



DC21

Wind Turbine Specialists

PLANNING & DESIGN & ACCESS STATEMENT

To aid the planning application for the installation of 1 wind turbine, with a maximum height of 49m to blade tip.

Located at:

**K Stuart & Sons,
Dyson Cote Farm,
Sheffield,
S36 8YR,**

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1. INTRODUCTION

PROPOSAL

- 1.1. DC21 propose to install one 50kW wind turbine on land at Dyson Cote Farm. The turbine will be located on farm land to the south west of the farm buildings. This land falls within the boundaries of the Barnsley Council. The aim of this wind turbine development is to provide the landowner with the benefits of a sustainable energy source in order for it to generate renewable energy for within the farming business. This will generate a saving on electricity and an additional income for the farm. In turn this will strengthen the business, enable it to develop, diversify and generate an income that will help to manage and improve the landholding. Surplus energy generated will be fed in to the National Grid contributing to the Government's targets on renewable energy generation.

The development will include:

- An underground concrete foundation
- Erection of a wind turbine. The blades will be mounted to the turbine hub and nacelle to give a maximum height to blade tip of 49m.
- A small trench will be dug to lay the power cables to connect the turbine to the national grid.
- A small control cabinet at the base of the turbine tower, this will be approximately 2 x 1.5 x 2m

CONTEXT

- 1.2. The site is located 2.2Km at its nearest point from the nearest town Stocksbridge and 3.1km from Penistone.

SCALE AND AMMOUNT

- 1.3. The proposed turbine will be 49m to the tip of the blade. This size of turbine has been chosen to be the most suitable for the specific site conditions / constraints based on the following criteria:

- To choose a product fit for purpose
- To choose a design of elegant and slender proportions
- To select a turbine of appropriate height and scale relative to the sensitivity of the landscape, its key characteristics, local site conditions and in keeping with the existing / proposed built environment
- To select turbines and finishes that will provide an appropriate contrast with the background landscape and sky in order to help reduce the visual and landscape impact

- To generate renewable energy for the national grid
- To develop a proposal that will offset the energy usage of the farm and generate income
- to improve and maintain the agricultural estate

USE

- 1.4. The turbine will make use of the wind resource on site. This will be used in order to produce a sustainable low carbon energy source. Surplus energy that will be fed into the national grid, this will provide an income which will be used to help grow and diversify the farm business.

APPEARANCE

- 1.5. The turbine nacelle blades and tower will be of an off white colour. This is standard practise and is recognised and accepted in all areas of the world. It is important to note that the colours of the turbine cannot be changed during manufacture. Alternative colours would absorb more solar radiation, accelerating the deterioration of the finish and increasing generator cooling requirements during the summer months, therefore making the turbine less efficient.

LANDSCAPING

- 1.6. Due to the careful siting of the turbine, it is not believed that any landscaping will be required. Temporary access tracks will be used during construction, any damage to the land will be repaired to its former state.

DECOMMISSIONING

- 1.7. The turbine will have a lifespan of 30 years. Upon decommissioning the turbine and ancillary equipment will be removed and the land shall be re-instated to its former use / original condition. The disassembled turbine can be recycled or reconditioned and sold on the second hand market. The foundations will be removed and the land reinstated. Any cabling will easily be removed as it will have been laid in ducting, this can also be recycled.

SITE SELECTION PROCESS

- 1.8. The chosen turbine and proposed location is a result of a through feasibility assessment which has been conducted at this site to calculate the sensitivity and suitability of a wind turbine development.

Site selection has been influenced by the following principles:

- To develop a proposal that will off-set the energy usage of the farm / business and generate an income to support, diversify and sustain the business and improve the agricultural estate
- To maximise annual average wind speed and minimise interference from obstacles that may affect performance or increase maintenance / repair liabilities
- To mitigate visual and landscape impacts
- To minimise potential impacts on heritage assets, protected species, local footpaths / bridleways, tourist attractions, residential properties or businesses

- To minimise and / or eliminate noise disturbance and shadow flicker
- To avoid impact or interference with transportation routes, power infrastructure, underground services, aviation systems or communication signals
- To enable a practical and viable connection to the small holding / national grid

The turbine has been chosen as the most suitable due to the site conditions and the energy requirements of the applicant. Consideration into the location of the proposed turbine was a result of evaluating the following factors;

- Proximity to trees, hedgerows and buildings
- Wildlife habitats and ecology
- Safe fall distance acquired from all PRow's and power lines
- Sufficient distance from bridle ways and highways
- Distance from neighbouring properties regarding noise, visual impact and shadow flicker
- Ability to integrate into the local landscape
- Avoid microwave links, MOD and NATS radar safeguarding zones
- Archaeological areas and listed buildings
- Flood zones
- Close and viable grid connection
- Land ownership
- Suitable access for installation and maintenance

The chosen location is believed to be the most suitable as it adheres to all of the above factors. Consultation has been held where possible to ensure the suitability of the site.

The slim line construction of the turbine will aid the integration into the landscape. A landscape visual impact assessment showing the likely appearance of the turbine, from a number of locations, has been prepared and accompanies this application.

2. PLANNING POLICY

NATIONAL PLANNING POLICY

- 2.1. Renewable energy development projects should be capable of being accommodated throughout England in locations where the technology is viable and environmental, economic and social impacts can be addressed satisfactorily.

The government's National Planning Policy Framework (NPPF) was adopted on 27 March 2012 and represents the principal national guidance document and a material consideration which must be taken into account, where relevant, in determining planning applications. This framework replaces all previous national policy statements, which were superseded on its adoption. Statements contained within cannot make irrelevant any matter

which is a material consideration in a particular case, but where such statements indicate the weight that should be given to relevant considerations, decision makers must have proper regard to them. One particular consideration which will be teased out in this report is the weight which should be given to the appropriateness of development both within the countryside and any specific landscape designation versus the weight associated with the wider environmental benefits of a wind turbine.

At the heart of the NPPF is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking. Sustainable development encompasses concepts of sustainable economic, social and environmental development which run concurrent with the spatial approach to planning. Key to this application, the following excerpts are applicable to a proposed wind turbine for this site:

Renewable Energy

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;

When determining planning applications, local planning authorities should:

- Not require applicants for energy development to demonstrate the overall need for renewable or low carbon energy and also recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions; and
- Approve if its impacts are (or can be made) acceptable. Once suitable areas for renewable and low carbon energy have been identified in plans, local planning authorities should also expect subsequent applications for commercial scale projects outside these areas to demonstrate that the proposed location meets the criteria used in identifying suitable areas.

Heritage Assets

When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.

Companion Guide to PPS22

Despite the majority of the Planning Policy Statements (PPS's), including PPS22, and Planning Policy Guidance Notes being superseded by the NPPF the companion guide to PPS22 still remains in force until such time as a suitable replacement is adopted. The guide intends to encourage the appropriate development of further renewable energy schemes, throughout England. This will include schemes in urban as well as rural locations, ranging in size from the domestic to the commercial scale.

Green Belt

Section 9 of the NPPF refers to protecting Green Belt land and states that the government attaches great importance to Green Belts. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence. A Green Belt serves five purposes;

- To check the unrestricted sprawl of large built-up areas;

- To prevent neighbouring towns merging into one another;
- To assist in safeguarding the countryside from encroachment;
- To preserve the setting and special character of historic towns; and
- To assist in urban regeneration, by encouraging the recycling of derelict and other urban land.

Once Green Belts have been defined, local planning authorities should plan positively to enhance the beneficial use of the Green Belt, such as looking for opportunities to provide access; to provide opportunities for outdoor sport and recreation; to retain and enhance landscapes, visual amenity and biodiversity; or to improve damaged and derelict land.

As with previous Green Belt policy, inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances. When considering any planning application, local planning authorities should ensure that substantial weight is given to any harm to the Green Belt. 'Very special circumstances' will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations.

When located in the Green Belt, elements of many renewable energy projects will comprise inappropriate development. In such cases developers will need to demonstrate very special circumstances if projects are to proceed. The NPPF specifically states

'Such very special circumstances may include the wider environmental benefits associated with increased production of energy from renewable sources'.

LOCAL PLANNING POLICY

2.2 *Barnsley Borough Council Local Development Framework*

Barnsley Borough Council has recently adopted its Local Development Framework Core Strategy with this providing the strategic objectives and core policies which will now be used to guide development in the area, along with the remaining 'saved' policies from the Unitary Development Plan. Consideration on the local level with regards to the Green Belt issue is given to Policy CSP34 of the Core Strategy which seeks to safeguard against inappropriate development in this locality and specifies that development will not be permitted within the Green Belt unless there are very special circumstances which will justify allowing the development. One such development that can indeed bring economic and environmental benefits that might be considered to outweigh any perceived harm caused to the openness of the Green Belt land in which the proposed development is sited.

The application site is also within one of the Borough's designated areas of Landscape Character which are recognised as being of higher landscape quality than other countryside areas. The Areas of Landscape Character are also in the Green Belt and development will therefore be limited to that which is appropriate in such areas in accordance with Policy CSP37, which seeks to conserve the character of the area, and should, wherever possible, positively enhance the environment through its location, siting, scale, design, materials and landscaping.

Of particular importance to the assessment of this application is Policy CSP6 which sets out the council's requirements for proposals that seek to develop and produce renewable energy. Development will be allowed where it can be shown there would be no significantly harmful effect on:

- the character of the landscape and appearance of the area
- living conditions
- biodiversity, geodiversity and water quality
- heritage assets, their settings and cultural features and areas
- highway safety, and
- Infrastructure including radar.

Also of importance is Policy ES12c of the Unitary Development Plan, which was 'saved' and remains An important consideration. This policy states that the council will control development in the vicinity of existing wind generation installations so as to safeguard these from a reduction in local wind speeds.

Finally, of more general relevance is policy CSP29 which sets out the design principles and standards for all development. Development proposals will be expected to demonstrate that it respects takes advantage of and enhances the distinctive features of Barnsley, including:

- topography, green infrastructure assets, important habitats, woodlands and other natural features
- views and vistas to key buildings, landmarks, skylines and gateways
- heritage, townscape and landscape character including the scale, layout, building styles and materials of the built form particularly in and around:
 - Barnsley Town Centre
 - Penistone and the rural villages in the west of the borough
 - within and adjacent to conservation areas

Development should also:

- contribute to place making and be of a high quality, that contributes to a healthy, safe and sustainable environment
- help to transform the character of physical environments that have become run down and are lacking in distinctiveness
- enable all people to gain access safely and conveniently, providing, in particular, for the needs of families and children, and of disabled people and older people
- contribute towards creating attractive, sustainable and successful neighbourhoods
- achieve a Building For Life assessment rating of 'good' or equivalent as a minimum, in developments of 10 or more dwellings.

It is clear from the above policies that the provision of renewable energy is encouraged in the District in general, and although turbines are deemed an inappropriate development in principle in the Green Belt, the benefits of this type of renewable energy provision and the government's direction on such matters can and does override Green Belt planning policy. Indeed this is illustrated by the grant of permission for the wind turbine serving High Wells Farm approximately 250m to the east of the site. The application is likely to be assessed against the above criteria. These are considered in detail within this report and it is considered that the proposals can be accommodated on this site without adversely affecting the principles of this policy.

COMMUNITY CONSULTATION

2.3 Due to new planning guidance that was released in December 2013, pre application consultation must be carried to residents out before a planning application is submitted.

The Town and Country Planning (Development Management Procedure and Section 62A Applications) (England) (Amendment) Order 2013.

Consultation before applying for planning permission

3A. (1) Subject to paragraph (2), for the purposes of section 61W of the 1990 Act (requirement to carry out pre-application consultation) a person must carry out consultation on a proposed application for planning permission for any development involving an installation for the harnessing of wind power for energy production where—

(a) the development involves the installation of more than 2 turbines; or

(b) the hub height of any turbine exceeds 15 metres.

Particulars of pre application consultation

3B. where consultation is required in accordance with article 3A, a relevant application for planning permission must be accompanied by particulars of

(a) How the applicant complied with section 61W(1) of the 1990 Act;

DC21 submitted an information leaflet to all the residents within 1000m of the turbine location. The information leaflet included the details of the proposed development this included, exact location, benefits, typical images, reasons for turbine location, turbine comparisons. The information leaflet also includes contact details and the timescale of the consultation period. If the consulted residents wish to comment or have any questions on the application they can contact DC21. The Following Addresses were consulted:

- Lower Dyson Cote, Sheffield, Oxspring, S36 8yr
- Throstle Nest Farm, Cranberry Road, Sheffield, Penistone, S36 8fb
- The Granary, Hunshelf Bank, Sheffield, Stocksbridge, S36 2bs
- Avice Royd, Hunshelf Bank, Sheffield, Stocksbridge, S36 2bs
- Underbank Hall, Hunshelf Bank, Sheffield, Stocksbridge, S36 2bs
- Swallows Nest, Hunshelf Bank, Sheffield, Stocksbridge, S36 2bs
- Owls Nest, Hunshelf Bank, Sheffield, Stocksbridge, S36 2bs

- Wrens Nest, Hunshelf Bank, Sheffield, Stocksbridge, S36 2bs
- Peewit Lodge, Hunshelf Bank, Sheffield, Stocksbridge, S36 2bs
- The Byre, Hunshelf Bank, Sheffield, Stocksbridge, S36 2bs
- Grudgby Farm, Sheffield, Snowden Hill, Oxpring, S36 8yr
- Highwells Farm, Sheffield, Snowden Hill, Oxspring, S36 8yr
- Cloth Hall Farm, Sheffield, Snowden Hill, Oxspring, S36 8yr
- Chapel Farm, Sheffield, Snowden Hill, Oxspring, S36 8yr
- Old Byre, Sheffield, Snowden Hill, Oxspring, S36 8yr
- Stone Lea, Sheffield, Snowden Hill, Oxspring, S36 8yr
- Tenter House, Sheffield, Snowden Hill, Oxspring, S36 8yr
- Cloth Hall Cottage, Sheffield, Snowden Hill, Oxspring, S36 8yr
- Highwells Farm, Sheffield, Snowden Hill, Oxspring, S36 8yr
- Dyson Cote, Sheffield, Snowden Hill, Oxspring, S36 8yr
- Salter Hill House Farm, Sheffield, Snowden Hill, Oxspring, S36 8yr
- 1 Pond Farm, Pond Common Lane, Sheffield, Oxspring, S36 8wr
- 2 Pond Farm, Pond Common Lane, Sheffield, Oxspring, S36 8wr
- 3 Pond Farm, Pond Common Lane, Sheffield, Oxspring, S36 8wr
- 4 Pond Farm, Pond Common Lane, Sheffield, Oxspring, S36 8wr
- Ponds Farm, Pond Common Lane, Sheffield, Oxspring, S36 8wr
- Tenter House Farm, Sheffield, Snowden Hill, Oxspring, S36 8yr
- Heath Hall Cottage, Sheffield, Snowden Hill, Oxspring, S36 8yr
- Heath Hall, Sheffield, Snowden Hill, Oxspring, S36 8yr
- 2 Carr Head Cottages, Hunshelf Bank, Sheffield, Stocksbridge, S36 2bs
- 1 Carr Head Cottages, Hunshelf Bank, Sheffield, Stocksbridge, S36 2bs
- Carr Head Farm, Hunshelf Bank, Sheffield, Stocksbridge, S36 2bs

(b) Any responses to the consultation that were received by the applicant; and

No responses have been received to take account of

(c) The account taken of those responses.

No responses have been received to take account of

ECONOMIC, SOCIAL AND ENVIRONMENTAL BENEFITS

3.1 VERY SPECIAL CIRCUMSTANCES

The proposal does fall within the designated greenbelt zone. The principle of a wind turbine would not accord with the forms of development deemed acceptable in the Green Belt and its very nature is therefore deemed inappropriate in principle within the Green Belt under this policy context. The newly adopted NPPD reasserts this position, stipulating that:

'Very special circumstances' will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations.' (pg 20 - NPPF)

Given the newly adopted national planning policy context and greater emphasis that is now placed within the planning system on renewable energy provision, as well as the principle of the 'presumption of sustainable development', it is considered that the environmental benefits of this medium scale renewable energy project would in fact represent 'very special circumstances'. Indeed, the NPPF goes on to state that:

"Such very special circumstances may include the wider environmental benefits associated with increased production of energy from renewable sources." (pg 21 - NPPF)

The proposal will comply with all of the above criteria whilst creating very special circumstances.

Referring to the NPPF it recognises that the wider environmental benefits associated with the renewable energy production can demonstrate very special circumstances when the renewable energy proposal is located in Green Belt. This sets out the wider environmental, economic and social benefits of the proposal and it is considered that these substantially outweigh the any Harm to the Green Belt presented by the proposal, bringing it in line with NPPF

- The annual generation of around 217,700kWh of low carbon electricity, approaching 6,531MWh over the 30 year lifetime of the proposal. This level of annual generation equates to the annual electricity consumption of 53 average UK dwellings (OFGEM figures of 4100 kWh/home/yr). The proposal would generate enough to electricity meet the electricity demand of the Farm with excess generation flowing to the national grid. Since electricity always flows to the nearest point of demand, the excess generation is unlikely to leave the local district network thus providing green power in the immediate area.
- Potential carbon dioxide emissions reductions of 130 tonnes per annum or around 3,913 tonnes over 30 years. Carbon Dioxide represents around 80% of the UK's total greenhouse gas emissions and the proposal will therefore make a contribution to our nation's legally binding emissions reduction targets.
- Increased sustainability of the Farm's operations through a reduction in use of fossil fuel derived electricity and a corresponding reduction in annual energy costs.
- The proposal will allow the Farm business to expand, diversify and in time grow, this will create new employment opportunities within the area, therefore will boost the local economy.
- The construction, Maintenance and decommission stages of the turbine will also create employment opportunities and provide the need for a skilled workforce in new technologies including, construction and electrical engineering.

Case Precedent

The below application was allowed at appeal, the turbine is the same scale of the proposed turbine.

Appeal Ref: APP/R2330/A/13/2194809 Matt Bridge Farm, Broadfield, Oswaldtwistle, Lancashire, BB5 3SE

The proposal was refused on the following:

Green Belt

The proposed wind turbine would be located in an open field about 185m from the farm buildings at Matt Bridge Farm. The turbine would be 24.6m to hub with a blade diameter of 9.6m giving a height to tip of blade of 34.2m. The appellant accepts that wind turbines are not listed as a type of development deemed not to be inappropriate in the Green Belt in the National Planning Policy Framework (NPPF). Inappropriate development is, by definition, harmful to the Green Belt. The structure would have an adverse impact on the openness of the Green Belt and constitute a visual encroachment. The NPPF states that substantial weight should be given to any harm to the Green Belt.

Conclusion

The turbine would be a slim structure and its impact on openness would be limited. For the same reason and, in light of my findings regarding the impact of the development on the character and appearance of the area, I do not consider that any visual encroachment would be significant. However, in light of the inappropriate nature of the proposed development in the Green Belt it is necessary to consider whether the harm by reason of inappropriateness is clearly outweighed by other considerations, so as to amount to the very special circumstances necessary to justify the development. The NPPF acknowledges that very special circumstances may include the wider environmental benefits associated with increased production of energy from renewable sources. The NPPF also states that planning policies should support economic growth in rural areas and promote farm diversification. In this case, the proposed turbine would generate around 200,000 kWh of low carbon electricity per year. This would meet the energy demands of Matt Bridge Farm, thereby reducing energy costs and, through a reduction in reliance on fossil fuels, improve the sustainability of the business. It would also increase the supply of renewable energy to the local area. I consider that these matters do amount to the very special circumstances necessary to justify the development in the Green Belt. For the reasons given above and having regard to all matters raised I conclude that the appeal should be allowed

The proposal at Dyson Cote Farm portrays the same “Very Special Circumstance” as the above application that was allowed at appeal.

ECONOMIC BENEFITS

3.2 The NPPF stresses the importance of economic development. A direct economic benefit will be achieved by the production of renewable energy. The turbine will provide an income for the farm, this will reduce the farms overall running costs, therefore will enable more opportunity for the farm to invest in new technologies and expand and diversify the business. As the farm will have the potential to expand and diversify with the additional income, this in turn will create more employment opportunities within the farm business and in the surrounding area. During the construction, operation / maintenance and decommissioning of the turbine, this will also create employment opportunities within the renewable energy sector; this will create opportunities for people to learn a new skill set which can be applied in other industries and enable the economy to grow.

The proposed development will produce approximately 217,700 Kwh per annum. This will provide a significant contribution to the targets set out by the government. Overall the

electricity produced will be equivalent to that used by 53 typical homes. This is based on the annual consumption figures provided by OFGEM of 4,100Kwh per home per annum.

SOCIAL BENEFITS

3.3 The creation of jobs within the farming business and renewable energy sector can be considered social as well as economic benefits. The potential social benefits include: education and awareness raising opportunities within the local community, highly visible renewable energy technologies raise an increased awareness of renewable energy and its importance related to climate change, local and national energy security and independence awareness, home grown renewable energy sources reduce our reliance on fossil fuels which are finite and often sourced from geo political sensitive locations.

ENVIRONMENTAL BENEFITS

3.4 The proposed development will produce around 217,700 Kwh of low carbon, renewable electricity each year. This amount of electricity will deliver significant CO2 savings. Using DEFRA conversion factor for wind generated electricity, the proposed wind turbine will save around 130 tonnes of CO2 each year and approximately 3,913 tonnes of CO2 over its 30 year life span. This contribution to reducing carbon emissions will contribute to local and national targets as well as the abatement of anthropogenic climate change.

Section 10: *'Meeting the Challenge of Climate Change. Flooding and Coastal Change'* is the most relevant section of the Framework to the proposed development with paragraphs 93, 94, 97 and 98 being highly relevant.

Paragraphs 93 and 94 of the Framework identify the role LPAs play in ensuring they meet renewable and low carbon energy targets, they state;

- *Para 93. Planning plays a key role in helping shape places to secure radical reductions in greenhouse gas emissions, minimising vulnerability and providing resilience to the impacts of climate change, and supporting the delivery of renewable and low carbon energy and associated infrastructure. This is central to the economic, social and environmental dimensions of sustainable development.*
- *Para 94. Local planning authorities should adopt proactive strategies to mitigate and adapt to climate change, taking full account of flood risk, coastal change and water supply and demand considerations.*

Paragraphs 97 and 98 focus on the use and supply of renewable and low carbon energy, they state;

- *Para 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 landscape 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 such areas 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.*
- *Para 98. When determining planning applications, local planning authorities should:*
- *not require applicants for energy development to demonstrate the overall need for renewable or low carbon energy and also recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions; and*
- *Approve the application if its impacts are (or can be made) acceptable.*

The proposed development is wholly consistent with Section 10 and this is demonstrated elsewhere within this statement and other supporting documents submitted with this application. In summary, the proposed development strikes the right balance between performance and impact. The level of sustainable energy produced and will be significant whilst the modest scale of the proposed turbine and its careful siting will result in minimal impact on the quality and character of the landscape.

4. DESIGN AND ACCESS STATEMENT

PROXIMITY TO DWELLINGS

4.1 The proposal is located on the land south west of the farm buildings. The land is within the ownership of the farm owner. The immediate surrounding land is agricultural and this is the character of the wider rural area. The closest non associated property to the proposal is 435m to the North east. Therefore the impact on neighbouring properties is expected to be minimal further investigation of this is discussed in the sections below.

SHADOW FLICKER

4.2 Guidance suggests that flicker can occur at a distance of up to 10 rotor diameters and 130 degrees either side of north.

Under certain combinations of geographical position and times of day, the sun may pass behind the rotors of a wind turbine and cast a shadow over neighbouring properties. When

blades rotate, the shadow flicks on and off, this is what is known as 'shadow flicker'. This only occurs inside buildings where the flicker appears through a narrow window opening.

A single window in a single building is likely to be affected for a few minutes at certain times of the day during short periods of the year. The likelihood of this occurring and the duration of such an effect depend upon a number of factors: the direction of the building relative to the turbine, the distance from the turbine, the turbine hub and rotor diameter, the time of year, the frequency of bright sunshine and cloudless skies and the prevailing wind direction.

Any shadow flicker produced by the proposed turbine will be a nuisance phenomenon rather than one likely to cause health issues for photosensitive individuals. Due to the sensitive siting of the turbine, no residential dwellings will be affected by shadow flicker. A shadow flicker diagram has been produced and accompanies the application, illustrating there will be no effect.

ACOUSTIC IMPACT

- 4.3 The turbine noise levels are based on the Endurance E-3120, the turbine that is installed will not exceed these noise levels. The turbine has been sensitively sited so there will be no impact on neighbouring properties from noise. A report outlining the predicted operational noise levels has been prepared and accompanies the application. The report concludes that the noise levels will fall within the acceptable noise level limits as indicated with ETSU-R-97 guidelines.

PROXIMITY TO HIGHWAYS AND PUBLIC RIGHTS OF WAY

- 4.4 The turbine has been sensitively sited so it will not impact on any highways or public rights of way. The maximum fall over distance of the turbine will be 49m to blade tip.

ACCESS, TRAFFIC, CONSTRUCTION AND TRANSPORT

- 4.5 The construction of the turbine is anticipated to occur over a 4 week period. The volume of traffic required is expected to be light, and is not likely to cause any traffic issues. During the construction of the turbine the following deliveries will be required:

- Delivery of Temporary access track
- Delivery of excavator
- Delivery of shuttering and reinforcement
- Delivery of Concrete for foundation. A 49m³ foundation would require 8 truck deliveries (m³ per truck)
- Removal of shuttering
- Removal of excavator
- Crane, this will be present during the erection process of the turbine
- Delivery of turbine components
- Removal of temporary access track

There will be four deliveries to site for the turbine components; this will include the tower base section, a lower top section, blades, nacelle and electrical cabinet.

The longest component of the turbine is the blades, these will be transported using a standard HGV tractor unit and an extendable flatbed trailer, This is permitted under Roads Vehicles (Authorisation of Special Types) (General) Order 2003 (AofST) although before the start of any journey, a Form of Notice will be sent to the chief officer of police for the area in which the vehicle is to be used. Also, during the journey the vehicle will be accompanied by an attendant. The bottom section of the tower will also require an extendable flatbed trailer, this will also fall under the above regulations and a form of notice will also be sent to the chief of police prior to delivery, the journey will also be accompanied by an attendant.

The widest part of the turbine is the lower section of the tower. Load widths 2.9m and over and less than 4.3m are permitted under the Roads Vehicles (Construction and use) Regulations 1986. As this is an abnormal length the chief officer of police for the area in which the vehicle is to be used will be notified and the vehicle will be accompanied by an attendant.

The heaviest load that will be transported to site is the turbine Nacelle, Hub and MCC. The combined weight of these components is approximately 12 Tonnes. This is under the maximum authorised weight for vehicle combinations as set out in the Road Vehicles (Authorised Weight) Regulations 1998.

The Lower section of the tower will be collected from Mabey Bridge, Chepstow. A desk top study of the route has been carried out and has been concluded that there will be no need for any upgrading / altering of the existing road network.

The blades for the turbine will be collected from Hartlebury Trading Estate, Hartlebury, Worcestershire. A desk top study of the route has been carried out and has been concluded that there will be no need for any upgrading / altering of the existing road network.

All other deliveries for the turbine components will use standard vehicles and will not require any special circumstances.

Vehicle tracking software has been used, based on the proposed Vehicle sizes in order to assess the journey, to determine if it's physically possible and will not require any alteration / adaptations to the existing road network.

The development will take place on private land away from any public rights of way. Temporary tracks will be created to support construction traffic across the field. The access and construction traffic will not give rise to any disturbance to neighbouring dwellings nor limit access to lanes around the site. It may be necessary to control the traffic using this route when delivering the larger components of the turbine. On-coming vehicles will be controlled by appropriately qualified staff within the attendant vehicle travelling with the truck warning on-coming traffic to slow down and stop until the manoeuvre has been completed.

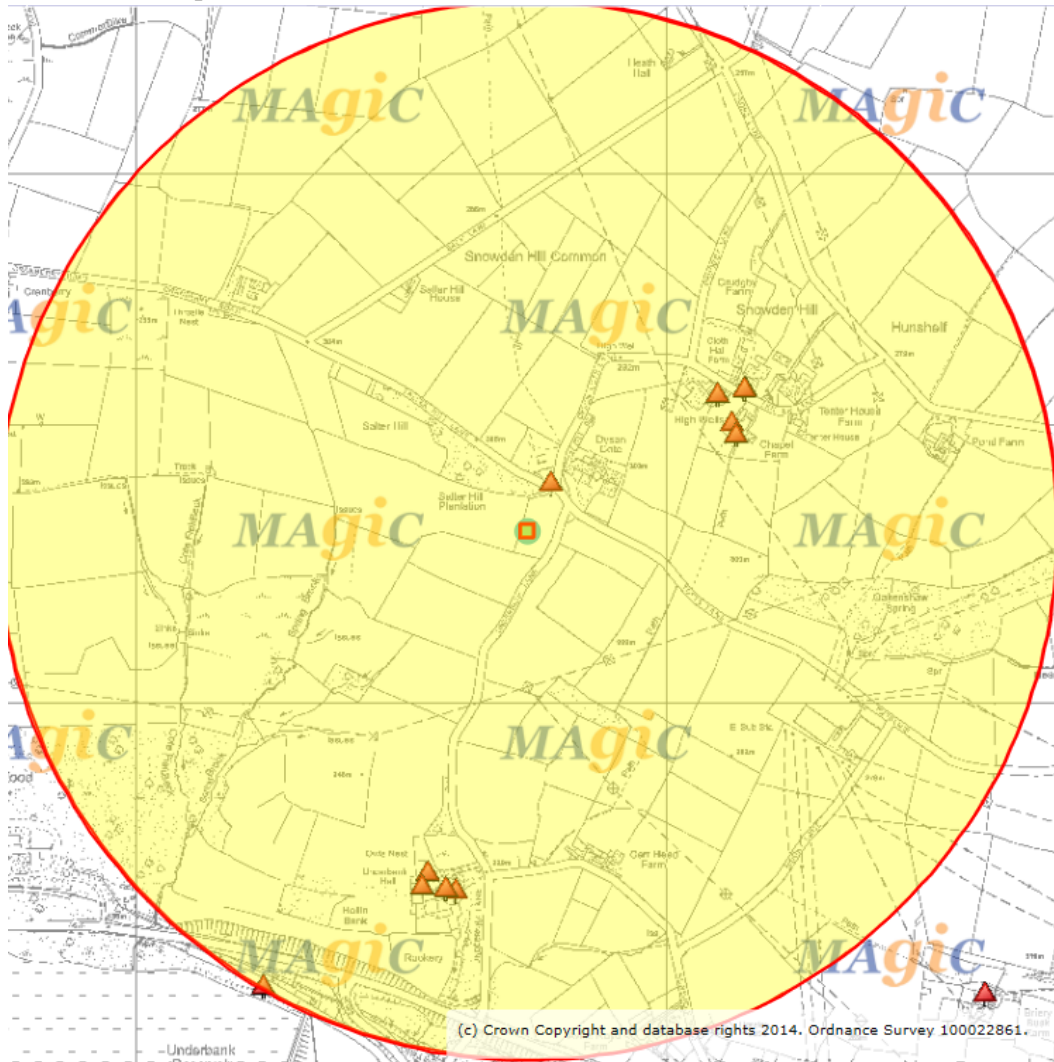
Following on from the installation of the turbine routine access will be required on an annual basis for maintenance.

ECOLOGY AND ORNITHOLOGY

4.6 A separate ecological survey has been carried out and accompanies the application

LISTED BUILDINGS AND ARCHAEOLOGY

4.7 As with any application, consideration should be given to any impact on the character of heritage assets, be they scheduled monuments or listed buildings. The surrounding heritage assets within 1km of the proposed wind turbine are illustrated on the map below:



Heritage Assets within 1km of the proposed turbine

Number	Name	Grade	Distance from Turbine Km
1151116	MILESTONE APPROXIMATELY 400 METRES WEST OF JUNCTION WITH UNDERBANK LANE	II	1km
1315036	BARN APPROXIMATELY 30 METRES TO WEST OF UNDERBANK HALL	II	0.71km
1191506	STABLE RANGE APPROXIMATELY 30 METRES NORTH WEST OF UNDERBANK HALL	II	0.68km
1191496	UNDERBANK HALL	II	0.69km
1151119	COTTAGE AND	II	0.69km

	ATTACHED MOUNTING BLOCK IMMEDIATELY EAST OF UNDERBANK HALL		
1191457	GUIDE POST AT JUNCTION WITH DYSON COTE LANE	II	0.11km
1287044	COTTAGE AT HIGH WELLS FARM APPROXIMATELY 10 METRES WEST OF NEW FARMHOUSE	II	0.44km
1151117	BARN APPROXIMATELY 10 METRES SOUTH EAST OF CLOTH HALL FARMHOUSE	II	0.49km
1151118	CHAPEL FARMHOUSE INCLUDING CHAPEL	II	0.43km
1287049	BARN AND FARM BUILDINGS ATTACHED TO CHAPEL FARMHOUSE	II	0.43km

There are 10 listed buildings within 1km of the proposal; there are no scheduled monuments within 1km of the proposal. The listed buildings within 1km are grade II listed; these are of no significance heritage asset. The nearest asset is the Milestone noted as the guide post at the junction with Dyson Cote Lane. The Milestone, known as collectively guide stoops, were ordered to be set on the highways across the moors by the West Riding Justices of the Peace in 1700. It was further ordered in 1733 that stoops should be erected at minor crossroads on the edge of the moors, pointing the way to hamlets and even to isolated farms. In 1738, distances were ordered to be shown. Most stoops have 4 sides; the Dyson Cote stoop, however, has 6. These are marked "Barnsley & Pontefract 1734/Doncaster/Wakefield & Leeds/penistone, Huthersfield & Hallifax/Woodhead & Mottram/Underbank & Bradfield/ Sheffield & Rotterham. Although the proposed turbine would be visible in relation to this milestone it is not considered that the turbine would intrude significantly into the asset's setting which is primarily related to the public highway and the connections with the local road network. The introduction of a turbine would not significantly alter this relationship and thus any visual connection is considered acceptable. Therefore any impact on this asset will be reduced. Due to the small scale of the proposed turbine and the sensitive siting within the landscape, it is anticipated that the proposed turbine will not affect the setting of any of these assets.

LANDSCAPE AND VISUAL IMPACT

4.8 A separate report has been produced (LVIA) that accompanies the application.

GRID CONNECTION

4.9 The turbine will be connected to the national grid. To minimise the visual impact of the required cabling, these will be buried underground. All works will be carried out by the District Network Operator (DNO).

ELECTROMAGNETIC INTERFERENCE (EMI)

4.10 The turbine components will comply with the European Commission Directive on Electromagnetic Compatibility (89/336/EEC) and should not give rise to any unusual problems.

RADIO TRANSMITTERS

4.11 There are no radio transmitters within the vicinity of the proposed turbine. No impact on the operation of the telecommunications / radio masts in the vicinity of the proposed turbine is anticipated. The JRC and Ofcom have been consulted and have no objections to the proposal

ICE THROW

4.12 PPS22 states the build-up of ice on turbine blades is unlikely to present problems on the majority of sites in England. For ice to build up on wind turbine blades particular weather conditions are required, these conditions occur in England for less than 1 day per year. (See Wind Energy Production in Cold Climates (WECO) (ETSUW11/00452/00/REP)

Due to the remote location of the turbine and the distances from highways and public rights of way, this significantly reduces the probability of any incident occurring.

HYDROLOGY

4.13 From the information taken from the environment agency, it is evident that the turbine site will not be at risk from flooding.

SAFETY

4.14 For the construction of the turbine, the possible risks that could occur during the construction/installation, servicing and decommissioning phase have been considered. In order to minimise these risks work will be undertaken under the following regulations:

- Health and Safety at Work Act 1974
- Management of Health & Safety at Work Regulations 1999
- Work at Height Regulations 2005
- Lifting Operations & Lifting Equipment Regulations 1998

All work will be planned to be completed within normal working hours, with noise levels limited where possible. A site traffic management plan will ensure works traffic does not endanger the public whilst entering or leaving the site. Working at height shall be mitigated where possible, but because of the nature of the project will at times be essential. All working at height will comply with Work at Height Regulations 2005. All works will be performed by suitably trained and competent staff, to established methodologies which have been risk assessed in advance.

CONCLUSION

- 5 This statement has shown that the proposed development aligns well with national and local planning policy. The turbine integrates well into the landscape. Any impacts on residential and recreational amenity will be minimal and crucially the project will not present any significant risks to biodiversity or sensitive ecological features either on site or within the surrounding area the farm will benefit from free, low carbon electricity with the balance of generated power being exported and used in the local district network. Furthermore, the CO₂ savings associated with the proposal will make a significant contribution to climate change mitigation. In conclusion, the benefits associated with this project outweigh any impact. We feel that the proposal will not have any negative effect on the local landscape due to the construction, design, materials and finishes to be used on the proposal. It is hoped that the information provided herein gives sufficient detail on the proposed development. However, should anything further be required please do not hesitate to contact DC21.