

UW Ref: 1001234 Mount Pleasant

Planning and Design & Access Statement

**Land adjacent to Mount Pleasant Farm
Stonebridge Lane
Great Houghton
Barnsley
S72 0BX**

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Date: 30/04/14**



Contents

- Section 1: Introduction
- Section 2: The Development
- Development details
 - Siting
 - Access
 - Design
 - Use
 - Scale
- Section 3: Site feasibility
- Wind constraints
 - Physical constraints
 - Amenity constraints
 - Cultural heritage constraints
 - Natural heritage constraints
 - Aviation and Ministry of Defence
- Section 4: Pre-application consultation and discussion
- Consultation with LPA
 - Screening
 - Consultation with community
 - Consultation with key stakeholders
- Section 5: Planning Policy Context
- National Planning Policy Framework
 - National Guidance
 - Local Planning Policy



Cont'd...

Section 6: Assessment of impact and justification for the development

- Environmental benefit
- Economic and social benefit
- Landscape and Visual Impact Assessment
- Visual impact upon the local community
- Impact upon the Green Belt
- Impact upon Cultural Heritage Assets
- Impact upon Natural Heritage Assets
- Impact upon Ecology
- Impact upon Tourism
- Impact upon Archaeology
- Impact upon agricultural land
- Electromagnetic Interference
- Impact upon Communications
- Impact upon Aviation
- Transport and Delivery
- Build
- Operation and Maintenance
- Decommissioning
- Impact upon Air Quality and Climate

Section 7: Conclusions



Planning Statement Appendices

Appendix 1: Appeal decision APP/R4408/A/13/2192309

Appendix 2: Plans

- Elevation
- 1:20,000 Site Location Plan
- 1:10,000 Site Plan
- 1:2500 Location Plan
- 1:500 Block Plan

Appendix 3: Pre-application discussions

- Correspondence with LPA
- Correspondence with community
- Consultation Plan

Appendix 4: Noise Assessment

Appendix 5: Landscape and Visual Impact Assessment

- Photomontage and wireframe productions
- Viewpoints map
- Zone of Theoretical Visibility

Appendix 6: Supporting Visual Productions



Section 1: Introduction

This section provides a brief description to how this development proposal has come about and any site history of relevance.

A planning application for the development of 2No. 80kW twin bladed wind turbines, measuring 24.8, to hub and 35m to overall tip, was refused by the Barnsley Council on 21 January 2013 under Planning Ref: 2012/1140. The decision was subsequently appealed with the Planning Inspectorate finding the proposal to be acceptable under PINS Ref: APP/R4408/A/13/2192309, See **Appendix 1**. However, the applicant, Mr Noble, is unable to implement the consent for the candidate turbine specified and has therefore approached UrbanWind to discuss the opportunity for using an alternative machine.

As a result of the above UrbanWind have undertaken both desktop and on site assessments and have suggested the use of a Northern Power Systems NPS100-24 machine as a substitute for those that have received consent.

Prior to this submission UrbanWind have sought to engage with the Local Planning Authority (LPA) to ascertain how this revised proposal may be received. However, due to a lack of feedback in this regard, and in light of the existing consent, it has been deemed appropriate to progress this proposal to a formal planning submission stage.

This application for planning permission is made on behalf of Mr Martin Noble in conjunction with UrbanWind and consent is being sought for the subject development for a term of 25years.

As detailed by the attached cover letter this statement, its associated appendices and all associated submissions therefore form part of a full planning application. These documents will demonstrate that all relevant planning considerations have been taken into account when devising the subject proposal. It is also envisaged that the information contained in this submission will confirm that any resulting impact upon amenity is acceptable and that any impact that does occur is well outweighed by both direct and indirect benefits that the development will bring.

Section 2: The Development

This section clarifies the type of turbine being proposed, details the dimensions of the turbine in question and confirms the specific location of the development.

Development Details

This proposal incorporates 2No. 100kW turbine structures and all ancillary development at:-

- Land adjacent to Mount Pleasant Farm, Stonebridge Lane, Great Houghton, Barnsley, S72 0BX

The easting and northing for the proposed structures are as follows:-

- T1: 443535E, 407240N
- T2: 443555E, 407125N

The specifications for the proposed turbine are as follows:-

- Turbine No.: 2
- Hub Height: 23m
- Rotor diameter: 24m
- Height to tip: 35m
- Blade No.: 3
- Colour: Traffic White (matt)

The type of turbine that is now proposed is a Northern Power NP100-24 measuring 23m to hub with a 24m blade diameter. Please refer to the attached elevation specifications provided in **Appendix 2**.

The associated development will include hard standing for access and build purposes, foundations, the establishment of an underground connection to the grid and all ancillary development.

A Northern Power Systems 100-24 machine, which incorporates a 23m hub (2m lower than that approved) and a 24m wide blade diameter but maintaining the overall approved tip height of 35m, is considered to be the best substitute. However, the main variance of note would be that the NPS100-24 is a triple bladed machine. Such designs are now readily accepted as a preferred due to the lesser visual impact than a doubled bladed machine such as that which was granted consent.

The turbines will be coloured to a matt "Traffic White" finish so as to minimise light reflection and so as to contrast as little as possible with any views that may be afforded against the generally cloudy British skyline.

The newly proposed turbines will occupy the same footprint as those that have previously been approved sitting approximately 130m apart.

Connection shall be via a 170m underground cable laid at a depth of 600mm connecting the turbines to the meter point/ transformer.

Siting

The subject site lies within a predominantly agricultural area to the north of Great Houghton. The topography of the area is undulating in nature with a decline in a south westerly direction. There are clusters of woodland and isolated trees present within the landscape and this area is subject to a green belt designation.

There is an operational agricultural business in the form of Mount Pleasant Farm, approximately 250m to the east of the development site. The host field is in arable use.

The land is not known to be subject to any historic, restrictive or environmentally sensitive designations and there are neither listed buildings nor Scheduled Ancient Monuments within close proximity. There are also a number of other vertical elements present within the wider landscape including telegraph poles, pylons, trees, a silo and buildings.

A detailed Site Location Plan identifying the proposed turbine locations and the extent of landownership has been attached in **Appendix 2**. However, the Google Earth image in the figure below offers a satellite view of the site in question.



Fig. 1: Site Location

In progressing any new turbine development it is essential that the site is afforded clear and unobstructed access to the wind resource as obstacles of any kind, including trees, buildings, and topography, within the prevailing wind direction would have a direct impact upon the effectiveness and efficiency of the development. It is also essential to ensure that an effective balance is struck between all relevant planning and operational considerations and to demonstrate that all environmental and social impacts have been considered and mitigated through careful consideration of location, scale, and design.

Prior to undertaking a full on site assessment a detailed desktop assessment was carried out to ascertain what planning sensitivities existed within the area and upon this particular property. A detailed assessment of wind resource was also undertaken. Whilst turbines will orientate according to the prevailing wind direction, our wind speed and frequency analysis has confirmed that the majority of wind to this site is experienced from a South Westerly direction and therefore any finalised design must reflect this.

A total of 5No. turbine locations within the host property were given consideration. These have been listed as follows and are shown on the map below:-

T1: Viable

T2: Viable

- T3: Site considered to have significant impact upon skyline
- T4: Considered to pose greater impact upon residential amenity
- T5: Proximity to bridleway considered to be an issue

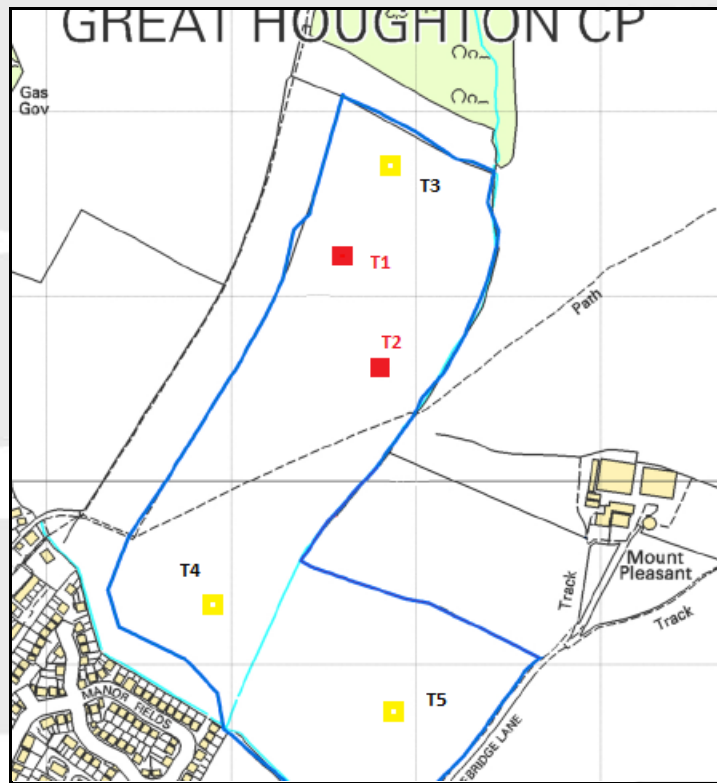


Fig. 2: Potential layout options

The originally proposed layout incorporates sufficient enough distance from obstacles to provide the necessary clearance and minimize potential air turbulence from the prevailing wind direction. It also meets with all necessary set back distances to avoid any concerns in relation to noise, shadow flicker, ecology and topple concerns.

As stated above, the newly proposed turbines will occupy the same footprint as those that have previously been approved sitting approximately 130m apart.

Access

Access to Great Houghton will be taken via the B6411 with access to the development site then being taken from Stonebridge Lane, along the southern boundary of the field to the north of the recreational ground and then into the host field. The access route will then run along the eastern boundary of the host field before cutting west to the proposed turbines.

A semi-permanent aggregate access track is usually required for developments such as this but in this instance temporary trackway will be used.

Access to the site by heavy goods vehicles will be required during construction and decommissioning stages and in the unlikely event of major maintenance. Once operational routine maintenance can be undertaken by engineers travelling by standard sized vehicles and on foot. Full details of timescales and frequencies will be provided with any application that may follow.

Design

Design sensitivities are paramount in any new development that requires planning permission. However, it is important to note the operational restrictions that infrastructural elements such as that being proposed must consider. It is also important to note that the design of any new wind turbine development must also take account of the energy needs of the applicant, wind resource in the local area, site options available, performance, reliability, amenity issues and cost.

Due to the functional nature and operational design constraints associated with such infrastructural development, it is often impossible to enhance the character and amenity of the local area in which it is set; all that can be done is to minimise potential impact as far as is operationally possible through sensitive siting and design practices.

The originally proposed design incorporated both a hub height and overall height that was considered to be acceptable to the Planning Inspectorate. As noted above the newly proposed turbines incorporate a 23m hub (2m lower than that approved) and a 24m wide blade diameter therefore maintaining the overall approved tip height of 35m. The main variance of note would be that the NPS100-24 is a triple bladed machine. Although the original consent was for a twin blade development, such designs are now generally considered to be less appropriate than a triple blade for visual amenity and shadow flicker.

Please also note that the proposed turbine model, a Northern Power NP100-24, is manufactured in standard hub heights of 23m, 30m and 37m. Whilst a larger hub height would be preferable in terms of productivity, a 23m hub has been considered to strike the most appropriate balance between productivity and the minimisation of visual impact. This design also reflects the dimension principles of that which has previously been approved on site and it is our contention that the proposed development will be easily absorbed within the landscape without any significant impact.

Use

The proposed development will harness the energy from local wind resource and generate electricity for the grid.

Scale

Each of the 2No. turbines proposed will measure to 35m when at their highest point. The turbine blades will measure to 12m in length and will be mounted on a 23m high hub. This scale of turbine is considered by Renewables UK to be “small scale” given that it measures to less than 35m overall. Comparatively speaking this development will be of a similar/smaller scale to other infrastructural features that commonly exist within similar settings, for example, electricity pylons, multiple operator mobile phone masts, mill chimneys.

Section 3: Site Feasibility

Prior to progressing any new development opportunity UrbanWind undertake a number of feasibility assessments to ensure that the site in question is both viable for development and will be operationally viable once built. In doing so UrbanWind has adopted very strict guidelines on which to assess the basic viability of all new turbine development opportunities.

The process steps for doing so are as follows:-

- Quick look assessment of site in question using aerial photography
- Confirmation of landownership boundaries
- Identification of potential development opportunities
- Detailed desktop assessment of technical, planning and all relevant constraints
- Detailed on site assessment

If the site in question does not meet the requirements outlined below then the development proposal would not be entertained unless there are exceptional circumstances and/or clearly mitigating measures in place.

Wind Constraints

Each turbine site is assessed in terms of wind resource. For the reason stated below the following are considered to be necessary:-

- **Wind speeds of >5.8m/s at hub height**
This minimum wind speed is required to make the development both financially viable and to ensure that energy balance / energy return is maximised, i.e. the ratio of energy delivered by the development to energy spent in the manufacture, construction, and maintenance of the development.

Please note that UrbanWind run a site specific Wind Pro assessment which generates average wind speed and annual yield estimates based on actual data from credible recording stations within the local area.

- **No significant obstacles in prevailing wind direction**
Where obstacles or raised topography are present a guideline separation distance between this element and the turbine of obstacle height x10 is ideally sought to avoid turbulence. However, this will depend upon the nature of the obstacle, topography of the area and hub heights proposed.

An onsite assessment is undertaken to ensure that any design proposal that is taken forward is not subject to an unacceptable level of turbulence and will benefit from clean wind flow.

Physical Constraints

In order to ensure that any finalised design solution meets with the basic operational, ecological, safety and planning constraints, for the reasons stated below each of the proposed turbines has been specifically sited to as to achieve a minimum separation distance of:-

- **50m + blade radius from hedges or treelines**
This is based on the environmental and ecology guidelines from LPAs across the UK and as per Natural England Technical Information Note TIN051 in relation to bats.
- **50m + blade radius from watercourses (burns, streams, rivers, lakes, ponds, etc.)**
Similar to the above, this is based on the environmental and ecology guidelines from LPAs across the UK and in consideration of Natural England Technical Information Note TIN051 in relation to bats.
- **Tip height + 10% from the edge of the land owned by the land owner**
This is to ensure the turbine is located entirely on land owned by the land owner, has no over sail issues from blades entering airspace above neighbouring land, and, in the highly unlikely event of structural or mechanical failure, no harm will occur to property beyond the landowner's control.

- **Tip height + 10% from public rights of way**

Similar to the above, this is to ensure public safety in that the turbine has no over sail issues from blades entering airspace above public land and to mitigate risk in the highly unlikely event of structural or mechanical failure.

- **Tip height + 50% from public highways**

In order to mitigate risks to the safety of road users in the unlikely case of structural or mechanical failure. As outlined in the Department for Transport's Circular 02/2013, September 2013.

- **Tip height + 50% from railways**

In order to mitigate risks to the safety of rail users in the unlikely case of structural or mechanical failure.

- **Tip height x3 / 200m from bridleways**

The greater of these distances will be met in accordance with National Planning Policy Framework and British Horse Society guidelines.

- **Tip height + 10% from overhead lines**

In order to mitigate risk of damage to lines in the unlikely case of structural or mechanical failure, as outlined in Energy Network Association's Engineering Recommendation L44 – Separation between Wind Turbines and Overhead Lines: Principles of Good Practice.

- **Tip height + 50% + 10m from high voltage power lines**

In order to mitigate risk of damage to lines in the unlikely case of structural or mechanical failure. In the case of high voltage lines that may exist downwind of the turbine's prevailing wind direction and at a similar height to the swept area then a separation distance of rotor diameter x3 will be sought. This is to avoid any wind-induced motion or wake effect which could cause increased wear and/or fatigue damage to lines, as outlined in Energy Network Association's Engineering Recommendation L44 – Separation between Wind Turbines and Overhead Lines: Principles of Good Practice.

An onsite assessment is undertaken to ensure that each of the abovementioned considerations is taken into account when finalising any design proposal.

Amenity Constraints

In order to ensure that potential impact upon amenity is limited to an acceptable level and for the reasons stated below each of the proposed development has been specifically sited to as to achieve a minimum separation distance of:-

- **Noise: 220m from the nearest non-financially involved residential property (NPS only)**

In order to meet minimum ETSU-97 noise level guidance, in accordance with Northern Power Systems' warrant letter and advice for operation of their infrastructure within the UK. See **Appendix 4**.

An onsite assessment is undertaken to ensure that any finalised site option meets with this minimum criteria. Depending upon the site specifics involved, i.e. is this a multiple turbine site, are there mitigating measure, etc., and with consideration for any input that a Local Authority Environmental Health Officer may provide UrbanWind will be happy to provide further assessments in the form of either a detailed desk top assessments or detailed onsite survey.

- **Shadow Flicker: Rotor diameter x10 and within 130° either side of north**

Flicker effect is in the case of the UK only considered only to be an issue for occupied buildings positioned within these parameters, as outlined by the Department of Energy and Climate Change.

An onsite assessment is undertaken to ensure that this is taken into account when finalising any siting and design proposal. This will also be subject to site specific issues such as topography and natural features that can provide mitigation.

Cultural Heritage Constraints

In order to ensure that potential impact upon Cultural Heritage elements in the local area are limited to an acceptable level the proposed development has been specifically sited so as to ensure that it is not set within a clear visual context of the following:-

- World Heritage Sites
- Scheduled Ancient Monuments
- Listed Buildings
- Conservation Areas

Prior to progressing any proposal a desktop review of all nearby designations and an assessment of their sensitivity is undertaken using online resources and Local Planning Authority data. Any finalised siting and design proposal will take these into account as far as operationally possible.

Natural Heritage Constraints

In order to ensure that potential impact upon Natural Heritage elements in the local area are limited to an acceptable level the proposed development has been specifically sited so as not to be set within a close physical context of the following:-

- National Parks
- Sites of Special Scientific Interest
- National Nature Reserves
- Areas of Outstanding Natural Beauty
- Ramsar sites
- Special Protection Areas
- Special Areas of Conservation
- Local Nature Reserves
- Royal Society for the Protection of Birds Reserves
- Important Birds Areas

Prior to progressing any proposal a desktop review of all nearby designations and an assessment of their sensitivity is undertaken using online resources and Local Planning Authority data. Any finalised siting and design proposal will take these into account as far as operationally possible.

Aviation and Ministry of Defence (MoD)

In order to avoid any conflict with radar a minimum separation distance of more than 5km is sought for:-

- Licensed Airfields
- Operational RAF bases

Section 4: Pre-application consultation and discussion

Pre-application consultation for the subject proposal have preceded this application and all relevant details have been outlined below and attached **Appendix 3**.

Consultation with Local Planning Authority

The LPA were first contacted about a revised proposal on the subject site on 05 March 2014 with email correspondence being submitted to the Group Leader of the Development Control Outer Team. This submission outlined the background to the subject site along with details of the subject proposal. A response was subsequently issued by a case officer a week later on 12 March 2014 confirming that a new application would be required for the proposed development. As a result a request for detailed pre-application advice and details of our consultation process was submitted via email on 02 April 2014. A month has since passed and no comments have been received. As a result it has been assumed that the LPA have no serious concerns about this proposal and it is considered appropriate to progress to a formal application stage.

Environmental Impact Assessment Screening Request

Given that the proposed development incorporates 2No. turbines and heights exceeding 15m, the abovementioned pre-application correspondence to the LPA Was accompanied with a formal request for an opinion as to whether or not the subject proposal would require and EIA. However, as is noted above, no comments have yet been received. On the basis that it is generally accepted that an EIA will be required where a proposal incorporates the following:-

- More than 5No. commercial turbines
- More than 5mW of new generating capacity
- Where significant environmental impacts are likely

And, with respect for the existing planning consent, it has been assumed that in this instance an EIA will not be required and that it is therefore appropriate to progress to a formal application stage.

Consultation with Community

Pre-application consultation with the local community took place concurrently with the aforementioned requests for pre-application advice and a screening opinion from the LPA. As per the attached consultation plan, a month has now expired without any comments having been received. Should it be that any party wish to make any comments, request additional information or to discuss any aspect of this proposal in further detail following the LPA's receipt of this application we will be happy to provide our full assistance.

Consultation with Key Stakeholders

As per the pre-applications consultation with community representatives, pre-application consultation with other stakeholders also took place concurrently with those to the LPA. As detailed in the attached consultation plan and as noted below a number of comments have been received from fixed link communications operators.

These are as follows:-

- Ofcom: No dish links identified
- Atkins: No objections
- Joint Radio Company: Further investigation required in relation to Northern Powergrid (Yorkshire) Limited and JRC links.

Section 5: Planning Policy Context

European commitments to energy and climate change have resulted in the UK Government making significant efforts to reduce society's dependence upon the finite supply of fossil fuels for electricity generation via National Energy Policy. This has in turn had a direct influence on National and Local Planning Policies which now hold sustainability at their core.

National Planning Policy Framework

The Government's National Planning Policy Framework (NPPF) has now been adopted as the principal statutory guidance document for England and Wales replacing all previous national policy. The document holds support for sustainable development as core value confirming a need for sustainable economic, social and environmental development to go hand in hand.

The NPPF clearly advocates a balance between the need for renewable energy sources and the minimisation of potential impact upon both visual amenity and the environment, proposing a weighing up of the appropriateness of a development versus the wider environmental benefits. However, there can be no doubt that the document is in favour of appropriate renewable energy development, clearly stating that:-

"At the heart of the National Planning Policy Framework is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking."

Paragraph 14

With regards to the LPAs role in achieving a greater supply of energy from renewable sources the NPPF continues 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."

Paragraph 97

In terms of the guidance to LPAs for determining applications for renewable energy developments, the NPPF goes on to clarify in Paragraph 98 that:-

- An applicant should not have to provide evidence of need for renewable energy
- Small scale projects must be given recognition in their contributions to a reduction in greenhouse gas emissions
- Positive decision making must be undertaken when the impact of development is or can be made to be acceptable

The NPPF recognises that the heritage assets are an irreplaceable resource and that they should be treated with the respect they deserve. The guidance offered suggests and that applicant must consider the impact of their development proposals upon these and provide an assessment according to the appropriate significance of the asset in question, employing specific expertise where required.

The NPPF also states that:-

"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."

Paragraph 132

Following the revocation of PPG2: Green Belts the NPPF has in Section 9 provided specific guidance on Protecting Green Belt Land and reiterating the purpose of such designation by stating that:-

"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."

Paragraph 87

The NNPF goes on to clarify that:-

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

Paragraph 91

The NPPF also clearly states that where the local development plan is out of date, Local Planning Authorities are required to grant planning permission unless any adverse impacts of doing so would significantly and demonstrably outweigh benefits, when assessed against the policies in the Framework taken as a whole.

Planning practice guidance for renewable and low carbon energy (July 2013)

This guidance document provides further advice on planning issues associated with the development of renewable energy and reiterates that increasing the amount of energy from renewable and low carbon technologies will help to ensure the UK has a sustainable energy supply, is reducing greenhouse gas emissions and is stimulating investment in new jobs and businesses.

Barnsley Local Development Framework Core Strategy

The Core Strategy forms part of the Local Development Framework (LDF) and provides spatial strategy for development up to the year 2026. The LDF does not at this point in time offer any additional guidance for renewable energy developments beyond those outlined in the Core Strategy. The Strategy is in favour of the development of renewable energy developments and clearly identifies the following policies as relevant to this form of development:-

- **CSP 1 Climate Change**
The policy advocates that development both mitigates climate change and withstands its effects.
- **CSP 6 Development that Produces Renewable Energy**
The policy clarifies that the LPA will support such development when it is appropriately sited and designed; when the benefits outweigh the impact and where there are no long term legacy of detrimental impact.
- **CSP 21 Rural Economy**
This policy supports sustainable diversification and economic development so long as the development proposed is fitting to its setting.
- **CSP 34 Protection of Green Belt**
As per Section 9 of the NPPF this policy is in place to restrict inappropriate development.

Section 6: Assessment of impact and justification for the development

This section will offer a detailed assessment of all relevant considerations and planning issues providing justification for the subject proposal. The wider environmental and economic benefits outlined below demonstrate that very special circumstances clearly outweigh any harm caused by practices that could be considered to be inappropriate development.

Environmental Benefit

The UK government aims to reduce CO2 emissions by 60% by 2050 and has set a target of generating 15% of electricity demands by 2020. Without significantly more renewable infrastructure being developed these targets simply will not be met.

The power generated by this newly proposed development will be fed back in to the National Grid with the proposed turbine having a rated output of 100kW. Based upon our wind assessment estimates using Wind Pro software the candidate turbine is expected to have an annual production of 203000kWh / annum / site. This proposal will therefore equate to a total of 406000kWh of renewable energy and a saving of 220052kg of CO2 based on a conversion factor of 0.542kg. (Factor is based on carbon emissions generated by the UK power stations per kWh generated).

The subject proposal will contribute significantly more than its predecessor towards Barnsley's target to achieve 34MW of renewable energy generation by 2021. We would take this opportunity to reiterate that the original development proposal was estimated to generate 345200kWh / annum; a total of 60800kWh less than is currently being proposed.

The energy produced by this development will provide enough clean and sustainable energy to power to supply around 100 average UK households each year and once operational will do so without generating any ongoing costs or waste product. Please also note that the majority of this energy will be consumed locally, benefitting the community as a whole in the immediate and longer term future.

Farming has shaped the landscape for thousands of years and farmers provide an important stewardship role helping to protect and manage the environment. However, the positive role that farming plays will be at risk if agricultural businesses are not allowed to adapt and diversify. This includes investment in new technology, new plant and processes and new business opportunities. Investment in cheaper, cleaner energy is an important part of this process. If agricultural businesses are allowed to fail then the character and appearance of the countryside as we know it will change irrevocably forever. Economically viable and sustainable farming practices are essential if the condition and environmental quality of our rural landscapes is to continue.

Economic and Social Benefits

Positive economic benefits are a key principle in sustainable development and investment in renewable energy provides an excellent opportunity to attract new industries, develop local enterprises and create jobs. Developments such as that proposed also allow vital diversified income for agricultural businesses, ensuring their economic viability and helping to cement their relationship with those they supply produce to, many of whom have themselves set sustainability targets for their business practices. Further details in this regard are provided below:-

- **Landowner benefit**

The farm business that is hosting this proposal includes 104 hectares at Beacon Hill Farm, Woolley Edge and 199 hectares at Holmes Farm, Thurnscoe. The land at Woolley Edge and Thurnscoe is used for the growing of cereals, fodder crops and Christmas Trees and the raising of sheep.

It is intended to convert the businesses grain drying facilities from propane to electricity which would have the effect of reducing the number of deliveries to and from the farm which in turn would have environmental benefits. However, it would also increase electricity consumption by the farm business by a further 45,000kWh per annum. The proposed development will also allow the owner to absorb ever increasing energy costs. The business also supplies grains to local business including Goldthorpe's (Corn Millers) Ltd and Frontier Agriculture Ltd both of whom place significant emphasis on sustainable business practices both internally and in relation to any of their suppliers. Therefore this proposal will not only offer the Noble family the opportunity to gain income from a diversified agricultural source, but it will secure their relationship with their customer giving confidence that their supplier is committed to their ethical outlook on sustainability.

The income will also provide finance to assist in ongoing maintenance and repair of vehicles required for day to day operation of the business. It will also allow the owner to maintain and repair existing building within his control and to employ locally sourced farm labourers when necessary. The income generated by both the subject proposal and the aforementioned ongoing relationships will therefore ensure the continued wellbeing of this agricultural business.

- **Community benefit**

It is important to note the contribution that the host business makes towards local economy via direct employment, utilisation of mechanical and construction services, and in the supply of goods to local distribution companies, as mentioned above. One must therefore appreciate the indirect contribution the subject development will play in securing employment within the wider area by helping to sustain the host business.

Further to this UrbanWind have in 2014 adopted a standard practice of offering to commit a percentage of the revenue generated by any new turbine proposal to community benefit schemes supporting local communities in their attempts to promote and make use of sustainable practices. Therefore should the subject proposal be considered acceptable we would like to work with the Council and the local community to identify an appropriate cause for us to support. Any suggestions will be gratefully received.

Landscape and Visual Impact Assessment (LVIA)

A site and design specific LVIA has been commissioned by the applicant based on that which accompanied the initial turbine development upon the subject site. Please refer to **Appendix 5**.

The original consultant, 3DVS, has once again been appointed and have provided the attached statement which provides a Zone of Theoretical Visibility map and examines the potential impact of this proposal both on the character and appearance of the landscape and on visual amenity as a whole. The study was conducted using the national guidelines – 'The Landscape Institute and Institution of Environmental Management and Assessment Guidelines for Landscape and Visual Impact Assessment 2002'.

This assessment provides an analysis of the new proposal from each of the viewpoints previously considered to be acceptable by both the LPA and the Planning Inspectorate, considering the impact of the updated turbine model upon the landscape character, natural characteristics and cultural and social factors.

One must also give due consideration to the findings of the Inspectorate in their assessment of the previously refused application that was subsequently upheld at appeal.

Both the LVIA and the recent appeal decision agree that the site in question has no formal national, regional or local landscape designations. Both also agree that although impacts will, due to the very limited physical size and scale of the development, the topographical undulation of the wider area and presence of other features of note, it is considered that only a limited range of views that would be altered. Such impacts are also considered to be localised, limited in nature and acceptable overall when balanced against the benefits associated with the development, as detailed previously in this statement.

LCA makes much of this landscape character area being visible from in and around the Dearne Valley. However, the visual impact report indicates that the zone of visual influence does not extend to the Dearne Valley to the south and west. My site visit extended to various vantage points along roads in the Dearne Valley. From what I saw leads me to concur with the visual impact report that it would be unlikely that the turbines would be visible from in and around the Dearne Valley.

In considering the initial proposal and the submitted information the Inspector's assessment states that:-

"...the zone of visual influence does not extend to the Dearne Valley to the south and west. My site visit extended to various vantage points along roads in the Dearne Valley. From what I saw leads me to concur with the visual impact report that it would be unlikely that the turbines would be visible from in and around the Dearne Valley."

Paragraph 31

The Inspector continues that:-

"In terms of visual impact, the turbines would not have more than a slight to moderate impact when seen from most vantage points in and around Great Houghton and would be unlikely to have any impact on the wider area."

Paragraph 32

Recognition is also given to the turbines' main impact, i.e. the impact upon nearby footpaths. However, the Inspector also lends significant weight to the fact that the proposed development would not be likely to stop people making use of these for recreational purposes, confirming:-

"The consequence is likely to be a reduction in the attractiveness of these stretches of the footpaths for walkers. However, it is unlikely that use of the footpaths, which extend for some distance, would hinge on the unattractiveness of relatively short stretches close to the turbines."

Paragraph 28

On this basis we would therefore suggest that, when compared with that which has already been considered to be acceptable, the even greater benefits of this current proposal will further outweigh the impact.

Visual impact upon the local community

Matters relating to residential amenity are of the utmost importance as the local population is certainly one of the more sensitive receptors to wind turbine development, given the lifespan of the infrastructure. However, it is also important to note that there are no statutory separation distances relating to residential amenity and it is well established that no residence has a right to a view over another person's property. The reasonable and weighted assessment of potential visual impact upon any setting is a core value within the planning system and in this instance the nearest settlement to the development site is that of Great Houghton; the northern peripheries of which lie approximately 300m south of the site.

Again in considering the impact upon this residential area we would refer to the attached LVIA, the newly produced photomontages and viewpoints that have been based upon the initial assessment for the approved development and the Inspectorate's comments within the original appeal decision.

Details of what we consider are the relevant viewpoints, the Inspectorate's previous comments upon these views, and our comments on the current proposal are outlined below:-

- Viewpoint: Location No. 1 – Residential properties within the northern edge of Great Houghton

"Given this elevated position, the trees and other vegetation around the edge of the village would do little to filter or mask views of the turbines from the nearest properties. In this elevated position and without any significant screening, the turbines would form a conspicuous element from this part of the village. As such, the turbines would have a significant impact when seen from this viewpoint."

Paragraph 19

This is certainly a viewpoint that is afforded clear visibility of the proposed development. However, the undulating topography, presence of Miles Wood to the north and presence of the larger scale pylon line on the eastern edge of the vista do provide a good degree of mitigation and prevent all of the turbine from skylining. It is out contention that whilst impact does occur it is not so significant as to merit the refusal of this application.

- Viewpoint: Location No.2 – Residential properties at Moor Lane junction with the B6273

“Whilst the turbines would be clearly visible, I am not convinced that they would have a significant visual impact when seen from this viewpoint. The turbines would be seen against the sky at some distance. The sky from this viewpoint does not form a clear backdrop, but contains other vertical elements including a low overhead electricity line on single poles and, much more significantly, a number of electricity cables supported by a series of tall pylons.”

Paragraph 20

We would concur with the inspectorate’s assessment of this viewpoint and would reiterate that the established nature of vertical infrastructural elements provides a significant visual context easily absorbing the proposed development without any significant impact occurring.

- Viewpoint: Location No. 4 – Residential properties at Thurnscoe Lane

“...the turbines would be seen at this distance as being part of a much wider vista. I disagree with the conclusions reached in the visual impact report. My assessment is that the impact would be slight to moderate rather than significant. Not only would the turbines be seen at a distance but they would be largely seen against a backdrop of Miles Wood, a small expanse of trees occupying higher land than the turbines. In addition, trees and other vegetation along this edge of the village would provide a degree of filtering of views out from the village.”

Paragraph 22

For reasons similar to those noted in our comments in relation to Viewpoint 1 above we again concur with the Inspectorate’s view that the surrounding landscape can easily accommodate the proposed development without any significant impact.

The Inspector’s assessment states that:-

“In terms of visual impact, the turbines would not have more than a slight to moderate impact when seen from most vantage points in and around Great Houghton and would be unlikely to have any impact on the wider area.”

Paragraph 32

In considering the impact of the previous development proposal upon these residences the Inspectorate notes that the turbines would have a significant impact. However, in Paragraph 38 it was clearly highlighted that this was only “one part of Great Houghton”.

In terms of the local community’s enjoyment of the public rights of way, specifically those linking Great Houghton to Howell Wood and from Great Houghton to Spry Wood, the turbines would have a degree of impact and would be clearly visible from certain points along each. However, it is important to note that in their consideration of potential impact upon these routes the Inspectorate has suggested that:-

“...visual impact of turbines on walkers along a footpath is very different from, for example, a dwelling or a street within a housing area. Compared to being seen from a dwelling where the vantage point is permanent and the view remains much the same, a footpath usually provides a succession of views from different vantage points as a walker progresses along the right of way. In other words, for a walker the view is constantly changing.”

Paragraph 27

Whilst the Inspectorate acknowledges that clear views will be afforded, it is evident that the level of impact must be set in a context with the dynamics of these views and should therefore be afforded lesser weight.

In light of the above when one balances the potential visual impact of the proposed development upon the local community and its inhabitants against the positive benefits associated with the provision of a renewable energy resource, we would suggest that the even greater benefits of this current proposal will further outweigh the limited localised impact that occurs.

The issue of shadow flicker must also be considered when assessing the potential impact of a development upon local communities. However, this is limited to only nearby properties and only occurs early in the morning or late in evening. The effect is caused by the rotating blades interrupting the light from sun when the turbine is between the property and the sun. The effect is likely to be worse on sunny days in winter than in summer, as in summer the sun is much higher for longer and therefore the shadow is more local to the actual turbine. No shadow flicker will occur beyond 130° either side of north and, although there are no specific rules on shadow flicker, a 30 hour per year maximum has been generally accepted as reasonable within the UK. Planning policy also states that a separation distance of approximately ten times the rotor diameter of the turbine in question is sufficient to ensure for no unacceptable impact from shadow flicker within the affected zone. In this case, this equates to 240m (10 x 24m). As there are no residential properties within this parameter there is not anticipated to be a problem with shadow flicker.

Noise associated with the operation of wind turbines can also have a detrimental upon communities and must therefore be assessed. ETSU-R-97 is the industry standard document for setting appropriate noise emission levels for operating turbines and guides planning conditions. The ETSU-R97 guidance proposes that a noise limit for night time operation of 43DB(A) is acceptable, with this acceptability having been derived from the 35DB(A) sleep disturbance criteria referred to in Planning Policy Guidance.

Please note that in this instance an independent consultant, Dragonfly Consulting, have prepared an assessment of the subject proposal based on noise emission data provided by the manufacturer for the candidate turbine. This report concludes that no unacceptable noise impact is anticipated upon residential properties and compliance with ETSU-R-97 criterion has been achieved.

Impact upon the Green Belt

The main purpose of a Green Belt designation is to maintain openness and to safeguard the countryside from encroachment. The definition of development includes engineering and other operations, including the erection of a wind turbine. As indicated within the preceding policy section, specifically that of the NPPF and the Core Strategy, renewable energy developments will comprise inappropriate development unless it can both maintain openness of the countryside and offer very special circumstances to merit approval. Very special circumstance may include the wider environmental benefits associated with the increased production of energy from a renewable source and one must give due regard to the fact that the Government has set very challenging targets for climate change. There is currently a gap between the provision of existing infrastructure and these targets especially within the North England and current policy attaches significant weight to the need to tackle climate change and the role that renewable energy technologies can play in this.

In this instance the turbines would occupy land that has not been built upon and therefore the development could be considered to interrupt natural landscape. However, as with any infrastructural development a degree of encroachment will always occur. Whilst it is acknowledged that there would be a degree of both vertical disruption and limiting effect upon openness by way of the swept path of the blades, given the slim-line nature of the towers and the small diameter of the blades, it is considered that the overall impact upon the openness of the landscape would be minimal. In terms of visual impact the small scale nature of the proposal would in itself mitigate the views afforded to the surrounding area.

In their previous assessment of the initial proposal the Inspectorate confirms that whilst they concur that the proposed turbines represented inappropriate development in the Green Belt, when considering the impact of a turbine of the size and scale proposed they would:-

“...not consider that the turbines would have an urbanising effect upon this expanse of countryside. Wind turbines of this size and above are not usually associated with built-up areas; they are more likely to be found in the countryside. In addition, the limited footprint of the proposed development means that the extent of any encroachment of the countryside would be minimal.”

Paragraph 9

As noted earlier in this statement due care and attention has been taken to ensure that the size, scale and siting of the newly proposed turbines reflect that of the initial development and, although the blade span has increased slightly, the overall height of the turbines remains the same and as a result we do not believe that the subject proposal could reasonably be considered to have any greater degree of impact.

One must also recognise the valuable contribution that this small-scale project can provide in increasing the amount of renewable energy available locally along with the wider environmental and economic benefits it has. These will be dealt with in more detail below.

Impact upon Cultural Heritage Assets

To ensure the development meets planning policy requirements in respect of cultural heritage, its potential impact upon the following has been undertaken based upon a 2km buffer zone:-

- Listed Buildings (LB I, LB II, LB II*)
- Scheduled Ancient Monuments (SAMs)
- World Heritage Sites (WHS)

To give an idea of how the site sits within a context of these we would refer you to both the tables and the Magic Maps extract provided below.

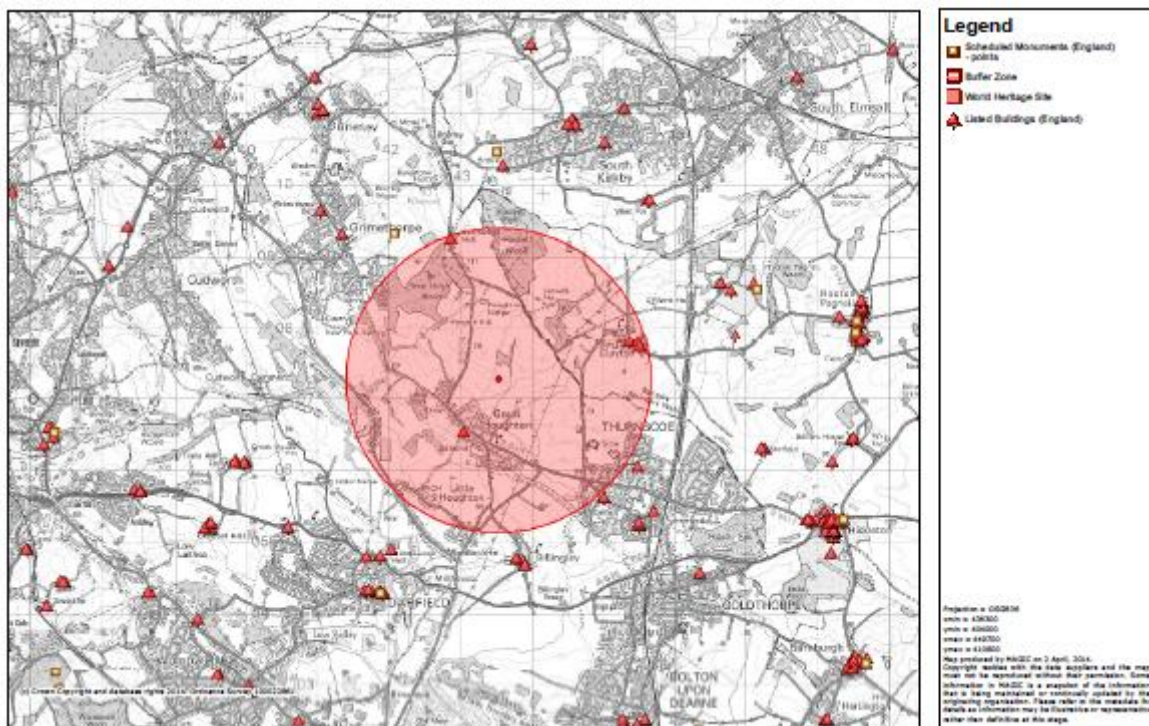


Fig. 3: Cultural Heritage - Magic Maps extract

Type	Site Name & Place	Reference	Orientation
LBII	Church of St Michael and All Saints, Great Houghton	1151170	850m to S,SE
LBII	Hallbridge Farmhouse, Clayton	1151648	1800m to NE
LBII	Manor Farmhouse, Clayton	1151649	1800m to NE
LBII	War Memorial, Clayton	1393133	1800m to NE

Fig. 4: Cultural Heritage - Table

As you will note from the above and the relevant ZTV production a total of 4No. Grade II listed buildings are present within 2km. However, none of these is considered to sit within such a close visual context of the proposed development for the reasons stated below:-

- Church of St Michael's and All Saints Church
Although this Grade II Listed Building sits within 1km of the site it is located within the southern half of Great Houghton. Therefore views both to and from the church in a context of the proposed development site are interrupted with existing manmade development associated with the village settlement. It is also worth noting that Viewpoints No.1 and No. 4 provided as part of the attached LVIA have already clarified that potential impact upon the more northerly parts of Great Houghton are considered to be acceptable.
- Hallbridge Farmhouse
This Grade II Listed Building sits just within 2km of the site and on the eastern edge of Clayton. Although specific viewpoints have not been provided within the attached LVIA, Viewpoints No. 3 and No.5 are considered to offer reasonable evidence that there will be limited impact given the presence of raised topography, mature vegetation and the existing pylon line that exists between the development site and this property. Further mitigation will be provided in the form of other residential development within the western edge of this village.
- Manor Farmhouse
As above
- Clayton War Memorial
As above

Impact upon Natural Heritage Assets

In order to inform initial consultations, existing ecological information concerning both statutory and non-statutory designated sites were considered. To ensure the development does not conflict with any natural heritage assets, its potential effect upon the following has been assessed using a 5km buffer zone:-

- Local Nature Reserves (LNR)
- Sites of Special Scientific Interest (SSSI)
- Special Protection Areas (SPAs)

To give an idea of how the site sits within a context of these we would refer you to both the table and the map provided below.

Type	Site Name	Reference	Distance	Comment
SSSI	Carlton Brickworks	1044216	2.2km to NW	Geological sensitivities
LNR	West Haigh Wood	1009715	2km to NW	Forest and woodland

Fig. 5: Natural Heritage - Table

Due to the type, nature and orientations of all relevant the statutory and/or non-statutory designations within the wider locale, we do not believe that this proposal will result in any significant ecological impact upon within the wider locale.

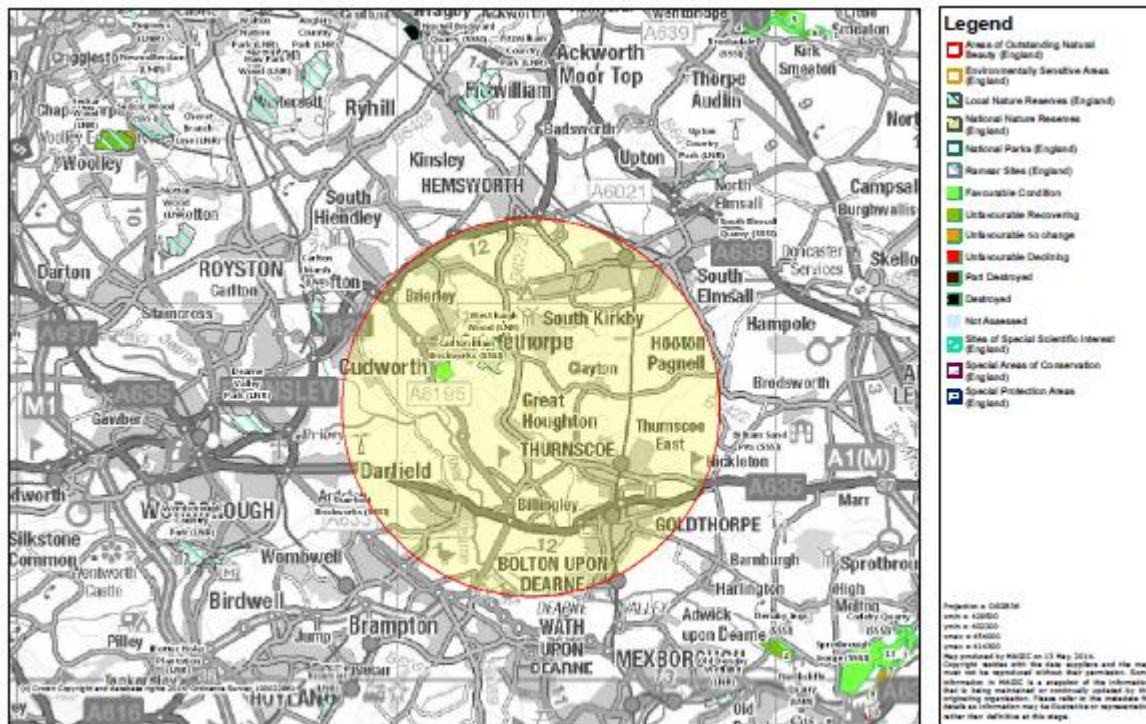


Fig. 6: Natural Heritage – Magic Map Extract

Impact upon Ecology

A desktop study has also suggested that there are no designated wildlife sites or protected species within the local area that would be likely to be adversely impacted upon by this development. Furthermore the proposed layout and access route does not interfere with any elements that could have ecological sensitivities attached to them, namely hedges, ponds, dry stone walls, etc. Further to this, no ecological issues were raised as a concern in the determination of the preceding planning application or appeal submission.

In term of ecology, adverse effects on biodiversity as a result of the proposed development are considered unlikely. Whilst collision risk and disturbance are valid concerns such impacts are more frequently associated with large scale commercial development and not development on a par with the size and scale of that being proposed. It is important to note that the habitats within the locale around the subject site are more frequently visited by agile farmland bird species and not those of larger birds more susceptible to collision risk. Please also note that disturbance is likely to be restricted to localised areas within the host field, which itself is in arable use.

In addition to this and in line with standard wind turbine planning requirements, the turbine has been sited to ensure there are distances exceeding 60m in all directions between the turbine and any continuous hedgerows and still or slow moving watercourses in order to protect against impacts to wildlife that may use these for various reasons, such as bats. In terms of bats specifically, Natural England has produced a Technical Information Note TIN051 in light of the Eurobats Agreement, entitled 'Bats and Onshore Wind Turbines' and this report recommends that wind turbines are unlikely to affect bat populations where a 50m buffer is maintained from foraging habitat, as is the case in this instance.

Impact upon Tourism

There is no evidence to suggest that wind turbines adversely affect tourism and it is clear that public perception of wind energy development is changing for the better given society's realisation that an alternative to dependence upon a finite supply of fossil fuels and conventional energy production methods must be found. One could also argue that public access to and the presence of educational visitors centres at large scale wind development sites are now an established attraction in many areas and therefore wind development is actually playing a positive role.

The nearest attraction to the proposed development site is Brodsworth Hall, located 7km away. As a result the proposal could not reasonably be argued to have any adverse impact upon the economy of this attraction.

Impact upon Archaeology

Although the proposed development will involve ground intrusive works and the laying of both foundations and cable works, a desktop assessment on potential archaeological issues using the English Heritage Pastscape database has not resulting in any risks being identified.

Impact upon agricultural land

The harnessing of natural resources is the basis of all farming practices. Therefore wind energy development marries well with modern agricultural practices. Given the size and scale of the development's footprint along within its non-permanent lifespan, it is considered that there will be negligible impact on the agricultural use of the land. Please also note that the land around the proposed development will continue to be used to its maximum agricultural potential and, as noted earlier in this statement, the benefits associated with this proposal will sustain the economic viability of the landowner's agricultural business as a whole .

Electromagnetic Interference

The proposed turbine will comply with the European Commission Directive on Electromagnetic Compatibility (89/336/EEC) and should not give rise to any unusual problems. Unlike the previous analogue television signal, digital transmission and services are not affected by electromagnetic interference and any potential disruption tends to be more likely to be experienced by large scale commercial wind developments. Given the size and scale of the proposed wind turbines, it is extremely unlikely that any electromagnetic interference will occur in the local area.

Impact upon Communication Networks

A desktop study and onsite assessment has suggested that there are no operational base stations nor radio transmitters within close proximity of the development site. Please also note that the previous proposal for 2No. wind turbines of a similar size and scale on site was not subject to any communications objections. As is outlined in Section 4, full pre-application consultation with all relevant communications bodies has been undertaken and whilst we believe that no impact upon communications networks is expected further investigation is ongoing in relation to Northern Powergrid (Yorkshire) Limited and JRC links. Given historical approval that exists on site this is not been considered a reason not to progress and the outcome of these ongoing negotiations will be clarified at the earliest opportunity.

Impact upon Aviation

Because of their height, wind farms can result in aviation concerns. Additionally, rotating wind turbine blades may have an impact on certain aviation operations, particularly those involving radar. A desktop study and onsite assessment has suggested that there are no existing aviation or radar sensitivities affecting the locale. Please also note that the previous proposal for 2No. wind turbines of a similar size and scale on site was not subject to any aviation objections. As a result we do not believe that this new proposal will be subject to any such concerns.

Transport and Delivery

As noted earlier in this statement access to Great Houghton will be taken via the B6411 and then on to the site itself via Stonebridge Lane, along the southern boundary of the field to the north of the recreational ground and then into the host field. The access route will then run along the eastern boundary of the host field before cutting west to the proposed turbines. A temporary access track within the host property is proposed in this instance and it is not envisaged that any amendments will be required to existing access points.

Access to the site by heavy goods vehicles will be required during construction and decommissioning stages and in the unlikely event of major maintenance. A brief outline of the relevant details is provided below:-

- **Turbine delivery**
The turbines themselves will arrive on site in a container measuring 40f long x 8f wide x 8'6f tall i.e. <13m long x <2.5m wide x <2.6m tall. The flat bed lorry used to get the turbine on site will have a width of <2.5m and a bed height of <2m. On this basis the overall width of the vehicle and load will be <2.5m wide and <4.6m tall. See **Fig.6** below.
- **Crane**
An 80 tonne crane would ideally be used on site to unload turbine parts and lift the relevant elements into place. See **Fig.6** below.

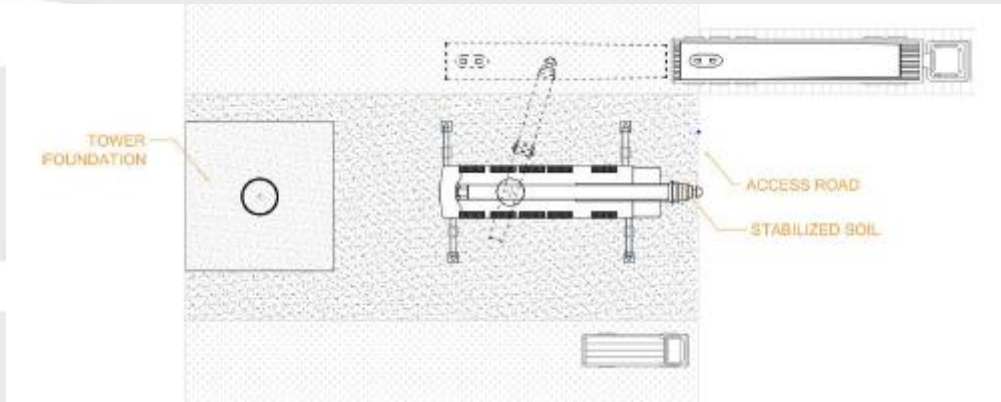


Fig.6 Delivery and Crane

- **Excavation**
A locally sourced JCB will be required on site to dig out foundations and trenching. The spoil from the foundations will be kept on site.
- **Concrete**
A standard sized concrete mixer no heavier than 6.5 tonnes will be required for the delivery of concrete at foundation laying stage.
- **Wheel washing**
Provision will be made for wheel washing facilities to prevent mud being brought onto the highway, subject to ground conditions at the time of installation
- **Travel planning**
All necessary negotiations and notifications with the relevant Highways Authorities will be undertaken at a pre-build stage. Construction traffic will not operate on the local highway network between hours of 08:30 and 09:30, and again between 14:30 and 15:30 to avoid school traffic peak, and between hours of 16.30 and 17.30.
- **Maintenance**
Once operational routine maintenance can be undertaken by engineers travelling by standard sized vehicles and on foot.

Build

Given the size and scale of the development proposed, the elements can each be delivered in a way that will not necessitate the use of unduly large vehicles. Heavy goods vehicles will be required to access the site at construction stages. The construction process will comprise the use of aggregate the crane platform; the excavation of land and laying of concrete foundation for 10x10m operational base; the excavation of land for laying of cables; delivery and erection of turbine structure and associated elements; and, the commissioning of the turbine.

Temporary works required for the installation process will be minimised as far as reasonably and operationally practicable and it is envisaged that all stages within the build process will be completed within a period of two months.

Each of the above will be undertaken by qualified personnel operating strictly within the health and safety guidelines of both the national government and Urban Wind. All waste products will be removed from site.

The main stages within the build process are as follows:-

- Laying of foundations and concrete curing period
- Cable trenching and installation for grid connection
- Turbine shaft assembly and erection
- Installation of the nacelle and blades
- Testing and commissioning

Excavation for the proposed foundations will be undertaken using a standard digger with cement being delivered by standard cement lorry. Transportation of the wind turbine to the site will be undertaken by standard flat bed lorry.

The size and frequency of traffic at this stage will be akin to that of standard agricultural vehicles that frequent the locale. Two cranes will be required on site to erect the turbines into place and this part of the process will be entirely dependent upon weather conditions. The planning unit has been extended to 20m x 10m to incorporate all land necessary for these works.

Operation and Maintenance

The NPS100-24 turbine was originally designed for use in both remote and isolated communities offering high performance and low maintenance benefits. The turbine's reliability and safety record is flawless with a proven track record of surviving extreme wind and even hurricane conditions. The development will operate without any risk to those within publicly accessible areas and will be maintained in good and safe working order by qualified personnel operating within the health and safety guidelines of both the national government and Urban Wind. Regular and routine maintenance will involve the inspection and servicing of all elements and undertaking performance reviews.

Decommissioning

The development will operate within for a period of 25years or any specific timescale defined by any conditional planning consent that may be granted. Should permission not be sought for the continued use of the site for electricity generating purposes, upon expiration of this timeframe the proposed development will be removed with the land being reinstated to its former condition.

Decommissioning will take account of the environmental legislation and technology available at the time these works are required. Notice will be given to the local authority in advance of commencement of the decommissioning works, with all necessary licenses or permits being acquired. Decommissioning will be timed to minimise its environmental impact.

The operator will develop a decommissioning plan, and the works will be undertaken in accordance with a statement of operations, covering safety and environmental issues during decommissioning. When dismantling and removing the turbine, the base would be removed to a depth of approximately 1m below ground level and all cable cut and left in the ground. Typically decommissioning will involve the removal of the upstand plinth and the top surface of the foundation base. The area will then be reinstated with a final layer of topsoil over the foundation. This approach is considered to be less environmentally damaging than seeking the complete removal of all foundations, cable and roads

Impact upon air quality and climate

As with any renewable energy development there will be both positive and negative contributions towards air quality, dust and greenhouse gas emissions as a result of the construction, operation and decommissioning of the development

The delivery to the infrastructure and the associated movement of vehicles and plant on site will result in exhaust emissions. The construction process will also have the potential to create other issues through the disturbance of dust and noise production. However, the size and scale of the development general pollution and disturbance will be insignificant at best.

The purpose of the development is to generate electricity from a renewable source of energy, therefore negating the need for power generation from combustion of fossil fuels. Consequently, the electricity that would be produced by the Development results in a save in emissions of carbon dioxide (CO₂) with associated environmental benefit. During its operational lifespan the wind turbine development has the potential to displace electricity generated from fossil fuels and consequently prevent CO₂ from being released. The actual amount of CO₂ released through electricity generation in the UK relates directly to the generating plant in use at any given time. This mix changes on a daily basis and will change in the future as UK generating plant is replaced and fuel costs change, and as a consequence it is not possible to predict exactly how much CO₂ release the wind turbines will prevent over their lifetime.

The operation of the Development has the potential, based on the same assumptions, to also displace other gases related to coal-fire electricity generation including those associated with acid rain such as sulphur dioxide (SO₂) and oxides of nitrogen.

A low level of CO₂ emissions will be released over the life of a wind turbine through its construction, maintenance and decommissioning phases, e.g. from steel and cement production and transport. However, such emissions are involved in building any conventional electricity plant. Conventional fossil fuelled electricity plants have the additional CO₂ emissions from procurement and burning of fossil fuel energy sources during operation which increases their impact.

The Parliamentary Office of Science and Technology (October 2006) compared the life cycle CO₂ emissions of different electricity generation systems in the UK. It was found that coal burning power systems have the largest carbon footprint of all the electricity generation systems analysed having up to 1000g of CO₂ equivalent per kilowatt hour (kWh) of generation (1000g CO₂eq/kWh). The carbon footprint of fossil fuelled power plants is dominated by emissions during their operation.

In contrast it finds that electricity from wind energy has one of the lowest carbon footprints with nearly all the emissions arising during the manufacturing and construction phases such as the production of steel and concrete, which account for 98% of the total life cycle CO₂ emissions. The carbon footprint for onshore wind energy is given as only 4.64g CO₂eq/kWh.

Even when taking account of the full life cycle emissions of CO₂, a wind turbine therefore emits far less CO₂ per unit of energy from construction, maintenance and operation than conventional fossil fuelled electricity plants such as coal, oil and gas.

The effects of the decommissioning phase of the development will be similar to those generated during the construction phase.

Section 7: Conclusions

The wind turbine development before you is a sustainable development with multiple benefits. Not only does it offer an opportunity for a fuel-free form electricity generation, but it also supports the economic strength of the farming activities providing a guaranteed and diversified income to the landowner.

We would reiterate that the subject site is not covered by any restrictive or sensitive planning policy designation, nor will the proposed development sit within a close visual context of any historic or cultural asset. Although introducing new vertical elements into a this agricultural landscape, the scale and location of the development would be such that the impact on visual amenity, both in terms of nearby residential properties and the general enjoyment of the area, would be negligible with any impact confined to a localised agricultural setting.

The development is to be located in an excellent wind resource location. Further to this the Northern Power 100-24 model operates at a 45-48% efficiency level and is specifically designed to deliver optimal power generation in low to moderate wind speeds. As such, it is predicted that this development will achieve the significant figure of 406000kWh of CO2 free power. Such a significant yield simply cannot be ignored and nor can the role that small to medium wind energy development has in the UK government's obligation to generate 15% of the country's energy demand from renewable sources by 2020.

Although the proposal is by definition inappropriate development in the Green Belt, limited harm arises through the effect on openness and the contribution of the proposal to the sum of renewable energy and reduction in greenhouse gases attracts substantial weight. It is also our contention that the harnessing of natural resource is an intrinsic value of agricultural practices and the proposed use is fitting for this agricultural setting. There is a clear requirement for diversification in agriculture and this proposal, whilst not impacting on the existing farming activities, has the potential to provide economic security for the host business during the operational lifespan of the wind turbine. Further, with many farmers in commercial difficulty which in turn affects the communities they are an integral part of, the case for sustainable diversification is overwhelmingly directed at providing economic support to enable such practices to continue with their vocation as a central part of these rural communities.

To conclude we would again refer to the findings of the recent appeal decision for a similar size and scale of turbine development at this location which confirm that the landscape in question could easily support and absorb the proposed development; that the potential impact of this development is clearly outweighed by the sustainable, environmental, economic and social benefit it provides; and that very special circumstances exist which justify the development. Accordingly, the proposal would not conflict with the objectives of national and local planning policy and we would suggest that planning permission should be granted on this basis.