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REF 3
DESIGN STATEMENT

Introduction

Grange Farm is a well established organic dairy farm extending to some 379.20 Ha (937 acres).

The farm supports a herd of 380 dairy cows, with 200 calving in spring and 180 in Autumn. The farm is all in grass apart from 115 acres of cereals which are grown for home consumption. Yearly 300 acres of grass is cut 3 times for silage.

To be self sufficient and to safeguard the future of the farm by producing its own electricity supply, given the savings in the farms carbon footprint as well it would help to protect the environment for the next generation of farming at Grange Farm.

Grange farm is a dairy farm and as such uses a large amount of electricity, at the moment the annual costs for this are approximately £18,000. With the estimation that energy prices will increase by 9% per annum for the next 20 years and at present at 21% per annum the viability of this business could be brought into question. With these figures taken into account the electricity bill for Grange Farm would be in the region of £40,000 in 10 years time, this figure would be very difficult for the business afford with the escalating costs associated with this business and the main source of income being from the sale of milk which unlikely to increase at these rates of inflation. A smaller turbine (s) would not be financially viable as the interest, repayments and additional cost of electricity which would still escalate means the business would still be paying £40,000 in year ten.

With expansion ongoing at the moment this will increase and will be an issue to the farm in future years as costs escalated.

Employing four full time workers and two part time workers, Grange farm has to ensure that it benefits in any way possible to maintain profitability and reduce overheads to remain competitive in the market place.

In arriving at a location for the turbine, consideration has been undertaken regarding wildlife, and indeed Bats (a report is enclosed) sighting the turbine in a relative position as recommended by this report from hedge rows and buildings where they may be flight paths.

Grange Farm currently uses approximately 150,000 units of electricity per annum, the four Gaia Wind Turbines produces at a average wind speed of 5.5mps 115,000kw/h per annum when combined.



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Government support and policy for Renewable Energy.

Global climate change is a recognised phenomenon of international significance. The continuing production of 'greenhouse gases', and carbon dioxide in particular, is contributing to the increasing rate of climate warming. This runs counter to the aims of sustainable development as the effects, including sea level rise and the increased frequency of extreme weather events, have human, environmental and economic costs which can be very great. Tackling climate change is a necessary condition for sustainable development, so the UK has signed up to a number of international agreements in an attempt to address this situation. Under the Kyoto Protocol the UK aims to reduce a basket of greenhouse gases to 12.5% below 1990 levels by 2008-12.

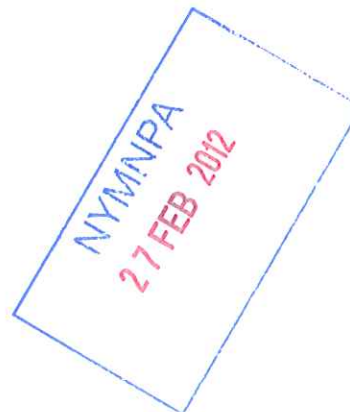
After missing the long standing targets for 2010 set out within The Energy White Paper, the Coalition Government have set new targets for a 30% reduction in Carbon Emissions by 2020. This will put the UK back on a path to cut its carbon dioxide emissions by some 60% by 2050.

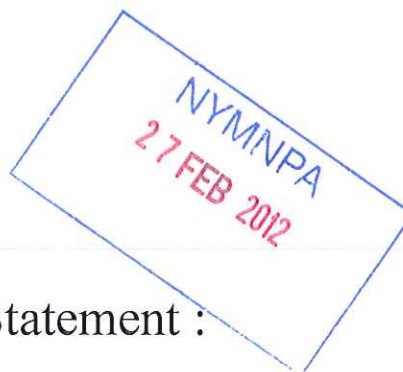
The increased development of renewable energy resources vital to facilitating the delivery of the Governments commitments on both climate change and renewable energy. Local Authorities are encouraged to facilitate renewable Energy developments which in turn can contribute to all four elements of the Government's sustainable development strategy.

Spatial Strategy For Onshore Wind Development

In preparing policies and proposals for onshore wind projects Development Plans should conform to the spatial strategy;

Within designated National Parks, AONB's and Heritage Coasts wind developments should be limited to individual turbines of no greater than 100Kw installed capacity, to provide power to off-mains properties and other small users.





National Park Planning Policy Statement :

With these aims in mind national planning policy strongly encourages the development of renewable energy through the planning system. Planning Policy Statement 1 'Delivering Sustainable Development', Planning Policy Statement 22 'Renewable Energy' and the supplement to Planning Policy Statement 1 'Planning Policy Statement – Planning and Climate Change' all strongly encourage the planning system to promote and support the development of renewable energy and to encourage designs which reduce the need for energy.

The guidance expects authorities to encourage the delivery of renewable energy developments whilst providing a high degree of protection for designated sites and areas. This not only relates to the protection of the North York Moors as a National Park but also to the protection of other internationally and nationally designated sites within the Park.

Planning Policy Statement 22 states that in nationally designated areas: *'planning permission for renewable energy projects should only be granted where it can be demonstrated that the objectives of designation of the area will not be compromised by the development, and any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by the environmental, social and economic benefits'*

Planning Policy Statement 22 goes on to say that *'Small-scale developments should be permitted within areas such as National Parks, Areas of Outstanding Natural Beauty and Heritage Coasts provided that there is no significant environmental detriment to the area concerned.'*

The proposals generate electricity from a sustainable source in order to meet the energy needs of the farm and subject to conditions will have minimal impact on archaeology.

Whilst visible from distant viewpoints the turbine is well related to the existing buildings, are not considered to have a significant Impact upon the landscape through individual or cumulative impact and are therefore in accordance with Policies within the adopted Scarborough Borough Local Plan, Regional Spatial Strategy and National guidance.

We have been unable to obtain CO2 emissions and targets for renewable energy production for the North Yorks National Park but would be interested to know what they are.

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Promotion of Renewable Forms of Energy:

The economic and social benefits outlined by the applicant are significant although this does not create a presumption in favour of the development.

PPS22 states that "Development proposals should demonstrate ... how any environmental and social impacts have been minimised through careful consideration of location, scale design and other measures.

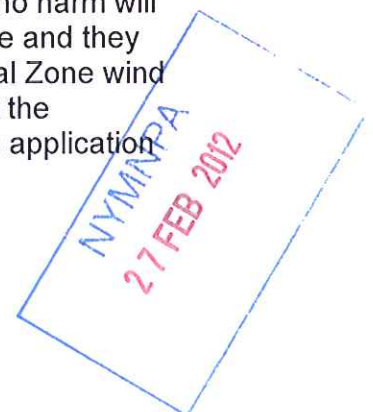
This has been established by the applicants with benefits which are significant for the existing farmstead and by also contributing to regional renewable energy targets.

Policy Context

6.4 Local Plan Policy E1 seeks to control development outside Development Limits in the open countryside by only allowing it in certain circumstances which include proposals for which an open countryside location is essential and no suitable alternative exists. Policies I8 and I9 allow Farm Diversification subject to various visual, landscape, amenity and highway capacity considerations. Siting should be within or adjacent to an existing building group and set below the skyline, form, scale, design and external materials should be in harmony with existing traditional buildings and the surrounding landscape.

6.5 Policy E35 allows development for the production of renewable energy, including wind turbines, provided it will not harm the character or appearance of the landscape, features of acknowledged environmental importance or otherwise have an adverse effect on the environment. It should not harm residential amenity and should be visually related, where practicable, to existing buildings to avoid the proliferation of new development in the open countryside.

6.6 Policy E36 allows the development of wind turbines provided no harm will arise through noise, blade rotation or electro magnetic interference and they would not form intrusive features on the skyline. Within the Coastal Zone wind turbines will only be permitted where they will not adversely affect the character or public enjoyment of these important landscapes. The application site is not within the Coastal Zone.



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The Coalition Government announced its intention to abolish Regional Spatial Strategies in July 2010. This is being carried out as part of the Localism Bill, the Yorkshire and Humber Plan will no longer form part of the Development Plan for the National Park. The Government has announced its intentions for the future of the planning system and intends to produce a National Planning Policy Statement later this year after which the Authority will be reviewing its position and the need for revised policy documents. It has been suggested that the Policy will contain measures to push through applications planning small turbines like this one.

Description of Wind Turbines

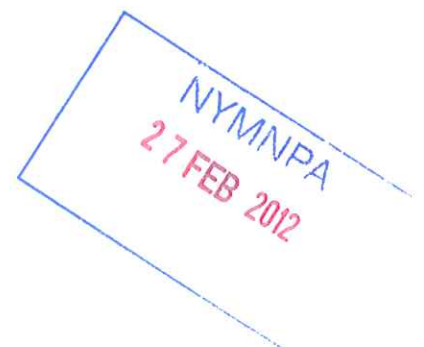
Four 11kw turbines are not adequate to supply the power currently use and offer no room for expansion in electrical use. But they are a good quality turbine and all that we can get passed at this stage in the National Park. Hopefully in the near future it will be realised that sustainability and beautiful landscapes go hand in hand.

Landscape Impact assessment

Standing in close proximity to the numerous buildings and dairy facilities at Grange Farm, the turbine Standing on towers of 15 and 18 metres will blend into the rolling farmland, as you will see the turbine is sited down slope to reduce the number of distant views and not breaking the skyline. The nature of the topography within the area means there are few view points where the turbine could be seen. Their will be minimum impact on properties in the local vicinity, none of these properties are within a conservation area or are listed buildings, as any neighbouring properties have no unobstructed view points, the closest property is over 250m away which also means there is no noise pollution or shadow flicker to the property either. Mounted on a single monopole tower the base being concrete and accessed from existing roadways, there will be no detrimental effects on the environment or local amenity, compared to some turbines which have a lattice tower held by wires meaning the immediate land underneath the turbine would be unsuitable for agricultural use, especially grazing stock. A bat scoping survey has been undertaken and the recommendations from this report have been taken into consideration when establishing the installation point of the proposed turbine. Consideration has been undertaken to install the turbine away from hedge rows to minimise any risk to wildlife in the area.

Impact on the character of the landscape

The visual impact comprises upon the landscape from nearby



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roads, footpaths and properties as well as from more distant locations. The turbine would be located approximately 600m north east of the Staintondale- Ravenscar Road beyond the brow of the hill. However it will be visible from distant views along the elevated stretches of the Cloughton to Staintondale road to the south. These views however would be very distant. View points are closer from the old railway track; now a public footpath and bridle way, however this is some 350metres east of the installation and the lower part of the tower would be obscured from view by farm buildings minimising the impact to a large degree. A photomontage is included of the view from a bridge spanning the bridleway.

There is to the north of the farm at a distance of approximately 1 mile (photo enclosed) a TV and Radio transmission mast, at a height of 45 metres some 27 metres higher than the proposed wind turbines tower heights of 18 metres. This mast can be seen over 10miles away from all directions, where as the proposed turbine will only be visible in a small number of locations, most within a mile.

It is National Park Policy that any wind turbine should be only 50% higher than existing buildings within the immediate vicinity, however most applications for wind turbines are from the domestic home owners who intend to 'cash in' from the government pay back schemes, the Grange Farm proposal is not intended for this purpose, it is the intention to reduce the carbon footprint of the business, by means of Green Technology. It is also written that all projects should be assessed on their own merits by weighing up the purpose and the level of generation against the visual impact. Grange Farm may not have the farm buildings of excessive heights but there total area and the size of the farm means it is on a large scale, with a total electricity consumption which does justify the need of a wind turbine of this size. The nature of the business means that there is a constant need for electricity throughout the day, 365 days year. Making it a viable proposition for a project of this size. There could be an argument which states that domestic homeowners could have a 6kw turbine which would produce all consumed electricity with an excess to sell back to the grid, if this is the case then the Grange Farm project which is only intending to use the generated units should be looked on favourably as a sustainable venture. Within the boundaries of the North Yorkshire Moors National Park, several turbines have been built of various heights, several of these exceed the 50% higher than existing buildings criteria, the tallest being 27.35m. This turbine can be seen above the skyline from the main road passing the property. We have also enclosed a copy of a news paper article reporting the position of the Lake District National Park and their support given to farmers to build wind turbines up to 30 meters tall.

Enjoyment of access land and Public Rights of Way

The turbine proposal has taken into account the British Horse Society's recommendations that turbines are sited at least three times the distance of their height from bridleways and indeed public foot paths.

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As such they will be no impact of the proposal having adverse effect on local residents or visitors gaining access to the surrounding countryside.

Cumulative impact

PPS22 and Local Plan E36 require cumulative impacts to be considered. There is a small Wind Turbine to the south west (approximately 1 mile away) of Grange Farm. Turbines have also been erected in the area of boggle hole some 5.2 miles away to the north which are not visible from this site. Hence there is considered to be little cumulative impact associated with this proposal.

Separation distance assessment

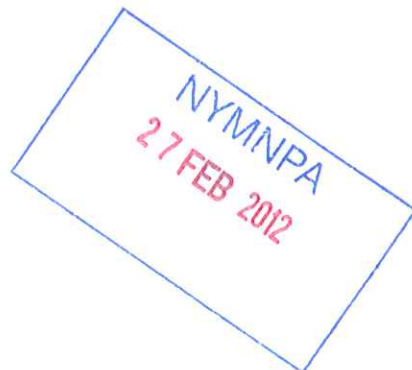
In order for a turbine development to receive planning officer support, turbines must be adequately sited so not to be considered interference to the surrounding area. As a result separation distances must be adhered to in order to account for public health and safety in the event of a collapse.

Separations must be applied to a site for the aspects of;

- Residential dwellings
- Gas mains
- Public access/ footpaths
- Bridleways
- Roadways
- Existing electrical infrastructure
- Shadow flicker

Assessment

Public access routes have been identified within the farm boundaries. UK Government guidelines on shadow flicker have been applied to the site diagrams.



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Separation distances have been applied to existing electrical infrastructure.

Other matters.

The Design and Access Statement and consultation responses to date indicate no problems with electromagnetic interference with radio and radar systems, noise, sunlight "flicker", or effects on birds and bats. Whilst one footpath passes the site it is not in such close proximity that its users would be likely to be affected by the turbine.

Through the creation of jobs directly related to renewable energy developments, and also in the development of new technologies. In rural areas, renewable energy projects have the potential to play an increasing important role in the diversification of rural economies.

Social progress.

Which recognises the needs of everyone by contributing to the nation's energy needs, ensuring all homes are adequately and affordably heated, and providing new sources of energy in remote areas.

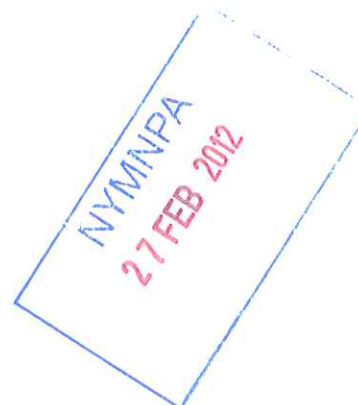
Effective protection of the environment.

By reductions in emissions of greenhouse gases, and thereby reducing the potential for the environment to be affected by climate change.

Prudent use of natural resources.

By reducing the Nations reliance on ever-diminishing supplies of fossil fuels.

Maintenance of high and stable levels of economic growth, and employment.



Comparisons with alternative forms of renewable energy

Hydro-electricity: Although Grange Farm has a stream running through the property, its situation is some 200m away from the main buildings, down hill in location it has insufficient flow and fall, to be able to enhance this form of natural power, having very little water flow in the summer and erratic flow within the winter.

Solar PV: None of the farm buildings at Grange Farm face south, therefore unsuitable for this type of Energy Harvesting. All building face west and east, and although it would be possible for solar panels to be used on these roofs the area which would need to be covered would be vast therefore unpractical and financially unviable.

Anaerobic digestion: This system would be capable of producing large amounts of electricity but requires the cows to remain housed for the entire year and would need to import large amounts of waste feed, green waste or abattoir waste to supply its needs. We operate a grazed grass system, inline with organic standards that don't allow cows to remain inside all year. With the cows out at grass for up to ten months of the year so even a small scale system would only operate for four to six months of the year making it unviable.

Current forms of energy use

Currently the farm is milking through a Herringbone parlour; this is taking up to four hours, twice daily whereas the proposed new parlour would reduce the milking time by a total of four hours daily therefore a reduction in electricity use.

Future plans for Grange Farm

Currently Grange Farm is planning stage for future expansion, within this development it is the intension to do the following to help with the reduction of Co2 footprint of the business.

- New workers Accommodation – This is currently being built, using the highest standards of insulation and construction available. It is the intension to heat and power the property with the use of renewable energy, i.e. Solar PV on the SE roof.
- Installation of a new Rotary Milking Parlour – Currently the farm has planning forms submitted for new buildings to the east of the existing buildings to house a rotary milking parlour. This will use variable milk pumps and vacuum to regulate electricity use, water heat exchange to capture lost heat from the cooling of the milk, these forms of technology are already in use and have been used for the last 20 years. Clear roof sheets on the roof to reduce the need of lighting whenever possible.



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Grid Connection

NEDL the network provider has been contacted regarding upgrading the connection point to Grange farm to accommodate the turbine input to the grid.

This will involve,

- Replacing existing high voltage line pole No 4 with a stout pole and establish a new pole mounted substation.
- Extend a mains size underground cable from the new substation to a point where the existing Grange Lea service cable can be transferred.
- Disconnect the Grange Lea service cable from the Staintondale Grange substation. This will leave Grange Farm and proposed Generator supplied from a dedicated substation.

Drawing no NEDL ENQ5148205 Shows the proposal, other works are underground.

BAT REPORT

A bat report has been included in this application, however given the proposed wind turbines are 50 meters from the nearest hedgerow or building the report is not required.

