

Design and Access Statement

Domestic-Scale Vertical Axis Micro-Wind Turbine
installation at:

Yew Tree Farm, Green End, Sandon, Buntingford SG9 0RG

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1/ Purpose of this Design, Access and Supporting Statement

1.1 The purpose of this Statement is to provide, in addition to the Application itself, a better understanding of the scheme, which involves the installation of a Small Vertical Axis Micro-Wind Turbine at the property Yew Tree Farm, Sandon ,Buntingford.

1.2 The turbine will sit on a monopole tower in a field within the ownership boundary of the client, as demonstrated on the attached (in this application) 1:500 and 1:2,500 OS plans.

1.3 This Statement will help to show how regard has been given to National Planning Policy and other relevant guidance, including habitat, highways and visual.

1.4 We hope that this document and attachments will assist the Local Authority and the public on the merits of the project.

2/ Reason for this Application (Permitted Development)

2.1 This turbine is actually a Permitted Development unit. This is because:

Its overall height is under 11.1m from the ground.

It can be comfortably installed allowing the required distancing from neighbouring boundaries and highways.

Planning is required however, if the turbine is to be installed outside the residential curtilage of the property. It is solely for this reason that we are submitting this application.

3/ Understanding the scale and type of the installation

3.1 It is important to understand the scale of the installation. The system proposed is a domestic installation, no more.

3.2 Public often, with respect, hear or see the words 'wind-turbine' and draw incorrect conclusions. This turbine has a generator size of 3.7kW. This is a similar output size to a small 10-panel domestic solar panel installation that is commonplace on many domestic dwellings.

The turbine is also a Vertical Axis design (see image below). This is in complete visual contrast to a traditional wind turbine. In fact, it can be argued that these turbines are attractive in design, looking similar in design to wind-driven garden sculptures.

3.3 As noted, the total height of the unit including its tower is under 11m. It is a similar height to a telegraph pole.

3.4 The turbine head (nacelle) is only 2.8m high, with a diameter of only 2.25m

3.5 A final point we wish to note is that this is essentially a windmill (wind-turbine is its 'adopted' name). Windmills have been used for over 1,000 yrs. We are using these to make power now, not to grind flour or pump water. The technology, its use and need, has been established since Roman times.

Vertical Axis Windmill (the exact machine proposed for installation)



3.6 Commercial Scale 'V' the scale proposed here

As noted prior, there is a general lack of knowledge over the scale of domestic forms of generation, and commercial of Utility-scale forms.

This is NOT a large-scale commercial wind turbine. It is a vertical axis design, incredibly small in scale and actually quite attractive to behold.

Commercial Wind turbines have outputs that are commonly between 2,000kW and 8,000kW. This machine has an output of 3.7kW, between 540 and 2,000 times smaller.

Commercial Wind turbines have a height from ground to blade tip ranging from 150m high to over 215m high. This machine has a total height of 11m, between 13 and 20-times smaller.

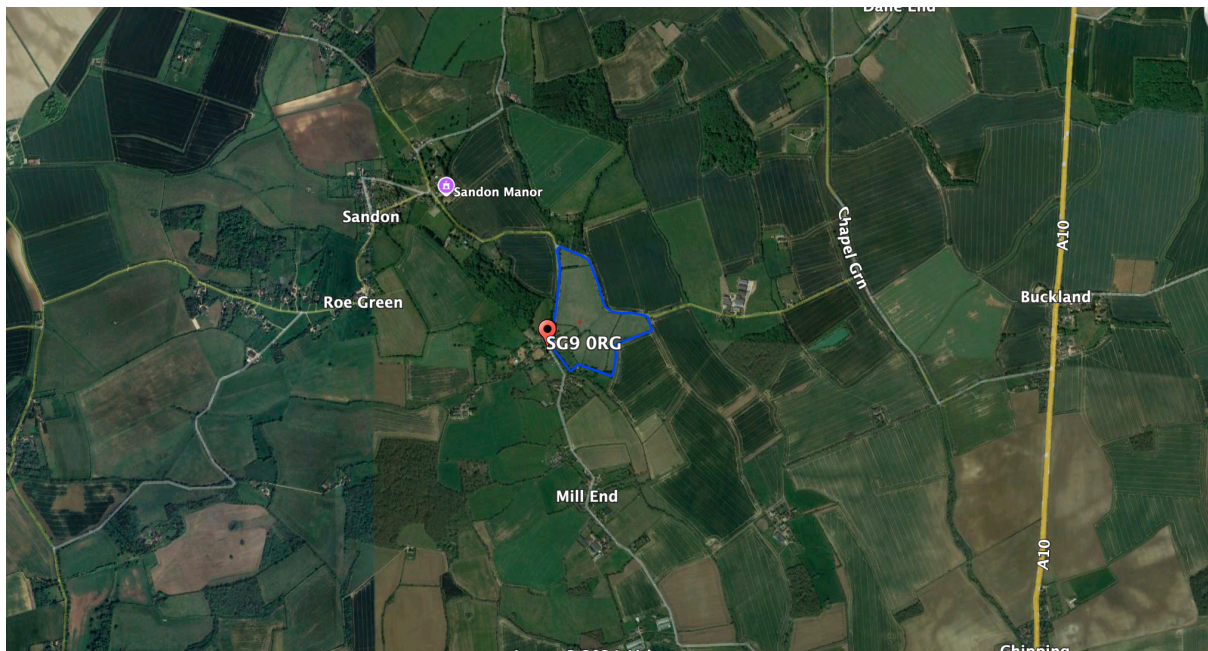
Commercial wind turbines have a swept blade area of 120m diameter to 170m diameter. This machine has a blade area of 2.25m diameter, between 50 and 75-times smaller.

4/ Location and position

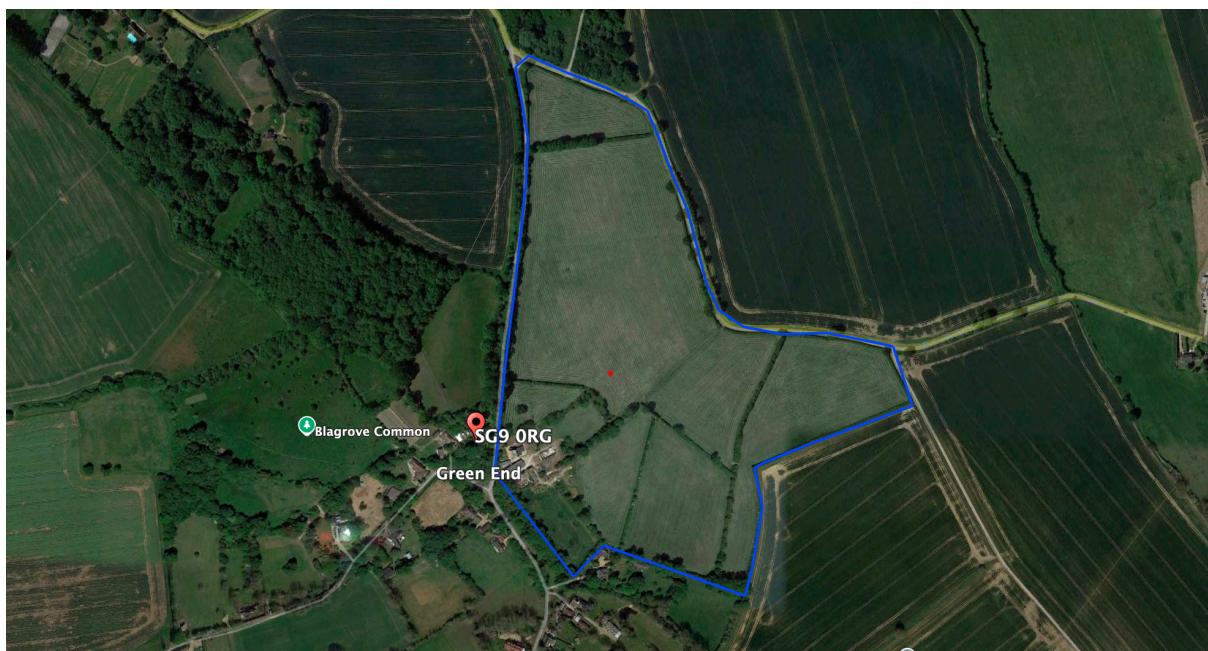
4.1 The site is located rurally in the hamlet of Green End. Green End sits centrally between the village of Sandon and the Hamlet of Mill End.

The wider area is occupied by farms and farming-orientated industry. There is open farmland to the North, East, South, and West. This is demonstrated in the Satellite Maps below, showing the turbine location denoted by a Red dot (please note the red dot is enlarged to allow it to be visible).

Satellite image showing the site, scale of proposed installation and the wider area. The Turbine location is shown with a red dot. The ownership boundary is shown in blue.



Zoomed in Satellite image showing the proposed location of the turbine with a red dot.



5/ Colour and finish materials

5.1 The turbine head (nacelle) is manufactured from composites for long-term durability. Its colour is matt-white.

The mast is a dull aluminium monopole. This is only 400mm in diameter and unlike lattice-type towers, its slim profile will be 'lost' into the environment when viewed.

The turbine base is a 3m³ reinforced concrete slab that is cast below-ground. There is no visible foundation above-ground.

6/ Neighbour Opinion

6.1 Due to the very small scale of the installation and its remote location it cannot realistically be seen. We have therefore not have sought to canvass opinion from the wider area.

7/ National, Local and associated Planning Policy

Planning Policy Framework (NPPF)

7.1 The Proposed Development is in line with Renewable Energy guidelines set out in National Planning Policy Framework (NPPF). The installation will make a positive and necessary contribution to the energy needs of the client, together with the associated Carbon reductions and Environmental benefits.

Carbon Offset

7.2 The array can produce up to 6,000 kWh of electricity per annum and represents a significant reduction to the client's annual electricity consumption. It also has the potential to displace some 22-tonnes across the expected 20+ yr lifespan of the installation. This is a very important consideration given the raised awareness of reducing Carbon to mitigate Global Warming acceleration.

7.3 NPPF Para 14 reinforces Government's belief that a Sustainable Development should be favoured, and is key to Planning decision-making.

7.4 NPPF Core Planning Principles outline that Planning should also 'encourage the use of Renewable Energy (for example, by the development of Renewable Energy)' and promote schemes that reduce pollution.

This is a direct fit with the scheme we propose.

7.5 NPPF Section 10: 'Meeting the Challenge of Climate Change, Flooding and Coastal Change', highlights that Planning plays a key role in helping to reduce greenhouse gas emissions, should assist in providing resilience to the impacts of Climate Change, and support the delivery of Renewable and Low Carbon infrastructure.

Importantly, Para 97 of this section states that 'Local Planning Authorities should recognise the responsibility on all communities to contribute to energy generation from Renewable or Low Carbon sources'.

It goes on to say that Local Authorities should 'have a positive strategy to promote energy from Renewable and low-Carbon sources'.

7.6 Para 98 also states that when determining Planning Applications, Local Authorities should recognise that even small-scale Renewable or Low-Carbon projects provide a valuable contribution to cutting Greenhouse Gas emissions, and Approve the Application if its impacts are (or can be made) acceptable.

7.7 The proposed scheme achieves all these points. In fact its Carbon-offset potential is obvious.

We have mitigated any visual issues by way of the physical size of the unit in relation to its setting (some 48-acres). It is also set central within that larger ownership boundary, not on its peripheral.

7.8 The installation will assist the client with their energy requirements but is also grid-connected, so the wider community will benefit from any back-fed electricity unused by the client.

The scheme and this Application should be Approved in all aspects – it meets the NPPF brief conclusively.

7.9 An over-riding consideration in respect of this proposal should also be that it is Permitted Development installation, were it to be installed in the residential curtilage.

Whilst this was considered, the limited space available, together with the turbulent wind caused from the property and outbuildings that would be present around that curtilage, dictated the machine was installed outside that Curtilage.

8/ Access

8.1 The installation can be adequately accessed from the local road network for service and maintenance. There is no need to change or create new roads, paths or access.

9/ Conclusion

9.1 As noted in Paragraph 1, this information has been provided to further explain the merits of the proposal, and to raise awareness and understanding of the proposed installation and its domestic scale.

9.2 The proposed development fully embraces the guidelines set out in National Planning Policy and makes a positive and significant contribution to the future energy needs of the client as well as assisting the Country's wider need to adopt localised, low-impact green and sustainable power.

We would conclude that planning approval should be given for the project, and would ask that you contact us if you require any further information, or if we can further assist the planning process in any way.

STATEMENT ENDS