The Solar Building COMPANY LIMITED

Moneystone Quarry, Whiston

Proposed Solar Farm

Supporting Statement

Stratus Environmental Limited
4245 Park Approach
Thorpe Park
Leeds
West Yorkshire
LS15 8GB

stratus environmental

Project Quality Assurance Information Sheet

Proposed Solar Farm, Moneystone Quarry, Whiston, Staffordshire
Supporting Statement

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Prepared for:
Solar Building Company
Wyastone Business Park
Monmouth
NP25 3SR

Prepared by:
Stratus Environmental Ltd
4245 Park Approach
Thorpe Park
Leeds
LS15 8GB

Written and prepared by:
James Cook
Principal Development Planner

Reviewed by:
David Baker
Development Director

Approved by:
Nick Davies
Managing Director

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1.0 INTRODUCTION

1.1 Foreword

1.1.1 In order to address the damaging effects of climate change, we need to move away from burning our limited fossil fuel reserves to using more sustainable, cleaner, renewable energy sources. In 2009, the UK signed up to the European Union's Renewable Energy Direction which commits the country to delivering 15% of all energy from renewable sources by 2020. To meet this target, 35-45% of electricity generated will have to come from green sources including renewable energy technologies such as solar, wind, biomass, wave and tidal. In quarter 2 of 2013, approximately 15.5% of electricity was provided by renewable sources across the UK.

1.1.2 In April 2014, the UK Government (DECC) published its Solar PV Strategy, outlining its vision for Solar PV development in the UK. The main message from the Strategy is to focus growth of solar PV in the UK on domestic and commercial roof space and on previously-used land. This message was re-affirmed in recent ministerial statement on Solar Energy.[1]

1.1.3 Solar farms are a simple and established technology providing a source of safe and clean energy which produce zero emissions when in operation. Solar energy is not only sustainable; it is renewable, meaning that we will never run out of it. It also enjoys the highest levels of public support for renewable energy in the UK, with 81% of the public in favour.

1.1.4 Solar PV currently accounts for 14.9% of renewable electricity capacity in the UK and 3.8% of renewable electricity generation. Currently there is over 5GW of installed capacity of solar within the UK and the UK Renewable Energy Roadmap (updated 2014) states that there is "*significant potential for further deployment…with 20GW being our current estimate of the technical maximum level of solar PV deployment by 2020.*"

1.1.5 Solar farms are a relatively small, effective and unobtrusive way of creating the electricity we all use – with the panels having a low visual impact on the local landscape and creating no noise, pollution, bi-products or emissions. The Solar Building Company, the applicant, is proposing to construct and operate a solar photovoltaic (PV) farm on approximately 14.3ha of a former quarry circa 1.3km to the south east of Whiston, Staffordshire.

1.1.6 The proposed facility will generate circa 5MWp of renewable electricity (equivalent to the annual power consumption of 1,073 homes) which shall be exported to the local distribution network for use in local homes and businesses. Renewable electricity from the solar farm will not supply the leisure proposals that are currently under determination by Staffordshire Moorlands District Council. Following construction of the solar farm, the site (below and beneath the panels)

[1] Department for Communities and Local Government and The Rt Hon Eric Pickles MP Delivered on 25 March 2015

will be seeded with an appropriate wildflower mix and actively managed for the life of the site. The proposed habitat will realise a significant improvement for biodiversity beyond that of the approved quarry restoration scheme.

1.1.7 The solar farm will take approximately 3 months to construct and will have an operational life of approximately 25 years.

1.1.8 This application is a resubmission of a previous application that was refused by Staffordshire Moorlands District Council Planning Committee on the 28th February 2015. Since that refusal the applicant has reviewed the proposals and is now looking to provide additional information in support of the proposal. The additional information includes details of the site selection process and photomontages to demonstrate the site's lack of visibility from public areas. The applicant is also looking to provide a community benefit scheme.

1.1.9 This statement comprises an amended Supporting Statement (SS), submitted to Staffordshire Moorlands District Council under the Town and Country Planning Act 1990 (as amended). It is presented as part of the planning application for permission to construct and operate a solar (PV) farm and should be read in conjunction with the following documents:

- Planning Application Form and Certificates;
- Drawings;
- Design and Access Statement; and
- Technical Appendices (containing relevant environmental assessments).

1.2 The Applicant

1.2.1 The Solar Building Company (SBC), based in Monmouth, South Wales is an engineering and consultancy company specialising in developing solar PV projects. SBC specialises in the development of large scale solar both ground and roof based.

1.2.2 Recent achievements by SBC include:

- Completion of the largest single PV roof installation (6.068MW) in the UK;
- Sale of 85MW of existing assets to Bonds and Pension Funds;
- 73MW of successful design work;
- 45MW of installations through subcontracted partners delivering systems from 3kW to 250kW; and
- The distribution of 3MW of products over the past 6 months.

1.3 Pre-Application Discussions

1.3.1 The primary purpose of the pre-application discussions is to identify the key issues for the proposal before the detailed studies commence. This exercise enables the collation of relevant information about a project or area that an applicant may initially be unaware of, by seeking the views of the planning authority and other consultees. The outcome of the exercise will prioritise areas which the Planning Authority and consultees feel should be given particular attention through the application preparation process, but also to exclude those issues where

environmental effects are unlikely and need not be the focus for particular attention.

1.3.2 A screening opinion was formally requested from Staffordshire Moorlands District Council as to the requirement for an Environmental Impact Assessment on the proposed solar farm at Moneystone Quarry. Staffordshire Moorlands District Council issued their screening opinion under cover of a letter dated 5th September 2013.

1.3.3 Under the provisions of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011, the Council considered that given the scale and nature of the proposal the facility will not constitute 'EIA development'. Therefore no Environmental Impact Assessment is required.

1.4 Content of the Supporting Statement

1.4.1 The Supporting Statement has been structured into 6 chapters which are split into the following sections:

Background Information (Chapters 1 to 3)

1.4.2 Background chapters provide factual information about the site, the development proposals.

Planning Policy Appraisal (Chapter 4)

1.4.3 Considers the proposals against relevant national guidance and the development plan.

Environmental Reporting (Chapter 5)

1.4.4 This chapter identifies the environmental topics that will not be assessed as part of the application and justifies for not doing so. The chapter will also introduce the technical appendices which contain the environmental assessments. The environmental reports identify any mitigation measures which could be applied to the development.

Conclusions (Chapter 6)

1.4.5 This part of the Statement will provide a summary of the proposal and general conclusions of the environmental considerations and assessments.

1.4.6 In addition to the SS, the planning application is supported by a Design and Access Statement (DAS) as required by planning legislation. The DAS highlights the principles and details of the proposed design, how the development integrates into the surrounding landscape whilst fulfilling adequate access arrangements and provides information of sustainability aspects of the proposal.

1.5 Statement of Community Involvement

1.5.1 A programme of communications has been deployed by the applicant prior to the submission of the planning application to ensure that all relevant stakeholders and the community are informed of the proposals.

1.5.2 A Statement of Community Involvement has been prepared and is presented in Appendix A. The statement details the engagement process prior to submission of the planning application and will act as a means of informing key stakeholders and local people.

1.6 Information Availability

1.6.1 Electronic copies of all the documents submitted to Staffordshire Moorlands District Council in respect of the planning application for the development of the solar park are available at the following web site:

http://publicaccess.staffsmoorlands.gov.uk/publicaccess/tdc/DcApplication/application_searchform.aspx

1.6.2 Paper format copies of the planning application and supporting information are available on request at the following prices:

- Full Hard Copy £75
- CD Copy £15

1.6.3 All requests for hard copy information should be addressed as follows:

Solar Building Company Ltd
c/o Stratus Environmental Ltd
4245 Park Approach
Thorpe Park
Leeds
LS15 8GB

2.0 SITE AND SURROUNDINGS

2.1 Introduction

2.1.1 This chapter provides a description of the site in terms of its location, history, and surrounding land uses. It also sets the development within the context of surrounding land uses.

2.2 Location

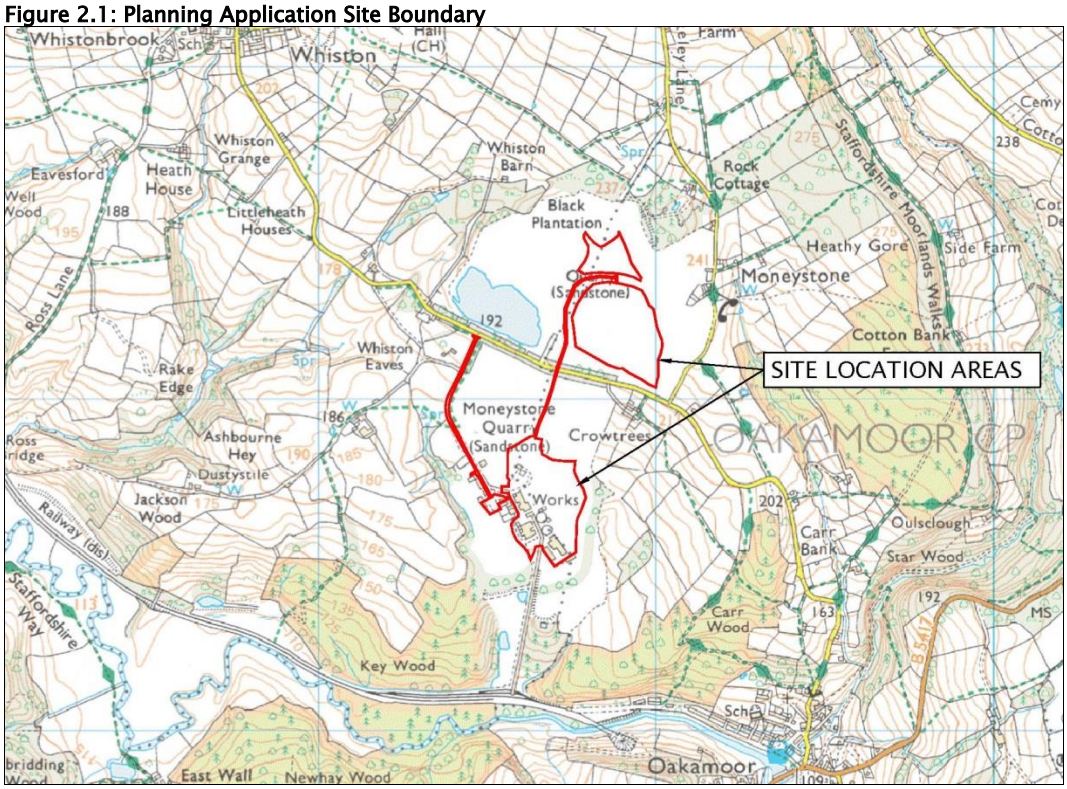
2.2.1 The application site is split over two distinct areas, separated by Eaves Lane located approximately 1.3km to the south east of Whiston village, see drawing SBC1049/17/01. Collectively the area of development will amount to approximately 14.3ha. The Peak District National Park is located approximately 5.5km north west from the application boundary site. The centre of the application site lies approximately at National Grid Reference SK 04688 46030.

2.2.2 Extraction of silica sand at Moneystone started in 1948 and through several approvals works continued until March 2012. The quarry site extends to some 168ha and is now owned by Laver Leisure

2.3 The Site

2.3.1 The application site is irregular in shape and comprises two separate areas for the erection of panels. The deployment area to the north of Eaves Lane (7.6ha) consists of two smaller sub-areas (referred to as areas B and D). The deployment area to the south of Eaves Lane measures 5.9ha (Area E). Figure 2.1 below and drawing SBC1049/17/2 identifies the extent of the application site.

Figure 2.1: Planning Application Site Boundary



2.3.2 The two sub areas within the northern site consist of former quarry working areas that have undergone restoration. Area B is occupied by a large south facing bank and has been partially restored to semi improved grassland, however, there are deposits of quarry tailings. Figure 2.2 provides a photograph of area B looking south. Area B is in the fore and middle ground of the photograph.

Figure 2.2: Photograph of Area D

2.3.3 Marshy grassland is located centrally within area D. Areas of extensive open habitats are also present in area D including early successional, pioneer grassland and short-perennial/ephemeral habitats. Area E is located to the south of Eaves Lane and occupies the former processing area. Demolition and remedial works in area E have been completed and the site has been graded to provide a gently sloping surface. Area E was hydro seeded in autumn 2014. Figure 2.3 provides a photograph of Area E.

Figure 2.3: Photograph of Area E

Topography

2.3.4 The topography across the development areas varies considerably. Area B has a high and low point of circa 215m AOD and 196m AOD, respectively. Area D has a gentle slope which falls to the centre of the area, the majority of this area is at circa 205m AOD. The highest point is 210m AOD and the lowest 203m AOD. Area E has a high point of circa 175m AOD and a low point of approximately 157m AOD. Over area E the average gradient is circa 5°.

2.4 Site Surroundings

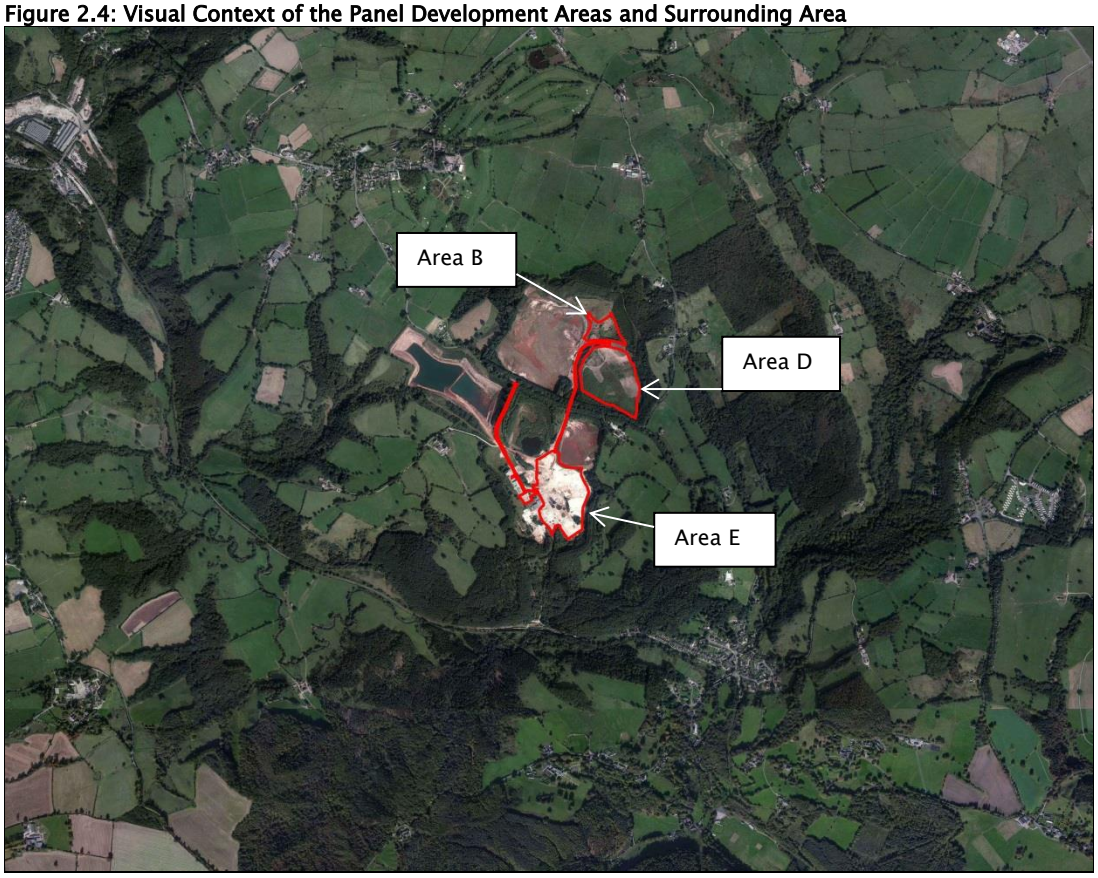
2.4.1 The application site is located within Moneystone Quarry. The former silica sand quarry extends to circa 168ha. Eaves Lane splits the quarry into a northern and southern area. The northern quarry site comprises a large settling lagoon (to the west), a restored area and the side slopes of the quarry. The southern area comprises the former processing area that has been restored , a former extraction area (far west of the quarry site), two lagoons to the immediate south of Eaves Lane, offices (vacant), car park, laboratory and workshops. An electrical substation is located to the south east of the existing laboratory.

2.4.2 The northern and southern quarry areas are connected via a tunnel that runs beneath Eaves Lane.

2.4.3 The nearest water body to the application site are the settlement lagoons to the immediate north and south of Eaves Lane.

2.4.4 The wider quarry is located on a slope that falls from north to south. The northern edge (rim) of the quarry is circa 235m AOD and the most southerly point of the southern area is circa 150m AOD. Along the quarry site boundary are significant areas of established woodland plantations. Beyond the quarry the surrounding area is rural in context with pastoral farming and significant areas of woodland plantations.

Figure 2.4: Visual Context of the Panel Development Areas and Surrounding Area



2.5 Site Access

2.5.1 The former quarry is served by an existing access off Eaves Lane (public highway). The existing access is a priority junction (stop junction) and has a solid bound surface. Eaves Lane beyond the former quarry entrance has restricted access for vehicles over 7.5 tons. The access road leads to the former offices and workshops. A mixture of surfaced and un-surfaced tracks provides vehicular access around the former quarry site.

2.5.2 Current vehicle movements from the wider quarry site are limited private vehicles from operatives at the existing Sibelco laboratory.

2.5.3 To the east Eaves Lane leads to Oakamoor, the west the lane leads to Whiston and the A52. Between Whiston and the former quarry entrance Eaves Lane is sufficiently wide to accommodate HGVs.

2.6 Identified Receptors and Designations

2.6.1 The nearest residential dwellings to the site are Moneystone Cottages on Blakeley Lane located circa 160m from the nearest panel area (area B). Further along Blakeley Lane is Rock Cottage which is circa 240m from area B. Crowtrees Farm, off Eaves Lane is located circa 110m to the south of area D and approximately 260m from area E.

2.6.2 No Public Rights of Way cross the application site. The nearest PRoW is located circa 110m to the north of area B (Kingsley 50). The PRoW connects Whiston to Blakeley Lane.

2.6.3 Whiston Eaves Site of Special Scientific Interest is located approximately 670m to the west of the panel development areas. To the south west of the quarry site a much wider site of biological importance (SBI) has been designated. The SBI has been partly designated as a Grade 1 Site.

2.6.4 The closest Listed Building is Little Eaves Farmhouse which is 500m from area E to the west.

2.7 Site History

2.7.1 Table 2.1 below presents a summary of the site history from 1888 to 2006. The historic mapping is presented in Appendix C.

Table 2.1: Site History

	Northern Site and Surrounding Area	Southern Site and Surrounding Area
1888	The site is shown to areas of rough grazing. A small quarry is identified towards the northern extent of the site. A track from the quarry is shown to lead to a walled track that runs just outside the application site's western boundary. Additional small quarries are shown to the east of the application site.	The site is identified as farmland and woodland. Crowtrees Farm is shown on the map. Whiston Eaves is shown to the north west of the application site.
1900	Quarries in an around the site are still shown in same locations. A footpath is shown along the eastern boundary of the application site. The walled track is referred to as Blakeley Lane. More dwellings are shown to the east of the application site.	Mapping as per previous. Frame Wood is identified.
1925	On site quarrying operations appears a little larger than previous mapping. Significant areas of woodland are shown across the north and east of the site. A path/track runs across the site to Blakeley Lane from the existing dwellings to the east of the site. A small building is shown on the path/track	Mapping as per previous.
1955	Mapping as per previous. The building on the path/track is much larger.	Mapping as per previous.
1968	The building on the path/track now removed. Quarrying operations seem	All field boundaries have been removed and a significant amount of infrastructure is shown

	Northern Site and Surrounding Area	Southern Site and Surrounding Area
	larger in extent. A quarry is shown in the south western corner of the site, adjacent to Eaves Lane.	centrally within the site, including buildings, and tanks. An access to the works from Eaves Lane is shown to the north. Excavations are shown towards the northern extent of the site. Large water bodies are shown to the west of the works beyond the application site boundary.
1988	Extent of quarrying largely as per previous mapping. A new Blakeley Lane is shown to the east of the application site which connects existing residential properties to Eaves Lane.	Frame Wood has been removed from the site and the works extended. A conveyor is shown from the works leading southwards to the railway in the valley bottom. Two of the water bodies to the west of the works have been removed.
2006	The application site is covered by quarrying in its entirety. Blakeley Lane that ram to the west of the site has been removed. The new alignment to east is shown. A footpath is shown to the north of the site. Standing water is shown the west of the application site.	Additional buildings are shown at the works

2.8 Recent Planning History

2.8.1 Laver Leisure acquired the Quarry from the then operators Sibelco UK (Sibelco) in July 2010. Staffordshire County Council approved a proposal (SM.96/935) to extend and progressively restore the Quarry on 22 May 1998. Condition 35 of the permission required the restoration of the Quarry to be completed within 2 years of the cessation of operations with a 5 year aftercare period.

2.8.2 The scheme to discharge Condition 35 of SM.96/935 was submitted to Staffordshire County Council (SCC) in November 1999 and was subsequently approved by SCC in January 2001. Amendments to the approved restoration scheme were submitted by Sibelco to SCC for consideration and determination. The amended restoration of the site was approved by Delegated Decision on the 16 October 2009. This approval requires the submission of an updated restoration plan to satisfy points raised in the approval letter.

2.8.3 A revised Restoration Masterplan has now been approved by SCC. A copy of the plan is presented in Appendix B.

2.8.4 In October 2014 an outline application was submitted Laver Leisure (Oakamoor) Limited to Staffordshire Moorlands District Council for the erection of a high quality leisure development comprising holiday lodges; a new central hub building (providing swimming pool, restaurant, bowling alley, spa, gym, informal screen/cinema room, children's soft play area, café, climbing wall and shop); café; visitor centre; administration building; maintenance building; archery centre; water sports centre; equipped play and adventure play areas; multi-sports area; car parking, and managed footpaths and cycleways set in attractive landscaping and ecological enhancements. Whilst the outline application is located adjacent to the solar farm application site, the two proposals are independent of each other.

3.0 THE PROPOSED DEVELOPMENT

3.1 Introduction

3.1.1 The Solar Building Company propose to construct and operate a c. 5MWp solar farm to produce renewable electricity obtained directly from the sun using photovoltaic technology. The solar farm will comprise the following:

- PV (Photovoltaic) panels and associated supporting frames and ground mounting;
- 4 inverter and transformer stations;
- Below ground cabling;
- A sub station housed in a prefabricated container to allow connection to the Local Distribution Network;
- A customer substation and control cabin;
- Fencing and inward facing CCTV employing invisible (infra-red) lighting;
- Internal service road;
- Temporary set down areas; and
- Site Access.

3.1.2 The site will be developed as either a string inverter or a central inverter design. The proposed site layout takes into account both options. The final choice of technology will depend on product availability at time of construction.

3.1.3 With a central inverter, the cables from each panel are typically strung together in series of 20 panels. These strings, typically numbering 25 are then brought together to a combiner box mounted to the racking that supports the panels. A larger cable is then taken from the combiner box to the central inverter station. The inverted power then gets transformed up to the grid voltage before it is taken onto the on site substation that connects to the local distribution network.

3.1.4 String inverters are mounted onto the back of the racking supporting the panels, much like a combiner box. They are typically 30KW in size with each string of typically 20 panels connecting directly to the inverter, typically 6 strings onto each inverter. The inverters are then re-combined into larger groups or taken directly onto the transformers depending on design. The inverted power is then transformed up to the grid voltage then onto the substation that connects to the grid.

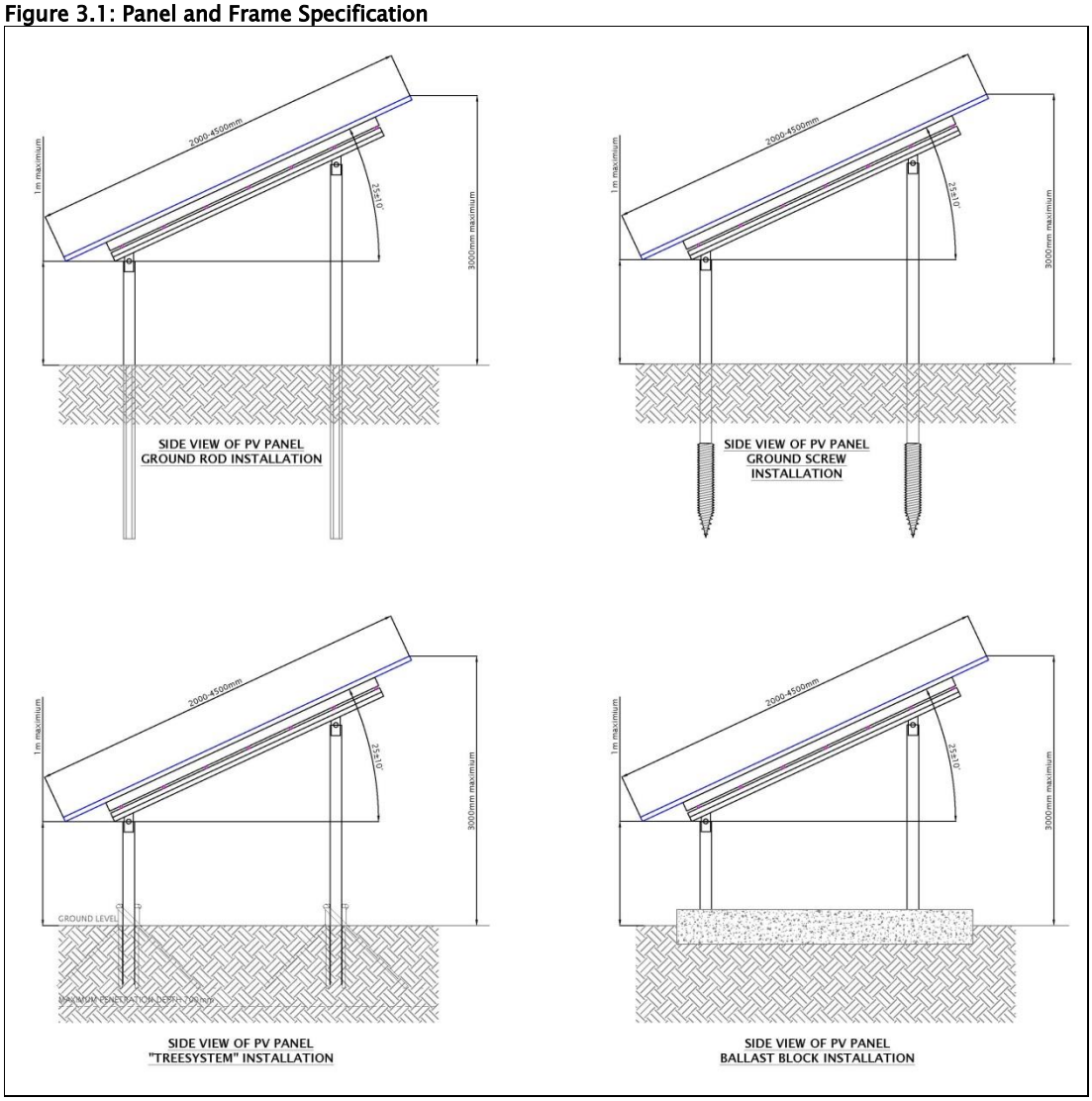
3.2 Panel Arrangement

3.2.1 Drawing SBC1049/17/06 shows that the panels will be arranged in two groups over the former quarry, in areas D and E.

3.2.2 All panels will be mounted on frames with a maximum height of the panels 3m above ground level, the lowest part of the panel will be circa 1m above ground level. The rows of panels will be aligned east to west, south facing and set between 3m and 6m apart to allow for overshadowing and access for scheduled maintenance of the panels.

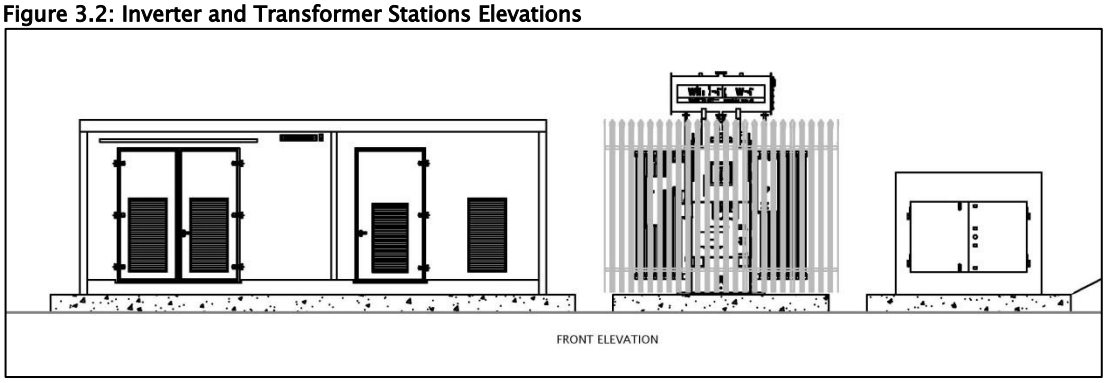
3.2.3 The mounting frames will be matt finished galvanised steel with steel posts of 200mm diameter, driven (screwed or piled) into the ground to a depth of approximately 1.50m. Towards the southern extent of area E the panel arrays may be secured by ballast blocks or a low penetration "tree" mount system. Drawing SBC1049/17/03 and figure 3.1 provides a specification of the panel and frames. The panels will be approximately 25º (+/- 10º) to the horizontal.

Figure 3.1: Panel and Frame Specification



3.2.4 The inverters and transformers convert the solar energy from Direct Current (DC) to Alternating Current (AC) and allows electricity to be transferred around the site at an appropriate voltage. These prefabricated containers will be set on concrete bases. Drawing SBC1049/17/05 and figure 3.2 provides details of the containers.

Figure 3.2: Inverter and Transformer Stations Elevations



3.2.5 The inverter cabin measures typically up to 3m in height and approximately 8m in length and 4m wide. The transformer compound measures 4m by 4m by circa 3.5m high. The control cabin measure approximately 2.5m by 2.5m by 2.1m high. The cabins are typically constructed from GRP and can coloured to suit requirements.

3.2.6 Should the string inverter design be implemented the individual transformer compounds will look and measure as per the transformer detailed in 3.2 above and drawing SBC1049/17/05.

3.3 Local Distribution Network Connection

3.3.1 The Distribution Network Operator will install a new sub-station that will be constructed to the immediate north west of Sibelco's existing laboratory as shown on drawing SBC1049/17/09. The Distribution Network Operator will also install the connecting cable from the proposed on site sub-station to the Point of Connection. These works will be carried out by the Distribution Network Operator using their permitted development rights as statutory undertaker.

3.3.2 For comparison metering of the electricity generated a smaller 'customer' substation will also be provided. This is located to the east of the proposed on-site substation as shown in drawing SBC1049/17/12.

3.4 Site Security

3.4.1 The application site will be secured by a 2m high deer fence or similar. Infra Red (non visible), pole mounted CCTV cameras (2.5m in height) will also be provided at appropriate intervals along the boundary fence. These will enable remote surveillance of the site. Fencing and CCTV details are presented on drawings SBC1049/17/04.

3.5 Earthworks

3.5.1 Earthworks across the application were completed by the landowner in 2014 and were carried out in accordance with the approved scheme of restoration for Moneystone Quarry. These earthworks do not form part of the solar farm proposal.

3.6 Construction Programme

3.6.1 The construction of the solar farm is expected to take circa 3 months. The Construction Traffic Method Statement accompanying this Supporting Statement provides details of proposed access arrangements, the anticipated programme, construction vehicle numbers and type, construction worker numbers and the proposed construction hours.

3.7 Site Access

3.7.1 Access to the site will be via the existing access to the former quarry from Eaves Lane. Vehicles will travel along internal service roads to access the three panel areas. These will be used for both the construction and operational phases. The existing tunnel under Eaves Lane will provide access to the panel areas within the northern part of the site.

3.7.2 Equipment set down areas will be provided to the west of area E on an existing paved area (car park) and on the northern edge of area D as shown on SBC1049/17/06. This will ensure that the delivery vehicles can keep to existing paved roads within the former quarry site. The temporary set down area will be secured by temporary fencing and lit. Both of which shall be removed following completion of the construction phase.

3.7.3 Once operational, the application site will be unmanned and access for occasional maintenance will be typically made by light goods vehicles. Maintenance and inspections will take place on a monthly basis.

3.7.4 No amendments are proposed to the existing site access from Eaves Lane. A Traffic Construction Method Statement is presented in Appendix G.

3.8 Proposed Landscaping

3.8.1 A species rich grassland will be provided and managed across areas B, D and E providing a valuable habitat for invertebrates. No further schemes of landscaping are proposed within the application site.

3.8.2 Once the specific soil conditions are known a target habitat will be agreed with, Staffordshire Wildlife Trust (SWT) and the County Ecologist. Green hay will be the primary approach for habitat creation. Several donor sites neighbour the quarry and would be suitable donors for neutral and acidic grassland types.

3.8.3 The site will be managed through sheep grazing through the autumn, winter and spring, with the land being rested through the late spring and summer to allow herbs to flower and set seed.

3.8.4 Monitoring will be intensive in the early years of habitat creation. The site will be visited twice per year for the first 2-3 years to ensure the target habitat is establishing. Monitoring will be undertaken according to a structured scoring system whereby the species of the target habitat are afforded scores (weighted for rarity) and a certain number of points must be reached within certain time periods, e.g. 15 points by year 2 and 25 points by year 5.

3.8.5 Framework for the Restoration and Management of Grassland Habitat is presented in Appendix I.

3.8.6 In addition to the species rich grassland within the application site, the applicant is proposing to enhance currently degraded habitats on land adjacent to the former quarry site. The two enhancement sites total nearly 6ha. In consultation with Staffordshire County Council's ecologist, survey works have been carried out to clearly define the proposed enhancement works. A monitoring scheme has also been prepared for both enhancement areas. Details of the enhancements are detailed in Appendix F.

3.8.7 These ecological works as part of the solar farm proposal will provide significant benefits to local biodiversity beyond that of the approved scheme of the restoration for the quarry.

3.9 Community Benefit

3.9.1 As part of the proposals the applicant is offering the communities of Kingsley and Oakamoor parishes two 10kW PV systems to be mounted on the roofs of public buildings (school, village hall etc.). This is in recognition of the potential for any inconvenience created during the construction phase.

3.10 Decommissioning

3.10.1 The operational lifespan of the solar farm is 25 years. After which all equipment and tracks shall be removed from the site. The site will be returned to ecology to maintain the wider site's biodiversity objectives.

4.0 PLANNING POLICY APPRAISAL

4.1 Introduction

4.1.1 This chapter sets out the planning policies which are relevant to the site and type of development proposed, giving consideration to National and Local planning policy.

4.1.2 Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires that planning applications are determined in accordance with the provisions of the adopted Development Plan unless other material considerations indicate that a different decision should be made.

4.1.3 Given the primacy of the development plan in the decision making process, it is imperative that this supporting statement identifies and summarises the planning policies that are of relevance in determining this planning application.

4.1.4 The adopted Development Plan comprises:

- Staffordshire Moorlands Core Strategy Development Plan Document (adopted March 2014); and
- Saved policies in the Staffordshire and Stoke-on-Trent Minerals Local Plan (adopted 1999).

4.1.5 Statutory instruments for the revocation of the Staffordshire and Stoke-on-Trent Structure Plan and the West Midlands Regional Plan were laid before Parliament by the Secretary of State for Communities and Local Government on the 24th of April, 2013. These took effect on the 20th May 2013, after which the Structure Plan and the Regional Plan no longer formed part of the Development Plan.

4.1.6 The National Planning Policy Framework (NPPF) was published in March 2012. Paragraph 14 of the NPPF states that '*for decision taking this means*:

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

4.2 The Development Plan

Staffordshire Moorlands Core Strategy Development Plan Document

4.2.1 The Staffordshire Moorlands Core Strategy Development Plan Document (DPD) was adopted in March 2014 and details the overall development strategy for the District. This document supersedes the 'saved' policies from the 1998 Local Plan.

4.2.2 The Core Strategy is based upon the principle of sustainable development. Spatial Objective 2 states "*to create a District where development minimises its impact on the environment, helps to mitigate and adapt to the adverse effects of climate change and makes efficient use of resources*." The relevant policies from the Core Strategy are set out below and discussed in Table 4.1.

4.2.3 Policy SS1 Development Principles states:

"The Council will expect the development and use of land to contribute positively to the social, economic and environmental improvement of the Staffordshire Moorlands in terms of delivering, in partnership with other agencies and services:

- *…development which maintains the distinctive character of the Staffordshire Moorlands, its individual towns and villages and their settings;*
- *development that is undertaken in a way that protects and enhances the natural and historic environment of the District and its surrounding areas both now and for future generations;*
- *development which secures high quality, sustainable environments, efficient and effective use of resources and contributes effectively to tackling climate change and reduced carbon emissions.*

All proposals for development will be considered in the context of the District-wide Spatial Strategy and with regard to both its direct and indirect cumulative impact over the longer term. New development will make the best use of previously developed land and buildings and will follow a sequential approach to the sustainable location of development."

4.2.4 Policy SS1a Presumption in Favour of Sustainable Development states:

"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 pro-actively 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 Core Strategy (and, where relevant, with polices 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."*

4.2.5 Policy SS6c Other Rural Areas Area Strategy states:

"The other rural areas comprise the countryside and the green belt outside of the development and infill boundaries of the towns and villages, as defined in the Site Allocations DPD, including those small settlements and dispersed developments not identified in Policies SS5, SS6a and SS6b.

These areas will provide only for development which meets an essential local need, supports the rural diversification and sustainability of the rural areas, promotes sustainable tourism or enhances the countryside. The Council and its partners will achieve this through the following actions… enhance and conserve the quality of the countryside by:

Giving priority to the need to protect the quality and character of the area and requiring all development proposals to respect and respond sensitively to the distinctive qualities of the surrounding landscape;…

Ensuring renewable energy schemes are of an appropriate scale, type and location…

Encouraging measures which protect and enhance the biodiversity, geological resources and heritage of the District."

4.2.6 Policy SS7 Churnet Valley Area Strategy states:

"The Churnet Valley is identified as an area for sustainable tourism and rural regeneration. Within this area particular support will be given to the following forms of development and measures:

…actions to protect and enhance the biodiversity of the valley, including the maintenance, buffering and connection of designated sites and actions to mitigate climate change…

Any development should be of a scale and nature and of a high standard of design which conserves and enhances the heritage, landscape and biodiversity of the area and demonstrate strong sustainable development and environmental management principles. The consideration of landscape character will be paramount in all development proposals in order to protect and conserve locally distinctive qualities and sense of place and to maximize opportunities for restoring, strengthening and enhancing distinctive landscape features…"

4.2.7 Policy SD2 Renewable/Low-Carbon Energy states:

"The District will strive to meet part of its future energy demand through renewable or low-carbon energy sources (which could be through a variety of technologies, for example wind power, solar energy, biomass etc), in line with current evidence which identifies the feasibility of these forms of energy across the District. This will be achieved by supporting small- and large- scale stand alone renewable or low-carbon energy schemes, subject to the following considerations:

- *the degree to which the scale and nature of a proposal impacts on the landscape, particularly having regard to the Landscape Character*

Assessment and impact on the Peak District National Park (taking into account both individual and cumulative effects of similar proposals);

- *the degree to which the developer has demonstrated and environmental/economic/social benefits of a scheme as well as how any environmental or social impacts have been minimised (e.g. visual, noise or smell);*
- *the impact on designated sites of European, national and local biodiversity and geological importance in accordance with policy NE1;*
- *the impact on the amenity of residents and other interests of acknowledged importance, including the historic environment;*
- *the degree to which individual proposals reflect current local evidence regarding the feasibility of different types of renewable or low-carbon energy at different locations across the District."*

4.2.8 Policy SD4 Pollution and Flood Risk states:

"The Council will ensure that the effects of pollution (air, land, noise, water, light) are avoided or mitigated by refusing schemes which are deemed to be (individually or cumulatively) environmentally unacceptable and by avoiding unacceptable amenity impacts by refusing schemes which are pollution-sensitive adjacent to polluting developments, or polluting schemes adjacent to pollution sensitive areas, in accordance with national guidance…"

4.2.9 Policy DC2 The Historic Environment states:

"The Council will safeguard and, where possible, enhance the historic environment, areas of historic landscape character and interests of acknowledged importance, including in particular scheduled ancient monuments, significant buildings (both statutory listed and on a local register), the settings of designated assets, conservation areas, registered historic parks and gardens, registered battlefields and archaeological remains by:

1. Resisting development which would harm or be detrimental to the special character and historic heritage of the District's towns and villages and those interests of acknowledged importance.

2. Promoting development which sustains, respects or enhances buildings and features which contribute to the character or heritage of an area and those interests of acknowledged importance through the use of conservation area appraisals, design statements, archaeological assessments, characterisation studies and Masterplanning.

3. Preventing the loss of buildings and features which make a positive contribution to the character or heritage of an area through appropriate reuse and sensitive development, including enabling development, unless their retention is not viable or there would be substantial planning benefits to outweigh the loss."

4.2.10 Policy DC3 Landscape and Settlement Setting states:

"The Council will protect and, where possible, enhance local landscape and the setting of settlements in the Staffordshire Moorlands by:

1. Resisting development which would harm or be detrimental to the character of the local and wider landscape or the setting of a settlement and important views into and out of the settlement as identified in the Landscape and Settlement Character Assessment;

2. Supporting development which respects and enhances local landscape character and which reinforces and enhances the setting of the settlement as identified in the Landscape and Settlement Character Assessment;

3. Supporting opportunities to positively manage the landscape and use sustainable building techniques and materials which are sympathetic to the landscape;

4. Identifying through the Site Allocations DPD and protecting from inappropriate development, areas of visual open space where the intention will be to retain the land's open and undeveloped appearance. Where appropriate the Council will seek public access agreements with the land owners and seek proposals for the enhancement or improvement of these areas as part of the green infrastructure network in accordance with policy C3. In exceptional cases, limited development of areas of visual open space may be acceptable where this will bring about overriding improvements to the open space itself;

5. Recognising and conserving the special quality of the landscape in the Peak District National Park, and ensuring that development does not adversely affect the wider setting of the National Park."

4.2.11 Policy R1 Rural Diversification states:

"All development in the rural areas outside the development boundaries of the towns and villages will be assessed according to the extent to which it enhances the character, appearance and biodiversity of the countryside, promotes the sustainable diversification of the rural economy, facilitates economic activity, meets a rural community need and sustains the historic environment.

Appropriate development should not harm the rural character and environmental quality of the area or any sites designated for their nature conservation, or historical interest by virtue of the scale, nature and level of activity involved and the type and amount of traffic generated or by other effects such as noise and pollution.

Wherever possible development should be within suitably located buildings which are appropriate for conversion. Where new or replacement buildings are involved, development should have minimal impact on the countryside and be in close proximity to an existing settlement.

Within the Green Belt, inappropriate development which is otherwise acceptable within the terms of this policy, will still need to be justified by very special circumstances."

4.2.12 Policy NE1 Biodiversity and Geological Resources states:

"The biodiversity and geological resources of the District and neighbouring areas will be conserved and enhanced by positive management and strict control of development by:

1. Resisting any proposed development that could have an adverse effect on the integrity of a European site alone or in combination with other plans or projects unless it can be demonstrated that the legislative provisions to protect such sites can be fully met.

2. Conserving and enhancing any Sites of Special Scientific Interest. The Council will not permit any development proposal which would directly or indirectly (either individually or in combination with other developments) have an adverse effect on a Site of Special Scientific Interest.

3. Conserving, and enhancing regional and locally designated sites. The Council will not permit any development proposal which would directly or indirectly result in significant harm to geological and biodiversity conservation interests including ancient woodland, unless it can be demonstrated that:

- *there is no appropriate alternative site available; and*
- *all statutory and regulatory requirements relating to any such proposal have been satisfied; and*
- *appropriate conservation and mitigation measures are provided; or if it is demonstrated that this is not possible*
- *the need for, and benefit of, the development is demonstrated to clearly outweigh the need to safeguard the intrinsic nature conservation value of the site and compensatory measures are implemented.*

4. Supporting opportunities to improve site management and increase public access to wildlife sites including supporting the objectives of the Staffordshire County Council Rights of Way Improvement Plan.

5. Ensuring development where appropriate produces a net gain in biodiversity, and ensuring that any unavoidable impacts are appropriately mitigated for.

6. Ensuring development promotes the appropriate maintenance, enhancement, restoration and/or re-creation of biodiversity through its proposed nature, scale, location and design. The Staffordshire Moorlands Biodiversity Opportunity Map, in conjunction with the Staffordshire Biodiversity Action Plan, will be used to guide biodiversity enhancement measures to be included in development proposals as appropriate to the nature and scale of development proposed and other environmental interest, in particular supporting opportunities to increase grassland and heathland habitats including supporting targets in the UK and Staffordshire Biodiversity Action Plan.

7. Protecting and enhancing habitats and species of principal importance for the conservation of biodiversity as identified in legislation, and recognising and implementing appropriate measures, including landscape-scale conservation

management, to take account of the fact that the distribution of habitats and species will be affected by climate change.

8. Recognising the value of the natural environment for sport and leisure activities and the need to manage such activities to ensure there is no conflict.

9. Ensuring the provision and protection of green infrastructure networks in line with Policy C3."

4.2.13 Policy T1 Development and Sustainable Transport states:

"The Council will promote and support development which reduces reliance on the private car for travel journeys, reduces the need to travel generally and helps deliver the priorities of the Staffordshire Local Transport Plans, where this is consistent with other policies. This will be achieved by:

1. Ensuring that all new development is located where the highway network can satisfactorily accommodate traffic generated by the development or can be improved as part of the development…"

4.2.14 Below the relevant policies are appraised against the proposed development.

Table 4.1: Staffordshire Moorlands Core Strategy Development Plan Document Policy Appraisal

Policy	Commentary
SS1 sets out general development principles for all new development	*The proposal has been designed to take into account the site's context to minimise its potential impacts. It will not adversely impact the adjacent woodland, which offers significant screening of the development that will ensure the proposal can be easily assimilated into the local landscape. The proposal has been designed to ensure that impacts on sensitive local receptors are kept to a minimum. Where impacts are predicted, these are assessed as not being significant. The Grassland Management Framework presented in Appendix I suggests that an improved grassland habitat can be created through careful management and monitoring beyond that currently approved as part of the quarry restoration scheme. In addition off-site ecological enhancements are proposed to increase local biodiversity.* *The development will provide social, economic and environmental improvements through the generation of renewable electricity for use in local homes and businesses. The previous quarry operations removed any potential historic features on site.* *The LVIA concludes that the solar proposal with wider restoration of the quarry will not have an adverse impact on the local landscape. It is therefore considered that the objectives of this policy are met.*
SS1a sets out the presumption in favour of sustainable development	*A number of assessments have been carried out to demonstrate the proposed solar farm (with mitigation) will not result in any substantially adverse effects. The proposed development will have the capacity to provide approximately 5MWp of renewable electricity (equivalent to the annual power consumption of 1,073 homes) which shall be exported to the local distribution network for use in local homes and businesses. The development will therefore help to counteract the causes of climate change and will help to meet local and national renewable energy targets. It is considered the proposed development meets this policy.*
SS6c sets out a strategy for other rural areas outside of the development and infill boundaries of the towns and villages	*The LVIA concludes that the proposed development will not fundamentally alter the key characteristics of the landscape area or detract from the wider quality of the landscape. The solar farm has been designed to respond to its surroundings and the character of the area. It is considered that the development is an appropriate scale, type and location and*

	can be accommodated into the landscape. In addition, a number of mitigation measures have been incorporated into the scheme including biodiversity enhancements and there will be no adverse impact on geology or cultural heritage.
SS7 sets out the strategy for the Churnet Valley	*The proposed solar farm will have the capacity to generate enough electricity to power up to 1,073 homes per annum and off-set approximately 51866 tonnes of CO_2 over the lifetime of the project. The proposal has been designed to take into account the site's context to minimise its potential impacts, particularly on visual amenity, biodiversity and cultural heritage. The LVIA considers that the surrounding landscape fabric offers significant screening of the development and allows the proposal to be easily assimilated into the local landscape. No existing hedgerows will be lost as part of the proposed development. As part of the development, substantial on and off-site ecological enhancements measures are proposed. The development is in line with this policy.*
SD2 promoted and encourages renewable and low-carbon energy and outs out key considerations	*The LVIA concludes that the landscape can accommodate the proposed development (with mitigation) without any material impacts on landscape and visual amenity. Whilst the proposed construction phase has the potential to create a nuisance in terms of noise the adoption of good management practices to keep any disturbances to a minimum and once operational the solar farm is benign in nature that will not significantly affect the ambient noise climate. The proposed development will have the capacity to provide up to 5MWp of renewable electricity (equivalent to the annual power consumption of 1,073 homes) which shall be exported to the local distribution network for use in local homes and businesses. The development will therefore help to counteract the causes of climate change and will help to meet local and national renewable energy targets. A cultural heritage assessment was also carried out and concludes that indirect impacts are considered to be negligible due to the topography and existing vegetative screening. The proposal therefore reflects the objectives of this policy.*
SD4 provides protection from pollution and flood risk	*The proposal is located in Flood Zone 1 and is classified as 'Essential Infrastructure' and therefore suitable for Flood Zone 1 by the NPPF. Whilst the introduction of the solar panels will introduce a large area of elevated impermeable surface to the site, the ground underneath and between the panels will remain permeable. Surface water will therefore run off the panels and soak into the ground beneath. It is therefore considered that the proposals will not lead to a significant increase in surface water run-off. In addition, the potential for nuisances from excessive noise and dust will be limited given the benign nature of the proposal and short duration of the construction phase. As set out in the NPPF, the wider need for renewable energy is an important factor in assessing the impacts of the development. It is therefore considered that, on balance, the renewable energy benefits of the proposal outweigh any temporary impacts from the development and should therefore be approved.*
DC2 provides protection for the historic environment	*A cultural heritage desk top assessment has been undertaken, potential indirect impacts to listed buildings within the study area was considered to be negligible due to the topography and existing vegetative screening. In addition, as provided for by policy B9 and the NPPF, the wider renewable energy benefits of the proposal should be taken into account. The development is therefore in line with this policy.*
DC3 provides protection for the local landscape and setting of settlements in the Staffordshire Moorlands	*A LVIA has been undertaken to assess the likely landscape and visual impact of the proposals. It concludes that the proposals will not fundamentally alter the key characteristics of the landscape area or detract from the wider quality of the landscape. Potential impacts on landscape receptors are identified as being negligible to slight, and are therefore not defined as significant. Potential impacts on residential amenity have been assessed by the LVIA. Whilst slight to moderate impacts are predicted on a number of properties, these are considered to be reduced by seasonal vegetative screening.*

	Impacts will be further reduced following the implementation of the quarry restoration scheme. Furthermore, impacts are fully reversible and are for the 25-year lifespan of the development.
R1 sets out standards for rural diversification	*The proposed solar farm will not alter the key characteristics of the landscape and will result in a number of environmental enhancements. No designated sites will be adversely affected by the proposal and there will be no substantial impacts on nature conservation.*
NE1 provides protection for biodiversity and geological resources	*The proposal will not directly affect the designated site of significant nature conservation value identified to the west of the application site. Although Cotton Dell nature reserve is located approximately 300m from the proposal site, it is considered that the proposals will not materially affect the setting or integrity of the site's designation or any key elements or characteristics of the area. The ecology Grassland Management Framework report presented in Appendix I suggests that an improved grassland habitat can be created through careful management and monitoring beyond that currently approved as part of the quarry restoration scheme. In addition off-site ecological enhancements are proposed to increase local biodiversity thereby reflecting the requirements of this policy.*
T1 supports and encourages sustainable transport	*The application site is suitable for HGV and Light Goods Vehicle (LGV) access, as demonstrated by its previous uses as a quarry. In addition, it is known that the local highway network can accommodate the traffic levels likely to be generated during the construction and operational phases of the development. The Construction (Traffic) Method Statement contained within this planning application provides a breakdown of the predicted traffic impact of the development. Traffic generated by the proposal will be largely associated with the construction phase – there are limited operational vehicular movements. The proposal complies with this policy.*

Staffordshire and Stoke-on-Trent Minerals Local Plan

4.2.15 The Staffordshire and Stoke-on-Trent Minerals Local Plan was adopted in December 1999 and forms the basis against which development proposals on minerals sites in the district are decided. A number of these policies were 'saved' post-2007 and it is these policies which are of relevance.

4.2.16 MLP Policy 5 states:

Development within Mineral Consultation Areas should not sterilise or seriously hinder the extraction of mineral deposits of economic value which are capable of being worked in accordance with MLP Policy 4.

Where the proposed development falls within the Mineral Consultation Areas and may have a significant impact upon mineral resources then the responsibility rests with the prospective developer to prove the existence or otherwise, quantity and quality of the mineral prior to the determination of the planning application.

4.2.17 MLP Policy 9 states:

Planning applications should incorporate provision for site restoration and aftercare in accordance with the following principles:

2. Take account of the pre-working character of the site, its surroundings, the landscape setting and, where possible, provide for enhancement of the general quality of the landscape and local environment.

3. Make provision for nature conservation, forestry, recreation or amenity after-uses where this is appropriate, and compatible with the Development Plan.

4.2.18 MLP Policy 20 states:

In all cases where approved development affects sites or features of natural or cultural conservation value, appropriate measures will be required to conserve that value as far as possible, and to provide for replacement habitats or features where damage or loss is unavoidable. Where appropriate, the Mineral Planning Authority will when granting planning permission consider the use of conditions and/or seek legal agreements to minimise damage and to secure appropriate compensatory measures.

4.2.19 MLP Policy 21 states:

Proposals with landscape and visual implications will be assessed having regard to the extent to which they would:

a) cause visual intrusion, incapable of satisfactory mitigation;

b) introduce, or conversely lead to the removal of incongruous landscape elements;

c) cause the disturbance or loss of, or conversely help to maintain:

i) landscape elements that contribute to local distinctiveness;

ii) historic elements which contribute significantly to landscape character and quality, such as field, settlement or road patterns;

iii) semi-natural vegetation which is characteristic of that landscape type;

iv) the visual condition of landscape elements;

v) tranquillity.

4.2.20 MLP Policy 35 states:

Proposals for ancillary industrial development within or in close proximity to mineral sites which would cause an unacceptable adverse impact should demonstrate that any material planning benefits from the proposal outweigh those impacts. Where permission is granted, the operation and retention of the development will be limited to the life of the permitted reserves.

Table 4.2: Staffordshire and Stoke-on-Trent Minerals Local Plan Policy Appraisal

Policy	Commentary
MLP Policy 5 – seeks to ensure that development does not sterilise existing mineral deposits.	*The proposed development falls within a Mineral Consultation Area. The proposed development area has be been worked and the quarry is no longer in operation with the majority of the previous infrastructure removed from site. Furthermore, the frames can be fully removed as part of the decommissioning of the site. It is therefore considered that this policy is adhered to.*
MLP Policy 9 – seeks to enhance the overall environment of the site through site restoration.	*The restoration of the wider quarry has been approved by the MPA. and the proposed solar farm has been designed to accommodate the objectives of the proposed restoration plan. The ecology Grassland Management Framework report presented in Appendix I suggests that an improved grassland habitat can be created through careful management and monitoring beyond that currently approved as part of the quarry restoration scheme. In addition off-site ecological enhancements are proposed to increase local biodiversity. It is*

	considered that the overall objectives of this policy are met.
MLP Policy 20 – seeks to protect sites and features of nature and cultural value.	*The proposed development will not significantly impact on identified designated sites of natural or cultural conservation value. The ecology Grassland Management Framework report presented in Appendix I suggests that an improved grassland habitat can be created through careful management and monitoring beyond that currently approved as part of the quarry restoration scheme. In addition off-site ecological enhancements are proposed to increase local biodiversity. It is considered that the proposal accords with this policy.*
MLP Policy 21 – seeks to ensure proposals do not significantly adversely impact on landscape and visual receptors.	*An LVIA has been undertaken to assess the potential landscape and visual impacts arising from the proposal. Impacts from the proposed development are not assessed as being significant and will be further reduced by seasonal vegetation cover and proposed mitigation. Furthermore, national policy provides for the requirement to balance predicted impacts with the wider benefits of renewable energy developments. It is therefore considered that the proposals will not have an unacceptable impact on landscape and visual receptors.*

4.3 Material Planning Considerations

4.3.1 Section 38 of the Planning and Compulsory Purchase Act 2004 requires planning applications to be determined in accordance with the provisions of the Development Plan and material planning considerations. The following paragraphs set out the material considerations in respect of renewable energy generation associated with the proposed development and other relevant policy matters.

Renewable Energy Policy: International Context

4.3.2 The direction of UK policy on renewable energy is guided by its commitments to International and European climate change instruments. The UK government is a signatory to the convention of the Intergovernmental Negotiating Committee on Climate Change that was signed at the UN Conference on Environmental Development, The Earth Summit in Rio de Janeiro in June 1992 which commits developed countries to formulating policies and measures:

'*with the aim of returning individually or jointly to their 1990 levels of anthropogenic emissions of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol*'

4.3.3 Commitments at the Earth Summit were not legally binding on the signatories. However, at the Third Conference of the Parties to the Convention on Climate Change in Kyoto in December 1997, a protocol was adopted which set binding targets on industrialised nations to reduce their emissions of six greenhouse gases to 5.2% below 1990 levels over the period 2008-2012. The Member States of the EU jointly agreed to exceed his commitment by requiring a reduction in greenhouse gas levels of 8% over 1990 levels by this period. The contribution to this target differs for each Member State.

4.3.4 The UK has accepted a legally-binding target of a 12.5% reduction in these greenhouse gases from 1990 levels within the time period. Following these binding agreements, the EU Environmental Council agreed a list of priority measures to help Member States achieve their individual contributions to the overall target. Promotion of renewable energy was highlighted as one of the principal means to

achieving the targets. Subsequently these targets have been increased through the EU Renewable Energy Directive.

4.3.5 In December 2011 the Durban climate conference negotiators agreed to start work on a new climate deal that would have legal force and, crucially, require both developed and developing countries to cut their carbon emissions. The terms need to be agreed by 2015 and come into effect from 2020. This agreement is different from the other deals that have been agreed in the past, with developing countries, including China, agreeing to be legally-bound to cut their greenhouse gases. This agreement was further progressed at the 2012 Doha Climate Conference.

Renewable Energy Policy: European Context

4.3.6 In spring 2007, the EU heads of Government agreed to a binding target of 20% of the EU's energy consumption to come from renewable sources by 2020. The Renewable Energy Directive 2009/28/EC became European law in June 2009. Member states are required to produce a pre-agreed proportion of energy consumption from renewable sources, such that the EU as a whole will obtain at least 20% of total energy consumption (i.e. electricity, heat and transport) from renewable sources by 2020.

4.3.7 The UK's target is 15%, which equates to 30% of electricity consumption by 2020. In quarter 3 of 2012, approximately 11.7% of electricity was provided by renewable sources across the UK.[2]

Renewable Energy Policy: UK Context:

4.3.8 The Energy Bill was published on 29th November 2012. The Bill's stated objective is to establish a legislative framework for the delivery of secure, affordable and low carbon energy. The Explanatory Notes to the Energy Bill estimate that replacing older power plants whilst de-carbonising the energy production base will require an investment of some £100 billion.

4.3.9 The existing framework for renewable energy policy is set out in the White Paper on Energy published in May 2007. When this document is read in conjunction with the following documents, there is no reasonable room for dispute regarding the seriousness of climate change and its potential effects, the need to cut carbon dioxide emissions and the Government's intentions regarding deployment of renewable energy generation:

- White Paper: Planning for a Sustainable Future (2007)
- The Planning Act 2008
- The Energy Act 2008
- EU Climate Change and Energy Package (2009)
- The UK Renewable Energy Strategy (2009)
- UK Low Carbon Transition Plan (2009)
- The National Renewable Energy Action Plan (2010)
- The Annual Energy Statement (November 2012)

[2] Energy Trends December 2012 (DECC)

- National Policy Statement for Energy: EN-1 Overarching Energy (2011)
- National Policy Statement for Energy: EN-3 Renewable Energy Infrastructure (2011)
- Renewable Energy Review (May 2011)
- National Planning Policy Framework 2012;
- The Carbon Plan: Delivery our Low Carbon Future (2011)
- Planning our Electric Future: a white paper for secure, affordable and low carbon energy (2011)
- Ministerial Statement (25 March 2015)
- Renewable Energy Roadmap (2011 updated December 2012);
- The UK Solar PV Strategy; and
- Planning Practice Guidance for Renewable and Low Carbon Energy

4.3.10 The key documents listed above are discussed further below:

The Climate Change Programme

4.3.11 In March 2006, the Government introduced the Climate Change Programme. This introduced a commitment for the total UK greenhouse gas emissions (including other greenhouse gases such as methane) to be 23% to 25% below 1990 levels by 2010, approximately double the Kyoto Protocol target of 12.5%.

Energy Act 2008

4.3.12 The Energy Act 2008 aims to increase the diversity of the country's electricity mix, improve the reliability of energy supplies and help lower carbon emissions from the electricity sector.

Climate Change Act 2008

4.3.13 The Climate Change Act 2008 provides a legal framework for ensuring that the Government meets its commitments to tackle climate change. The Act requires the greenhouse gas emissions to be reduced by at least 34% by 2020 below 1990 levels and at least 80% by 2050.

4.3.14 Provisional figures published by the Department of Energy and Climate Change in July 2011 indicate that by 2010 there had been a 25% to 26% reduction; a decrease on the 2009 figures.

4.3.15 Under the Act the Government is required to set five year carbon budgets, which place legally binding limits on greenhouse gas emissions and defines the trajectory towards the 2050 target.

4.3.16 The Fourth Carbon Budget for the period 2023-2027 was set in law in June 2011 and equates to a 50% reduction to 1990 levels by the end of the period. The Government is presently carrying out further work looking at how the necessary emissions reductions can be delivered to meet the fourth budget.

The UK Renewable Energy Strategy

4.3.17 The UK Renewable Energy Strategy (RES) was published in July 2009 as a result of the UK signing up to the EU Renewable Energy Directive. It sets out how everyone

has a role to play in promoting renewable energy, from individuals to communities to businesses.

4.3.18 It is acknowledged in the RES that the planning system plays a central role in delivering the infrastructure needed to reduce carbon emissions and ensure continued security of energy supply. Also, that it plays a vital role in safeguarding our landscape and natural heritage. Therefore, it states that it is necessary to ensure that the planning system property reflects the range of interests in land use, applies existing safeguards to protect areas where development may not be appropriate, but delivers swift, consistent and effective decisions in areas where development is appropriate.

4.3.19 The importance of renewable energy generation as part of the response to climate change is recognised at a UK Governmental level and solar generation is acknowledged as a viable form of substantive renewable energy production for the medium to long term.

The UK Low Carbon Transition Plan: National Strategy for Climate and Energy

4.3.20 In parallel with the RES, the Government published the UK Low Carbon Transition Plan. This outlines the overall strategy for reducing the UK's carbon emissions as part of the Climate Change Act 2008.

4.3.21 It sets out the Government's approach to delivering emissions cut of 18% on 2008 levels by 2020. This includes obtaining 40% of our electricity from low carbon sources by 2020 with policies which include producing around 30% of electricity from renewable by 2020, a five-fold increase, by substantially increasing the requirement for electricity suppliers to sell renewable electricity.

White Paper 2011

4.3.22 The Government published a White Paper in July 2011 'Planning our electric future: A White Paper for secure, affordable and low-carbon electricity' which clearly stated their position:

'*The Government believes that climate change is one of the gravest threats we face, and that urgent action at home and abroad is required…We cannot afford to wait any longer to address the decarbonisation challenge. Doing nothing will lead to consumers paying more in the long term'.*

4.3.23 The White Paper states that the UK faces three major challenges in its energy supply:

- Continuing to maintain and increase electricity production and at the same time tackle climate change by reducing greenhouse gas emissions;
- Ensuring a secure, diverse and clean electricity supply as the country becomes increasingly dependent on imported fossil fuels; and
- Ensuring that the UK has energy that is affordable.

4.3.24 It went on to state that the government is committed to ensuring that the electricity sector delivers its share of the country's renewable energy target, which could mean up to 30% of our electricity being generated from renewables by 2020

The UK Renewable Energy Roadmap

4.3.25 The UK Renewable Energy Roadmap, published by DECC in July 2011, provides a clear direction on how to achieve the 2020 targets whilst driving down the costs of renewable energy technologies.

4.3.26 The Roadmap sets out a series of measures aimed at ensuring the UK meets the target to deliver 15% of the country's energy consumption from renewable energy sources by 2020, which is estimated to be 234 TWh[3]. It suggests that solar could contribute approximately 6-18 TWh. Currently the UK has 1.4 GW of installed solar PV capacity in operation, with the upper figure of 18 TWh corresponding to an installed capacity of 20 GW, showing there is a significant way to go to reach this target.

4.3.27 The Renewable Energy Roadmap sets out the following ambitions:

- Paragraph 1.1 sets out that the Coalition Government has made clear its commitment to increase the amount of renewable energy deployed in the United Kingdom to make the nation more energy secure, to protect customers from fluctuations in the price of fossil fuels, to help drive investment in new jobs and businesses in the renewable energy sector as well as keeping us on track to meet our carbon reduction objectives for the coming decades;
- Paragraph 1.2 notes that the goal is to ensure that 15% of all our energy demand is met from renewable sources by 2020 in the most cost effective way, with ambition equally strong across all areas of the UK; and
- Paragraph 1.3 looks beyond 2020 and cites advice from the CCC that there is scope for the penetration of renewable energy to reach 30-45% of all energy consumed in the UK by 2030.

4.3.28 The Roadmap was updated in December 2012 and in the revised version, the Coalition Government re-states its commitment to increasing the deployment of renewable energy across the UK. This update sets out the progress and changes delivered in the sector over the past year, and set out the challenges and actions for the year ahead.

4.3.29 The roadmap states that:

'*With 82% public support, it* [solar] *has a role in connecting individuals, communities and businesses with future deployment of renewable energy and the transition to a low-carbon economy.'*

The UK Solar PV Strategy

4.3.30 In October 2013, the UK Solar PV Strategy 1: Roadmap to a Brighter Future was published en route to the final Solar PV Strategy. The Rt, Hon. Gregory Barker MP,

[3] 1 terawatt hour per year equals 114 megawatts

Minister of State for Energy and Climate Change states, in his opening statement of the Roadmap: 'The DECC central forecast estimates that the UK is likely to reach 10GW [of installed solar PV capacity] by 2020. But I believe we can go further and faster.'

4.3.31 In April 2014, the UK Government published its Solar PV Strategy, outlining its vision for Solar PV development in the UK. The strategy focuses on the Department's ambition for the key market segments, the main message from the Strategy is to focus growth of solar PV in the UK on domestic and commercial roof space and on previously-used land. This ambition will be realised through innovation and partnership and the benefits for jobs and investment in the UK, in addition to delivering emissions reductions.

4.3.32 One of the principles set out in the strategy states that solar schemes should be 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.'

Energy Act 2013

4.3.33 The Energy Act received royal assent in December 2013 and sets out ways to encourage the generation of low-carbon electricity through providing generators with greater revenue certainty and introduce a capacity mechanism to ensure supply of electricity keeps up with demand.

4.4 National Planning Policy

National Planning Policy Framework

4.4.1 The National Planning Policy Framework (NPPF) was published on the 27th March 2012. This, combined with the Technical Guidance paper, forms national planning policy and is a material consideration in planning decisions. It supersedes Planning Policy Statements and Planning Policy Guidance.

4.4.2 The NPPF clearly states from the outset that there is a presumption in favour of sustainable development and that local plans should follow this approach so that development which is sustainable can be approved without delay.

4.4.3 One of the core planning principles is to 'support the transition to a low carbon future in a changing climate…and encourage the use of renewable resources (for example, by the development of renewable energy'.

4.4.4 The NPPF expands further on this principle in paragraph 97:

"To help increase the use and supply of renewable and low carbon energy, local planning authorities should recognise the responsibility on all communities to contribute to energy generation from renewable or low carbon sources. They should:

- Have a positive strategy to promote energy from renewable and low carbon sources;

- Design their policies to maximise renewable and low carbon energy development while ensuring that adverse impacts are addressed satisfactorily, including cumulative and visual impacts;
- Consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure the development of such sources;
- Support community-led initiatives for renewable and low carbon energy, including developments outside areas that are being taken forward through neighbourhood planning; and
- Identify opportunities where development can draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers.

When determining planning applications, local planning authorities should:

- Not require applicants for energy developments 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 its impacts are (or can be made) acceptable…"

4.4.5 Paragraph 14 is the single most important paragraph in the NPPF, which provides for '*a presumption in favour of sustainable development'*. The appellant is expressly not required to demonstrate any form of need case for the proposed development, the NPPF emphasises that it should be recognised that "*even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions*"; need for this project is a given. As the need is a constant and the benefits of even small schemes are important, paragraph 98 indicates that planning permission should follow where impacts are or can be made acceptable. Planning permission should follow unless acceptable harm (paragraph 98) or harm would significantly and demonstrably outweigh benefits (paragraph 14).

Planning Practice Guidance for Renewable and Low Carbon Energy

4.4.6 Following the publication of the Department of Communities and Local Government document 'Planning Practice Guidance for Renewable and Low Carbon Energy' in July 2013, the Companion Guide to PPS22 has been cancelled.

4.4.7 The PPG sets out the relevant planning considerations that relate to large scale ground-mounted solar PV farms and states that '*the visual impact of a well-planned and well-screened solar farm can be properly addressed within the landscape if planned sensitively.'*

4.4.8 The PPG draws attention to the particular factors that should be considered by an LPA with regards to a solar PV development:

- 'Encouraging the effective use of previously developed land, and if a proposal does involve Greenfield land, that it allows for continued agricultural use and/or encourages biodiversity improvements around arrays;

- That 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;
- The effect on landscape of glint and glare and on neighbouring uses and aircraft safety;
- The extent to which there may be additional impacts if solar arrays follow the daily movement of the sun;
- The need for, and impact of, security measures such as lights and fencing;
- Great care should be taken to ensure heritage assets are conserved 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;
- The potential to mitigate landscape and visual impacts through, for example, screening with native hedges;
- The energy generating potential, which can vary for a number of reasons including, latitude and aspect.

4.5 Emerging and Supplementary Planning Policy

Churnet Valley Masterplan Supplementary Planning Document (SPD)

4.5.1 The Churnet Valley Masterplan was adopted in March 2014 and provides a comprehensive framework for future development in the Churnet Valley. The extent of the area covered is defined in the Masterplan. It identifies opportunities and measures to help regenerate and manage this important rural area based around sustainable tourism in a manner which is sensitive to and enhances its important heritage, landscape and ecology.

4.5.2 The spatial strategy for the Masterplan centres around eight local character areas that that reflect the distinctiveness of the Churnet Valley and the role these individual character areas will play in achieving the vision. Moneystone has been identified as one the eight areas as being a site where there is significant pressure for change.

4.5.3 The key aspiration for Moneystone is the creation of a high quality new tourism and leisure destination with the potential for a complementary renewable energy scheme on the site.

4.5.4 The solar farm proposal is located within the Moneystone character area. It is considered that the solar proposal will integrate well with the aspirations for the former quarry due to the inherently sustainable nature of the proposal. The solar farm will provide enough electricity to power up to 1,073 homes per annum, as well as off-set approximately 51,866 tonnes of CO_2 over the lifetime of the project. The proposal has been designed to be sympathetic to the site's context and to minimise

the identified potential impacts through appropriate and thoughtful mitigation, particularly on visual amenity and biodiversity. The LVIA considers that the surrounding landscape fabric offers significant screening of the development and allows the proposal to be easily assimilated into the local landscape. No existing hedgerows will be lost as part of the proposed development. In addition, as part of the development, substantial off-site ecological enhancements measures are proposed.

Staffordshire Draft Minerals Local Plan

4.5.5 Work on the review of the Minerals Local Plan started in 2005 but was deferred in 2009 to focus on the preparation and adoption of the Waste Local Plan. Following adoption of the Waste Local Plan, the process of reviewing and updating the Minerals Local Plan is once again underway. However, it is not envisaged to issue the draft plan for public consultation until November 2013 at the earliest. As there is likely to be significant development in the plan both before and after this consultation period, it is considered premature to treat the draft Minerals Local Plan as a material consideration. It will therefore not be considered any further.

West Midlands Regional Energy Strategy (2004)

4.5.6 The vision contained within the West Midlands Regional Energy Strategy is that 'By 2020, we will have delivered the West Midlands' commitment to the climate challenge, having ensured a sustainable, secure and affordable supply of energy for everyone and strengthened the region's economic capability.'

4.5.7 As shown in table 1 of the Strategy, the West Midlands produces 41,653 kt CO_2 per annum (2002 figures).

Renewable Energy Capacity Study for the West Midlands (2011)

4.5.8 The West Midlands Renewable Energy Capacity Study states that Staffordshire has 17% of the region's renewable energy resource - a capacity of 9,400 MW. Although the report states that *'initial assessments were undertaken with regard to the potential that could be achieved from solar farms…these were undertaken more for contextual purposes and therefore have not produced definitive results that could contribute to the overall identified potential capacity.'*

4.5.9 Table 3.2 of the Capacity Study demonstrates that by 2030, Staffordshire Moorlands has the potential for 29 MW of energy derived from solar PV. However, this refers only to microgeneration and so underestimates the final figure that could be derived from large-scale solar PV infrastructure.

Staffordshire County-wide Renewable/Low Carbon Energy Study

4.5.10 The Staffordshire County-wide Renewable/Low Carbon Energy Study states that Staffordshire Moorlands has the highest per capita emissions of any Staffordshire local authority, at 15.1tCO_2, considerably higher than the West Midlands average of 8.2tCO_2.

4.5.11 The report states that Staffordshire Moorlands has an installed renewable energy generating capacity of 50,117 MWh and a proposed additional capacity of 26,641 MWh. Of this, 2 MWh is derived from Solar PV.

4.5.12 The study does not deal in depth with Solar PV on a large-scale; rather, it is considered under the household 'microgeneration'. It states that the renewable energy resource potential for Staffordshire Moorlands is limited due to a number of landscape and feature constraints. However, this does not take account of the potential for solar PV developments to be sited where they can be screened, thereby having no operational impact on surrounding receptors.

Planning for Landscape Change: Supplementary Planning Guidance to the Staffordshire and Stoke-on-Trent Structure Plan, 1996-2011

4.5.13 The site is located within an area of high landscape sensitivity. The site spans an area with two differing landscape policy objectives. The northern section of the site on the northern side of the road is considered to be within a landscape with policy objective 'landscape maintenance'; the southern section of the site to the south of Eaves Lane is considered an area where the relevant landscape policy objective is 'active landscape conservation'.

4.5.14 The document states that 'In areas for which the objective is landscape maintenance substantial emphasis should be placed on ensuring that the development blends unobtrusively into the landscape and does not lead to the loss of features characteristic of it. Where the objective is active landscape conservation the same requirements apply, but in addition any development should make a positive contribution, e.g. through the restoration or management of characteristic features such as buildings, parkland or woodland.'

4.5.15 The LVIA concludes that the proposals whilst having the potential to be visible from a number of surrounding receptors will not adversely affect these receptors to any significance. The proposal has been designed to take into account its setting and the topography of the land to reduce potential impacts to a minimum. Furthermore, seasonal vegetative screening and once the implemented the wider scheme of restoration will reduce visibility of the development from the surrounding areas.

4.6 Conclusion

4.6.1 The proposed development will provide renewable energy and will contribute towards reducing the causes of climate change by reducing CO_2 emissions; thereby ensuring future generations have access to low carbon energy and a high quality environment. It is considered that potential impacts from the construction, operation and decommissioning of the proposal are not significant and, when balanced against the pressing need for renewable energy and that local and national government strategies support this, the identified potential impacts following mitigation are considered acceptable. It is therefore considered that the proposal accords with the Development Plan and material considerations.

5.0 ENVIRONMENTAL REPORTING

5.1 Introduction

5.1.1 This chapter sets out the environmental assessments that have been carried out in support of the proposed solar farm development at Moneystone Quarry. The chapter also identifies and justifies those environmental topics that have not been considered in more detail due to the potentially negligible effects the solar farm may cause.

5.2 Specific Environmental and Technical Considerations

5.2.1 The following environmental topics have been assessed:

- Landscape and Visual Impact (including photomontages);
- Heritage Resources;
- Ecology;
- Traffic and Transport (in the form of a Construction Method Statement); and
- Hydrology and Flood Risk.

5.2.2 Appendix C presents the Envirocheck report. Appendices D to J present the detailed reports for the above environmental topics.

5.3 Additional Environmental and Technical Considerations

5.3.1 Full consideration has been given the site selection process and details are presented below. However, the environmental topics not assessed in detail as part of this application are:

- Noise and Vibration;
- Land Quality; and
- Air Quality.

Site Selection

5.3.2 The careful selection of potential solar farm sites is a critical aspect of the overall solar farm development process.

5.3.3 Over the past two years, the applicant has carried out a high level assessment of some 400 sites looking for suitable locations for renewable solar energy development. An initial assessment of the feasibility of various potential sites was conducted to look at high-level constraints and key criteria for solar farm development. Following this exercise some sites were rejected due to environmental and/or technical constraints whilst others, including the proposed development at Moneystone Quarry, site showed potential to accommodate a solar farm. The review criteria was based on, but not limited to, the following:

- Land Availability: ensuring there is sufficient land available for development;
- Solar Resource: ensuring a sufficient solar resource exists to make the proposed development financially viable;
- Suitable topography i.e. even with suitable slope angles and orientation;

- Electricity Distribution Network: ensuring the development site is within a feasible distance of an available connection point on a suitable electricity distribution network;
- Transport Infrastructure: ensuring the development site is accessible via the public road network for the construction, operation and maintenance of the solar farm;
- Residential Amenity: ensuring the solar farm can be located sympathetically from houses to protect local amenity with respect to visual amenity from dwellings and noise;
- Land Use and Context: assessing the suitability of the existing land use and avoiding any international or national environmental or planning designations;
- Flood Risk: avoiding any areas which are susceptible to flooding; and
- Landscape and Visual Capacity: an initial assessment of the visual effects of a solar farm on important receptors and the ability of the landscape to accommodate a solar development.

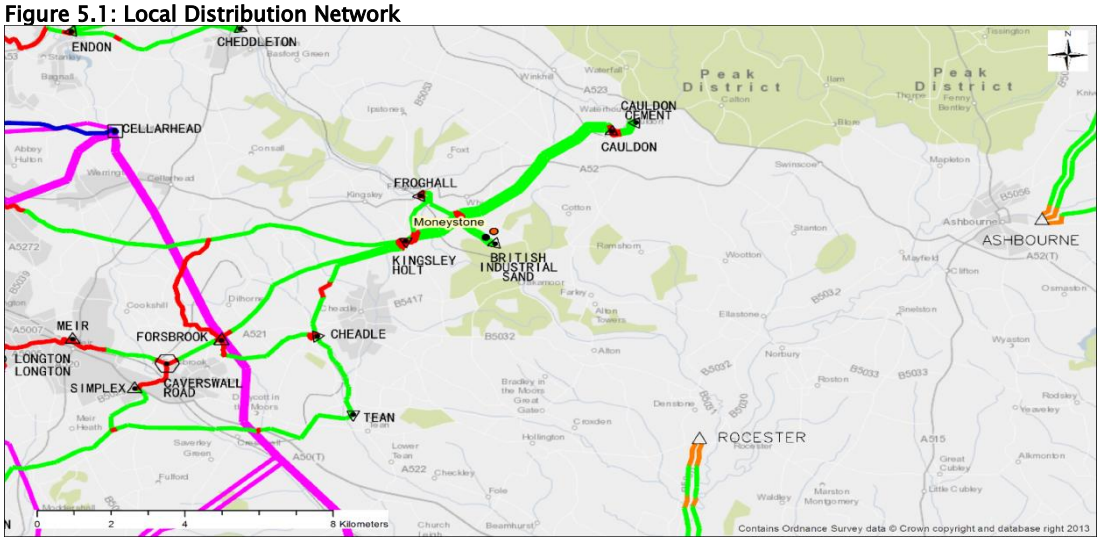
5.3.4 This process allowed early identification of key technical, environmental and planning issues associated with potential development sites that could potentially prevent the development of a solar farm. Sites that passed these first tests progressed through to initial feasibility assessments incorporating more detailed studies and consultation.

5.3.5 Once land available and solar resource is identified, the principal factor that guides solar development is the availability of capacity on the electrical distribution network to transport the electricity generated to consumers. This requires that any infrastructure to which the site is to be connected is sufficiently robust. In particular this means that cables are sufficiently thick to handle the generation current, that switchgear can handle the current and voltage demands and the transformers can cope with the reverse flow of energy back into the network. Fault currents and protection systems are routinely studied so as to avoid disruption to the grid network once the system becomes live.

5.3.6 It is important that the point of connection to the electricity grid is not too far. Many factors are taken into account including costs of the cable and the trenching works, easements to enable the crossing of third party land, and necessary road-works which may disrupt local communities. A further key factor is that long cables introduce voltage drops and unwanted energy losses which significantly impact the efficiency of the site and can also cause difficulties for the district network operator.

5.3.7 Below is a map illustrating the grid network in the area as provided by Western Power Distribution. The green lines represent the 33kV network and the purple lines represent the 132kV network. Connection to the 132kV network is not possible except at extremely high cost which is only viable for much larger (e.g. 50MW) solar farms.

Figure 5.1: Local Distribution Network



5.3.8 In addition to the 132kV and 33kV networks, 11kV networks exist in most areas. However connection to this network is not normally feasible at this level of generation. The lower-voltage 11kV lines act like the capillaries taking the power to the consumers. It is not possible to inject high power levels into the 11kV network at this MW scale.

5.3.9 From figure 5.1 it can be seen that there is limited opportunity for grid connection in the area. The search for a suitable solar PV site has taken many parameters into consideration. The proposed site is a former quarry which has been used for the extraction of silica sand. In summary, a suitable site for a solar PV generating station requires a number of parameters to be satisfied namely:

- Low grade land or brownfield/industrial site;
- Solar deployment is a compatible use with approved scheme of restoration for the quarry;
- Use of non-agricultural land;
- Good proximity to the point of connection onto the electricity grid
- Capacity at the grid power injection point
- Suitable topography i.e. even with suitable slope angles and orientation
- Well screened from the surrounding area
- Away from residential properties but sufficiently close to power consumers

5.3.10 At the proposed site all of these parameters are satisfied. The following sections provide a brief justification as to why the above topics have not been considered in detail as part of the planning application.

Noise and Vibration

5.3.11 The opportunity to generate noise and vibration from a solar farm development is extremely limited. The 3 month construction phase will have the greatest potential to generate any noise and vibration levels, principally from plant and equipment.

5.3.12 Whilst the site is rural in context, the anticipated noise generation from the construction phase will not be far less than the previous quarry operations and further temporary in nature.

5.3.13 The nearest residential dwellings to the site are Moneystone Cottages on Blakeley Lane located circa 170m from the nearest panel area (area D). Crowtrees Farm, off Eaves Lane is located circa 110m to the south of area D and approximately 260m from area E.

5.3.14 Given the relatively large size of the application site, construction works will not be focussed in a single area. As such there may be significant periods when works are undertaken on development areas that are distant from the identified receptors.

5.3.15 Vibration is considered not to be an issue for the proposed development due to the low impact nature of the proposed construction, i.e. manoeuvring of on-site material, there will be no piling or working on the exposed rock faces. Trenching for the cabling will be undertaken by backactor over a short period of time. The frames to which the panels will be attached will be driven (screwed or piled) or will be anchored to the ground by ballast blocks or "tree" support system. Furthermore, construction works will be carried out during traditional working hours.

5.3.16 Due to the static nature of the solar farm the only noise source during the operational phase will be the low level from the fans of the inverters. The fans remove dust and provide cooling for the equipment accommodated within the containerised units. The performance of the inverter fans reflects the power generation of the facility, so the fans do not work at night when the panels are not generating electricity.

5.3.17 Drawing SBC1049/1/06 identifies the location of the inverters. The minimum distance of the inverter to the identified sensitive receptors are approximately 270m. Any noise generated by the fans will significantly decay before reaching any of the identified dwellings due to intervening topography and vegetation. Table 5.1 provides an indicative example of noise decay from a typical inverter.

Table 5.1: Typical Noise Decay from Inverters

Noise Source	Decibel Level	Comment	Calculated dB level at various distance	Expected dB after dampening effect from surroundings
Conversation at home.	60 *1	Fairly quiet	Inverter at 10M	
Average home	50		Inverter at 30M	
Quite Library, bird calls (44 dB)	40	Country side *2	Inverter at 100M	Inverter at 30M
Quiet bedroom at night	30	Very Quiet	Inverter at 200M	Inverter at 100M
Whisper, rustling leaves	20			Inverter at 150M
Breathing	10	Barely audible		Inverter at 200M
Notes:				
**1 SMA central inverter dB level at 10 meters*				
**2 With the natural back ground noise level in the country side of circa 35 dB you will not be able to hear an inverter from outside of the solar farm.*				

5.3.18 Overall, given the relatively low impact works of the construction phase and the static nature of the operational phase excessive noise generation and vibration are

not anticipated during the proposed development. Whilst the application site situated within a relatively tranquil setting, identified residential properties are located sufficiently distant from works and operations such that nuisances should not be experienced.

Land Quality

5.3.19 Earthworks in accordance with the approved scheme of restoration for the wider quarry has already been undertaken in the solar deployment areas. Drawing SBC1049/1/08 identifies indicative cross sections through the areas application site.

5.3.20 In 2011 an Environmental Assessment Desk Study Report was prepared by Abbeydale BEC (ref. 418040EA). The report draws on the information gathered from numerous previous assessments/investigation undertaken across the quarry. The 2011 report was previously issued to Staffordshire Moorlands District Council under cover of letter dated 19th September 2014.

5.3.21 The 2011 report states (section 13.6) that the former processing area had the potential for hotspots of contamination. The 2011 report suggests that the risks were low to moderate. But as the former processing area has been restored as per the approved scheme of restoration issued by Staffordshire County Council the risk to users would be lower still, if not negligible.

5.3.22 The proposed solar farm is not proposing any additional earthworks in the former processing area and other than the supporting frames for the PV panels (to be located towards the northern half of area E) driven into the made ground to a depth of around 1.5m there will no disturbance to the recently profiled land.

5.3.23 It is therefore concluded that the solar farm will not have an impact of any potential contamination hot spots as noted by the 2011 report as the approved works for the restoration scheme will have reduced any risk considerably.

Air Quality

5.3.24 Solar developments do not have a direct point source of emissions to atmosphere during the operational phase. Any potential impacts to local air quality may arise through vehicular and plant emissions or through the creation of dust during the earth work and construction phase.

5.3.25 Nuisance dust in the community is normally perceived as an accumulated deposit on surfaces such as window ledges, car roofs, paintwork and other light coloured horizontal surfaces. When the rate of accumulation is sufficiently rapid to cause noticeable fouling, discolouration or staining (and thus decrease the time between cleaning) then the dust is generally considered to be a nuisance. However, the point at which an individual makes a complaint regarding dust is highly subjective.

5.3.26 The potential dust generation activities of the construction of the solar farm may arise through vehicle movements and implementation works (in advance of concrete bases for ancillary equipment or cable trenching), in any event these activities will be minor and temporary in nature and will be restricted to certain

times. Excessive dust is unlikely to be generated through anchoring of the frames to the ground as the frames are secured by ground screws or ram rods which are driven into the ground (or by ballasted/"tree" structures that will also have minimal dust generation). Vehicle movements during this phase will be limited to transportation of equipment from the set down area to array development areas. Given the limited duration of the proposed construction works nature of works during the construction phase the potential for dust creation will be low.

Glare and Glint

5.3.27 It is considered that the potential for glare and glint (dazzle) of sunlight from the panels is limited. This is largely due to the design of panels that seek to maximise efficiency by reducing light reflection therefore increasing irradiation absorption.

5.3.28 The existing vegetation and existing topography will provide effective screening of the site from public areas and will minimise any reflection from the panels beyond the quarry boundary. It should also be noted that the topography of the site will minimise any potential glare and glint issues as the site falls from north to south meaning that a significant proportion of the panels will be obscured from view due to existing quarry faces. There are also limited receptors that would be sensitive to any potential glare and glint from the proposed solar farm.

6.0 CONCLUSIONS

6.1.1 In April 2014, the UK Government (DECC) published its Solar PV Strategy, outlining its vision for Solar PV development in the UK. One of the main messages from the Strategy is to focus growth of solar PV in the UK on previously-used land.

6.1.2 The Solar Building Company is applying to Staffordshire Moorlands District Council to develop a 5MWp solar farm within the former Moneystone Quarry at Whiston, Staffordshire. The application site by comparison to the wider quarry represents less than 10% of land.

6.1.3 The environmental reports presented in the Technical Appendices to this Supporting Statement demonstrate that the proposed solar farm (with mitigation) can be constructed and operated within acceptable environmental limits. In terms of biodiversity the scheme will provide a significant enhance over the approved scheme of restoration.

6.1.4 A species rich grassland mix will be provided and managed across areas B, D and E providing a valuable habitat for invertebrates. The proposed management and monitoring of the grassland habitat will ensure there is enhancement over and above the approved quarry restoration scheme. Furthermore a significant area of off site biodiversity enhancement will also be managed through out the life of the development. Once at the end of its life span the panels and infrastructure can be removed from the site and the land left to further enhance biodiversity. Once removed from the site the panels and frames will be recycled to create other products rather than relying on virgin resources.

6.1.5 The proposed development will provide renewable energy and will contribute towards reducing the causes of climate change by reducing CO_2 emissions; thereby ensuring future generations have access to low carbon energy and a high quality environment.

6.1.6 It is considered that potential impacts from the construction, operation and decommissioning of the proposal are not significant and, when balanced against the pressing need for renewable energy and that local and national government strategies support this, the identified potential impacts following mitigation are considered more than acceptable.

6.1.7 It is considered that the relevant policy objectives of the development plan will be achieved as the proposed solar farm will improve the sustainability of rural communities by contributing to the diversification of rural economy and by bringing benefits to local homes and businesses in the form of low carbon and renewable energy generation.

6.1.8 It is therefore considered that the proposal accords with the Government's recent Solar PV Strategy, the Development Plan and material considerations.