

Landscape and Visual Impact Assessment of a single Endurance E-4660 Wind Turbine 24m to hub, 23.5m rotor diameter, 36.6m to blade tip on land at Mossley Hall Farm, Penistone, South Yorkshire

April 2015

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DC21 Ltd
Dene House
North Road
Kirkburton,
Huddersfield
HD8 0RW

Tel: +44 (0)1484 607808
www.dc21group.com

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1. Introduction

It is accepted that the consequence of locating a wind energy development is that it will have impact and resultant degrees of effect on landscape, the landscape & visual amenity, neighbouring landscape character areas and the receptors therein.
The aim of the Landscape and Visual Impact Assessment is to identify, analyse and report all predicted effects caused by the proposed wind energy development upon a baseline area. Potential effects resulting from the construction and operation of a wind energy development are dependent on the scale of development, site specifics and the characteristics/sensitivity of area receptors. The study and assessment of all potential effects is to enable identification and rating of predicted effects:

Assessment of landscape effects considers:

- Elements: Individual landscape components (e.g. hills, trees, buildings) which are quantifiable and easily described
- Characteristics: Combination of elements that contribute to the character and area;
- Character; The distinct and recognisable pattern of landscape elements that occur consistently in a particular type of landscape and how this is perceived by people. It reflects the particular combination of geology, landform, vegetation, land use and settlement pattern. Each character area has a particular distinctiveness and 'sense of place' and can be appraised at a range of scales (national, regional, district and local).

Visual Impact is very much a subjective issue. What some people may class as an intrusive and significant visual impact, others may see the opposite. Methods, techniques, assessment and presentation are constantly evolving.

Each LVIA should be assessed on its own merits and it should be proportionate to the size and scale of the project.

DC21 have undertaken this LVIA study which is intended to form part of an application for the determination of the erection of one Endurance E-4660 wind turbine 24m to hub, 23.5m rotor diameter, 36.6m to blade tip on land at Mossley House Farm, Penistone. The report identifies the impact of this turbine on the receiving landscape through photography and other methods.

Turbine Grouping	
Single	1 turbine
Small Group	Up to 3 turbines
Small Wind Farm	Up to 5 turbines
Medium Wind Farm	6 – 10 turbines
Large Wind Farm	11 – 20 turbines
Very Large Wind Farm	21 – 30 turbines
Turbine Height	
Very Small	25m or less to blade tip (average power rating around 12kW)
Small	25-60m to blade tip (average power rating around 0.5MW)
Medium	60-90m to blade tip (average power rating around 1MW
Large	90-130m to blade tip (average power rating around 2.5MW)

This Landscape and Visual Impact Appraisal (LVIA) are intended to support the planning application for a single wind turbine on land at grid reference: 424268 // 400840 and this position is illustrated in Figure 1.



Figure 1: Turbine Location

The aim of this report is to assess the significance of effect of the proposed development upon landscape character and visual amenity. This assessment has been made via a process of systematic classification based on a series of criteria which are detailed within this document and with regard to extant good practice guidance on the preparation of landscape and visual impact assessments, landscape character assessments and the visual representation of wind energy developments.
In summary this report will:

Identify and describe the character and sensitivity of the receiving landscape

- Identify and describe a series of visual amenity receptors within the landscape
- Describe the magnitude of impact and significance of effect on landscape character and the selected visual amenity receptors.
- Provide conclusions on the overall landscape and visual effects of the proposed development.

The existing condition of landscape character and of the visual amenity receptors assessed has been established through a process of desk top and site surveys. Reference has been made to a range of material including:

- Ordnance Survey map data
- Natural England. National Character Area Profile 37: Yorkshire Southern Pennine Fringe
- Barnsley Borough Landscape Character Assessment (2002)
- Magic Map
- English Heritage

2. Planning Policy and its Considerations

2.1 Government Policy Direction

The Climate Change Act 2008 introduced a statutory target of reducing carbon emissions by 80% below the levels of 1990 by 2050, along with an interim target of 34% by 2020. There then followed the Low Carbon Transition Plan which set out how the UK should achieve these reductions. The key elements' of this are to reduce the energy usage in homes, workplaces and to improve the development of the low carbon sectors.

2.2 National Planning Policy

National Planning Policy in regards to renewable energy is contained within the National Planning Policy Framework, March 2012 (known as NPPF) and additionally Planning for Renewable Energy: A Companion Guide To Planning Policy Statement 22, 2004.

NPPF clearly states that: " At the heart of the National Planning Policy Framework is a presumption in the favour of sustainable development, which should be seen as a golden thread running through both plan making and decision taking" (Para 14)

Furthermore it goes on to say: " Approving development proposals that accord with the development plan without delay; and where a development plan is absent, silent or relevant policies are out of date, granting planning 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 the development should be restricted" (Paragraph 14).

Paragraph 17 of NPPF sets out a number of core planning principles that include the following that are relevant to this application:

Support the transition to a low carbon future in a changing climate, taking full account of the flood risk and coastal change, and encourage the use of existing resources, including conversion of existing buildings, and encourage the use of renewable resources (for example, by the development of renewable energy);

Paragraph 98 states that 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 (Such as this one) provide a valuable contribution to cutting greenhouse gas emissions; and approve the application if its impacts are (or can be made) acceptable".

Paragraph 187 of the NPPF further requires that LPA's "should approach decision taking in a positive way to foster the delivery of sustainable development "and "seek to approve applications for sustainable development where possible"

Footnote 17 of the NPPF states that planning authorities should follow the approach set out in the National Policy Statement for Renewable Energy Infrastructure [EN-3], which should be read in conjunction with the relevant sections of the overarching National Policy Statement for Energy [EN-1]. Along with other points EN-1 states that the Government is committed to increasing dramatically the amount of renewable generation capacity and EN-3 states that onshore windfarms will continue to play an important role in meeting renewable energy targets.

2.3 Local Planning Policy.

Barnsley Council indicates that applications should consult the following document:

South Pennines Wind Energy Landscape Study. Julie Martin Associates and LUC October 2014 which can be accessed from the following link:

http://www.lucmaps.co.uk/SPWED/Links/6014_South%20Pennines%20LSA_20141023_v2_0.pdf

3. Proposed Development

The proposed development would consist of a single Endurance E-4660 3 bladed wind turbine; 24m to hub height, 36.6m to blade tip. This type of turbine is considered by wind industry experts and landscape planning professionals to be small in scale.

The coatings of the turbine blades, hub, nacelle and tower have been carried out to industry standards in order to minimise reflected light. A small cabinet would be installed at the base of the turbine tower to house the turbine control system.

All cables linking the proposed turbine to the National Grid would be buried. Temporary tracks would be created to support traffic access over the brief construction phase. These would then be removed with no resultant loss of land or land use. The proposal would have a lifespan of 25 years after which the turbine could be removed, the foundations grubbed up and the land returned to its former use.

The precise siting of the proposed turbine has been carefully selected, balancing considerations such visual impact, optimum exploitation of the wind resource, ease of grid connection and ease of access.

As a useful comparison, the table below shows the heights of other commonly found infrastructures.

Landscape Element	Typical Height (m)
Single Storey House	5
Two Storey House	8.5 - 10
Farmyard Grain Silo	10
Telegraph Pole	10.5
Mature Tree	15
Pylon	35 - 50

4. Landscape Assessment

4.1 Landscape Character and Sensitivity Assessment

4.1.1 Methodology

This section of the report sets out the predicted significance of effect of the proposal on landscape character.

Landscape character is an amalgamation of natural, aesthetic, perceptual and cultural factors all of which combine to create a common 'sense of place' which can be used to categorise the landscape into definable units at the local, regional and national level.
Due to the small scale of the proposed turbines, the scope of the landscape character and sensitivity assessment will be limited to this LCT.

Landscape Resources are defined as:

Landscape fabric	Physical landscape elements present within the landscape such as landform, land cover, boundary features, trees and woodland, that make up the landscape we see, and that may be affected during the construction and operation of the proposed development
Landscape character	The distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape and how this is perceived by people. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement. It creates the particular sense of place of different areas of the landscape
Landscape quality (or condition)	A term based on judgements about the physical state of the landscape, and about its intactness, from visual, functional and ecological perspectives. It also reflects the state of repair of individual features and elements which make up the character in any one place.
Landscape value	The intrinsic value that is attached to a landscape, often (but not always) reflected in designation or recognition. It expresses national or local consensus as to the (degree of) importance of a landscape, for reasons including landscape quality, scenic (or visual) quality, wildness and tranquillity, natural and cultural heritage interests, cultural associations and recreational opportunities.
Amenity	The benefits afforded to people by a particular area in terms of what is seen and experienced. Amenity includes not just visual amenity and views but also the experience of landscape in its widest sense. Different groups of people such as walkers, residents and motorists may have different amenity expectations.

Landscape Quality is defined as:

For the purpose of this proposal an assessment of landscape quality has been carried out based on a five point scale and compared against the following criteria:

Highest Quality	Contributing together to create a stimulating composition which is aesthetically and scenically outstanding; or which is an outstanding example in the area of a well cared for "pure" and "undiluted" landscape or set of features;
Very attractive	Contributing together to create a composition which is aesthetically and scenically pleasing; or which is a good example in the area of a reasonably well cared for "pure" landscape or set of features;
Good Landscape	Contributing together to create a composition which is aesthetically and scenically unremarkable; or an area or set of features which is neutral or of mixed character;
Ordinary Landscape	Contributing together to create a composition which is aesthetically and scenically poor; or which is an example of an un-stimulating landscape or set of features; or with few or poorly related/ unrelated features;
Poor Landscape	Contributing together to create a composition which is aesthetically and scenically very poor; or which is an example of monotonous, unattractive, visually conflicting or degraded landscape or set of features.
Very poor	Degraded landscape structure, characteristic patterns and combinations of landform and land cover are masked by land use; mixed land use dominates; Lack of Management/intervention has resulted in degradation; extensive detractive features
Damaged Landscape	Damaged landscape structure or where single land use dominates. Where the land is disturbed or derelict and requires treatment* detracting features dominate.

* Derelict means land so damaged by industrial or other development that it is incapable of beneficial use without treatment.

The landscape is classed as: Good Landscape.

Note: The criteria used in the analysis of landscape quality are related to landscapes in the local context. Areas of landscape quality do not necessarily correlate directly with landscape character areas or statutory designated sites as defined by the statutory agencies or local planning authorities.

The sensitivity of a landscape varies according to its key characteristics and the values placed on these. Table A sets out the proposed approach to determining sensitivity within the landscape unit identified. The assessment of each characteristic may produce conflicting results therefore a degree of professional judgement has been used to determine the overall sensitivity of landscape character as being Very High, High, Medium or Low.

4.2 Study Area

The extent of the study area for this landscape assessment has been set at a 6km radius from the turbine blade tip; this reflects the limit of potential visual significance for this specific single turbine proposal. Visual impacts beyond 5km are not considered to be significant given the small scale of the proposed turbine and the constraints of landform and vegetation cover.

A ZTV drawing has been prepared for the 6km study area and this is presented in Appendix 2. The 6km study area is divided into three zones of visibility marked by concentric circles:

- ZONE 1: Visibility within 1000m radius of the proposed turbine (Near Distance Views)
- ZONE 2: Visibility between 1000m and 2500m of the proposed turbine (Middle Distance Views)
- ZONE 3: Visibility between 2500->6000m of the proposed turbine (Far Distance Views)

This theoretical zone of visibility takes the screening effect of topography into account but not that provided by structures or land cover; it therefore offers a worst case scenario assessment.

Key Characteristic	Attributes likely to indicate higher sensitivity to wind energy development	⟷	Attributes likely to indicate lower sensitivity to wind energy development
Landform and Scale	Complex, dramatic or rugged landform. Small-scale landform/ land-cover/built development	⟷	Simple, smooth and convex or flat and uniform landform. Large-scale landform/land cover/built development
Landcover	Complex or irregular land cover patterns/smaller field sizes	⟷	Simple, regular patterns with sweeping lines and extensive areas of consistent ground cover
Skylines	Prominent, undeveloped or distinctive skylines with important landmark features.	⟷	Landscape with no prominent or low skylines with no distinctive backdrop or context
Human Influence	Perceived 'wild' landscapes absence of man-made elements, buildings or structures, traditional or historic settlements	⟷	Frequency of man-made elements (e.g. utility infrastructure or industrial elements), brownfield or industrial landscapes, landscapes already affected by built and contemporary structures (e.g. pylons, masts, cranes, silos) provided there are no visual conflicts where the structures are seen in close proximity to one another
Perceptual Qualities (Remoteness/Tranquillity)	Physically or perceptually remote, peaceful or tranquil, little or no evident movement	⟷	Close to visible audible signs of human activity, prominent movement
Visibility and views	Extensive close and mid-range views from scenic routes, well-known tourist viewpoints.	⟷	Landscapes visually contained by topography, buildings, trees or woodlands with limited inward and outward views
Scenic Quality	Landscapes of distinctive character valued for their high scenic quality. Nationally designated landscape.	⟷	Landscape of low-medium scenic quality unlikely to have a scenic quality designation

Table A: Criteria for Assessing Landscape Sensitivity to Wind Energy Development

The magnitude of predicted landscape change within the landscape unit identified is based on the criteria set out in Table B.

Magnitude	Description
Very Large	The development would form a dominant landscape element or would result in a total loss or major change to key landscape characteristics.
Large	The development would form a prominent landscape element, or would result in a substantial alteration to key landscape characteristics.
Medium	The development would form a conspicuous landscape element or would result in a partial loss of or alteration to key landscape characteristics.
Small	The development would form an apparent, small landscape element or would result in a minor alteration to key landscape characteristics.
Very Small	The development would form an inconspicuous minor landscape element, or would result in a very minor alteration to key landscape characteristics.
Negligible	The development would be a barely perceptible landscape element, or would not change the key landscape characteristics.

Table B: Definition of Magnitude of Change (Landscape)

The significance of landscape effect has been determined by assessing landscape sensitivity against magnitude of change (as set out in Tables A and B above). The outcomes of this assessment are set out in Table C. Table C is given as a guide only and the final assessment of significance of landscape effect may take into account any modifying factors based on professional judgement.

Magnitude of Change	Sensitivity			
	Very High	High	Medium	Low
Very Large	Major	Major	Major	Major/Moderate
Large	Major	Major	Major/Moderate	Moderate
Medium	Major	Major/Moderate	Moderate	Moderate/Minor
Small	Major/Moderate	Moderate	Moderate/Minor	Minor
Very Small	Moderate	Minor	Minor/Negligible	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

Table C: Significance of Landscape and Visual Effects

High	Total loss of or major alteration to key elements/features/characteristics of the baseline i.e. pre-development landscape or view and-or introduction of elements that may not be un-characteristic when set within the attributes of the receiving landscape
Medium	Partial loss of or alteration to one or more key elements/features/characteristics of the baseline i.e. pre-development landscape or view and-or introduction of elements that may be prominent but may not necessarily be considered to be substantially uncharacteristic when set within the attributes of the receiving landscape.
Low	Minor loss or alteration to one or more key elements/features/characteristics of the base-line i.e. pre-development landscape that may not be uncharacteristic when set within the attributes of the receiving landscape
Negligible	Very minor loss or alteration to one or more key elements/features/characteristics of the baseline is. Pre-development landscape or view and-or introduction of elements that are not uncharacteristic with the surrounding landscape e.g. a 'no change' position

Table D: Determination of magnitude of impact on landscape

The proposal is located in National Character Area: 37 Yorkshire Southern Pennine Fringe

The key characteristics for NCA 37 are:

A transitional landscape dissected by steep-sided valleys, dropping from the high gritstone hills in the west to lower land in the east, and thus creating an important backdrop to the many industrial towns and villages within and beyond the NCA.
Sandstones and gritstone beds of Millstone Grit (Namurian) age underlying smooth hills and plateaux in the west. These are overlain in the east by beds of sandstone, siltstone and mudstone of Coal Measures age.
Rivers creating a deeply dissected landscape, with high plateaux cut by steep-sided valleys, and fanning out in 'fingers' across valleys of the NCA.
Treeless hill tops with tracts of rough grazing and extensive areas of enclosed pasture to the west, but with broadleaved woodland on steeper valley sides, giving the impression of a well-wooded landscape, especially
Predominantly pastoral farming, especially in western areas, with a shift to more arable land in the drier eastern areas.
Boundary features that change from distinctive patterns of drystone walls on the upland hills, to hedgerows becoming the predominant field boundary in the east.
Close conjunction between rural landscapes and the rich industrial heritage of the urban areas, including settlements associated with the textile industry, with large mills and tall chimneys, and large factories and
Urban development constrained within valley floors and up side slopes, with location and layout strongly influenced by the landform.
Industrial wealth revealed in magnificent civil architecture in town centres, notably Bradford, Halifax, Hud-dersfield and Sheffield, and several stately homes with designed parklands.
Evidence of bronze-age and Roman habitation still present on uplands, and old pack-horse routes that once joined settlements across the Pennines still in place, or now forming modern major road routes.
Extensive and dramatic views from higher land out over lower-lying land to the east, even from within ur-
Several reservoirs contained within narrow valleys contributing a distinct character as well as providing popular places to visit.
Small patches of fragmented priority habitats providing important refuges locally for wildlife. Grassland mo-saics are particularly important in supporting waders and the twite that breeds on adjacent moorland areas; lowland woodland is also an important feature.
In places a dense network of roads and urban development, with many road, rail and canal routes crossing the NCA, and a high density of footpaths throughout.

The document Barnsley Landscape Character further defines the area as F2: Penistone Upland Farmland and the key characteristics are:

Stepped landform rising to 364m at Hartcliffe Hill
Fields of pasture comprising small to medium geometric field units strongly defined by distinctive stone walls.
Linear or circular beech plantations stand out on the skyline, sometimes enclosed by stone walls
Unimproved pasture with scrub on steeper slopes
Scattered farmsteads of local light coloured stone.
Penistone is the largest settlement in the area, lying on the edge of the Don Valley. Isolated trees form silhouettes against the skyline.
Pylons and power lines are visually prominent on the skyline.
Single lane rural roads criss-cross the open countryside, bounded by stone walls
Disused industrial quarries, shafts and mines indicate the historical importance of the area for the extraction of coal and stone.
Panoramic views over adjacent river valleys and towards the open moorland of the Peak.
The western boundary of the area is defined by the open Moorland of character area Thurlstone and Langsett Unenclosed Moorland.
The underlying solid geology of this area is formed by complex beds of the Lower Carboniferous, comprising bedded sandstones, shale's and mudstones with intermittent coal seams. The area has an upland character which is enhanced by its proximity to and views across unenclosed Moorland.

4.3 Landscape Impact Assessment

Baseline Description

4.3.1 Immediate Site

The site of the proposed development is situated to the south of Mosseley House Farm. The proposal stands at 424268, 400840 at an AOD of approximately 314m. The topography of the proposed site area is one of rectilinear and square shaped fields bounded by dry stone walls in good state of repair, the land falls sharply away to the south towards the Peak Park NP. There are areas of woodland to the south – Sheephouse Height Plantation and west of the proposed site – Doubting Plantation which offer partial screening to views from these directions.

The geology of the immediate area is: Bedrock; Pennine Lower Coal Measures, Mudstone, Siltstone, Sandstone, Coal, Ironstone and Ferricrete. Superficial Deposits: Alluvium, Silt and Sand.

4.3.2 Wider Area

The area around the site is lightly populated, built structure in the main being farms and isolated residential properties. The area is crossed by a series of linear power lines and associated vertical infrastructure which dominate the landscape and Skyline. There are a number of reservoirs in the area to the south these being Langsett, Midhope and Underbank. The site of the proposed development is situated 4.4km to north-east of Stocksbridge and 2.4km to the south of the town of Penistone, 1.37km south of Cubley and 2.66km south-west of Oxspring. The Peak Park is approximately 3km to the south.

4.3.3 Major Roads and Public Rights of Way

Nearby public highways are the A616 (T) which is 1.26km to the south and at an elevation some 128m lower than the proposal.

The Barnsley Boundary Walk passes in an approximate east-west direction 1.23km to the south and at a much lower elevation in the landscape. The Trans-Pennine Trail is approximately 2.37km to the north-east and the Penistone Boundary Walk 680m to the west - northwest. There are other footpaths nearby to the site.

4.3.4 Cultural Heritage

Examination of the OS1:25k local map indicates no archaeological surface or sub-surface assets nearby. Examination of English Heritages Web Site shows 1 list entry, this is:

1191616 Take Off Stone. Described as a Stone post with a rounded top. It is approximately 270m to the southwest. The proposal will have no impact on this listing.

4.3.5 National/International Quality Effects

The Baseline assessment reveals that the site is in the vicinity of the Peak Park. It is 1.43km from the Spring Meadows, Alderman's Head & Cow Croft Meadows SSSI. The proposal will have no physical impact on this SSSI.

The site area is Greenbelt.

4.3.6 Regional Quality Effects

There will be some visual impact at a moderate level to the Peak Park and recreational areas around the reservoirs in the valley base. However in the case of the reservoirs the impact layer is considered low/moderate due to elevation differences. There are no SLA's or LNR's nearby.

4.3.7 Local & Site Level effects

4.3.7.1Landform

The site sits on a stepped landscape with the dip slope towards Penistone. The landscape falls away steeply to the south. Extensive views over the Peak Park NP are to be had along Mossley Road. However from the site these views are screened by Sheephouse Height Plantation.

The small footprint of the proposed turbine base along with associated infrastructure, crane platform and being able to fully make right the disruption caused by the temporary works involved in the construction of the site indicates that long term physical effects arising through landform change is considered to be **negligible**.

4.3.7.2Land Use

The small footprint of the proposed turbine base and other associated infrastructure will allow the continuous, almost uninterrupted use of the surrounding land. Land use impact is **negligible**

4.3.7.3Land Cover

The small footprint of the turbine platforms and infrastructure will not have a significant impact impact on the Land Cover any impact caused by the building of access roads to the site for maintenance etc. is reversible, impact is therefore considered to be **negligible**

4.3.7.4 Landscape Features

Grassland/Pasture	**Negligible**. The small footprint of the turbine base would have a minimal reduction in farm resource
Woodland	**No Impact**. The siting of the turbine and other infrastructure - permanent & temporary will avoid any impact on existing trees or woodland that are to the south and west.
Hedgerows	**Slight**. The siting of the proposal and other associated infrastructure will necessitate the removal of some sections of dry stone wall.
Wetland/Marsh/Watercourses	**No Impact**. The nearest watercourse is Mossley Dike 398m to the north. The proposal and associated works will have no impact on this watercourse.

4.4 Landscape Character

Wind turbines are by scale and nature discordant features to place in any landscape, however the accepted need for renewable energy from wind power is making their presence in rural and other landscape more visually acceptable. In this context the overall effect of introducing this small scale turbine into a generally agricultural landscape would be low to moderate

4.4.1 Landscape Quality (Short Term)

The proposal and its infrastructure will not result in any loss or alteration to any of the key elements, features, characteristics of the baseline existing landscape. There will be changes to views within the landscape. A newly built turbine would be relatively prominent, but not a unique element in the landscape or in the wider region. **Impact Medium**

4.4.2 Landscape Quality (Long Term)

In the long term, the implications of the proposal, which will present few opportunities to mitigate against indicates that the longer term effect would continue to be **Medium** although their may be an increase in the number of similar structures over a wider area of the landscape. The structures would become more accepted visually into the landscape e.g. as in the case of the many pylons and associated linear features that criss cross the area and would become a mature feature eventually being removed after a period of approximately 25 - 30 years.

4.4.3 Summary

In summary it is felt that given the Medium value and Moderate sensitivity of the receiving landscape with very few significant natural or built features which would be affected and the extremely compact footprints of the turbine developments and infrastructure would, overall, have no more than a Medium impact on the landscape and quality.

5 Visual Impact Assessment

This is an LVIA Report for one small wind turbine. It is not a utility scale turbine and should not be considered as such

5.1 Methodology

This section of the report considers the sensitivity of change of selected viewpoints in the landscape surrounding the proposal. Due to the small scale of the proposed wind turbine, a study area extending to a 5km radius has been adopted for the visual impact assessment.

Because of the siting of the turbine in the landscape and major differences in topography and access, viewpoints to the site are limited. These viewpoints were chosen to provide illustrative near (within 1000m), Middle (1000m-2500m) and Far (2500-5000m) distance views of the proposal.
By examining the km ZTV 5 viewpoints were identified that would represent the site in its environment.

By examining the km ZTV 8 viewpoints were identified that would represent the site in its environment.

For each viewpoint a wire frame drawing and corresponding photomontage visualisation has been prepared. This has been done using Resoft Ltd's WindFarm software. This software uses a 3D DTM model of the existing landscape derived from OS Landform Panorama data based on a 50m grid and 10m contour intervals. The software is used to create a 3D model of the proposed wind turbine using turbine grid coordinates and specified turbine geometry. Specified viewpoint coordinates direction of view and horizontal field of view data were used to generate wireframe views of the proposed turbine within the existing landform.

To create the photomontage visualisations single images on a flat plane projection are imported into the software and aligned to the corresponding wire frame drawing. To aid alignment, geographic features in the image are matched with the corresponding coordinates of those features on the base map.

Viewpoint photographs were taken in April 2015 using a Canon EOS 1D mark II full frame digital SLR Camera fitted with a fixed 50mm lens & the viewpoint location data logged with a Garmin Montana 650t GPS. Visibility Conditions on the day were good.

For all photomontages there is an element of judgement, the finished image is only intended as a representation of the likely appearance of the proposed development. The completed photomontages and other related materials are presented in Appendix 4 to 1

The assessment of the sensitivity, magnitude of change and significance of effect for the selected viewpoints has been conducted using the criteria set out in Tables D, E and F. Table F is given as a guide only and the final assessment of significance of visual effect may take into account any modifying factors based on professional judgement. The conclusions of the visual assessment are set out in the section below.

Typical Visual Receptors	Sensitivity
Locations defined by special interest in the available view: Promoted viewpoints. Special tourist or visitor locations. Recreational hilltops and peaks.	Very High
Visual receptors with a particular interest in their surroundings or prolonged viewing opportunities. Residential locations within 1km of the proposal. Special visitor or recreational sites. Nationally or locally recognised footpaths and cycleways. Recognised scenic drives or promoted tourist routes.	High
Visual receptors with a general interest in their surroundings or with transient viewing opportunities. General footpaths. Residential locations over 1km from the proposal. Residential and local roads. Public spaces.	Medium
Visual receptors with limited or passing interest in their surroundings. Views from places of work. Indoor facilities. Users of A-roads and trains.	Low

Table D: Visual Receptor Sensitivity Criteria

Magnitude	Description
Very Large	The development would form a dominant element of the view dramatically altering its overall quality and character. Dominating and controlling the view.
Large	The development would form a prominent element within the view resulting in a prominent change to its overall quality and character. Standing out, striking.
Medium	The development would form a conspicuous element within the view resulting in conspicuous change. Distinct, noticeable.
Small	The development would form an apparent small element within the view without affecting the overall quality or character of the view. Evident.
Very Small	The development would form an inconspicuous minor element within the view, without affecting the overall quality or character of the view. Not obvious, lacking definition.
Negligible	The development would result in a barely perceptible change in the view, or would cause a 'no change' situation to the existing view. Weak, not legible.

Table E: Definition of Magnitude of Change (Visual)

Magnitude of Change	Sensitivity			
	Very High	High	Medium	Low
Very Large	Major	Major	Major	Major/Moderate
Large	Major	Major	Major/Moderate	Moderate
Medium	Major	Major/Moderate	Moderate	Moderate/Minor
Small	Major/Moderate	Moderate	Moderate/Minor	Minor
Very Small	Moderate	Minor	Minor/Negligible	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

Table F: Significance of Visual Effects

[1]Multiple images stitched together to create a panoramic view have not been used.

5.2 Viewpoint Assessment.

The following conclusions should be read in conjunction with the photomontage and wire frame visualisations presented in the Appendix's

Viewpoint 1:
Salter Hill Lane. E/N: 425417, 400636. Distance = 1164m. Direction of view = 282.4. Elevation = 301m
Existing View
A gently sloping landscape containing areas of woodland. The landscape is shown dipping steeply to the south.
Predicted View with Operational Wind Turbine
The proposal will be seen as a new vertical structure in the landscape, clearly associated with the built form of the farm, against a backcloth of woodland. Only the upper parts of the turbines geometry will be seen piercing the skyline.
Type and Sensitivity of Visual Receptor
Visual receptors will be in the main road users and walkers, impact on visual amenity will vary upon the receptors position and direction of travel in the landscape. Sensitivity will be Medium; Visual receptors with a general interest in their surroundings or with transient viewing opportunities. General footpaths. Residential locations over 1km from the proposal. Residential and local roads. Public spaces.
Magnitude of Change to Baseline View
Medium; The development would form a conspicuous element within the view resulting in conspicuous change. Distinct, noticeable.
Assessed Significance of Visual impact
Moderate. The proposal is not seen with any other turbine from this viewpoint.

Viewpoint 2:
Brockholes Lane. E/N: 423219, 401561. Distance = 1272m. Direction of view = 126 deg. Elevation = 321m
Existing View
Overlooking a gently undulating landscape of regular shaped fields bounded by well-maintained dry stone walls. Areas of woodland are pre-eminent in the view. Built form is sparse.
Predicted View with Operational Wind Turbine
The proposed turbine will be seen as an isolated structure against distant woodland. A number of high voltage, tall pylons can be seen in the background. The upper half of the proposal is seen on the skyline.
Type and Sensitivity of Visual Receptor
Visual Receptors will be mainly walkers, Brockholes Rd is not heavily used. Sensitivity: Medium; Visual receptors with a general interest in their surroundings or with transient viewing opportunities. General footpaths. Residential locations over 1km from the proposal. Residential and local roads. Public spaces.
Magnitude of Change to Baseline View
Medium; The development would form a conspicuous element within the view resulting in conspicuous change. Distinct, noticeable.
Assessed Significance of Visual impact
Moderate. The proposal will be seen in combination with the operational turbine at Tofts Lane.

Viewpoint 3:
Joan Royd Lane. E/N: 424475, 401776. Distance = 964m. View Direction = 194 deg. Elevation = 267 deg
Existing View
Looking over a gently rising area of agricultural land. The ridge line is approximately 355m distant. Woodland is seen on the horizon.
Predicted View with Operational Wind Turbine
The proposal lies beyond the ridgeline seen this photomontage. The proportion of the proposal seen will be restricted to the blade diameter and corresponding mast height against the background sky. The proposal lies a further 556m beyond the ridge. There are no opportunities for any form of screening.
Type and Sensitivity of Visual Receptor
Joan Royd Lane forms part of the Penistone Boundary Walk, therefore some visual receptors will be walkers. Views to the proposal by walkers will be perpendicular to the direction of movement. Sensitivity will be High; Visual receptors with a particular interest in their surroundings or prolonged viewing opportunities. *Residential locations within 1km of the proposal.* Special visitor or recreational sites. Nationally or locally recognised footpaths and cycleways. Recognised scenic drives or promoted tourist routes.
Magnitude of Change to Baseline View
Medium: The development would form a conspicuous element within the view resulting in conspicuous change. Distinct, noticeable. Only the upper geometry will be visible.
Assessed Significance of Visual impact
Medium. The proposal is not seen with any other turbine.

Viewpoint 4:
Judd Field Lane (Footpath) E/N: 423933, 400954. Distance = 358m. View Direction = 108m. Elevation = 319 deg
Existing View
Looking directly over the vicinity of the site. We see a series of rectilinear fields with dry stone walls. Built form consists of farm buildings. Woodland areas are seen. A line oh tall high voltage passes through the view.
Predicted View with Operational Wind Turbine
This is a near distance view. As is to be expected the proposal is clearly seen in association with buildings belonging to the farm.
Type and Sensitivity of Visual Receptor
Receptors will be users of the footpath. These views will be perpendicular to the direction of travel and depending on direction of travel short in duration. Sensitivity at this point will be High; Visual receptors with a particular interest in their surroundings or prolonged viewing opportunities. Residential locations within 1km of the proposal. Special visitor or recreational sites. Nationally or locally recognised footpaths and cycleways. Recognised scenic drives or promoted tourist routes
Magnitude of Change to Baseline View
Large; The development would form a prominent element within the view resulting in a prominent change to its overall quality and character. Standing out, striking.
Assessed Significance of Visual impact
Notable; The proposal will be seen in combination with the operational turbine at Tofts Lane.

Viewpoint 5:
Doubting Lane (Bridleway) E/N: 423921, 401347. Distance = 626m. View Direction: 144 deg. Elevation = 303m
Existing View
Looking towards the main farm complex. The landscape gently rises. Sheephouse height Plantation is clearly seen on the ridge.
Predicted View with Operational Wind Turbine
The proposal is clearly seen in the landscape as part of the farm complex. The lower portion of its mast seen against the background woodland, with the operational geometry seen piercing the sky – as is to be expected at this distance.
Type and Sensitivity of Visual Receptor
Visual Receptors: Users of the Bridleway. Sensitivity: High; Visual receptors with a particular interest in their surroundings or prolonged viewing opportunities. Residential locations within 1km of the proposal. Special visitor or recreational sites. Nationally or locally recognised footpaths and cycleways. Recognised scenic drives or promoted tourist routes.
Magnitude of Change to Baseline View
Large: The development would form a prominent element within the view resulting in a prominent change to its overall quality and character. Standing out, striking.
Assessed Significance of Visual impact
Notable. The proposal is not seen with any other project.

Viewpoint 6:
Footpath nr Cubley. E/N: 424175, 401939. Distance = 1093m. View Direction = 173.3 deg. Elevation = 280m
Existing View
Photograph from a public footpath near the residential area of Cubley. We see a gently undulating landscape of irregular fields bounded by dry stone walls. The higher ridgeline is clothed with Sheephouse Height Plantation.
Predicted View with Operational Wind Turbine
The proposal is seen. The upper parts pierce the skyline with the main part of the mast against the woodland area. Views from the residential areas around Lyttleton Crescent, New Chapel Ave and Kirkhill Bank are not primary line of site views therefore not significant. The view direction is also at an angle to the site.
Type and Sensitivity of Visual Receptor
Medium; Visual receptors with a general interest in their surroundings or with transient viewing opportunities. General footpaths. Residential locations over 1km from the proposal. Residential and local roads. Public spaces.
Magnitude of Change to Baseline View
Medium; The development would form a conspicuous element within the view resulting in conspicuous change. Distinct, noticeable
Assessed Significance of Visual impact
Moderate

Viewpoint 7:
Mortimer Rd. Peak Park. E/N: 423552, 398269. Distance to Site = 2669m. View Direction = 18.3 deg. Elevation = 303m
Existing View
Looking over Midhope Valley. The landscape rises steeply, with the upper parts of the hillside and ridge cloaked with woodland.
Predicted View with Operational Wind Turbine
Only the very upper parts – blade tips – might be seen and this screening may alter on a seasonal basis.
Type and Sensitivity of Visual Receptor
Receptors, Road Users and walkers. Sensitivity: Medium; Visual receptors with a general interest in their surroundings or with transient viewing opportunities. General footpaths. Residential locations over 1km from the proposal. Residential and local roads. Public
Magnitude of Change to Baseline View
Very Small; The development would form an inconspicuous minor element within the view, without affecting the overall quality or character of the view. Not obvious, lacking definition. Seasonal.
Assessed Significance of Visual impact
Slight. The proposal is not seen with any other project.

Viewpoint 8:
Midhope Cliff Lane. E/N: 421737, 399848. Distance to Site = 2728m. View Direction: 67 deg. Elevation = 269m
Existing View
A rising landscape. Consisting of numerous areas of woodland. Settlement is sparse. The ridgeline is occupied by three large plantations. High voltage power lines can be seen crossing the landscape along the middle levels of the hillside.
Predicted View with Operational Wind Turbine
Only the very upper parts of the proposed turbine will be seen.
Type and Sensitivity of Visual Receptor
Medium; Visual receptors with a general interest in their surroundings or with transient viewing opportunities. General footpaths. Residential locations over 1km from the proposal. Residential and local roads. Public spaces.
Magnitude of Change to Baseline View
Very Small; The development would form an inconspicuous minor element within the view, without affecting the overall quality or character of the view. Not obvious, lacking definition. Seasonal.
Assessed Significance of Visual impact
Slight. The proposal will be seen in combination with the distant Tofts Lane

6. Conclusion

The proposal would result in the introduction of a single vertical structure of a small scale to the baseline landscape. The small footprint of the proposal and the construction of permanent access roads will result in only a minor and reversible loss of land. The visual assessment suggests that in middle distance views the proposal would have only a Moderate overall effect on the character of the view, whilst at near distance impact would be significant; as is to be expected, at far distant views Visual impact, sensitivity and magnitude will be low.

There will be no physical impact to the areas of nearby woodland. These areas of woodland will screen the site depending on view point direction. No watercourses are affected.

The area has a number of other vertical structures which dominate the skyline, landscape and other views into the site; these are high voltage power line pylons and associated linear infrastructure, which are of a far greater size and scale than the proposal. Because of this, visual impact associated with the addition of this turbine into the landscape will be limited. There is an existing operational turbine nearby at Tofts Lane which stands at approximately the same elevation as the proposal. There is also one other turbine of similar specification that has been approved at Tenter House Farm, although the current status is not built. Views from the Peak Park and the recreational areas around the reservoirs are slight or not seen, there is no impact to the visual amenity of the Peak Park due to the site being masked by Sheephouse Height Plantation. Views to the site from Cubley are limited to the area around Lyttelton Crescent, Kirkhill Bank and New Chapel Ave. These views are not primary line of site views; the angle of view from these properties is 224 deg, whilst the site lies on a view direction of 181 deg from this area. There are no significant views from Penistone or Oxspring due to their position in the terrain. Sequential views to main roads are rapid, broken and perpendicular to the line direction of travel, particularly along the A616. Views from the A629, due to its position – much lower in the landscape – do not exist.

On balance the visual impact of this proposal on the area will be **moderate**.