windcrop
ENERGY • NATURALLY

Ecological Statement

Installation of a Windcrop - Quiet Revolution HY-5 Turbine

Site Location
Brook House Farm
Fairfield
Buxton
Derbyshire
SK17 7HW

The turbine location is shown below.

The development site comprises an area of grazed pasture located in a field to the northwest of the main farm complex.

Description of development

The development comprises one micro scale wind turbine with a hub height of 14.97m; a full system specification has been submitted with this application. It is envisaged that the development will have a 20 year life from the date of commissioning and that thereafter the turbine would be removed. Further details are provided in the Design and Access Statement.

Siting Criteria

The site has been selected with a view to avoiding impact on designated sites and protected species, consistent with our pre-cautionary approach:

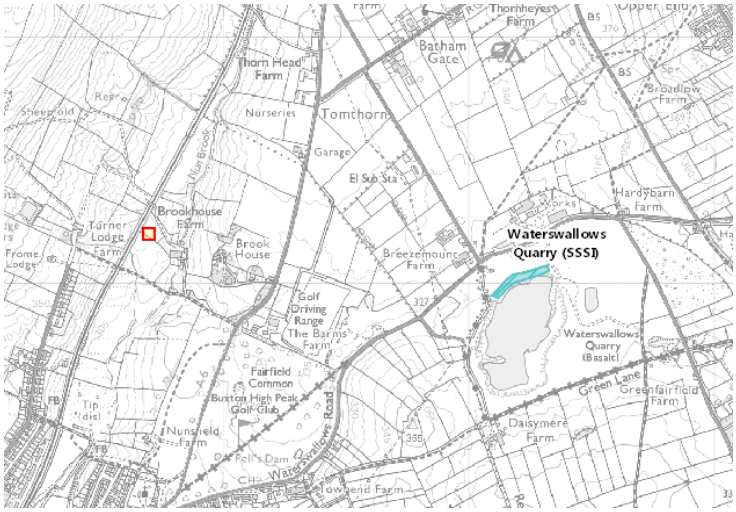
- A site check has been made using the Multi Agency Geographic Information for the Countryside Interactive Map (MAGIC), managed by Natural England on behalf of DEFRA.

- The site has been assessed in accordance with guidelines for the siting of small wind turbines, prepared by established independent ecological consultants, so as to minimise potential risks to protected species[1].

Designated Sites

The search identified one Site of Special Scientific Interest (SSSI) within a 2Km radius of the site:

Waterwallow's Quarry (Ref No 1042438) is situated approximately 1.43km to the east of the proposed development site at its closest point.



Information taken directly from the Natural England description summarises the importance of the SSSI:

Waterswallows Quarry lies approximately 1 km to the north east of Buxton. The location chosen to demonstrate the special interest of this site is a quarry face approximately 260 metres long. It is situated in the northwest face of the quarry.

The proposed turbine will therefore have no impact on this designation.

Ancient Woodlands

The search identified a single ancient and semi-natural woodland. Corbar Wood is approximately 1.61km to the southwest of the turbine at its closest point:

We conclude that the proposed development does not present a risk to protected species that may be associated with the woodland, due to the small size of the turbine and the intervening distance between the proposed development and the designated site.

Protected Species

Our site assessment considers features which may be used by bats and/ or farmland birds, such as trees, hedgerows, ponds, waterways, and permanently wet ditches. Particular attention has been paid to ensuring that the site is an appropriate distance from potential foraging habitats, nesting and roost sites.

The proposed site takes account of Natural England's guidance notes in so far as these are applicable to the small scale of the proposed turbine. In addition, Renewable UK[2] has published guidance aimed specifically at small scale wind proposals and both have informed our approach to siting.

Our assessment also takes account of a study recently published by Stirling University titled ***"Experimental evidence for the effect of small wind turbine proximity and operation on bird and bat activity".*** The summary findings include the following:

- *Bird activity was not apparently affected by small wind turbines proximity or operation.*
- *Bat activity was reduced by small wind turbine operation, especially at shorter distances to small wind turbines.*
- *These findings support recommendations to site small wind turbines at least 20m from potentially valuable bat habitat.*

The full paper can be found on the following link:
http://www.sbes.stir.ac.uk/research/ecology/micro-turbines.html

Birds

Evidence of collision risk relates principally to large scale wind farms located in the US and mainland Europe. Natural England's Guidance note TIN 069 states 'At present there is little evidence that wind farms in England have a significant impact on birds'. The approach to assessment set out in TIN 069 is chiefly aimed at larger scale development which would require EIA or groups of five or more turbines in the case of smaller scale installations.

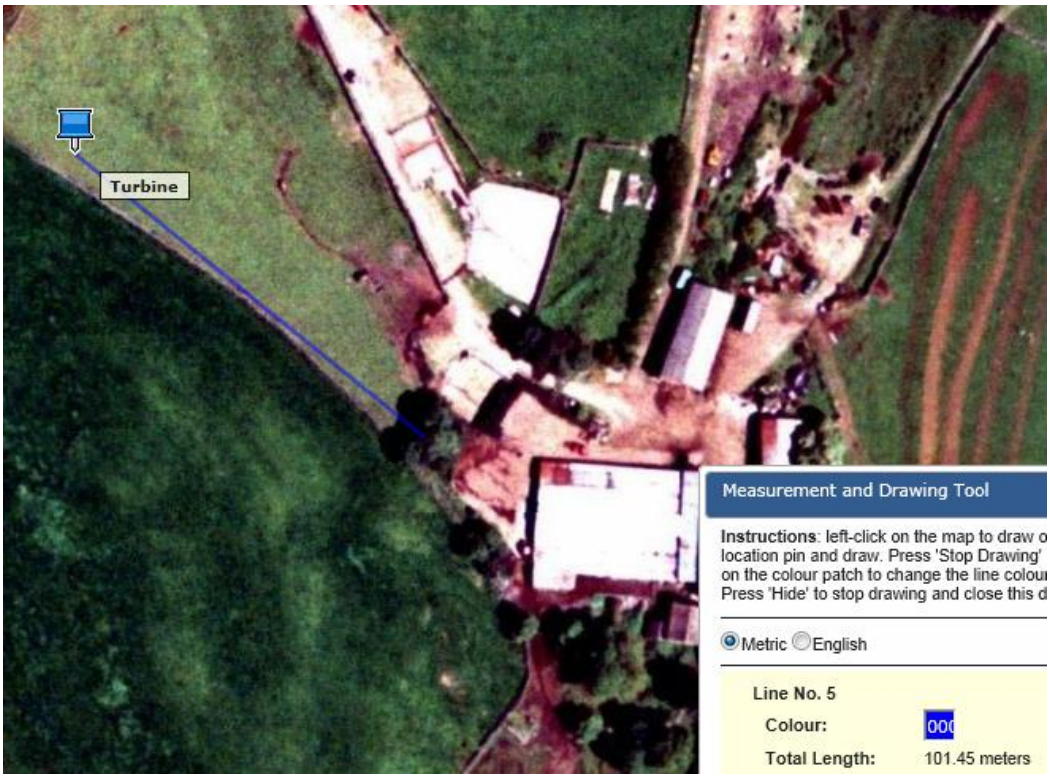
Windcrop's assessment takes account of the low hub height (15m), the short blade length (2.5m) and the small swept area ($25m^2$), which results in a very low risk of collision even if it is assumed that birds take no avoiding action.

Windcrop has also taken account of advice offered by independent consultants, conservation bodies such as the RSPB, and Barn Owl Trust. Read together, this advice indicates that there is a very low risk of harm to birds resulting from the proposed development.

Bats

A micro turbine positioned on or close to a hedgerow or linear feature may increase the likelihood of an effect on bat populations as many species of bats follow linear features when travelling between foraging sites and a roost. To minimise this risk the turbines have been sited with reference to published guidance and independent ecological advice.

On this particular site, the closest potential foraging feature is scattered trees around the farm yard located 101m from the turbine, as shown below.



This is consistent with Natural England's interim guidance in relation to onshore wind turbines – Technical Information Note (TIN) 051.

Bats roost in a wide range of buildings and all buildings except those constructed from non-traditional, modern or pre-fabricated materials, are considered as potential bat roosts. Large mature trees (girth greater than 300cm) are also potentially suitable as roost sites. There are no veteran trees or buildings that are likely to be attractive as bat roosts located within 50m of the site.

We conclude that the proposed development will not have an adverse impact on bat populations in the vicinity of the development site.

Ground dwelling fauna including mammals, reptiles and amphibians

No trees, hedgerows or scrub will be affected by the installation and no ponds are present within 50m of the site. The piling and cabling procedures are normally completed within a 24 hour period; hence installation poses a negligible risk to protected species in the immediate vicinity of the site. Installation procedures are explained more fully in our Construction Management Statement.

Conclusion

There is only limited evidence on which to draw when considering the likely impact of a small scale wind energy installation. Published studies have focused principally on large scale wind farms, where poor siting has been a key factor in explaining the occurrence of fatalities (both birds and bats) caused by those installations. Windcrop has taken a pre-cautionary approach by ensuring that the proposed site avoids areas of known ecological sensitivity and complies with appropriate buffers. Windcrop is currently supporting a national research project which involves pre and post construction surveys at a number of our installed sites, with a view to improving the evidence base and reviewing its siting criteria as necessary.

Based on the available evidence, we conclude that the proposed development does not present a risk to the protected species, due to the small size of the turbines and the pre-cautionary siting which maintains an appropriate intervening distance between the proposed development and potential habitat features.

Reference sources

[1]WildFrontier Ecology; Guidance Document, Siting Micro-turbines – March 2010
[2]Renewable UK; Small Wind: Planning Guidance, A good practice guide - November 2011