DESIGN AND ACCESS, AND PLANNING STATEMENT
FOR

PROPOSED ERECTION OF SINGLE 12M HIGH 5KW WIND TURBINE
AT

MIDDLECLIFFE FARM, MIDDLECLIFFE LANE, MILLHOUSE GREEN, SHEFFIELD, SOUTH YORKSHIRE, S36 9NT

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PLANNING CONSULTANCY

1 INTRODUCTION

1.1 Directions Planning Consultancy has been instructed by Clean Energy (the agent), to submit a Planning Statement in support of a planning application to erect a single wind turbine and associated infrastructure at Middlecliffe Farm.

1.2 The turbine would be positioned to the South West of the farm (see **Appendix A**) and would provide electricity for the property.

2 DESIGN AND ACCESS

2.1 The wind turbine is an Evance R9000 model and a data sheet for this product is available as **Appendix B** and manufacturer's drawings and dimensions are included as **Appendix C**. The Evance R9000 is a small turbine, measuring 12 metres high (14.75 metres to blade tip). The turbine is quiet and has a low visual impact. The capacity of the turbine is 5kW. The tower is galvanised steel and finished in grey, with the blades and nacelle constructed of composite material, finished in matt grey.

2.2 The associated infrastructure consists of base work to secure the turbine and establishment of grid connection (see **Appendix C**).

2.3 As detailed in **Appendix B**, the Evance R9000 is specifically designed to work at lower windspeeds and therefore is one of the most efficient 5kW wind turbines available. It is Microgeneration Certification Scheme (MCS) accredited and therefore eligible for government Feed in Tariff incentives. The wind turbine would provide sustainable low carbon and renewable energy, thus reducing the electricity bills and carbon emissions of Middlecliffe Farm and contributing to wider objectives for a more secure and decentralised energy supply.

2.4 The applicant views the proposal as part of their wider efforts to become more energy efficient and sustainable and support local and national targets to generate 34% of energy through renewables by 2020.

2.5 The turbine is expected to generate approximately 15,349 kW hrs. This is calculated from an estimated wind speed of 6.1 m/s average annual windspeed at 10m above ground level. The property currently uses approximately £66 per calendar month of electricity, however as the family has no gas supply, the oil powered boiler consumes an average of £212 per calendar month. The family intend to reduce their oil consumption, and therefore carbon produced, by using the power from the turbine to supply 8 x 3kW electric underfloor heating systems. These are being installed throughout the whole interior of Middlecliffe Farm, have already been paid for and an install date is pending.

2.6 Generation from the turbine is expected to save approximately 9.2 Tonnes of CO2/annum, which amounts to 184 Tonnes of CO2 over the 20 years life expectancy of the Evance R9000.

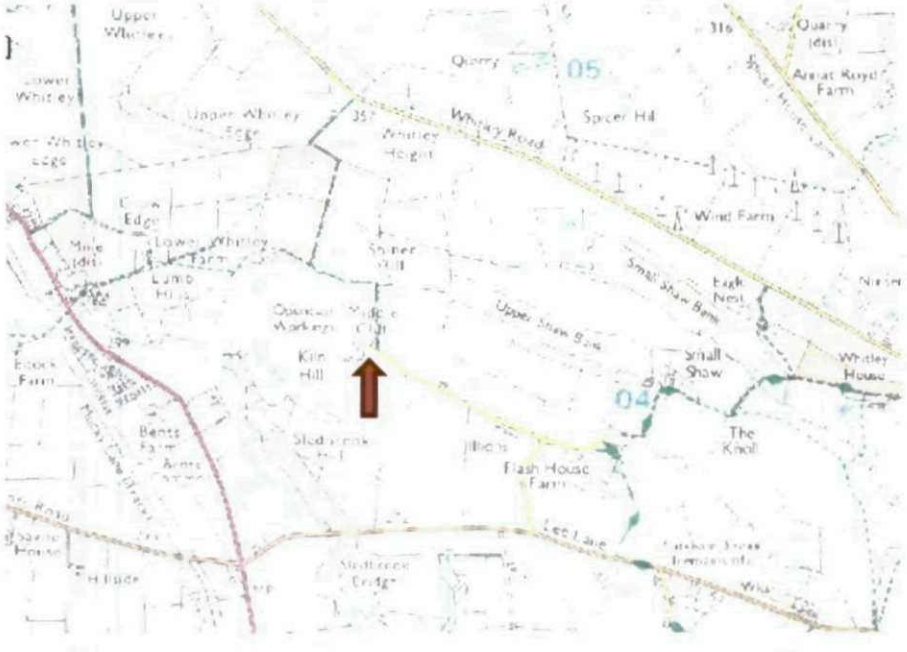
2.7 The siting of a wind turbine requires maximum exposure to unobstructed wind flow conditions in order to achieve maximum efficiency. Proximity to ground based obstructions can detrimentally affect the performance of a turbine and it is therefore essential to ensure that the turbine is situated a sufficient distance away from such obstructions. At the same time the applicants have sought to locate the turbine as near to the farm as possible to limit its visual impact as a

standalone fixture in the landscape. The proposed location, therefore takes both the technical/ operational factors and the visual impact in to consideration. The proposed siting is far enough away from the farm to ensure unobstructed wind flow, but near enough for the turbine not to be viewed in isolation.

2.8 This statement will now deal with the planning policy framework and material considerations pertinent to the determination of the planning application. It will demonstrate that through the design the turbine is of scale that can successfully integrate into the landscape without harm. The size of the turbine is therefore considered to be the most feasible and viable as it will generate 15,349 KWh of electricity each year, which will replace a significant proportion of the electricity used by this property and thus contribute towards lowering carbon emissions and increasing the family's self-sufficiency in terms of electricity production

3 SITE LOCATION

3.1 The site lies within the curtilage of Middlecliffe Farm, which as the map below shows, is located at the end of Middlecliffe Lane. The coordinates for the site are: X419681 Y404116.



3.2 The character of the area is rural in nature but with a varied mix of land uses comprising: open fields, agricultural land, a small wood, opencast mineral workings and wind farms that are all visible from the application site.

3.3 The distance to the nearest neighbouring property is 460m and they are well screened from views of the proposed turbine. These nearest neighbours have been informally consulted and are fully supportive of the Bowden family's wind turbine proposal. The nearest village is Crow Edge, which is 2 kilometres away and it is considered that the turbine will have no impact at all on this settlement.

3.4 Significantly, Middlecliffe Farm is close to a number of commercial scale wind farms. The nearest wind farm is at Hazlehead, where there are currently 3 x 100m wind turbines. Blackstone Edge

also has 3 x 100m turbines and Royd Moor Wind Farm has 13 x 54m turbines. Spicer Hill has also been granted planning permission for 3 x 100m turbines to be erected in 2012. The principle of tall moving structures in the landscape has therefore already been established in the vicinity of the farm. The proposed 12m turbine would have very little additional impact on the character of the landscape and will not be visually prominent on the skyline. The issue of cumulative impact is not considered material to this proposal because the turbine is of a vastly smaller scale, noise output and capacity.

3.5 Middlecliffe Farm has a neighbouring opencast mine to the west, which is a substantial impact on the landscape, amenity, local roads and tranquillity. In this context the effects of the proposed small wind turbine on local amenity are considered to be very minor indeed. Moreover, the Evance R9000 is known for its exceptionally low noise emissions (see **Appendix D**) and it is considered that there will be no local disturbance from noise because of the distance between the proposed turbine and its nearest neighbours or those seeking recreation. There is no evidence of footpaths within the vicinity of the farm.

4 POLICY CONTEXT

4.1 The planning policy context for this application is complicated by the current ambitions of the Coalition Government to change the planning system. It is considered that the following form significant material considerations in the determination of this application.

National Planning Policy

4.2 The Government believes that climate change is the greatest long-term challenge facing the world today. Addressing climate change is therefore the Government's principal concern for sustainable development. Policies and priorities for action, both in the UK and internationally, are set out in the Climate Change Act (2008) which sets a legally binding target to reduce UK carbon emissions by a 34% reduction on 1990 levels by 2020, 50% reduction by 2025, and 80% reduction by 2050. The UK Low Carbon Transition Plan sets out the approach of meeting these targets and the critical role that a decarbonisation of the electricity supply sector will play. The UK Renewable Energy Strategy anticipates that renewables will need to contribute to around 15% of electricity supply by 2020.

4.3 Climate change is one of only three legal duties placed on planning policy-making (along with sustainable development and design). This duty is supported by a range of national policy documents setting out the Government's objectives for planning and provides a framework of core principles for decentralised renewable energy proposals. A number of Planning Policy Statements are pertinent to the consideration of the planning application.

PPS1: Delivering Sustainable Development (February 2005)

4.4 PPS1 sets out the general principles of sustainable development, and also provides general guidance on achieving appropriate planning and design. Planning is expected to facilitate and promote sustainable development. This includes the prudent use of resources and promotion of renewable energy installation. The guidance also states that there is a principle to protect and enhance the natural and historic environment and the quality and character of the countryside.

4.5 The current Government is also committed to the delivery of sustainable development and has

made a presumption in favour of sustainable development central to the Draft National Planning Policy Framework which seeks to replace the suite of Planning Policy Guidance Notes and Statements.

PPS1: Delivering Sustainable Development: Climate Change Supplement (December 2007)

4.6 In light of a broad consensus around scientific evidence and increasing concerns about the link between human activity and climate change, a supplement to PPS1 was released. It sought to specifically deal with the role that the planning system can make to mitigating and adapting to climate change.

4.7 This set out how local authorities should actively plan to ensure that opportunities for renewable and low-carbon sources of energy supply, including decentralised energy supply systems, are maximised. This includes microgeneration and the Government advised that existing and new development should endeavour to provide some form of renewable or low-carbon energy generation.

4.8 PPS1 notes in paragraph 40 that "an applicant for planning permission to develop a proposal that will contribute to the delivery of the Key Planning Objectives set out in this PPS should expect expeditious and sympathetic handling of the planning application."

4.9 The requirements of PPS1 are in line with the views of the current Government who is committed to tackling climate change. This commitment is indicated in the Draft National Planning Policy Framework which, whilst not currently a strong material consideration, is a signal of the Government's intentions around climate change and decentralised energy. The Draft NPPF states that that the planning system should aim to "secure, consistent with the Government's published objectives, radical reductions in greenhouse gas emissions, through the appropriate location and layout of new development, and active support for energy efficiency improvements to existing buildings and the delivery of renewable and low-carbon energy infrastructure". The Government also notes that "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". The UK Roadmap to 2020 illustrates that it will be necessary for a wide variety of delivery bodies across a number of sectors to deliver different renewable and low carbon technologies together. In this regard decentralised/ microgeneration makes a substantial accumulated contribution to Government climate change targets and ambitions.

Planning Policy Guidance 2: Green Belts (1995)

4.10 PPG2 sets out that there are five purposes of including land within the Green Belt:

1. to check the unrestricted sprawl of large built-up areas;
2. to prevent neighbouring towns from merging into one another;
3. to assist in safeguarding the countryside from encroachment;
4. to preserve the setting and special character of historic towns; and
5. to assist in urban regeneration, by encouraging the recycling of derelict and other urban land.

4.11 PPG2 also notes that once designated as green belt the use of land in them has a positive role to play in fulfilling the following objectives:

1. to provide opportunities for access to the open countryside for the urban population;
2. to provide opportunities for outdoor sport and outdoor recreation near urban areas;
3. to retain attractive landscapes, and enhance landscapes, near to where people live;
4. to improve damaged and derelict land around towns;
5. to secure nature conservation interest; and
6. to retain land in agricultural, forestry and related uses.

4.12 PPS22: Renewable Energy refers to the issue of wind turbines in the green belt. It states that "when located in the green belt, elements of many renewable energy projects will comprise inappropriate development, which may impact on the openness of the green belt. Careful consideration will therefore need to be given to the visual impact of projects, and developers will need to demonstrate very special circumstances that clearly outweigh any harm by reason of inappropriateness and any other harm if projects are to proceed. Such very special circumstances may include the wider environmental benefits associated with increased production of energy from renewable sources."

Planning Policy Statement 7: Sustainable Development in Rural Areas (2004)

4.13 PPS7 sets out the Government's objectives for the countryside and sets out the key principles of raising the quality of life in rural areas, encouraging more sustainable use of land, and to diversify and promote growth in rural areas. Paragraph 16 notes that among these objectives are promoting good quality, sustainable development that support development that provides for the sensitive exploitation of renewable energy sources in accordance with the policies set out in PPS22.

Planning Policy Statement 22: Renewable Energy (2004)

4.14 PPS22 states that increased development of renewable energy resources is vital to facilitating the delivery of the Government's commitments on both climate change and renewable energy. Within PPS22 there is a general presumption in favour of small-scale renewable energy schemes provided that their scale, siting, design, and cumulative impact would not result in any significant visual impact.

4.15 PPS22 sets the objective based criteria that must be applied by local planning authorities in deciding individual planning applications to generate energy from wind. It also encourages local planning authorities to include in their local development frameworks policies requiring new developments to generate at least 10% of their own energy from on-site renewable sources.

4.16 In particular the following elements of PPS22 are seen as relevant to this case:

Key Principle IV: The wider environmental and economic benefits of all proposals for renewable energy projects, whatever their scale, are material considerations that should be given significant weight in determining whether proposals should be granted planning permission.

Key Principle VI: Small-scale projects can provide a limited but valuable contribution to overall output of renewable energy and to meet energy needs both locally and nationally. Planning Authorities should not therefore reject planning applications simply because the level of output is small.

Paragraph 11: Small scale developments should be permitted within sensitive landscape areas

such as National Parks, Areas of Outstanding Natural Beauty and Heritage Coasts, providing there is no significant environmental detriment to the area concerned.

Paragraph 18: Local planning authorities and developers should consider the opportunity for incorporating renewable energy projects in all new developments. Small-scale renewable energy schemes utilising technologies such as solar panels, Biomass heating, small-scale wind turbines, photovoltaic cells and combined heat and power schemes can be incorporated both into new developments and some existing buildings. Local planning authorities should specifically encourage such schemes through positively expressed policies in local development documents.

Paragraph 20: Of all renewable technologies, wind turbines are likely to have the greatest visual and landscape effects. However, in assessing planning applications, local authorities should recognise that the impact of turbines on the landscape will vary according to the size and number of turbines and the type of landscape involved, and that these impacts may be temporary if conditions are attached to planning permissions, which require the future decommissioning of turbines.

PPS22 Companion Guide paragraph 6.17: For small and medium size projects; in cases where power can be dedicated to on-site uses, economically attractive schemes are a strong possibility. Local Planning Authorities can take a proactive approach to encourage this form of urban wind development.

Consultation Draft National Planning Policy Framework (2011)

4.17 A consultation draft National Planning Policy Framework (NPPF) was released on 25th July 2011. The National Planning Policy Framework is a streamlining of existing Planning Policy Statements, Planning Policy Guidance Notes and some circulars to form a single consolidated document.

4.18 The Draft NPPF retains the general objectives and principles of PPG2. It also reiterates PPS1, the PPS1 supplement and PPS22 with regard to renewable energy objectives. The Draft NPPF is more explicitly supportive of small scale generation and states that 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. It also recognises that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions; and so local authorities should approve applications if impacts are (or can be made) acceptable in line with the presumption in favour of sustainable development.

Presumption in Favour of Sustainable Development

4.19 The Planning Minister issues a written Ministerial Statement on 15th June 2011. This sets out that there is a new presumption in favour of sustainable development at the heart of the planning system. This means that local planning authorities should plan positively for new development, and approve all individual proposals wherever possible. The presumption states that local planning authorities should:

- Prepare local plans on the basis that objectively assessed development needs should be met, and with sufficient flexibility to respond to rapid shifts in demand or other economic changes;
- Approve development proposals that accord with statutory plans without delay; and

- Grant permission where the plan is absent, silent, indeterminate or where relevant policies are out of date.

Plan for Growth

4.20 On 23rd March 2011 the Minister for Decentralisation issued a written Ministerial Statement. This sets out the Government's expectations that the planning system should promote sustainable economic growth and jobs, and ensure that the sustainable development needed for economic development is able to proceed as easily as possible.

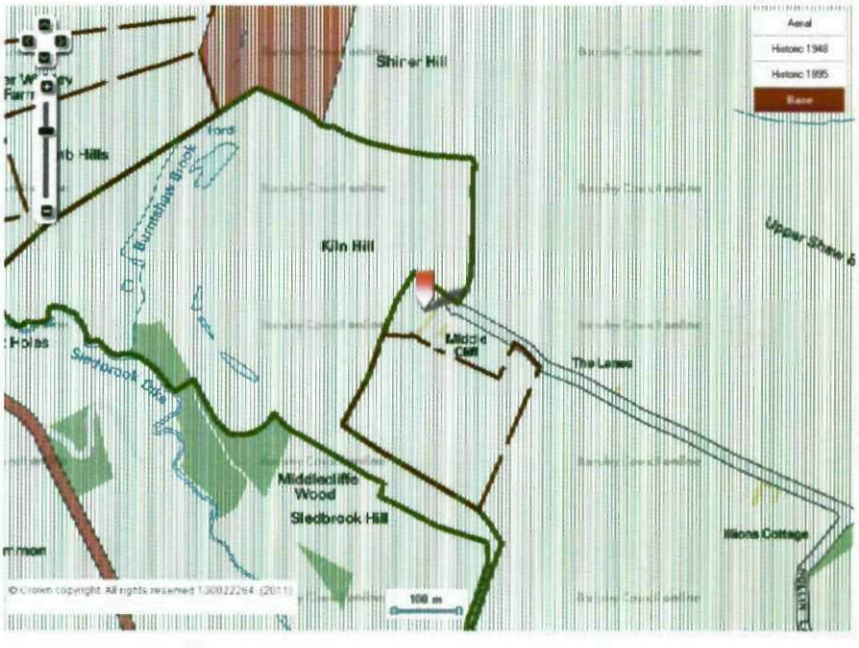
4.21 The key aim of the Planning for Growth statement is to ensure that the planning system does everything possible to support economic growth and sustainable development to help rebuild the British economy. The Government expects planning authorities to implement the provisions in the Plan for Growth immediately.

Statutory Development Plan

4.22 The starting point for the assessment of this planning application is the Statutory Development Plan for the area, which in this case comprises the following:

1. Regional Spatial Strategy for Yorkshire and the Humber (May 2008)
2. Adopted Barnsley Core Strategy (September 2011)

4.23 Barnsley's Local Development Framework (2005) Preferred Options Proposals Map identifies the designations and allocations that are pertinent to the proposal. The Proposals Map extract is shown below and shows that the site lies within the Barnsley green belt and is adjacent to a minerals planning application site to the west and a minerals area of search site to the south. The nearest site of ecological importance lies someway to the north west of the site beyond the opencast mineral working and is therefore considered to be irrelevant for the purposes of the application because the mine forms a physical barrier between the two.



Regional Spatial Strategy for Yorkshire and the Humber (May 2008)

4.24 The Yorkshire and Humber Plan seeks to increase renewable energy capacity in the region through standalone grid connected development and through promoting greater use of decentralised and renewable or low carbon energy. A recent Yorkshire and Humber Renewable Potential Study (2011) notes that microgeneration plays a critical role in helping realise the potential for renewable energy in the region and meeting Government targets for carbon reduction.

Adopted Barnsley Core Strategy (September 2011)

4.25 *Paragraph 4.12* notes that in the context of delivering more sustainable development and addressing climate change "proposals will be supported where they deliver renewable energy generation to reduce the causes of climate change". Paragraph 4.15 also notes that the Council has a clear vision of what it wants to achieve in terms of climate change. One of these objectives is to increase the generation of renewable energy through the Council's own activities and support to others. The principle of the proposed development is therefore in line with the overall ambitions of the Council.

4.26 *Objective 8* sets out to protect and improve the countryside and natural environment by *inter alia*: minimising the use of energy and encouraging greater use of energy from renewable sources and supporting renewable energy facilities to increase the amount of renewable energy produced in the borough.

4.27 *Policy CSP1* states that development will be expected to 'reduce and mitigate the impact of growth on the environment and carbon emissions and ensure existing and new communities are resilient to climate change.'

4.28 *Policy CSP6* states that we will allow development that produces renewable energy as long as there is 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

4.29 *Policy CSP40* states that development will be expected to demonstrate that it is not likely to result, directly or indirectly, in an increase in air, surface water and groundwater, noise, smell, dust, vibration, light or other pollution which would unacceptably affect or cause a nuisance to the natural and built environment or to people.

5 MATERIAL PLANNING CONSIDERATIONS

Planning Policy Considerations

5.1 Planning policy provides considerable strength in support of microgeneration in terms of PPS1, the PPS1 supplement, PPS22 and the emerging NPPF. The statutory development plan also supports microgeneration through Policy ENV5 of the RSS and Core Strategy policy CSP1 and

CSP6. There can be little doubt that, in principle, the erection of a small wind turbine to provide electricity to a house which is currently reliant on oil is a desirable development in Barnsley for the following reasons:

- It helps to deliver on the Government's ambitions for a low carbon economy in which everyone plays their part;
- It helps to meet Government targets for a reduction in greenhouse gas emissions of 34% by 2020;
- It reduces dependency on the national grid and the use of limited natural resources;
- It replaces a form of heating which has high CO2 emissions with a renewable and low carbon source, which is safe and secure and not subject of international and national energy price rises; and
- The farm is not on the gas grid and has few options for alternative heat and power sources.

Other Planning Considerations

5.2 It has been demonstrated that, in terms of planning policy, the proposal in principle is acceptable. However, there are a number of other planning considerations that the application must address in relation to the location of the development in the green belt and harm to the amenity of others. It is also important to stress the consideration that the applicants have given to realising a renewable and low carbon source of energy generation on this site.

Impact on the Openness of the Green Belt

5.3 The principle of wind turbines within green belt has been tested many times, including:

Ovenden Moor, West Yorkshire, July 1992 – the Secretary of State's decided to grant consent for a wind farm and noted that the Inspector's opinion that the proposed wind farm could constitute an appropriate use of land within the green belt and was appropriate to a rural area.

Scout Moor, Rochdale, May 2005 – the Inspector agreed with the applicant's view and considered that "the landscape [would] retain a sense of openness permeating through the slim widely spaced turbines". On this basis, the turbines were considered to constitute appropriate development within the green belt.

5.4 It is also significant that the proposal for an Evance 9000 5Kw wind turbine on a 12m tower has also very recently been tested by the Planning Inspectorate through an appeal in a green belt location similar to this planning application. The application was recommended for approval by planning officers but overturned by Members at planning committee and refused. The subsequent appeal decision is detailed below. Costs were sought against the local authority but it the outcome of this separate process is not known.

Ormskirk, Lancashire, May 2011 (Appeal Ref: APP/P2365/A/11/2144624) – the Inspector allowed the appeal and concluded that "given the slim nature of the tower and the small diameter of the blades, the effect on openness would be slight. In terms of visual impact, the small scale of the proposal would mitigate its effect." The Inspector also noted that "the contribution of the proposal to the sum of renewable energy and reduction in greenhouse gases attracts substantial weight. Thus, in this case, the totality of the harm by reason of inappropriateness and the effect on openness is clearly outweighed by the contribution to the supply of renewable energy and the

mitigation of the adverse effects of climate change. Therefore, looking at the case as whole, very special circumstances exist which justify the development. Accordingly, the proposal would not conflict with the objectives of national and local planning policy and the appeal is allowed."

5.5 The location of the turbine within the curtilage of the existing farm building at Middlecliffe Farm means that there is little impact on the openness of the green belt in terms of footprint given that the developed nature of the farm and its curtilage already constitutes some erosion of openness. The issue must be one of height of the mast and presence of a moving turbine in this location.

5.6 The proposed development is 12m tall structure and is taller than the house it sits beside. The height of the mast is essential to ensure that the turbine operates effectively at a viable wind speed. Due to its scale, and the fact this is a single installation, no strategic views across the area will be harmed. The impact on more local openness is considered to be slight because the small scale of the tower (its narrowness and small diameter blades) retain a sense of openness permeating through it.

5.7 Moreover, the turbine is considered to fit with the other tall structures around the site such as telephone masts, high voltage electricity pylons, low voltage electricity distribution masts and the neighbouring wind farms. It is considered that these vertical installations are a familiar and accepted part of the local landscape. These tall structures are shown in the photographs in **Appendix E**. It is considered that there is sufficient context within the local landscape for the proposed turbine to be relatively insignificant in scale and visual impact and therefore a minor incursion into the openness of the green belt in this location.

5.8 A 12m mast has been chosen for the turbine after taking into account the existing landscape characteristics as well as the energy generating capacity and efficient functioning of the turbine. On a higher tower the turbine could produce more energy but could be considered to be too prominent in this location. A balance between the most efficient type and height of turbine and the local environment has been struck. A smaller mast height would adversely affect the viability of the proposal and would result in an installation that would only be marginally less prominent but would have a far poorer performance.

5.9 It is considered that the proposed development does not harm any of the five purposes for land being designated as green belt. It is considered that the proposed development is also compatible with the objectives of including land within the green belt at this location. Paragraphs 4.3 to 4.9 demonstrate that objective 2 "to retain attractive landscapes, and enhance landscapes, near to where people live" is minimally affected for the following reasons:

- The landscape is not of a particularly high quality and the Council has not sought to designate it for local landscape value;
- This is a working environment, as can be demonstrated by the mineral workings, agricultural impacts and wind farms immediately surrounding the site;
- The turbine is small and will maintain views through its tall slender structure; and
- The precedent of tall vertical structures, some of which have moving elements has been set within the local area.

<u>Feasibility and Viability Issues</u>

5.10 PPS22 encourages developers to consider the opportunity for incorporating renewable energy projects in all development. Before deciding that a wind turbine was the most appropriate

installation the following technologies were considered: Solar PV panels, solar thermal panels and ground source heat pumps. The reasons for discounting these are detailed below:

Technology	Issues	Outcome
Wind turbine	Green Belt / Amenity	Feasible and viable – preferred option
Solar PV	No direct south facing roofspace Less power generated	Viability – concern over reduction in Feed in Tariff
Anaerobic Digestion	Expensive given needs	Unviable
Hydro-power	No water source	Unfeasible
Biomass	Expensive given needs/ uncertainty of fuel sources	Unviable

5.11 This specific area has a substantial wind resource and the site has an average wind speed of 6.1m/s at 10m above ground level which as previously mentioned equates to approximately 15,349 kW hrs of electricity generation per year at the specified mast height. On most occasions this energy generated will be used by the farm; however at times of low energy usage demand the turbine will also feed any excess energy back to the grid. This is a significant contribution which has benefits for the wider community in that it works directly towards the Government's regional and national targets for the supply of energy from renewable sources.

5.12 In conclusion, turbines and solar PV panels are designed to produce electricity and when comparing the potential electricity generated by a wind turbine and solar PV panels it is evident at this site that the turbine is by far the most appropriate installation and that the significant energy generating capacity of the turbine is sufficient in this case to override the green belt impact associated with this type of installation.

Siting and Impacts on Amenity

5.13 Small wind turbines are generally associated with a property and as such are rarely in 'prime wind' sites as sought by commercial power generators. Nevertheless, if care is taken with regard to selection and positioning, a small wind turbine can make a significant contribution to greenhouse gas reduction as well as being an economically attractive proposition for the owner.

5.14 A wind speed analysis has established that a small scale wind turbine is the most appropriate and efficient installation for the site. It is essential that the chosen site meets both planning and installer requirements so that an efficient and appropriate form of development can be achieved. The site survey explored possible locations and found that the proposed site is the most appropriate. In amenity terms, the siting of the turbine must be sufficiently remote from all adjoining neighbours to ensure that the residential amenities are not harmed by potential noise or shadow flicker. In this case the chosen site, which is approximately 460m from the nearest non-associated residential property with a direct line of site of the turbine, is sufficient to prevent any adverse impact on any residential dwellings. In functional terms, the turbine requires a sufficient wind speed and a supply of clean turbulence free wind in order for its efficient operation. Proximity to man-made obstacles can have an impact on the effective functioning of the turbine as wind in close proximity to such structures is slower and more turbulent. It is therefore essential to ensure that the turbine is sited a sufficient distance from such structures. The application site was chosen taking this into account and is considered to be as close as is practicable to the site buildings whilst ensuring that it remains efficient and unobtrusive within the landscape.

5.15 It is considered that the proposed development satisfies Policy CSP40 of the Barnsley Core

Strategy for the following reasons:

- increase in air pollution – the turbine is a renewable source of energy which is powered by air flow and has positive benefits to air pollution because it replaces the need to burn fossil fuels like oil.
- surface water – there is no surface water nearby and the proposed development does not contain any potential contaminants.
- groundwater – the site is no near any identified source protection zones and the development is not considered to impact groundwater through any run-off issues.
- noise – the site is 460 m from the nearest neighbouring residential property and has an opencast mineral working as a neighbour. It is considered that the low noise from the wind turbine will not be a nuisance or a material consideration in deciding the planning application. In any case the turbine has been designed to be very quiet – essential given its proximity to the applicant's property. The rotor design and in particular, the low rotor tip speed, coupled with the direct drive system (no gearbox) all ensure the turbine operates as quietly as possible.
- smell – there are no known associated smells with this small wind turbine.
- dust – any dust as part of the initial excavation and erection will be minimised and contained.
- vibration – there are no associated vibration effects from this development.
- light pollution from turbines is mainly concerned with shadow flicker. This is mainly associated with larger turbines and occurs when the sunlight, early in the morning or late in the evening, is interrupted by rotating blades when the turbine is between you and the sun. This is not considered to be an issue in this application because the proximity of the turbine to the main building helps to lessen any direct flicker and while there are no UK guidelines on this a general rule is that properties greater than 85m from the installation are unlikely to be seriously affected.
- other pollution - neither the application site nor the scale and design of the wind turbine are covered by any known restrictions currently in force by the Ministry of Defence or the Civil Aviation Authority.

6 CONCLUSIONS

6.1 The site for the proposed wind turbine has been chosen carefully to ensure that it can be absorbed by the local landscape - which currently has a significant number of tall structures - and is largely indistinguishable in the landscape from most mid and distant view-points.

6.2 Where it is distinguishable from close vantage points (from the farm itself and from the lane), the slender design, small scale, green painted form and appearance has been selected to ensure that the construction and operation on the turbine will not be intrusive on the landscape or on openness of the green belt, and are far outweighed by the economic, social and environmental benefits of the proposal outlined above.

6.3 In other words, it is accepted that there are very minor impacts on the openness of the green belt these are not harmful to the purposes and objectives of the green belt and that these have been minimised as far as is feasible and viable and that the reduction in CO2 emissions by an annual saving of 5.0 tonnes of CO2. This will lead to a reduction in global warming and help provide a secure and steady source of power to a farm which cannot current connect to the gas grid.

List of Supporting Documents

Appendix A – Location map

Appendix B – Evance 9000 Wind Turbine Data Sheet

Appendix C – Manufacturers Drawings

Appendix D – Noise emission statement

See separate pdf file "Middlecliffe Farm Appendices A to D"

Appendix E – Photographs of the site and surroundings