

**DESIGN AND ACCESS, AND PLANNING STATEMENT FOR
PROPOSED INSTALLATION OF ONE 'AIRFORCE 10' 10KW WIND TURBINE**

AT

**RAINBOW HILL KENNELS, STANCLIFFE HOUSE FARM, WOODHEAD ROAD,
WORTLEY, SHEFFIELD, S35 7DA**

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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 Rainbow Hill Kennels, Woodhead Road, Wortley. The site lies within the Metropolitan Borough of Barnsley.
- 1.2 The turbine would be positioned adjacent to the applicant's kennel and cattery business. It would be set back from and face onto Woodhead Road (see **Appendix A**) and would provide electricity for the property and business.
- 1.3 This statement deals with the planning policy framework and material considerations pertinent to the determination of the planning application. It will demonstrate that 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 and will replace a significant proportion of the heat and electricity used by this property and thus contribute towards lowering carbon emissions and increasing the family's and the business's self-sufficiency in terms of electricity production.

2 USE

- 2.1 The wind turbine is an Airforce 10kw which is manufactured in England by FuturEnergy. This is a small scale wind turbine and will be mounted on a 12m mast. It is comparable in height to the numerous local electricity distribution poles around the site and substantially smaller than the electricity transmission towers which are a feature of the landscape in this location. The turbine has a maximum turbine radius of 8 metres. The height from ground to tallest tip of the blades will be 16 metres. A datasheet for the product is attached as **Appendix B** and technical specifications are attached as **Appendix C**.
- 2.2 The DECC windspeed database estimates that for this area there is a high wind resource. It estimates that on this site at 10 metres above ground level wind speeds are 6.80 metres per second. This is a very high wind speed and shows that there is significant potential for local small scale wind generation. The high wind speeds have justified the area being identified as a strategic practically viable resource for commercial wind farm development in the Yorkshire and Humber Regional Low Carbon and Renewable Energy Resource Study (2011). Barnsley Council does not have a more local reflection of this evidence base and does not identify areas of potential for smaller scale wind.

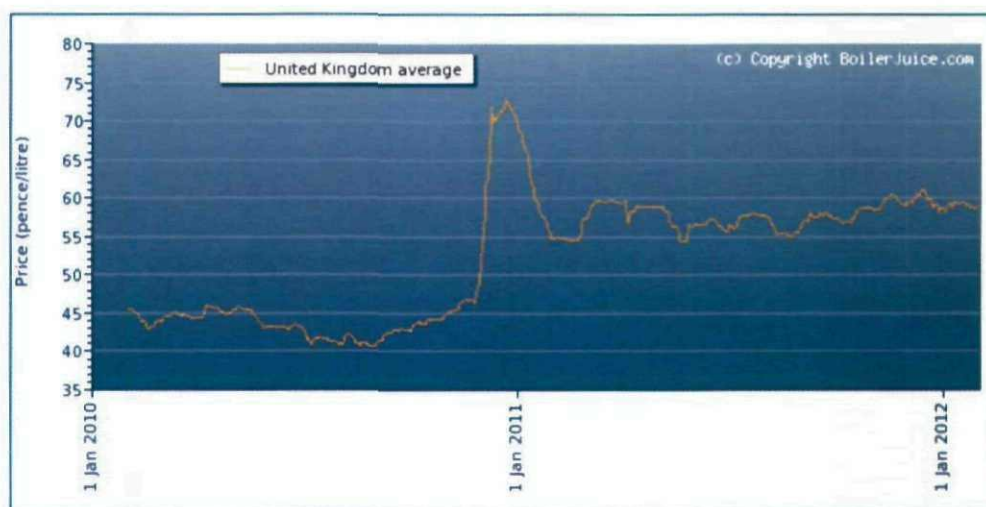
3 AMOUNT

- 3.1 The Evoco 10kw turbine is expected to generate between 25,000kWh to 30,000kWh of electricity each year when based on an average wind speed of approximately 6m/s. This is equivalent to a minimum saving of approximately 16 tonnes of carbon per annum when calculated as displaced electricity from the national grid. However, the property currently uses £140 pcm of electricity and £400 pcm in heating oil because the property is not connected to the gas network. If his application is successful, the applicant intends to swap the oil fired boiler for a 10kw electric boiler and remove the oil boiler altogether, saving £4,800 worth of heating oil being burned per annum. This means that carbon savings are even greater because the bulk of the energy switch will be from heating oil to renewable electricity (this is around 8,000 litres of heating oil which is equivalent to 23 tonnes of carbon per annum saved).

- 3.2 These savings and decentralised capacity will help to contribute towards the regional and national targets for renewable energy generation for 2020. The turbine has been designed for low noise operation and minimal visual impact, and has exceptional performance within its class. The turbine is constructed of high tech anti-corrosive materials and is finished in white and the tower is finished fully in grey galvanised steel.

4 LAYOUT

- 4.1 The proposed location of the wind turbine is shown in **Appendix A** and is approximately 150m from the nearest property not owned by the applicant. The nearest village is Grenoside, about 1.8 miles away.
- 4.2 The associated infrastructure consists of concrete base work upon which the turbine will be bolted.
- 4.3 The applicant views the proposal as part of their wider efforts to maintain a competitive and thriving rural business during tough financial times and to ensure that they and their business become more energy efficient and sustainable and support local and national targets to generate 34% of energy through renewables by 2020. The graph below shows the rising costs of heating oil and this comprises an even increasing proportion of the applicant's monthly personal and business costs.

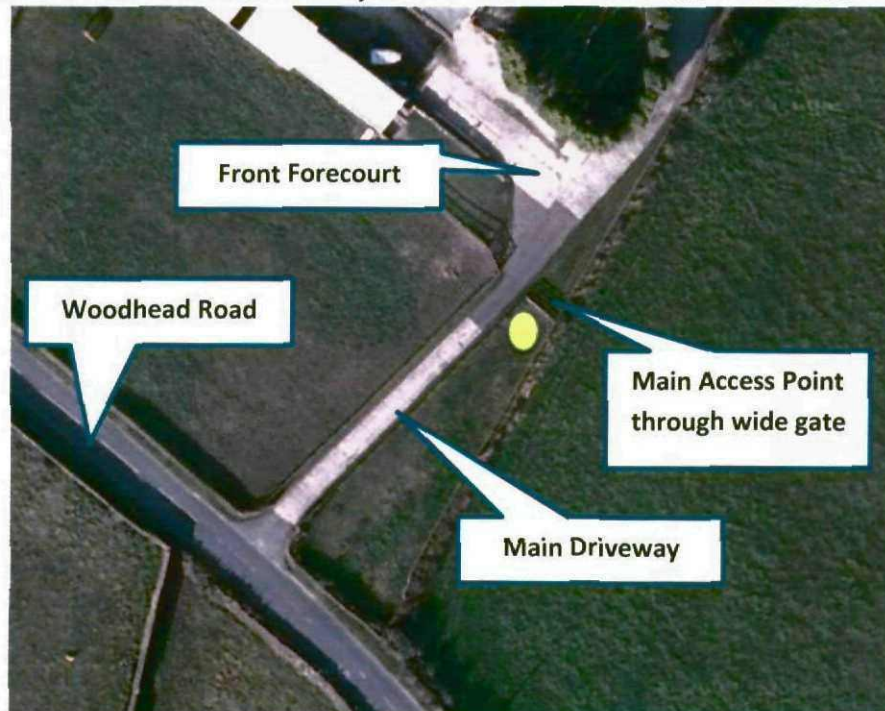


Source: <http://www.boilerjuice.com/heatingOilPrices.php>

- 4.4 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.

5 ACCESS

- 5.1 The proposed wind turbine is to be located in the northern part of a small long narrow field adjacent to the main access drive to the property as shown on the aerial photograph below with the location of the turbine shown as a yellow circle. The small field is accessed by a wide gate.



- 5.2 The farm and kennels are served by a driveway that connects the farm to Woodhead Road. Woodhead Road is a classified B-Road which is two-way and poses no access issues. The main drive is also hard surfaced and well maintained and able to accommodate construction and maintenance traffic without harm to the flow of traffic on Woodhead Road.
- 5.3 During installation, vehicles will park and equipment will be unloaded within the large forecourt to the front of the farmyard. Lorries will be able to turn here and to the large forecourt to the rear of the property. Access to where the turbine will be sited, for installation and maintenance purposes, can be gained via foot through the gates to the field or if necessary by vehicle as the gates are wide enough for this to be possible.
- 5.4 Due to the size and weight of the turbine and installation equipment, temporary surfacing is not required and access on foot is considered appropriate. The ground is relatively even, firm under foot and mown on a regular basis, so is considered to comply with health and safety. Should wheelchair access to the turbine be necessary this is considered to be possible.

6 SITE LOCATION

- 6.1 The site lies within the curtilage of Rainbow Hill Kennels, which as the map below shows, is located on Woodhead Road, Wortley. The coordinates for the site are: X431950 Y396135.
- 6.2 The character of the area is rural in nature with a mix of land uses comprising: open fields, agricultural land and woodlands that are all visible from the application site. The area also includes numerous electricity transmission pylons, local electricity distribution poles and contains two significant footpaths (the Trans Pennine Way and the Barnsley Border Walk).

- 6.3 The distance to the nearest neighbouring property is 150m and they are well screened from views of the proposed turbine. The nearest village is Grenoside which is 1.8 miles away and it is considered that the turbine will have no impact at all on this settlement.
- 6.4 The Barnsley Unitary Development Plan proposals map shows that the site lies within the Green Belt and area of local landscape value.

7 POLICY CONTEXT

- 7.1 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

- 7.2 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.
- 7.3 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)

- 7.4 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.
- 7.5 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)

- 7.6 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.

- 7.7 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.
- 7.8 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."
- 7.9 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)

- 7.10 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.
- 7.11 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.

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

- 7.12 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)

- 7.13 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.
- 7.14 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.
- 7.15 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.*

- 7.16 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."

Consultation Draft National Planning Policy Framework (2011)

- 7.17 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.
- 7.18 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

- 7.19 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

- 7.20 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.
- 7.21 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

- 7.22 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)
- 7.23 Barnsley's Local Development Framework (2005) Preferred Options Proposals Map identifies the designations and allocations that are pertinent to the proposal. The Proposals Map shows that the site lies within the Barnsley Green Belt and is designated as an Area of Borough Landscape Value.

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

- 7.24 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)

- 7.25 *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.
- 7.26 *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.
- 7.27 *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.'
- 7.28 *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.
- 7.29 *Policy CSP37* states that development will be expected to retain and enhance the character and distinctiveness of the individual Landscape Character Area in which it is located (as set out in the

Landscape Character Assessment of Barnsley Borough 2002).

- 7.30 *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.

8 MATERIAL PLANNING CONSIDERATIONS

Planning Policy Considerations

- 8.1 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 business is not on the gas grid and has few options for alternative heat and power sources.

Other Planning Considerations

- 8.2 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

- 8.3 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.
- 8.4 It is also significant that the proposal for a small 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 the outcome of this separate process is not known.

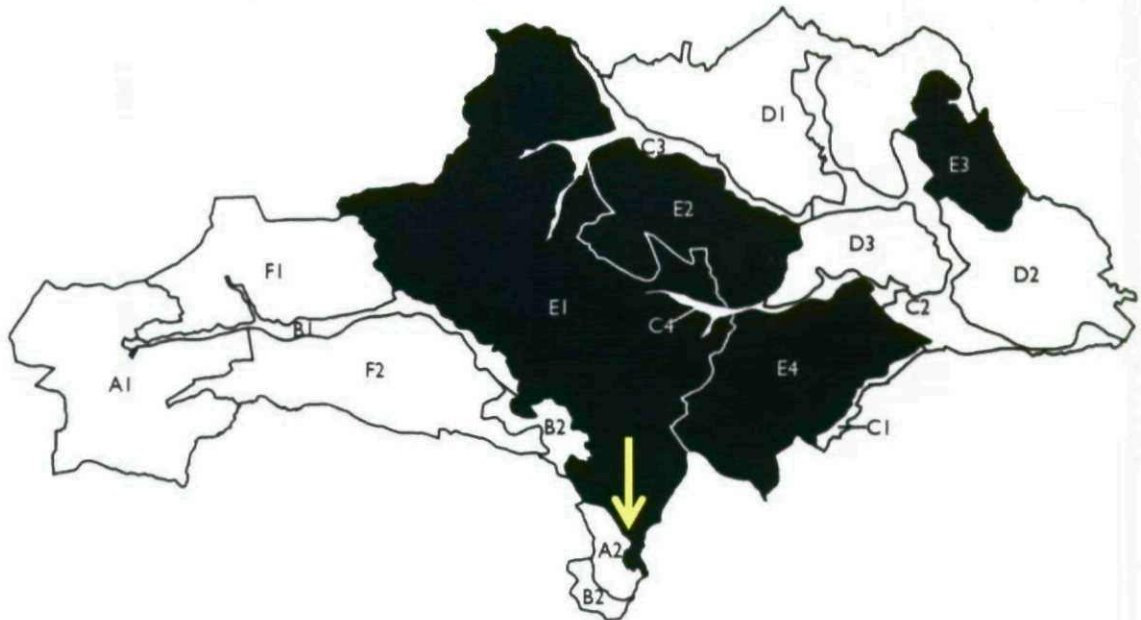
- **Ormskirk, Lancashire, May 2011 (Appeal Ref: APP/P2365/A/11/2144624)** – the Inspector allowed the appeal and concluded that “given the slim nature of the tower and the small diameter of the blades, the effect on openness would be slight. In terms of visual impact, the small scale of the proposal 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.”

- 8.5 The location of the turbine adjacent to the existing farm building means that there is little impact on the openness of the green belt in terms of footprint 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.
- 8.6 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, in terms of narrowness, retains a sense of openness permeating through it.
- 8.7 Moreover, the turbine is considered to fit with the other tall structures around the site such as telephone masts, high voltage electricity pylons and low voltage electricity distribution masts. 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.
- 8.8 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.
- 8.9 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 given the small scale of the proposed development it is also compatible with the objectives of including land within the green belt at this

location. Impact on landscape is considered below.

Impact on the Landscape

- 8.10 According to the Barnsley Borough Landscape Character Assessment the site lies within the landscape character area type E1 – West Barnsley Settled Wooded Farmland, but any impacts of the proposed development on landscape character area A2 – Wharnccliffe Unenclosed Moorland will also need to be taken into account as this area extends to the other side of Woodhead Road opposite the kennels. The arrow on the map below shows the location of the kennels and farm.



- 8.11 Policy CSP37 states that proposals will be expected to retain and enhance the character and distinctiveness of the individual Landscape Character Area in which it is located. Policy CSP6 accepts that renewable energy development is acceptable in principle but that there must not a significantly harmful effect on the character of the landscape and appearance of the area.
- 8.12 The landscape character assessment shows that the West Barnsley Settled Wooded Farmland landscape type is the largest landscape type in the borough runs north to south and contains the M1 motorway. It is characterised by three dominant land use patterns – agriculture, woodland and residential.
- 8.13 The key characteristics of the E1 landscape are set out below along with a landscape assessment of the potential impact to the character and the sensitivity of the landscape as a result of the proposal:
- Gently rolling landform with hills and broad valleys – the turbine is in an upland part of the landscape adjacent to significant moorland but it is considered that a single small turbine would be unlikely to disturb any sense of rurality or remoteness. This is because a single turbine would not dominate as it would only occupy a minimal amount of the vista. Various tall erect pylon structures are already present in the landscape and these are of significantly greater scale than the proposed turbine, in terms of height, footprint and visual impact. It is considered that the landscape is a mix of types of land uses and features and therefore the turbine will not stand out as it would in a simple landscape.
 - Small, medium sized and large woodlands, mainly deciduous and some coniferous – the small turbine is located some way from the nearest woodland area and is located within the

curtilage of the farmhouse and kennels. This does not present any harm to the character of the woodland.

- Substantial areas of intact agricultural land, both in arable and pastoral use – the turbine has been located as close to the buildings of the farm and kennels as possible and appears in the landscape as a functional image very much related to the buildings it is provided energy to.
- Irregularly shaped small, medium sized and large fields bounded by hedgerows, stone walls and fences – the turbine will have some impact on the character of the stone walls in the immediate vicinity of the farm but it is considered that this is in keeping with the functional nature of the turbine alongside the extensive farm and kennels operation and is a sign of the continued functionality of the rural business. Moreover the location of the turbine is at a junction of field boundaries emphasising the node pattern of the irregular fields in this location rather than being sited within the middle of field where it would have been more isolated.
- Stone farmsteads, often with large modern outbuildings – the large modern outbuildings of the kennels are a feature of the kennels and the turbine will fit with them in terms of their functionality to the operation of the rural business.
- Villages and hamlets set in open countryside – the farm is 1.8 miles from the nearest village and is considered to have no impact.
- Large stone country houses set within designed parkland landscapes – this is not considered to relevant in this proposal
- Urban encroachment visible to the east, outside the character area – medium and long distance urban views are a feature of the landscape on this site. The small size and scale of the turbine is not considered to lead to increasing urbanisation and turbines are not generally considered to be an urban feature.

8.14 The proposed development is considered to assimilate well into the landscape in this location mainly due to the functional nature of the development alongside the farm with its modern outbuildings, the presence of tall structures in the landscape delivering traditional forms of energy and the varied nature of the landscape in this location.

8.15 The proposal also poses no harm to the adjacent landscape type A2 which notes that **Pylons and communication masts** are strong vertical elements and landmarks.

Feasibility and Viability Issues

8.16 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.

8.17 The reasons for discounting these are detailed below:

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

8.18 As has already been mentioned this area has been identified in regional studies as an area of significant wind resource. The wind speeds at 10metres are in excess of 6m/s which is generally the most economically viable wind speed.

8.19 In conclusion, when comparing the potential electricity generated by a wind turbine and other forms of renewables 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 and landscape impact associated with this type of installation.

Siting and Impacts on Amenity

8.20 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 150m from the nearest non-associated residential property with a theoretical direct line of site of the turbine, is sufficient to prevent any adverse impact on any residential dwellings. In reality these nearest neighbours have no direct line of sight because of trees and topography.

8.21 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.

8.22 There will be some minimal impact on those walkers using the Trans Pennine Trail and the Barnsley Boundary Walk footpaths. For the Trans Pennine Trail walkers the route at this point is on road and so some loss of remoteness will already be incurred. It is also considered that the turbine relates functionally to the kennels and buildings and will therefore be a minimal intrusion on the amenity of walkers. Moreover, as has been mentioned before, the scale of the turbine is minimal compared to other tall structures in the landscape. For the Barnsley Border Walk views will be more distant and as the photographs in **Annex E** show the turbine is often hard to see from a distance because of its relationship with the buildings on the site.

8.23 The applicant sometimes keeps his horses in the large field directly adjacent to the strip of land on which the turbine will be sited. He foresees no conflict between the turbine and the well-being of the horses, but does have alternative fields in which to graze his horses to the north of the property.

8.24 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 not near any identified source protection zones and the development is not considered to impact groundwater through any run-off issues.
- noise – the site is 150 m from the nearest neighbouring residential property and is located on a fairly busy road. 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. Appendix D provides more details on the low noise elements of this particular turbine.
- 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.

9 CONCLUSIONS

9.1 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.

9.2 Where it is distinguishable from close vantage points (from the farm itself, the Trans Pennine Way and from the road), the slender design, small scale, grey painted form and appearance has been selected to ensure that the construction and operation of 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.

- 9.3 In other words, it is accepted that there are very minor impacts on the openness of the green belt and landscape in this location but that these are not harmful to the purposes and objectives of the green belt or the sensitivity and character of the landscape. Where issues have arisen these have been minimised as far as is feasible and viable by siting the turbine on the road frontage but at a junction of field boundaries.
- 9.4 It is finally considered that the reduction in CO2 emissions by an estimated annual saving of 23 tonnes of carbon will lead to a reduction in global warming and help provide a secure and steady source of power to a rural business which cannot currently connect to the gas grid.

LIST OF SUPPORTING DOCUMENTS

Appendix A – Site Location map

Appendix B – FuturEnergy Airforce 10 Wind Turbine Data Sheet

Appendix C – Manufacturers Drawings

Appendix D – Noise emission statement

Appendix E – Photographs of the site and surroundings



SITE LOCATION PLAN
AREA 5 HA
SCALE 1:1250
CENTRE COORDINATES: 431920, 396155



FUTUREENERGY



10KW UPWIND TURBINE



The best 10 kilowatt wind turbine in its class.
Designed and manufactured by FuturEnergy in Warwickshire, UK

MAIN FEATURES

- 32 Pole Direct Drive
Permanent Magnet Generator
- Power Output :
11.5 Kw at a windspeed of 10 m/s
13.3 Kw at a windspeed of 12 m/s
- 8 Metre Rotor
- Active Driven Yaw (Vertical Rotation)
- On-board ultrasonic wind direction and
speed sensor with no moving parts.
- On-board UPS ensures full control facility in
the event of Grid Failure. (Up to one week)
- All metal parts are specially treated to
prevent long-life weather corrosion



CONTROL & RUNAWAY PREVENTION

Electronic Braking with On-board Dumploads.

Mechanical Fail-Safe disk-braking which will stop the turbine for maintenance.

Vibration, heat and over-voltage sensors with auto shutdown.

Extreme wind shutdown positions the turbine at 90 degrees to the prevailing wind and will remain there at controlled variable headings until the wind drops below the danger threshold.

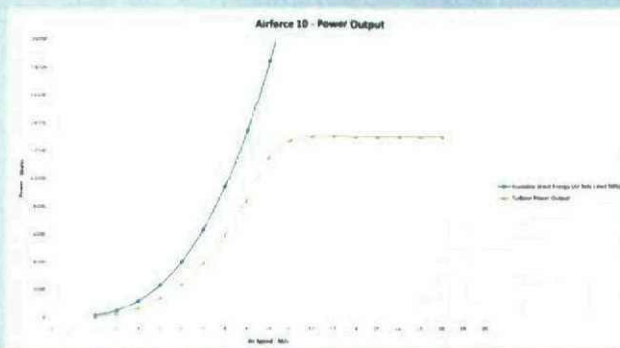
Fully-featured electronic control system, developed entirely in-house and unique to FuturEnergy, which is housed in the Nacelle and remains live if all cables from the turbine are damaged or even severed.

Samples wind direction and speed every second to calculate optimum turbine heading...plus:

- Constant self diagnostics of Control Circuitry
- SD Card Data Logger for detailed analysis of power output over time with totals
- RS 232 Output for Computer Monitoring

TOWER

Tubular Steel Tapered Tower. 12 meters, faceted and hot-dip galvanised.
High tensile foundation cage supplied.



POWER PREDICTOR 2.0

Ever wondered...

- How much green energy YOU could generate at your home or business?
- How much money YOU could save off your energy bills?
- How much this would reduce YOUR CO2 emissions?

The Power Predictor answers these questions simply, quickly and easily:

- assesses the suitability of your site for renewable energy, specifically solar and wind.
- allows you to cheaply and easily collect real life solar and wind data from your site.
- produces customised power reports for your site including carbon savings and annual energy generation estimates.
- tells you how much money you could save by installing the major wind turbines or solar panels on the market before you buy, avoiding expensive mistakes.

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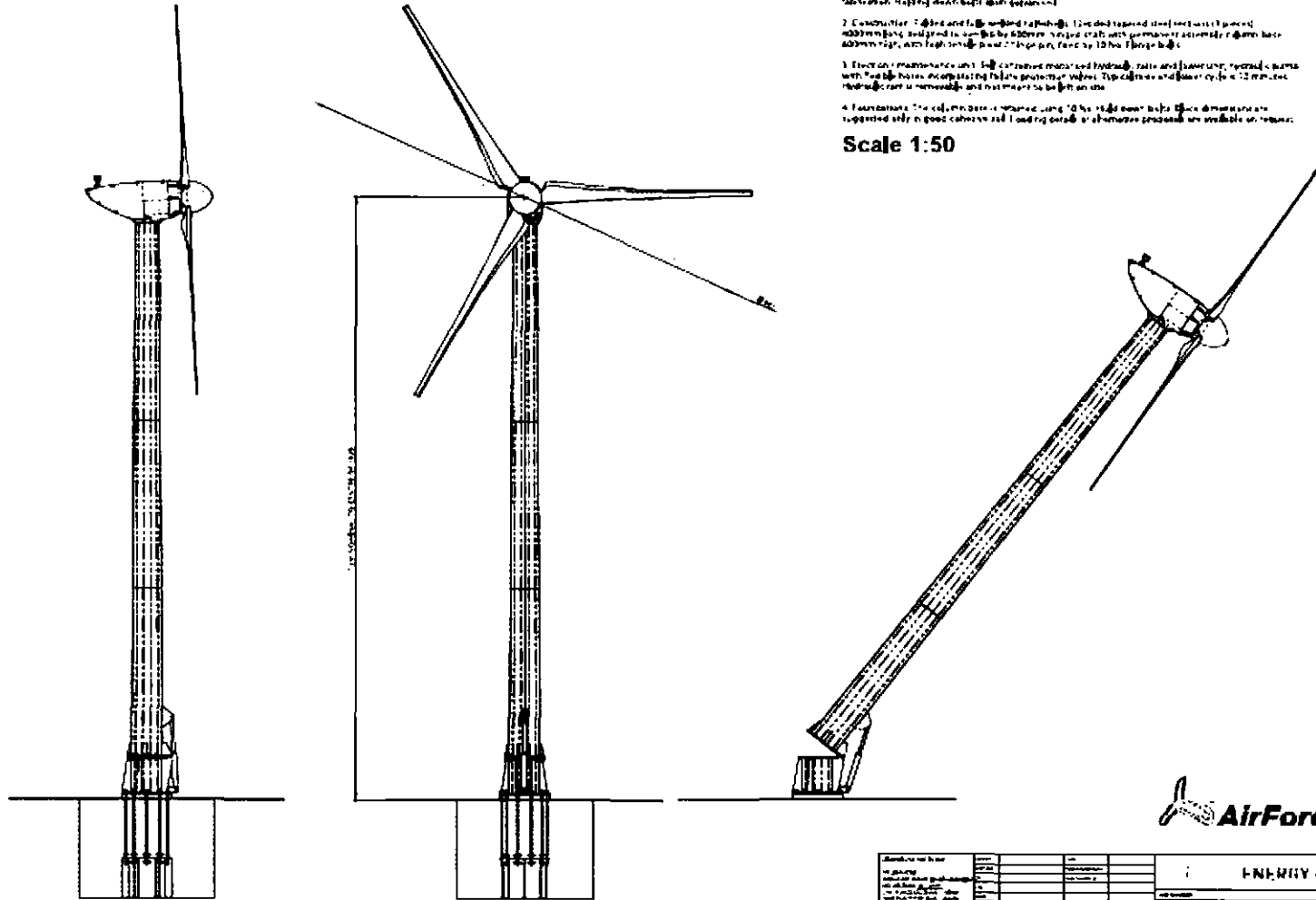
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W www.futureenergy.co.uk



TOWER DATA SHEET.

[illegible]



To whom it may concern

Regarding noise levels from the Airforce 10 Turbine.

As you know the product is currently in MCS approval testing which includes noise level so our official figures are not yet available.

The design of the product has a number of features that help to keep noise emission at the lowest levels, these include.

- * Low rotor speed - Tip speed ratio is below 6 and the speed of the rotor is limited by the turbines control system, electronic braking etc.
- * Blade design - The blades are manufactured with a closed moulding process which ensures a sharp trailing edge and no assembly joins or fixings that would cause noise.
- * Rotor hub - Blade roots are fixed (no springs, hinges or other exposed mechanical items)
- * Nose cone and nacelle - Full aerodynamic design of nose cone and nacelle ensure minimal noise from air turbulence.
- * PMG Generator - No gear box or any other 'clanking' items.

Overall we expect the product to have low noise emissions compared to competitive products.

During our own development testing we have recorded the following sound pressure levels.

During high winds (up to 20m/s) our test site measured (background noise - no turbine) 60 dBA

During low winds (5m/s) the site measured (background noise - no turbine) 35 dBA

At the base of the turbine tower during high winds the maximum recorded sound pressure level was 65 dBA

At the base of the turbine tower during low winds the maximum recorded sound pressure level was 45 dBA

In measurements taken in high and low winds beyond a distance of 25 meters from the turbine tower it was impossible to measure sound pressure produced by the turbine because at this distance

background noise exceeded the turbine noise levels.

Regards,

Doug Nangle

Futureenergy Ltd

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Aerial photograph of the kennels showing location of the proposed turbine as (x) and references to photographs 1 to 5



KEY

To turbine site marked 'x':

- 1: 40m
- 2: 180m
- 3: 150m
- 4: 280m
- 5: 370m

Viewpoint 1 – with Illustrative Proposed Turbine



Viewpoint 2 – with Illustrative Proposed Turbine



Viewpoint 3 – with Illustrative Proposed Turbine



Viewpoint 4 – with Illustrative Proposed Turbine



Viewpoint 5 – with Illustrative Proposed Turbine

