

**COMMUNITY  
POWER  
CORNWALL**



## **Design and Access Statement**

Tregerrick farm, Gorran Highlanes, St.austell, PL26 6NF

Proposal: The installation of two Endurance E-3120 50KW wind turbines

Agent: Neil Farrington, Community Power Cornwall

### **Preliminary details:**

We are proposing the installation of two Endurance E-3120 50KW wind turbines, with the process being initiated by a community-led demand for ownership of renewable energy assets and a mechanism to reduce the local community's impact on climate change whilst increasing local energy security and strengthening the local economy.

Specific training and awareness raising events have been held across Cornwall with local communities and specific organisations (e.g. Transition Roseland, Making Gorran Greener and Transition St.Goran). This direct engagement has enabled these communities to think about their energy consumption and how it may be matched with appropriate energy reduction and renewable energy solutions within their locality. The communities have then investigated and proposed sites they think are suitable and have begun preliminary discussions with local landowners.

Due to the nature of the wind energy resource the site is necessarily elevated and relatively clear of major obstacles but does not fall within any designated areas including:

- Areas of great historic value
- Areas of great landscape value
- Areas of great scientific value
- Areas of outstanding natural beauty
- Conservation areas
- National nature reserves
- Scheduled monuments
- Sites of special scientific interest

These installations will not be privately owned with the responsibility for ownership, operation and maintenance resting with a newly formed community co-operative, Community Power Cornwall (Industrial and Provident Society Registered - Number 3052R). The primary aims of Community Power Cornwall (CPC) are:

1. To enable community ownership of renewable energy assets & low carbon technologies.
2. To create a successful environment for the nurturing of community-owned energy co-operatives.
3. To nurture and support mechanisms that will further the development of a thriving, sustainable, low carbon community sector.
4. To work towards a successful low carbon economy.
5. To measure social, environmental and economic progress
6. To invest surplus income from turbine installations into:
  6. i A revolving fund for low carbon development across Cornwall
  6. ii. A delegated community fund for community directed low carbon initiatives
  6. iii Interest returns to shareholders sufficient to attract & retain capital
  6. iv The continuation and development of CPC.

As has been clarified through preliminary screening enquiries (enquiry number PE/09/01025) the head of development control has determined the proposed development would not cause significant environmental effects or have any significant impact on the environmentally 'sensitive' location to the South of the site and it has therefore been determined that an Environmental statement (Environmental Impact Assessment) will not be required.

## Purpose

The purpose of these installations is multi-faceted, aiming to meet environmental, social and economic goals. We wish:

1. To engage local communities and increase understanding around issues of energy consumption (at both the personal and community wide level), carbon emissions and climate change. We aim to use a landmark community-based installation to drive individual local residents into recognising a need for action whilst fully understanding and personally experiencing a potential solution.
2. To displace grid-tied, fossil fuel based, electricity with green electricity. Direct links will be made between local green generation and local resident's power purchase.
3. To increase skills and capacities within communities to facilitate the attaining of a sustainable carbon free future. In order to meet carbon reduction commitments both today and in the future it is crucial that communities are mobilised and have the knowledge and skills to enact behavioural changes. Communities can be the best ambassadors for this change but need the necessary tools at their disposal.
4. To give communities and individuals ownership of local renewable energy generation and related economic, environmental and social benefits. We hope to move away from the current situation in regards to the majority of wind farm developments whereby local opposition is raised largely because there are no tangible benefits created within the locality. Communities and individuals in proximity to these installations will have the first opportunity to invest and benefit from them. Those unable to finance an investment will still benefit through the creation of a local low carbon fund, managed by local members, supporting and subsidizing low carbon initiatives and needs that the community has identified.
5. To support Cornwall's move towards a low carbon economy.
6. To decrease levels of carbon emissions across Cornwall through local, sustainable, green energy generation.

## Location

### *Turbine one:*

Longitude/latitude Co-ordinates: 50°15'44.74"N 4°49'45.21"W

GB grid reference: SW 98449 44102

### *Turbine two:*

Longitude/latitude Co-ordinates: 50°15'41.22"N 4°49'55.20"W

GB grid reference: SW 98247 44001

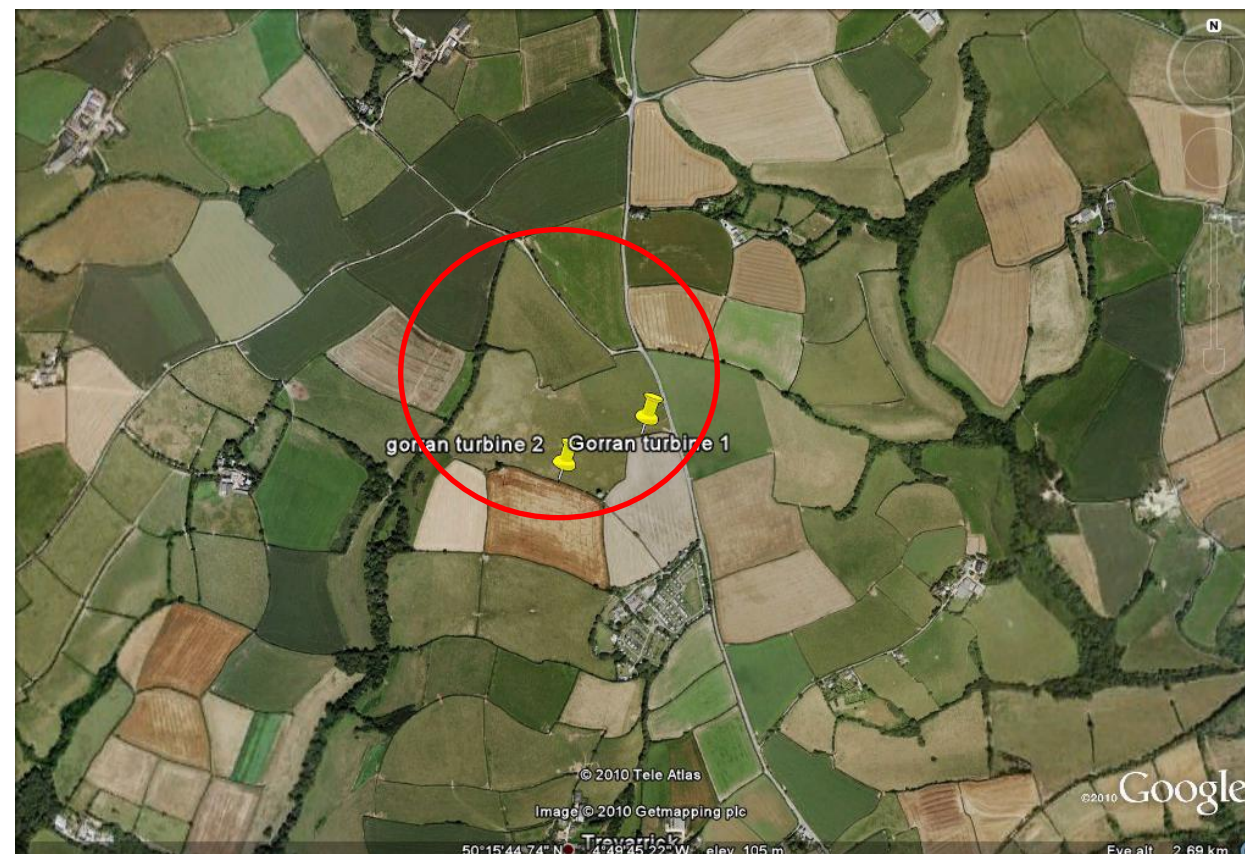
This site has been identified by a core group within the local community as an ideal location for wind energy generation. It falls outside any designated areas and is situated away from residential properties, critical to reduce noise emission and visual implications.

The site is on a ridge of high ground approximately 3.5km north-west of Gorran Haven. It is a pasture field of irregular shape approximately 300m north/south and east/west. A water tower, approximately 17-18m high, stands in its southern corner and it is crossed by an 11kV overhead power line.

The site has a good three-phase grid connection necessary for this scale of installation and a good wind resource, with average wind speeds on the site at 25m of 7.1m/s (NOABL wind speed database).





The nature of the wind resource needed, combining a relatively high average wind speed with clear flows of air and restricted turbulence, means that the proposed turbines will be visible but whether they are considered to have a positive or negative impact on the landscape is subjective and needs to be balanced against the other potential benefits the turbines will bring. This issue is explored further in the attached Landscape and visual impact assessment.

The Cornwall Sustainable Energy project 2004 describes the Cornish Killas Landscape as having a strong landform which 'enables the physical form of the landscape to accommodate wind turbines. The enclosure provided by the undulating landform and vegetation also reduces sensitivity.' This site can provide an ideal location for local, community scale renewable energy generation.





### Proposed turbine locations

-  Wind Turbines
-  Buried Cable
-  150 kVA Pole-mounted Transformer
-  3-phase 11 KVA Grid Overhead Lines

### Site plan 1:25,000 – Proposed turbine locations ✖



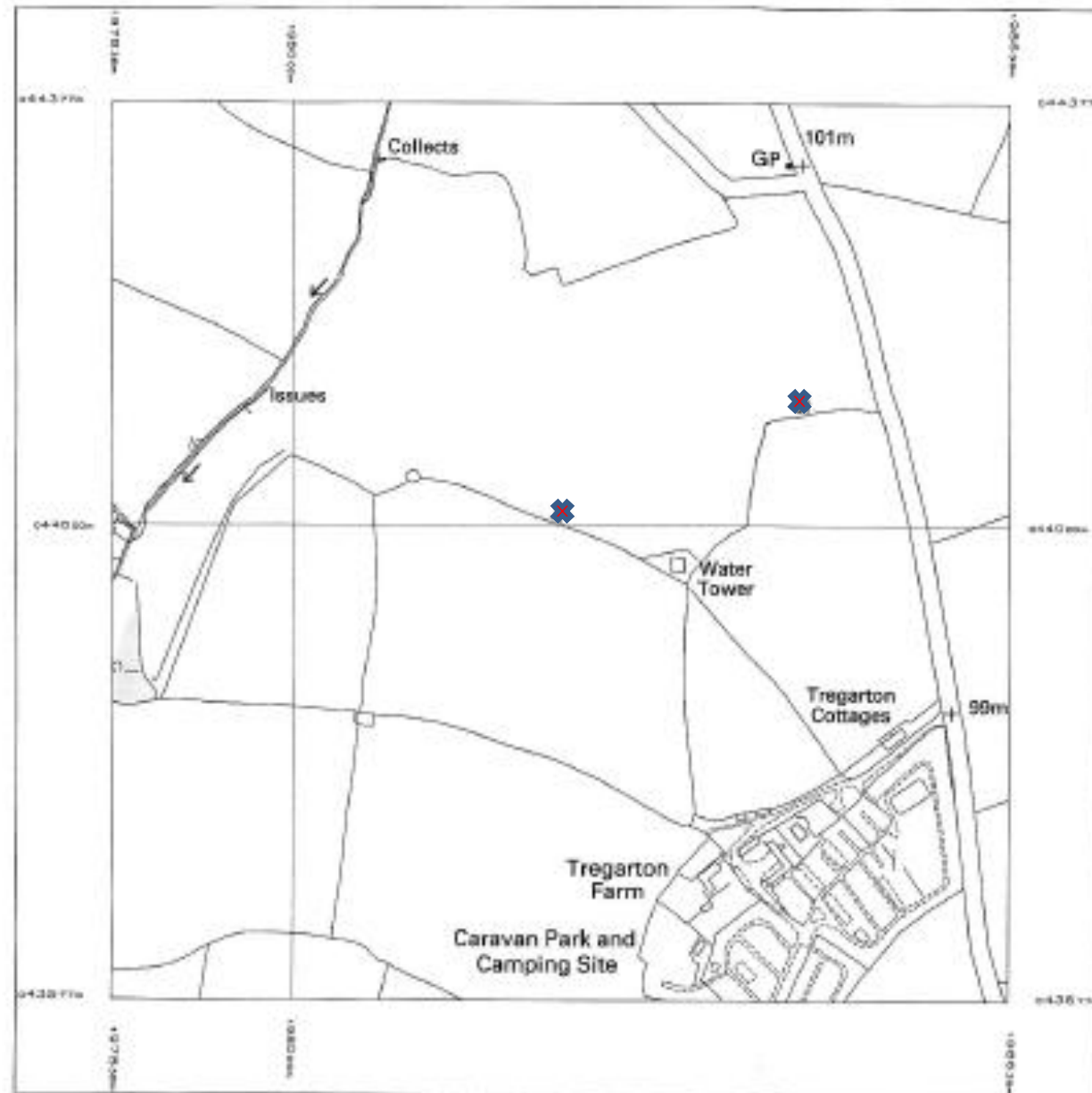
[www.ordnancesurvey.co.uk/getamap](http://www.ordnancesurvey.co.uk/getamap)

Image produced from Ordnance Survey's Get-a-map service.  
Image reproduced with permission of Ordnance Survey and  
Ordnance Survey of Northern Ireland.

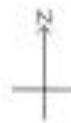
Site plan 1:5000 – Proposed turbine locations ✕



OS Landplan®



Plotted 16 Jun 2009 from Ordnance Survey digitally derived data.  
 Produced using significant survey information from Ordnance Survey large scale digital data, and incorporated into OS Landplan Apr 2007.  
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 Administrative boundaries revised to Oct 2008.  
 Additional boundaries information:



This OS Landplan plot is enlarged from derived mapping produced at 1:10000 scale.

Heights are given in metres above Mean Sea Level. The representation of a road, track or path is no evidence of a right of way.

The alignment of tunnels is approximate.

An OS Landplan symbols leaflet is available on request from Ordnance Survey Mapping and Data Centres.

Ordnance Survey, the OS Symbol and OS Landplan are registered trade marks of Ordnance Survey, the national mapping agency of Great Britain.

Plot centre coordinates: 108236 043377  
 Supplied by: Latitude - Southampton  
 Plot serial number: 02214200

Scale 1:5000

## Need

Each of these turbines has the potential to produce up to 240,000 KWh of clean, green electricity every year, or enough to power 60 homes (using average household consumption of 4,000KWh/yr). Combined this proposal will meet the electrical needs of 120 houses.

This equates to a potential carbon reduction per turbine of 125.52t a year or 3,138t over the 25 year lifetime of each turbine through the displacement of grid-tied fossil fuel generated electricity (calculated using DEFRA 2007 figure of 0.523kg CO<sub>2</sub>/KWh). Combined this proposal will save 251.04t of carbon dioxide a year or 6,276t over the expected turbine lifetime.

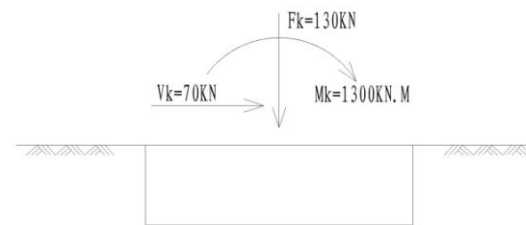
## Scale & Amount

Complete specifications for the proposed turbines have been included with this application. The hub height is 25m with a rotor diameter of 19.2m, a blade tip height of 34.6m and a swept area of 290m<sup>2</sup>.

We are proposing the installation of two turbines on the site at Tregerrick Farm.

A plant room will not be required as the turbine produces AC electricity and therefore has no need for inverters. An enclosed control cabinet will be sited at the base of each turbine measuring 734 x 984 x 380mm. Full specifications are included in supplementary information.

The turbine foundations will involve 9 cubic meters of poured concrete (3x3x1m).



## Design & Aesthetics

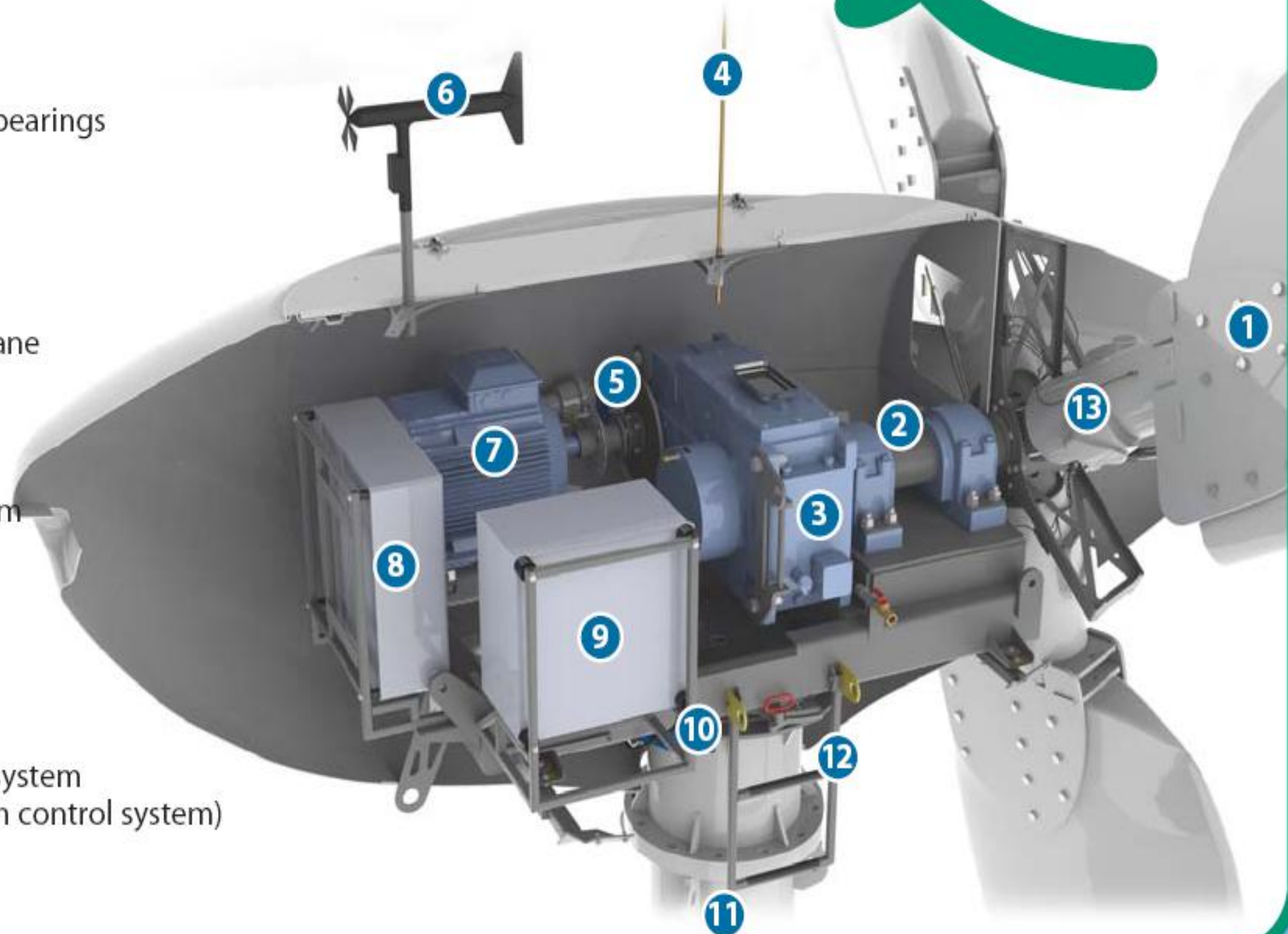
Core groups within the local community have played a critical role in the design process, particularly in regard to appropriate scales and justification of need, as well as acceptable aesthetics. These elements accompanied by environmental opportunities and constraints have led the process of technology selection.

- The design of the Endurance E-3120 wind turbine has been optimized to supply a superior annual energy output under low wind conditions, typical of many areas in the UK. The Endurance has the capability of generating electricity in wind speeds as low as 3m/s, as well as producing 85% more energy at 5-6m/s than its relevant competitors. Generating capacity also had a critical role in technology choice both in terms of achievable tonnes of carbon saved and revenues generated that can be fed back into the local economy.
- The Endurance E-3120 will comprise fibreglass/epoxy blades in white (RAL 9010), with the nacelle being painted, galvanised, welded, steel in white, with a painted, galvanised steel sectional welded tubular mast also being white.
- This turbine will provide the quickest return on investment among units of its rated capacity, while being the quietest turbine on the market.
- Visually the turbine is smooth and sleek with a non-industrial look mitigating many negative visual impacts some associate with larger scale wind farm installations.
- The turbine has a downwind operation which further negates visual impact in not requiring a tail fin and the nacelle assembly is relatively small. The blades are also tapered presenting a less dominant rotor area.
- A number of mast options are available including a 36m guyed mast, a 30m lattice or monopole tower and a 24m hinged monopole. We are proposing a 24m monopole with maintenance platform.



## E-3120 50 kW model

- 1 9 m blade
- 2 Main shaft with two bearings
- 3 Gearbox
- 4 Lightning protection
- 5 Disk brake
- 6 Anemometer wind vane
- 7 Generator
- 8 Control panel
- 9 Braking control system
- 10 Passive yaw control with brake
- 11 Tower
- 12 Access ladder
- 13 Aerodynamic safety system (patent pending pitch control system)



## TURBINE

Configuration	3 blades, horizontal axis, downwind
Rated power @ 11 m/s	55 kW
Applications	Direct grid-tied
Rotor speed	41 rpm
Cut-in wind speed	3.5 m/s (7.8 mph)
Cut-out wind speed	25 m/s (56 mph)
Survival wind speed	52 m/s (116 mph)
Design lifetime	30 years *
Overall weight	3,990 kg (8,800 lbs)

## ROTOR

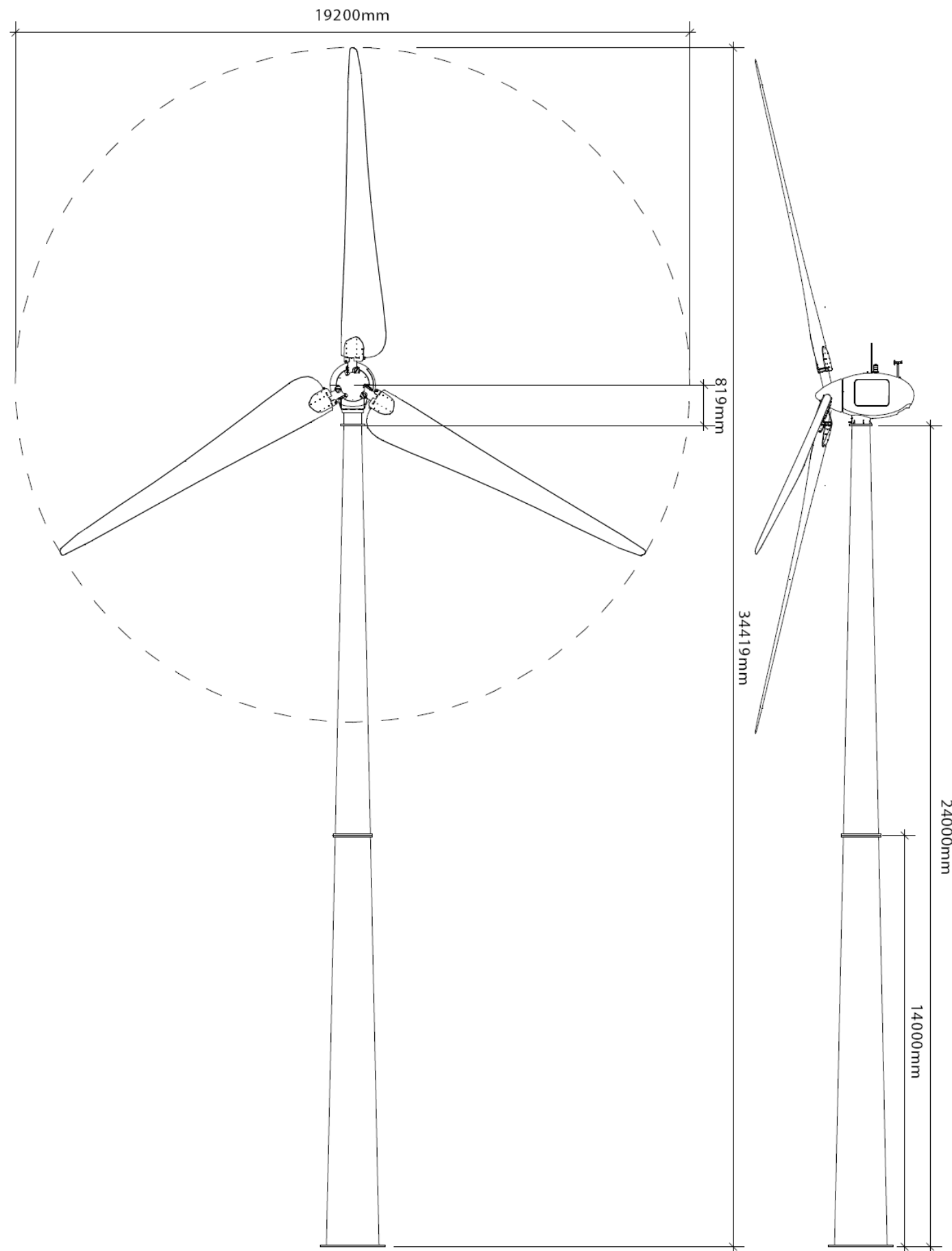
Rotor diameter	19.2 m (63 ft)
Swept area	290 m <sup>2</sup> (3120 ft <sup>2</sup> )
Blade length	9 m (29.5 ft)
Blade material	Fiberglass / Epoxy
Power regulation	Stall control (constant speed)

## GENERATOR

Frequency	60 Hz
Voltage	480 V
Phase	Three phase
Type	Induction generator

## BRAKE & SAFETY SYSTEMS

Main brake system	Rapid fail-safe brake on high speed shaft
Secondary safety system	Pitch control system (for over speed regulation) using passive spring loaded mechanism (patent pending)
Automatic shut down triggered by :	<ul style="list-style-type: none"><li>- Over speed</li><li>- High wind speed</li><li>- Grid failure</li><li>- All other fault conditions</li></ul>



Turbine Elevations  
Endurance E3120  
1:100 @ A3

## **Access**

Installation will cause no highways related issues as the site has good accessibility and the scale of the turbines does not require the use of large scale plant or machinery. A 50 Ton and 25 Ton Crane with Basket will raise each turbine in a single day with the 9 cubic meter foundations being dug out by standard earth moving equipment.

Routine annual maintenance will not require the use of cranes or other machinery as the head is accessed via the maintenance platform. Consequently there is no requirement for permanent access roads or hard standing.

Open community engagement has been critical to the development of this proposal and a full community consultation took place before the submission of this planning application. All members of the local community were given the opportunity to voice their opinions over this proposal with 884 letters sent out to residents of St.Goran Parish, St.Ewe Parish and St.Michael Caerhays Parish. Community members will be actively engaged in all further elements of project development.

## **Noise**

An Acoustical characterization of the Endurance E-3120 has been included as a supplementary document in this application.

The turbine falls below the ETSU-R-97 lower decibel limit of 35db at 180m on soft ground & 200m on hard ground and would also achieve the PPG 24-Planning and noise guidelines as well as the World Health Organisation guidelines on community noise.

The nearest property to the closest turbine on the proposed site is over 300m.

## **Shadow Flicker**

Shadow flicker only really impacts on buildings in close proximity to a turbine site and even then only becomes a nuisance when the frequency of the effect increases above 2.5 hertz (or 'flickers per second'). Only properties within 130 degrees either side of north, relative to the turbine can be affected at these latitudes in the UK – turbines do not cast long shadows on their southern side. Flicker effects have been proven to occur only within ten rotor diameters of a turbine.

The nearest property north of the proposed site is over 500m away. The shadow flicker effect from this turbine, if ever witnessed as it requires very specific weather conditions and access through a small aperture, will only impact on an area within 192m.

## **Safety Issues**

Proximity to the highway- The nearest road is over 73m away. The turbine has a maximum height to blade tip of 34.6m therefore a large allowance has been made for topple distances and the distance is clearly over the advised blade tip height plus 10% (38.06m) recommended as a safe distance between turbines and the public highway.

Ice Throw – RenewableUK is in the process of constructing technical planning guidance for small wind turbines, partly in response to a complete absence of it anywhere, and offers the following advice on icing:

‘The build-up of ice on turbines is unlikely to present problems on the majority of sites in the UK. For ice to build up on turbines, particular weather conditions are required in the UK that occur for less than one day per year.’ This event is clearly even less likely in the South West where we experience higher than average temperatures for the UK. Given the scale of the proposed turbine it would also be physically impossible for ice throw to cause any threat to nearby residential properties or the public highway.

## Ecological impact

There are no known protected habitats or species within the direct vicinity of the proposed installation, as evidenced through the Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS) search on UK BAP priority habitat areas and species listing.

The proposal is in line with Natural England's strategic objectives and policy framework on renewable energy and particularly wind energy.

In specific reference to bats there are no known roosts in the immediate vicinity and the habitat is not typical of bats with no woodlands or trees in the immediate area. This has been evidenced by Bat records held at the Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS). The area of search for bat species information is given as a radius of four thousand metres from the centre of a one hundred metre square of the British National Grid.

The bat species selected comprise:

Greater Horseshoe Bat *Rhinolophus ferrumequinum*

Lesser Horseshoe Bat *Rhinolophus hipposideros*

Whiskered Bat *Myotis mystacinus*

Brandt's Bat *Myotis brandti*

Natterer's Bat *Myotis nattereri*

Daubenton's Bat *Myotis daubentoni*

Serotine *Eptesicus serotinus*

Leisler's Bat *Nyctalus leisleri*

Noctule *Nyctalus noctula*

Pipistrelle Bat *Pipistrellus pipistrellus*\* see note 2

Soprano Pipistrelle Bat *Pipistrellus pygmaeus*

Nathusius's Pipistrelle *Pipistrellus nathusii*

Barbastelle *Barbastella barbastellus*

Brown Long-eared Bat *Plecotus auritus*

The closest sightings to the proposed development area are all in Gorran Haven, over 3km away. These include the lesser horseshoe and whiskered bat, both of which have a low risk of collision and hold a low population threat and the common pipistrelle that has a medium collision risk but with a low population threat (Natural England TIN051)

It is also unlikely that this would be a migratory route given the lack of habitat in the immediate area and the lack of migratory routes in the UK. Natural England have highlighted in their interim guidance on bats and onshore wind turbines that 'We are unable to say whether populations of bats are likely to be at risk from turbines in the UK because the evidence base is inadequate....the information currently available on bat behaviour in the UK is not sufficient to assess the threat that wind turbines may pose to populations' and the guidelines that do exist do not specifically cover micro wind generation. Given the information that is available we can conclude that this proposal will have an extremely small risk of causing any bat related issues or deaths.

In relation to birds many of the same criteria apply. There are no protected habitats or species in the immediate area and this is not a key migratory route. The RSPB will not object to turbines based on fear of bird strike as they have no UK evidence base and again this application is not proposing the installation of a wind farm but a small micro wind turbine.

## **Archaeology**

Evidence supplied through the Cornwall & Scilly Historic Environment Record concludes 'There are no archaeological and historic sites in the immediate vicinity of this site. The landscape and fields are likely to have been enclosed at some time during prehistory, as the possible field-name reference for an Iron Age round to the NW suggests, however the current field morphology and layout demonstrates a later Medieval pattern of re-enclosure; probably associated with the site of the manor to the south, Tregarton, which is first mentioned in 1276. The site is now the caravan park. The archaeological potential for this site is unknown yet the existence of possible buried remains must be considered given the local landscape context.' (Bryn Tapper, Environment service – Cornwall Council)

## **Civil Aviation Impacts**

The CAA have advised they have no issues with this application, with confirmation from Newquay Airport and the MoD.

## **Decommissioning**

The turbine has a design lifetime of 30 years and will be decommissioned at the end of this period or following 12 months without operation. The Wind turbines and other equipment will be removed/recycled and foundations broken down. The site will be restored to its original condition and in accordance with any other requirements of the planning consent.

## **Statutory Consultees**

The level of community engagement critical to this development has necessitated consultation with many statutory consultees and a summary of their responses can be found below. Full documentation is included within supplementary information.

Area of Outstanding Natural Beauty (AONB) – Support in principle as the site is outside the AONB boundary

Cornwall Council – No EIA requirement

MoD – No Concerns

Newquay Airport – No Effect

Natural England – 'Natural England recognises the contribution that appropriately located wind farms can make to achieving the Governments National Renewable Energy target. Our view is that Climate Change represents the most serious long-term threat to the natural environment requiring the reduction of global greenhouse gas emissions if we are able to potentially catastrophic impacts on the Natural Environment.'

## **Consultation & Community Engagement**

The objectives for the consultation process were met and the community living within the area in which the proposed turbines would be visible were well informed of the public consultation through the use of direct invitations to residents of St Goran, St Ewe and St Michael Caerhays parishes and the display of posters and flyers in the local schools, shops and community buildings. Local residents who were unable to attend the event were also given the opportunity to view the proposals and submit feedback after the event through the Community Power Cornwall website.

Given the proximity of the site from the surrounding residential areas and the number of residents attending the information evening and providing feedback either at, or after the event; the supportive feedback for the proposed scheme and Community Power Cornwall initiative and absence of any opposition to date, the conclusions drawn from this consultation could be seen to indicate that the community of St Goran and the surrounding parishes of St Ewe and St Michael Caerhays accept the proposals for wind turbines on land at Tregerrick Farm.

A full copy of the 'statement of community involvement' is included with supplementary information.

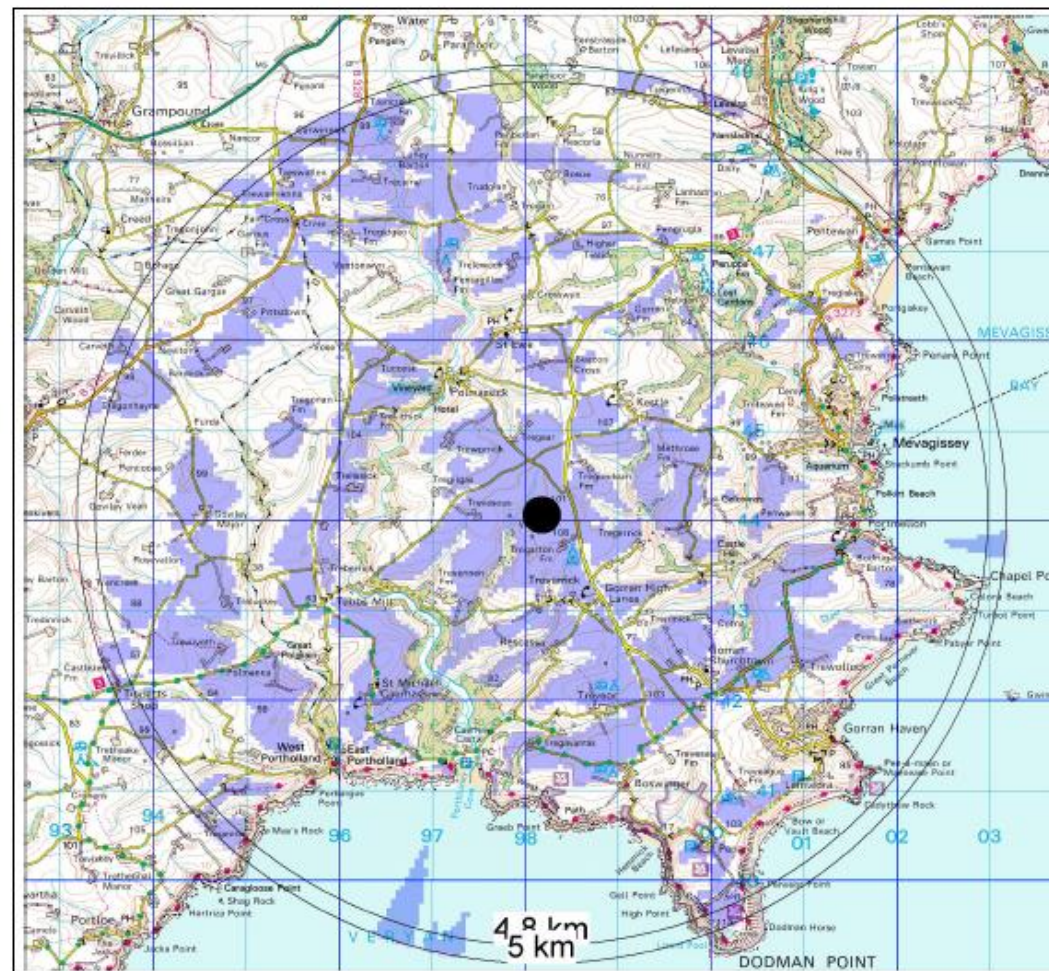
## Zones of Theoretical Visibility (ZTV) & Photomontages

All decisions on ZTV's and photomontages have been made in consultation with the planning department at pre-application stage. The ZTV in this instance covers a range of 5km as the turbines are not visible to the naked eye beyond 4.8km due to their small size.

Rationale:

The Visual acuity of a person with 20/20 vision is around 1 minute of arc. Some people can see smaller details than this, but 20/20 is taken as the standard for good vision. The turbine tower thickness for the Endurance 50kW is 1.14m diameter at the base, and the distance at which this represents one minute of arc at an observer's eye is calculated. This is the distance beyond which the tower becomes indistinguishable from its background. The tower measurements are the largest individual component and hence other parts such as the blades will be indistinguishable before the tower becomes so.

The formula is tower width/tan 1minute of arc. For the Endurance machine this gives a visibility distance up to 4.12 km from a tower of 1.2m diameter. The extra allowance to 4.8km maximum visibility is for all states of visual acuity i.e. for exceptional vision.



Atlantic Energy

Map of Zone of  
Theoretical Visibility

For 2 50kW  
wind turbines  
At  
Gorrans Head

● Location of turbines

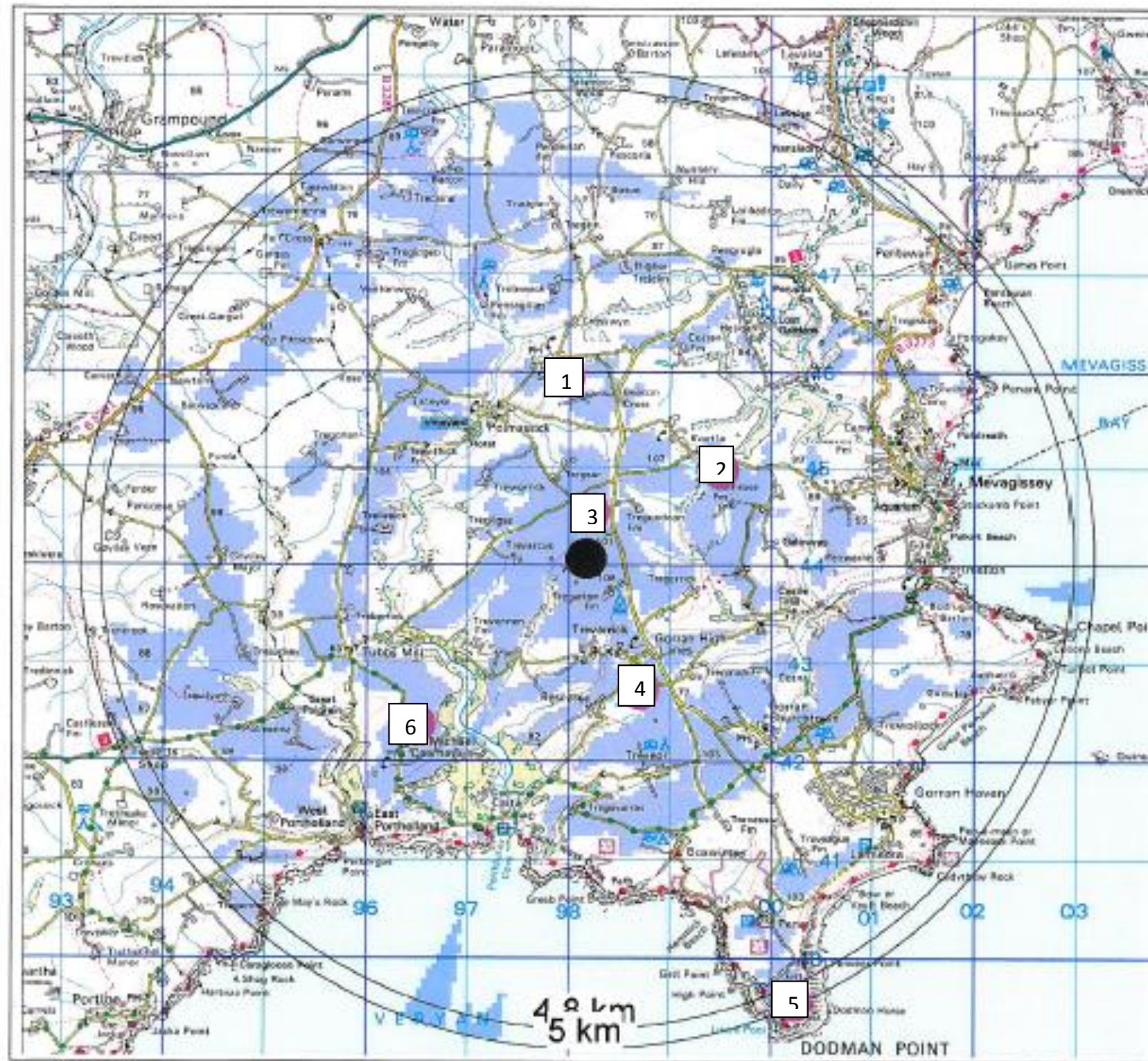
■ Areas within 5km  
where turbines are  
theoretically visible

4.8 km is maximum  
possible visibility  
due to small size  
of turbines

February 2010

Photomontages have been developed in line with the Scottish Natural Heritage good practice guide on 'Visual representation of wind farms' 2006.

*Photomontage positions in relation to the ZTV:*



Atlantic Energy

**Map of Zone of Theoretical Visibility**

For 2 50kW  
wind turbines  
At  
Gorran Highlanes

- Location of turbines
  - Areas within 5km where turbines are theoretically visible
- 4.8 km is maximum possible visibility due to small size of turbines

February 2010

## View point information:

Photomontage number	Site Description	Co-Ordinates	Viewpoint Altitude & Viewing height	Picture Orientation	Nature of View	Date & Time	Weather Conditions
1	Footpath behind Church-St.Ewe	N50°16.725' W004°50.243'	85.6m 2m	South	Horizontal	8 <sup>th</sup> July 2010 2.35pm	Sunny, light cloud 22°c
2	Footpath from Kestle, bordering campsite	N50°16.278' W004°48.982'	104.2m 2m	SSW 225°	Horizontal	8th July 2010 2.53pm	Sunny, light cloud 22°c
3	Field entrance on road bordering North of turbines	N50°15.996' W004°48.982'	104.5m 2m	S 185°	Horizontal	8th July 2010 3.08pm	Sunny, light cloud 22°c
4	Footpath – Gorran Highlanes	N50°15.010' W004°49.618'	80.7m 2m	NW 342°	Horizontal	8th July 2010 3.46pm	Sunny overhead, cloud to the North 20°c
5	Open access land – Dodman Point	N50°13.423' W004°48.086'	114.6m 2m	NW 352°	Horizontal	8th July 2010 4.36pm	Overcast, clear patches 18°c
6	Through farm gate – Southern entrance to St.Michael Caerhays	N50°14.341' W004°51.372'	90.8m 2m	NE 45°	Horizontal	8th July 2010 5.44pm	Overcast 17°c

*Camera type:* Canon EOS 350D

*Camera Settings:*

Focal length: 28mm

Aperture: f/22

Field of view: 43°

Focus: On infinity

## Policy relevance

There is clear local and national policy support for these proposals.

The energy white paper reports on the need for the adoption of renewable energy technologies and generation and states that it should play a pivotal role in future planning developments & decisions. (See renewables statement of need 5.3.3). Further weight is given to this statement through planning policy statement 22 as well as a number of other National Planning Policy statements, and directly supports our approach to these proposed renewable energy developments;

*'The wider environmental and economic benefits of all proposals for renewable energy projects, whatever their scale, are material considerations that should be given significant weight in determining whether proposals should be granted planning permission.'*(PPS22)

*'Local planning authorities, regional stakeholders and Local Strategic Partnerships should foster community involvement in renewable energy projects and seek to promote knowledge of and greater acceptance by the public of prospective renewable energy projects that are appropriately located.'*(PPS22)

*'Effective protection of the environment – by reductions in emissions of greenhouse gases and thereby reducing the potential for the environment to be effected by climate change.'*(PPS22)

*'Prudent use of natural resources – by reducing the Nation's reliance on ever-diminishing supplies of fossil fuels.'*(PPS22)

This proposal is also part of a Community wide carbon reduction plan and as such has wider environmental and economic benefits that are material considerations and should be given significant weight in determining this application (PPS22).

Planning policy statement 4 'Planning for sustainable economic growth.' The Government's objectives for prosperous economies outlines how in order to help achieve sustainable economic growth, the Government's objectives for planning are to: *'deliver more sustainable patterns of development, reduce the need to travel, especially by car and respond to climate change.'*(PPS4)

Planning policy statement 1 'Delivering sustainable development.' The overall ethos of this guidance and its supplement clearly supports this proposal. Specific reference points include:

*'The Government believes that climate change is the greatest long-term challenge facing the world today. Addressing climate change is therefore the Government's principal concern for sustainable development.'* (PPS1)

*'Regional planning bodies and local planning authorities should ensure that development plans contribute to global sustainability by addressing the causes and potential impacts of climate change- Through policies which reduce energy use, reduce emissions...'* (PPS1)

*'mitigation of the effects of, and adaptation to, climate change through the reduction of greenhouse gas emissions'*(PPS1)

*'Seek to achieve outcomes which enable social, environmental and economic objectives to be achieved together.'* (PPS1)

*'The prudent use of natural resources'(PPS1)*

*'Development plan policies should seek to minimise the need to consume new resources'(PPS1)*

*'Capture local enthusiasm and give local communities real opportunities to influence, and take, action on climate change'(PPS1)*

*'New development should be planned to make good use of opportunities for decentralised and renewable or low carbon energy'(PPS1)*

*'Ensure any local approach to protecting landscape and townscape is consistent with PPS22 and does not preclude the supply of any type of renewable energy other than in the most exceptional circumstances'(PPS1)*

*'Effective planning system that will ....secure sustainable communities'(PPS1)*

*'Effective community involvement is a key element of the Government's planning reforms'(PPS1)*

*'Applicants for planning permission should consider how well their proposals for development contribute to the Government's ambition of a low carbon economy and how well adapted they are for the expected effects of climate change. Applicants and planning authorities should bear in mind that the policies in this PPS are capable of being material to decisions on planning applications.'* (PPS1)

*'Planning authorities should have regard to this PPS as a material consideration which may supersede the policies in the development plan.'* (PPS1)

*'Shape sustainable communities that are resilient to and appropriate for the climate change now accepted as inevitable'(PPS1)*

Three key national policies related to renewable energy generation were given Royal Assent in November 2008 and the Bills were taken through parliament by the recently formed Department of Energy and Climate Change.

The Energy Act 2008 updates legislation to reflect the availability of new technologies and specifically emerging renewable technologies. It also strengthens the renewables obligation to drive greater and more rapid deployment of renewables in the UK.

The Climate Change Act 2008 is the world's first long term legally binding framework to tackle Climate Change. The key target is to reduce UK greenhouse gas emissions by 34% by 2020 based on the 1990 baseline and 80% by 2050.

The Planning Act 2008 will require local authorities to include in their local development plan policies to ensure that a proportion of the energy used from renewable sources is in the locality of the development.

The deployment of this proposal will support the aims and objectives of these key national policies, and if repeated throughout Cornwall will ensure the expansion of locally generated renewable energy that can in turn support new development

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#### Cornwall Structure Plan 2004:

The Cornwall structure plan gives direct reference to a number of ambitions fulfilled by this proposal, with a vision that puts *'the social, economic and environmental wellbeing at the heart of land use policies for the County.'*

Policy.1. "Principles for sustainable development" highlights the need to prudently use our resources whilst maintaining links between the environment and the economy.

Policy.3. "Use of resources" makes direct reference to the need to *'facilitate energy conservation and the utilisation of renewable energy sources reducing energy consumption and CO2 emissions'*.

Policy.7."Renewable energy resources" recognises the need to make provisions for renewable energy generation and to maximise environmental and economic benefits whilst minimising adverse local impacts. The policy also states that the scale and location of development should respect landscape character and distinctiveness whilst identifying the renewable energy targets set through Revision 2010 and the requirement to meet them. A particular focus is on onshore winds requirement in meeting more than 70% of the total renewable energy generation target for the County.

#### Local policy: Restormel local plan

Direct reference to green energy is made in chapter four of the Restormel local plan, highlighting *'a shift to non-fossil fuel sources,'* and *'supporting non-fossil fuel energy production (largely wind and bio-mass)'*. Policy 10 in particular looks at the siting of renewable energy and recognizes that *'Renewable energy can often only be exploited where the resource is available and occasional conflicts with other interests are unavoidable.'* *'Currently, the most successful renewable energy source has been wind power with several wind farms up and running in Cornwall. By nature of their site requirements, wind farms need windy, generally prominent location which are often valued for scenic reasons.'*

