabling Development proposed at or within villages is well related to their form, character and landscape setting*

- *In cases where there is a need to secure the future of multiple heritage assets within a single ownership, that Enabling Development proposals are:*
 - *Based upon an up-to-date conservation management plan for the assets in their ownership aligned with an up to date business plan*
 - *Prioritised to address the needs of those assets identified as being at greatest risk unless it can be demonstrated and agreed that the Enabling Development proposal secures the future of a significant asset in conjunction with income generating development that would in turn, support a reduction in conservation deficit*
- *Affordable housing contributions will be negotiated as part of residential Enabling Development schemes on sites which would trigger the application of Policy SP3. Consideration will be given to varying the form of contributions sought through Policy SP3 so as not to prejudice the heritage benefits of the Enabling Development proposal*

**Visually Important Undeveloped Areas are as defined on the adopted Proposals Map*

As discussed in Section 6.5 there are no designated heritage assets within the boundary of the site. Of the heritage assets within 5km of the site, the proposed development has the potential to impact one asset. This asset being Grade II Listed Cornborough Villa located 160m west of the site. The potential impact to this asset is considered to be neutral to slight, taking into account the proposed woodland in the south-western corner of the site and other extensive planting around the site boundaries. In respect of buried archaeological remains the baseline assessment undertaken as part of the Archaeology and Cultural Heritage Assessment has indicated that there is no evidence to indicate the presence of remains within the boundary of the site which will preclude development.

SP13 LANDSCAPES

The quality, character and value of Ryedale's diverse landscapes will be protected and enhanced by:

- *Encouraging new development and land management practises which reinforce the distinctive elements of landscape character within the District's broad landscape character areas of:*
 - *North York Moors and Cleveland Hills*
 - *Vale of Pickering*
 - *Yorkshire Wolds*
 - *Howardian Hills*
 - *Vale of York*
- *Protecting the special qualities, scenic and natural beauty of the Howardian Hills Area of Outstanding Natural Beauty, the setting of the Area of Outstanding Natural Beauty and the setting of the North York Moors National Park.*

Landscape Character

Development proposals should contribute to the protection and enhancement of distinctive elements of landscape character that are the result of historical and cultural influences, natural features and aesthetic qualities including:

- *The distribution and form of settlements and buildings in their landscape setting*
- *The character of individual settlements, including building styles and materials*
- *The pattern and presence of distinctive landscape features and natural elements (including field boundaries, woodland, habitat types, landforms, topography and watercourses)*

- Visually sensitive skylines, hill and valley sides
- The ambience of the area, including nocturnal character, level and type of activity and tranquillity, sense of enclosure/exposure

The Council will work with landowners and statutory agencies to encourage land management practises that will protect and reinforce landscape character across the District and proposals which seek to restore areas of degraded landscape or individual landscape elements will be supported.

National Landscape Designations and Locally Valued Landscapes

The natural beauty and special qualities of the Howardian Hills Area of Outstanding Natural Beauty (AONB) will be conserved and enhanced and the impact of proposals on the AONB, its setting or the setting of the North York Moors National Park will be carefully considered.

Proposals will be supported where they:

- Do not detract from the natural beauty and special qualities of these nationally protected landscapes or their settings
- Seek to facilitate the delivery of the Howardian Hills AONB Management Plan Objectives
- Are considered appropriate for the economic, social and environmental well-being of the area or are desirable to support the understanding and enjoyment of the area

The District Council and Howardian Hills AONB Joint Advisory Committee will resist development proposals or land management practises that would have an adverse impact on the natural beauty and special qualities of the AONB unless it can be demonstrated that the benefits of the proposal clearly outweigh any adverse impact and the proposal cannot be located elsewhere in a less damaging location.

Major development proposals within the AONB that would result in a significant adverse impact on the natural beauty and special qualities of the AONB will be considered within the context provided by national policy and only allowed in exceptional circumstances.

Outside of those landscapes protected by national landscapes designations, the Council will carefully consider the impact of development proposals on the following broad areas of landscape which are valued locally:

- The Wolds Area of High Landscape Value
- The Fringe of the Moors Area of High Landscape Value
- The Vale of Pickering

The Yorkshire Wolds and Fringe of the Moors are valued locally for their natural beauty and scenic qualities. As well as protecting the distinctive elements of landscape character in each of these areas, there are particular visual sensitivities given their topography and resulting long distance skyline views within Ryedale and further afield.

The Vale of Pickering, the Wolds and the Fringe of the Moors are of significant historic landscape value and loss or degradation of the elements that are integral to their historic landscape character make these landscapes particularly sensitive to change.

The site and the southern half of the study area lie within National Character Area Vale of York. As discussed in Section 6.2, the effects on the landscape character resulting from the proposed solar

farm will be confined to the site itself and to areas adjacent to the site boundaries. Proposed new landscaping will reduce visibility from immediate receptors such as Cornborough Road and Foss Walk long distance footpath. The Howardian Hills AONB located 2.8km north of the site at the closest point, and the Registered Park and Garden of Sheriff Hutton Park, 2.3km east-south-east of the site at the closest point. Any view of the development from the AONB will be screened by intervening vegetation, therefore the landscape character of the AONB will not be affected. The development will also not be visible from Sheriff Hutton Park and from Sheriff Hutton Castle, therefore the character of these sites will not be affected. At the end of the life of the solar farm, it will be dismantled and the site restored to its current condition. The effects of the scheme are reversible. Therefore, there would be no residual adverse landscape or visual effects.

SP14 BIODIVERSITY

Biodiversity in Ryedale will be conserved, restored and enhanced by:

- *Co-ordinated and targeted activity by public, private, voluntary and charitable organisations to support the implementation of the Yorkshire and Humber Biodiversity Strategy and Delivery Plan; the Ryedale Biodiversity Action Plan and the Howardian Hills Area of Outstanding Natural Beauty Management Plan*
- *Providing support and advice to landowners to encourage land management practises that support the objectives, priorities and targets of these plans and strategies*
- *Minimising the fragmentation of habitats and maximising opportunities for the restoration and enhancement of habitats and improving connectivity between habitats through the management of development and by working in partnership with landowners and land managers*
- *Maintaining, creating and improving ecological networks and Green Infrastructure routes to assist the resilience of habitats and species in the face of climate change*
- *Supporting, in principle, proposals for development that aim to conserve or enhance biodiversity and geodiversity through the prevention of loss of habitat or species and the incorporation of beneficial biodiversity features*
- *Requiring a net gain in biodiversity to be provided as part of new development schemes*
- *Resisting development proposals that would result in significant loss or harm to biodiversity in Ryedale*
- *Encouraging the use of native and locally characteristic species in landscaping schemes*

Investment in the conservation, restoration and enhancement of biodiversity in Ryedale will be targeted at –

- *The landscape-scale projects identified in the Yorkshire and Humber Biodiversity Delivery Plan which are wholly or partially within Ryedale:*
 - *Howardian Hills Area of Outstanding Natural Beauty and Western North York Moors Belt*
 - *North York Moors Grassland Fringe*
 - *Vale of Pickering*
 - *West Wolds*
 - *Lower Derwent Valley*
 - *Yorkshire Peatlands*
- *The habitats and species identified in the Ryedale Biodiversity Action Plan including those habitats which are particularly distinctive in the following areas:*
 - *Ancient woodland in the Howardian Hills*
 - *Species rich grassland, a traditional feature of strip fields around Ryedale's villages*

- *Marsh wetland in the Vale of Pickering*
- *Fen meadows in the Howardian Hills*
- *Floodplain swamps in the Derwent Floodplain and streamside swamps in the Howardian Hills and Wolds*
- *Chalk grassland on the Wolds*
- *Acid grassland at the foot of the Wolds; southern edge of the Vale of Pickering and Howardian Hills*
- *Limestone grassland in the Howardian Hills*
- *Ponds in the Vale of Pickering and at Flaxton*
- *Dry wooded valleys along the Fringe of the Moors*
- *Wet woodland in the Vales of Pickering and York; the Howardian Hills*
- *Wood pasture and Parkland associated with large country houses*
- *Heathland remnants in the Howardian Hills and southern Ryedale*

In considering proposals for development –

Proposals which would have an adverse effect on any site or species protected under international or national legislation will be considered in the context of the statutory protection which is afforded to them.

Proposals for development which would result in loss or significant harm to:

- *Habitats or species included in the Ryedale Biodiversity Action Plan and priority species and habitat in the UK Biodiversity Action Plan*
- *Local Sites of Nature Conservation Importance or Sites of Geodiversity Importance*
- *Other types of Ancient Woodland and Ancient/Veteran Trees*

will only be permitted where it can be demonstrated that there is a need for the development in that location and that the benefit of the development outweighs the loss and harm. Where loss and harm cannot be prevented or adequately mitigated, compensation for the loss/harm will be sought. Applications for planning permission will be refused where significant harm cannot be prevented, adequately mitigated against or compensated for.

Loss or harm to other nature conservation features should be avoided or mitigated. Compensation will be sought for the loss or damage to other nature conservation features which would result from the development proposed.

Protected sites, including internationally and nationally protected sites and Sites of Importance for Nature Conservation are identified on the adopted Proposals Map.

As discussed in Section 6.4, the site is generally of low ecological value and potential impacts are considered to be negligible with appropriate mitigation and sensitive design measures. Arable habitat will be lost as part of the proposed development but land beneath the solar panels will be converted to species diverse grassland. The proposal incorporates a number of biodiversity enhancement measures, which will enhance the overall ecological resource on site. As discussed in section 5.1.2, solar farms are now well documented as to their potential for biodiversity gain, and the measures proposed seek to ensure this is applicable to this proposal. As part of the proposed development a series of enhancement measures will be implemented including wild flower margins, woodland planting, new hedgerow and tree planting, creation of brush and log piles for reptiles and amphibians and installation of mammal gates within the fence line.

SP15 GREEN INFRASTRUCTURE NETWORKS

A network of green open spaces and natural features will be created and managed across Ryedale to support biodiversity and environmental systems to enhance the attractiveness of places and to support healthy lifestyles by providing opportunities for activity and relaxation. This will be achieved by:

Protecting and enhancing the quality and integrity of the following corridors and areas of Green Infrastructure Networks considered of Regional or Sub-Regional significance within Ryedale:

- *The North York Moors National Park*
- *The Howardian Hills*
- *River Derwent*
- *River Rye*
- *Yorkshire Wolds and Gypsey Race*
- *The Cleveland Way*
- *Five Dales descending from the North York Moors*

And by protecting, enhancing, creating and connecting wider elements of Green Infrastructure including:

Protecting and enhancing:

- *Public Rights of Way and Open Access Land and where practicable securing multi-user access*
- *Informal open spaces, allotments, street trees, hedgerows, stream corridors and beck sides, woodlands, formal public open spaces, recreational and play space*
- *Biodiversity, wildlife corridors and buffer zones necessary to support these features or areas*
- *The quality and usability of public open spaces*

Creating:

- *Improved access to existing public open spaces and to land along river corridors*
- *New open spaces, sport and play spaces, allotments and outdoor sports sites in areas of deficiency*
- *New habitats which reflect the locally distinctive habitat types included in Policy SP14*

Improving connectivity by creating links between:

- *Publicly accessible open spaces and green spaces within built up areas to key destination points such as town centres and schools*
- *Towns, villages and the wider countryside beyond*
- *Habitats to support the resilience of biodiversity*

A Green Infrastructure Strategy will be prepared to co-ordinate the aspirations, actions, activity and investment of relevant agencies and local communities and to support the multi functional use of green assets where uses are compatible.

New development will be managed in accordance with wider policies in this Plan, to assist the protection and improvement of Green Infrastructure assets and the connectivity between them. New development which would result in irreparable fragmentation of connections between green spaces will be resisted.

Section 6.2 describes how the potential effects on the landscape character from the proposed solar farm will be confined to the site itself and to areas immediately adjacent to the site boundaries. Of the rights of way in the surrounding area, only the users of Foss Walk long distance footpath will experience views of the development. The solar farm will be visible for approximately 600m from the south-western corner of the site at Sheriff Hutton substation to Mill Hill Farm. New native hedgerow and tree planting will mitigate views from this footpath. Furthermore, the community have expressed interest in the installation of information trail boards which can be provided by Lightsource to engage footpath users and provide information on the technology, planting and biodiversity enhancement measures and habitats.

SP16 DESIGN

Development proposals will be expected to create high quality durable places that are accessible, well integrated with their surroundings and which:

- *Reinforce local distinctiveness*
- *Provide a well-connected public realm which is accessible and usable by all, safe and easily navigated*
- *Protect amenity and promote well-being*

To reinforce local distinctiveness, the location, siting, form, layout, scale and detailed design of new development should respect the context provided by its surroundings including:

- *Topography and landform that shape the form and structure of settlements in the landscape*
- *The structure of towns and villages formed by street patterns, routes, public spaces, rivers and becks. The medieval street patterns and historic cores of Malton, Pickering, Kirkbymoorside and Helmsley are of particular significance and medieval two row villages with back lanes are typical in Ryedale*
- *The grain of the settlements, influenced by street blocks, plot sizes, the orientation of buildings, boundaries, spaces between buildings and the density, size and scale of buildings*
- *The character and appearance of open space and green spaces including existing Visually Important Undeveloped Areas (VIUAs) or further VIUAs which may be designated in the Local Plan Sites Document or in a Neighbourhood Plan. Development proposals on land designated as a VIUA will only be permitted where the benefits of the development proposed significantly outweigh the loss or damage to the character of the settlement*
- *Views, vistas and skylines that are provided and framed by the above and/or influenced by the position of key historic or landmark buildings and structures*
- *The type, texture and colour of materials, quality and type of building techniques and elements of architectural detail*

The design of new development will also be expected to:

- *Incorporate appropriate hard and soft landscaping features to enhance the setting of the development and/or space*
- *Contribute to a safe and well connected public realm by respecting and incorporating routes, buildings and views which create local identity and assist orientation and wayfinding; creating public spaces which are safe and easy to use and move through by all members of the community; facilitating access by sustainable modes of travel including public transport, cycling and walking*

- *Reduce crime and the fear of crime through the careful design of buildings and spaces Provide, where appropriate, active and interesting public frontages, clearly defined public spaces and secure private spaces*
- *Make efficient use of land and to be built at a density which is appropriate to its surrounding context. In general new housing development should not be built below an indicative density of 30 dwellings to the hectare unless this can be justified in terms of the surrounding context*
- *Proposals for major development will be expected to include a statement identifying the waste implications of the development and measures taken to minimise and manage waste generated*

Extensions and alterations to existing buildings will be appropriate and sympathetic to the character and appearance of the host building in terms of scale, form and use of materials and in considering proposals for the alteration, re-use or extension of individual historic buildings the Council will seek to ensure that:

- *A building is capable of conversion to the use proposed without the need for extensions or alterations that would be detrimental to its character*
- *Proposed extensions and alterations, considered acceptable in principle, that are of an architectural style which complements the traditional character of the main building*
- *Appropriate materials and traditional construction methods and techniques are used*

This Design and Access Statement and accompanying assessments clearly set out why the proposed development is compatible and would contribute positively to the aspirations set out in this policy. The solar farm will integrate into the surrounding landscape through the intervening topography, existing landscape features proposed new planting and low profile nature of the site. Furthermore this Statement clearly sets out how the development will be sensitive to the character of the location, local features of landscape, ecological or historic importance, and the amenities of neighbours.

SP17 MANAGING AIR QUALITY, LAND AND WATER RESOURCES

Land resources will be protected and improved by:

- *Supporting new uses for land which is contaminated or degraded where an appropriate scheme of remediation and restoration is agreed and in place*
- *Prioritising the use of previously developed land and protecting the best and most versatile agricultural land from irreversible loss. New land allocations will be planned to avoid and minimise the loss of the Best and Most Versatile Agricultural Land. Proposals for major development coming forward on sites that are not allocated for development which would result in the loss of the Best and Most Versatile Agricultural Land will be resisted unless it can be demonstrated that the use proposed cannot be located elsewhere and that the need for the development outweighs the loss of the resource*

Flood risk will be managed by:

- *Requiring the use of sustainable drainage systems and techniques, where technically feasible, to promote groundwater recharge and reduce flood risk. Development proposals will be expected to attenuate surface water run off to the rates recommended in the Strategic Flood Risk Assessment. In addition, major development proposals within areas highlighted as having critical drainage problems in the North East Yorkshire Strategic Flood Risk Assessment (or future updates) as Critical Drainage Areas may, if appropriate, be*

required to demonstrate that the development will not exacerbate existing problems by modelling impact on the wider drainage system

- *Ensuring new development does not prevent access to water courses for the maintenance of flood defences*
- *Undertaking a risk based sequential approach to the allocation of land for new development and in the consideration of development proposals in order to guide new development to areas with the lowest probability of flooding, whilst taking account of the need to regenerate vacant and previously developed sites within the towns. In considering development proposals or the allocation of land, full account will be taken of the flood risk vulnerability of proposed uses and the national 'Exception Test' will be applied if required*

Water resources will be managed by:

- *Supporting the water efficient design of new development and requiring developers to demonstrate how development proposals will seek to minimise water consumption*
- *Ensuring applications for new development assess impacts on water quality and propose mitigation measures to reduce the risk of pollution and a deterioration of water quality*
- *Protecting surface and groundwater from potentially polluting development and activity. Sources of groundwater protection within and adjacent to the District will be protected using the Source Protection Zones (SPZs) identified by the Environment Agency. Within SPZ1 the following types of development will not be permitted unless adequate safeguards against possible contamination can be agreed:*
 - *Septic tanks, waste water treatment works, storage tanks containing hydrocarbons or any chemicals or underground storage tanks;*
 - *Sustainable drainage systems with infiltration to ground*
 - *Oil pipelines*
 - *Storm water overflows and below ground attenuation tanks*
 - *Activities which involve the disposal of liquid waste to land*
 - *Graveyards and cemeteries*
 - *Other specific types of development identified within the Environment Agency's Groundwater Protection Policy*
- *Within Source Protection Zones 2 and 3 a risk based approach will be applied to the consideration of development proposals with the exception of development involving deep soakaways, sewerage, trade and storm effluent to ground which will not be permitted unless it can be demonstrated that these are necessary, are the only option available and where adequate safeguards against possible contamination can be agreed.*
- *Within Source Protection Zones developers will be expected to provide full details of the proposed construction of new buildings and construction techniques, including foundation design as part of their proposals.*
- *Ensuring that necessary sewerage and water treatment infrastructure improvements are provided in tandem with new development and that scale, type, location and phasing of new development or land-based activity can be accommodated without an unacceptable impact on water supply*

Air Quality will be protected and improved by:

- *Locating and managing development to reduce traffic congestion and air pollution and promote the use of alternative forms of travel to the private car*

- *Supporting measures to encourage non-car based means of travel or the use of low emission vehicles*
- *Reducing air quality emissions from buildings through renewable energy provision and sustainable building standards in line with Policy SP18*
- *Requiring development proposals within or adjoining the Malton Air Quality Management Area to demonstrate how effects on air quality will be mitigated and further human exposure to poor air quality reduced. All development proposals within or near to the Air Quality Management Area which are likely to impact upon air quality; which are sensitive to poor air quality or which would conflict with any Air Quality Action Plan will be accompanied by an Air Quality Assessment*
- *Only permitting development if the individual or cumulative impact on air quality is acceptable and appropriate mitigation measures are secured*

The site comprised of Agricultural Land Grade 3b, which is considered to be of poor value agricultural land; sheep will be grazed under and between the rows of solar panels, which allows for a dual productive use of the site, through the generation of renewable energy and the continued agricultural use of the land. The proposed development does not represent a significant risk to groundwater. Furthermore, potentially polluting substances will not be stored onsite during the operation of the solar farm. The site will be vegetated throughout the life of the development which will minimise possible soil erosion and enhance sequestration of nutrients. As discussed in Section 6.6 the development will not increase the risk of flooding on either the subject site, or the surrounding areas. Any risk of erosion due to concentration of runoff will be mitigated by the cultivated soil and thick sward of tussocky grass and its maintenance regime. Any potential runoff from the internal stoned access tracks will be reduced by the use of permeable materials and collected in shallow swales to be located along the tracks.

SP18 RENEWABLE AND LOW CARBON ENERGY

Developments that generate renewable and/or low carbon sources of energy will be supported providing that individually and cumulatively proposals:

- *Can be satisfactorily assimilated into the landscape or built environment, especially in respect of the setting of the North York Moors National Park, the Howardian Hills Area of Outstanding Natural Beauty (and its setting), the Wolds and the Vale of Pickering;*
- *Would not impact adversely on the local community, economy, or historical interests, unless their impact can be acceptably mitigated;*
- *Would not have an adverse impact on nature conservation, in particular in relation to any sites of international biodiversity importance, unless their impact can be acceptably mitigated;*
- *Would not have an adverse impact on air quality, soil and water resources in Policy SP17, unless their impact can be acceptably mitigated.*

In the absence of major opportunities for large-scale renewable and low carbon energy generation, new development is expected to play a key role in reducing carbon emissions and improving building sustainability through the following:

- *All new development will demonstrate that all levels of the Energy Hierarchy have been considered, taking into account the nature, scale and location of the development. The Local Planning Authority will take into account the feasibility and viability issues associated with the delivery of decentralised renewable and low carbon energy. Where it is not feasible or*

viable to provide on-site renewable/low carbon energy, or within the locality, consideration will be given to Allowable Solutions in line with agreed national definitions.

- *For all new build residential development, the proposal demonstrates that it meets the highest 'Code for Sustainable Homes' standard (or its successor) that is feasible and viable on the site.*
- *For major (1000 sq metres or more of floor space) non-residential development, the proposal demonstrates that it meets the highest BREEAM standard (or its successor) that is feasible and viable for that type of development on the site proposed.*
- *The Local Plan Sites Document will seek to establish site-specific targets using sustainable building standards and identify opportunities for the use of particular technologies (such as combined heat and power (CHP) and district heating schemes) for sites allocated, subject to feasibility and viability.*

The proposed solar farm is consistent with national and local policy, and will contribute to the country's renewable energy generation targets and maximise renewable energy generation in the area. It is considered that the site has been well selected such that the proposal will not result in any unacceptable impacts, and that the benefits of the proposal outweigh any minor adverse impacts. This Planning, Design and Access Statement is accompanied by assessments that consider potential landscape and visual, heritage, ecology and hydrology impacts. These assessments conclude the proposal will not have a significant adverse impact on the surrounding natural, built and historic environment.

SP19 PRESUMPTION IN FAVOUR OF SUSTAINABLE DEVELOPMENT

When considering development proposals the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. It will always work proactively with applicants jointly to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.

Planning applications that accord with the policies in this Local Plan (and, where relevant, with policies in Neighbourhood Plans) will be approved without delay, unless material considerations indicate otherwise.

Where there are no policies relevant to the application or relevant policies are out of date at the time of making the decision then the Council will grant permission unless material considerations indicate otherwise – taking into account whether:

- *Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole; or*
- *Specific policies in that Framework indicate that development should be restricted.*

This framework sets the presumption in favour of sustainable development, provided any adverse effect associated with them is not unacceptable, which is consistent with National Policy. The site has been selected and the proposal designed so as to minimise its visual impact, it is considered that over time any adverse effect on the landscape elements and features that currently characterise the site will diminish and instead there will be an overall net beneficial effect upon the woodland, tree, hedgerow and grassland resource with the proposed development in place.

SP20 GENERIC DEVELOPMENT MANAGEMENT ISSUES

Character

New development will respect the character and context of the immediate locality and the wider landscape/townscape character in terms of physical features and the type and variety of existing uses

Proposed uses and activity will be compatible with the existing ambience of the immediate locality and the surrounding area and with neighbouring land uses and would not prejudice the continued operation of existing neighbouring land uses

The cumulative impact of new development on the character of an area will also be considered

Design

The design of new development will follow the principles established in Policy SP16. Extensions or alterations to existing buildings will be appropriate and sympathetic to the character and appearance of the existing building in terms of scale, form, and use of materials

Amenity and Safety

New development will not have a material adverse impact on the amenity of present or future occupants, the users or occupants of neighbouring land and buildings or the wider community by virtue of its design, use, location and proximity to neighbouring land uses. Impacts on amenity can include, for example, noise, dust, odour, light flicker, loss of privacy or natural daylight or be an overbearing presence

Developers will be expected to apply the highest standards outlined in the World Health Organisation, British Standards and wider international and national standards relating to noise

New development proposals which will result in an unacceptable risk to human life, health and safety or unacceptable risk to property will be resisted. Developers will be expected to address the risks/potential risks posed by contamination and/or unstable land in accordance with recognised national and international standards and guidance

All sensitive receptors will be protected from land and other contamination. Developers will be expected to assess the risks/ potential risks posed by contamination in accordance with recognised national and international standards and guidance

Access, Parking and Servicing

Access to and movement within the site by vehicles, cycles and pedestrians would not have a detrimental impact on road safety, traffic movement or the safety of pedestrians and cyclists. Information will be required in terms of the positioning and treatment of accesses and circulation routes, including how these relate to surrounding footpaths and roads

Access into and within buildings will be expected to be of a standard that allows all to access the building unimpeded

Development will be expected to comply with the relevant standards in place at the time a planning application is made to the Local Planning Authority. A Travel Plan may be required to set out how the use of the building can be made more sustainable by reducing the need to travel by private car

Where applicable, proposals will need to demonstrate the inclusion of safe and effective vehicular servicing arrangements

As discussed in Section 4.5, this application is accompanied by a Construction, Decommissioning and Traffic Management Method Statement which provides detail on levels of construction traffic, how the site will be accessed and how construction traffic will be managed. It is considered that the relatively low levels of traffic to be generated during the construction period will not result in any material adverse impact on traffic safety or traffic flows in the surrounding roading network. Traffic generation during the operational life time of the solar farm will primarily be restricted to maintenance visits which are infrequent. It also provides information on noise management and air quality and dust management. Section 6.3 covers information on amenity, specifically noise management. In accordance with the requirements of Ryedale District Council, a noise assessment has been undertaken detailing the predicted noise levels of the solar farm during the day and night-time periods, in general solar farms are not noisy developments and do not present a health risk to the site or surrounding area.

7.4 GRID CONNECTION LEGISLATION

This planning application does not include the works or infrastructure associated with the connection to the grid network except for the onsite substation/switchgear.

Works required for the underground cable to connect the solar farm to the electricity grid network are undertaken by the Distribution Network Operator as a Statutory Undertaker under Part 17, Class G(a) of the General Permitted Development Order.

8 CONCLUSION

The Mill Hill Farm solar farm will increase the UK's sustainable, locally generated, energy supply, by providing enough clean energy to power 1300 households. Growing our renewable energy generation capacity will both reduce our carbon emissions and enhance security of energy supply by lowering our reliance on volatile international fossil fuel markets. The proposal also provides the opportunity to enhance biodiversity values.

Government policy promotes the development of large and small scale renewable energy developments, provided that the environmental impacts of individual proposals are acceptable, or can be made so through mitigation strategies.

The proposed location has a number of advantages. From an energy generation perspective the gentle southeast and southwest facing slope is ideal for maximising daylight capture, and proximity to existing National Grid substation infrastructure provides for efficient transmission of the electricity generated. The site consists wholly of agricultural land grade 3b which is considered to be of poor value agricultural land. The proposal will be successfully integrated into the landscape via means of extensive new planting, and will provide a net gain to biodiversity. It is considered that the impacts of the proposal will be acceptable, and where potential environmental impacts have been identified, detailed assessments have been undertaken and these accompany this application.

Consultation has been undertaken with the LPA, local Parish Councils and local community, and issues raised during this engagement process have been addressed as detailed in the accompanying Statement of Community Involvement.

The proposal has been shown to comply with the relevant planning policy framework therefore, planning permission should be granted.

APPENDIX A – USE OF AGRICULTURAL LAND

As detailed in Section 6, where solar farms are proposed on agricultural land, the Planning Practice Guidance for ‘Renewable and Low Carbon Energy’, directs LPAs to consider whether the proposal has shown the use of agricultural land to be necessary.

Site Requirements for Solar Farms

Section 2 of this report details the various criteria that are assessed in determining whether a site has potential for a solar farm development. Whilst all of these criteria are important in determining whether a site has potential for the development of a viable solar farm, the following are of particular relevance to the reasons why the use of agricultural land is necessary in this instance:

- **Site Size**

Although solar farms have low heights, they do require relatively large land areas. The rows of mounted solar panels must have large enough separation distances to avoid one row of panels shading another, and panels must also be set back from boundaries with vegetation to avoid shading impacts. As a result, typically only 30% of a solar farm site actually has any infrastructure on it, the rest remains open. Given current market conditions (including panel prices, and levels of support provided by the Renewable Obligation Certificates scheme), at present a minimum of 8ha is required to enable development of a viable solar farm.

The area of land required for a solar farm rules out urban locations for their development, as the availability of large sites is rare, and any such sites are typically either formally allocated for housing or commercial development, or informally reserved for such activities through land values. Thus, a rural location is required for solar farm developments.

- **Grid Capacity**

The purpose of a solar farm is to convert daylight into useable electricity – this must then be connected into the national grid network for it to be used by households and businesses. Without a viable grid connection, a solar farm cannot be developed. In order to connect into the grid, there must be available capacity on the line such that it can accept increased electricity flow.

The national grid network is strained in many places, with large areas of the country having no available grid capacity. Thus, grid capacity is one of the key constraints determining where solar farms can feasibly be developed and where they cannot.

- **Site Availability**

In order to develop a solar farm, the land in question must be commercially available for that use – meaning the landowner must be willing to either lease their land for 30 years, or sell the land. For sites which have potential for housing or commercial building development, the value of the land/level of rent is too high for solar to be competitive as an alternative use.

Availability of Brownfield Sites

Redevelopment of ‘brownfield’ land for solar farms is encouraged through planning guidance and Lightsource operates several solar farms within former quarries, former landfills and closed airfields, though even these sites do not always meet the definition of ‘previously developed land’ if they are used for agricultural purposes.

On behalf of the Government, the Homes and Communities Agency manages the National Land Use Database of Previously Developed Land (NLUD-PLD), this provides a record of all brownfield sites in England. The database was set up in response to Government targets introduced in the late 1990s, for 60% of new housing development to be undertaken on brownfield sites.

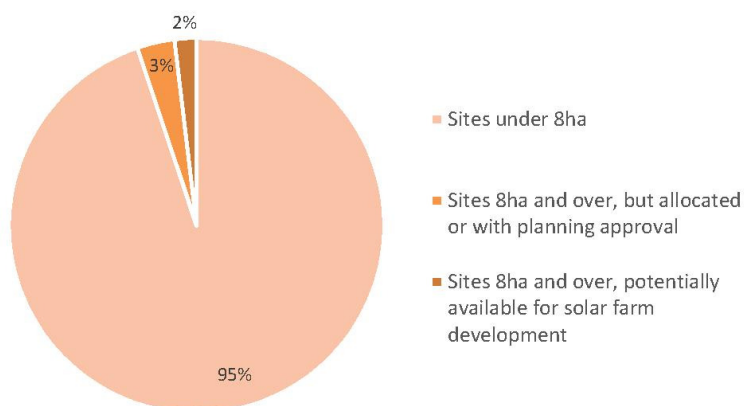
The NLUD-PLD categorises land into 6 categories as follows¹⁹:

- A. Previously developed land which is now vacant
- B. Vacant Buildings
- C. Derelict land and buildings
- D. Land or buildings currently in use and allocated in the local plan/and or having planning permission (for housing)
- E. Land or buildings currently in use where it is known there is potential for redevelopment (but sites do not have planning allocation or planning permission for housing)
- F. Previously developed land or buildings (already entered in database) that have been redeveloped or where construction has started.

Of relevance to solar farm developments are categories A and C, land which is either vacant or derelict. Vacant buildings will not provide the size of land required for a solar farm (Category B), and land that is either allocated for housing or has planning permission (Category D), or on which development has already begun (F) are not available for solar farm development.

The latest full dataset available from the Homes and Communities Agency is from 2010. Piece meal updates to the datasets were received in 2011 and 2012, however no new datasets have been commissioned since then.

According to the latest full data set there were 10,296 sites categorised as Type A and C previously developed land in England. Of these, 528 have land areas of 8ha or more. Removing from this those sites that are identified in the register as having received Outline Plan approval, or Planning Permission, or which have been allocated for housing under the Local Development Framework, leaves 195 sites in England which may potentially be viable and available for solar farm development. This equates to less than 2% of all vacant or derelict brownfield land.



¹⁹ Homes and Communities Agency (2010) 'Annex B – Summary 2010 Headline Report' *National Land Use Database 2010*.

Figure A-1: Graph showing percentage of Vacant and Derelict Land potentially available for Large Scale Solar Farm development

In assessing whether a brownfield site is suitable for solar development the criteria used will depend on the NLUD-PDL category:

- Vacant land is defined as “previously developed land which is now vacant and could be redeveloped without treatment.”
- Derelict land is defined as “land so damaged by previous industrial or other developed that it is incapable of beneficial use without treatment, where treatment includes any of the following: demolition, clearing of fixed structures or foundations and levelling”.

Vacant land can be assessed according to the criteria in Section 2 of this report in order to determine the technical viability for a solar farm, and the potential for environmental impacts given site specific characteristics. Derelict land is likely to require more detailed technical analysis. Issues that could be encountered include constraints posed by the load bearing capacity of a landfill cap, ground contamination where heavy industry has been present, or dust from ongoing quarry operations.

As noted in the DECC UK Solar PV Strategy Part 1, not all brownfield sites are suitable for solar development, “a brownfield site may contain a Site of Special Scientific Interest or be part of an Area of Outstanding Natural Beauty. Likewise, even plots of the highest grade agricultural land could include areas which are in themselves lower grade and could legitimately be used for solar PV deployment.”²⁰

Analysis of Ryedale

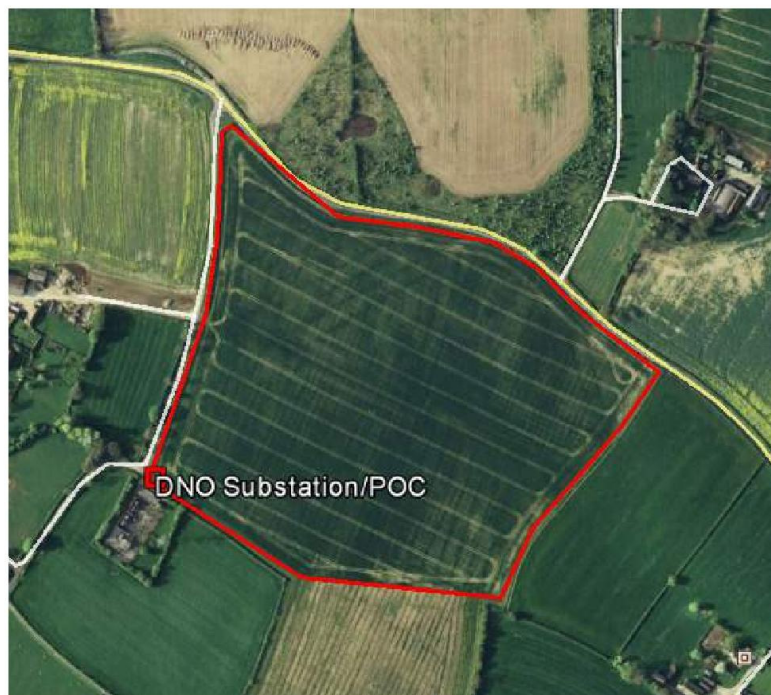
According to the NLUD-PLD records, there are four vacant or derelict sites that are not allocated for development or subject to a planning permission or outline planning within the District. Of these there is 1 site over 8ha, its locations are shown below in Figure A-2:



²⁰ Department of Energy and Climate Change (2013:24) *UK Solar PV Strategy Part 1: Roadmap to a Brighter Future*, DECC
Planning and Design and Access Statement
Project Reference: **Mill Hill Farm** Page 47

The Ryedale Local Plan Strategy (September 2013 as amended) discusses the derelict site identified above and several other brownfield sites (less than 8ha) within the Malton and Norton Rail/River Corridor and notes that they have been considered for development for a number of years but it has proved difficult to redevelop, mainly as a result of constraints associated with flood risk, contamination and restricted access, which have prevented it coming forward to date. These same issues are constraints for solar development.

As noted above, one of the key constraints limiting the location options for a solar farm is the availability of grid capacity. A viable grid connection offer has been received by Lightsource, with a Point of Connection (POC) to an existing substation identified by the DNO in the location shown below in Figure A-3. This makes the selected site an ideal candidate for a solar PV installation.



Agricultural Land Value







Lightsource has engaged consultants to undertake an Agricultural Land Classification (ALC) study of the site. This ALC is based on a desktop study of relevant published information on climate, topography, geology and soil, in conjunction with a soil survey. The ALC has identified that the site comprises wholly of land of Subgrade 3b “moderate” quality. Such land is not identified as of “best and most versatile agricultural land” (BMV) in the National Planning Policy Framework. It is poorer quality land.

It is important to note that the proposed solar farm has been designed to incorporate sheep grazing between and beneath the panel arrays, and therefore there will not be a loss of agricultural production on the site. Given the low impact nature of the solar farm construction, all infrastructure can be removed at the end of the solar farms life, with no permanent impact post decommissioning.

Conclusion

The requirement for a rural location, given land area requirements, combined with grid capacity and the limited supply of brownfield sites that are both technically feasible for solar farms and commercially available for development, means that it is necessary to utilise agricultural land for this solar farm development. The Agricultural Land Classification assessment has identified the fields as being Grade 3b land, which is of poorer value. The proposed development incorporates sheep grazing as an ongoing agricultural use, and also includes proposals for biodiversity enhancement. Therefore the proposal is in line with planning policy guidance.

APPENDIX B – COMPARISON OF ENERGY GENERATION OPTIONS

Energy Generation Method	Comparison with Solar Farms
<p>Wind Farms</p> 	<ul style="list-style-type: none"> • A 1MW turbine is typically 80m high to the hub, with a ground to blade tip height of 120m, thus they have a much wider reaching visual impact than solar farms. • Solar farms are very quiet, and do not create noise and vibration issues for local communities, as wind farms sometimes can. • Solar farms are static and passive with no moving parts. Thus they do not draw attention through movement like turbine blades, and pose no threat to birds. • Wind turbines only produce energy when the wind is strong enough, but not too strong. Solar panels produce electricity during all daylight hours. • Wind turbines do produce a large amount of energy based on the small ground area that they require.
<p>Hydropower</p> 	<ul style="list-style-type: none"> • Hydropower is limited by the availability of large rivers. • The creation of the dam lake destroys the local habitats in the areas that are flooded, as well as impacting on downstream river ecosystems by altering the river flow. • Hydropower can produce large volumes of energy throughout the day, so long as water is available. • Effects of dams are significant in comparison with the low impact nature of a network of comparatively small solar farms.
<p>Anaerobic Digestion</p> 	<ul style="list-style-type: none"> • Whilst biomass energy production results in lower carbon emissions than fossil fuel energy generation methods, the operation of solar farms results in zero carbon emissions. • Solar farms do not emit any air pollutants or odours. • Anaerobic digestion plants require less land than solar farms; however, they still involve large industrial style buildings.
<p>Nuclear</p>  	<ul style="list-style-type: none"> • Nuclear power has the benefit of being able to generate large amounts of electricity at any time of day. • Nuclear power stations are large buildings, with much greater visual impacts on the local surrounding area than a network of comparatively small scale solar farms. • Nuclear waste is highly toxic and expensive to dispose of. • Uranium is mined in large scale open cast mines, impacting significantly on the country of origin. • New nuclear power station developments require far higher subsidies than those provided for renewable electricity generation options. 

Fossil Fuels



- The burning of fossil fuels to create energy is currently cheaper than renewable energy methods; however it results in significant carbon emissions, and other air pollutants.
- Fossil fuels are a non-renewable resource, and the UK is often at the mercy of global price fluctuations.
- Extraction of fossil fuels including mining, fracking, and oil wells can have significant adverse impacts.
- Solar panels have a lifespan of over 30 years, whereas coal can only be burnt once.
- Solar farms do not emit any air pollutants or odours.