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**Cherwell District Council**  
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By email only

**30<sup>th</sup> March 2023**

**22/03873/F**

**Land North And Adjacent To Mill Lane Stratton Audley**

**Installation and operation of a renewable energy generating station comprising ground-mounted photovoltaic solar arrays and battery-based electricity storage containers together with a switchgear container, inverter/transformer units, Site access, internal access tracks, security measures, access gates, other ancillary infrastructure and landscaping and biodiversity enhancements.**

**As a wildlife conservation organisation, our comments refer specifically to potential impacts on wild species and habitats which may occur as a result of the proposal. We have the following comments on this application:**

- 1. Potential for serious impact on Oldfields Copse ancient woodland/proposed Cherwell District Wildlife Site (CDWS) and Poodle Gorse CDWS through impact on some of the species that use the sites.**
  - 2. Potential for serious impact on priority species breeding and wintering birds**
  - 3. Concern in relation to Biodiversity Net Gain calculations provided**
  - 4. Mitigation measures**
  - 5. Concerns relating to lighting**
  - 6. Concerns relating to fencing**
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- 1. Potential for serious impact on Oldfields Copse ancient woodland/proposed Cherwell District Wildlife Site (CDWS) and Poodle Gorse CDWS through impact on some of the species that use the sites.**

Oldfields Copse proposed CDWS is an area of ancient woodland immediately adjacent to the northern boundary of the Site which supports a high botanical and insect diversity.

Poodle Gorse CDWS is located approximately 900m to the south of the Site. This area contains an even aged mature plantation woodland of predominantly oak with a diverse shrub layer, as well as areas of remnant acid grassland, and which supports notable birds and insects.

These woodland areas are important habitat for many birds and bat species and these species are likely to be impacted by the proximity of the development, particularly those using the ancient woodland at Oldfields Copse which is directly adjacent to the development site.

Policy ESD 10: Protection and Enhancement of Biodiversity and the Natural Environment of the Cherwell Local Plan states:

*“Development which would result in damage to or loss of a site of biodiversity or geological value of regional or local importance including habitats of species of principal importance for biodiversity will not be permitted unless the benefits of the development clearly outweigh the harm it would cause to the site, and the loss can be mitigated to achieve a net gain in biodiversity/geodiversity”*

The Natural England report: “Evidence review of the impact of solar farms on birds, bats and general ecology” (which is available here:

<http://publications.naturalengland.org.uk/publication/6384664523046912> ) states (with our underlining):

*“When considering site selection for utility scale solar developments it is generally agreed that protected areas should be avoided. This is reflected in the scientific literature where modelling approaches include many factors such as economic considerations and visual impact but also often avoid protected areas such as SPAs. This is echoed by organisations such as Natural England and the RSPB that recommend that solar PV developments should not be built on or near protected areas.”*

A report written by BSG Ecology (*Potential ecological impacts of ground-mounted photovoltaic solar panels - An introduction and literature review – 2019*) states:

*“2.56 Publications by Natural England recommend the avoidance of solar developments in or near to areas of high ecological value or designated sites, and highlight how planning applications can often be rejected based on the ecology of the proposed site.”*

and a Natural England information note (*Natural England Technical Information Note TIN101 Solar parks: maximising environmental benefits*) states:

*“Solar parks can affect wildlife where they are near sites of high wildlife value.... There are some indications that very large, unbroken expanses of uniform solar panels may mimic water surfaces on which insects may attempt to settle and breed..... Some birds and invertebrates are also likely to be affected by solar parks developed close to areas of high wildlife value. Where a solar park is proposed within or close to such sensitive sites, the planning application should include a detailed assessment of the likely impacts on the ecological interest of the sites and contain practical measures which avoid or minimise any adverse effects on their features of interest. Any solar park close to a designated site will need to demonstrate that it would not compromise the objectives of the designation.”*

Possible impacts that have been suggested include:

- a) the “lake effect” whereby birds mistake a large area of solar panels to be a lake and attempt to land on them.

- b) birds and bats that feed on the wing mistakenly attempting to feed from the panels, with possible collisions;
- c) low-flying birds colliding with the panels or being confused by reflections in the same way as birds are confused by reflections from windows of buildings, and colliding with the panels;
- d) potential noise or pollution impacts during construction;
- e) collision of birds with security fencing.

The BSG evidence review mentioned above states in conclusion:

*“2.58 In order to minimise the impacts of solar farms on biodiversity, the literature comes to a general consensus that:*

*a. Consideration should be given to the correct siting of solar farms within the landscape.”*

We are concerned that the location of the solar farm directly adjacent to an area of ancient woodland does not constitute correct siting and we do not consider that the applicant has adequately demonstrated that the *“benefits of the development clearly outweigh the harm it would cause to the site, and the loss can be mitigated to achieve a net gain in biodiversity/geodiversity”* as required by policy ESD10.

In addition, the NPPF states at paragraph 180 (our underlining):

*“When determining planning applications, local planning authorities should apply the following principles... c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists;”*

The development is likely to have an impact on the species living within the adjacent ancient woodland and we do not consider that the applicant has demonstrated that there are wholly exceptional reasons for the development and that a suitable compensation strategy exists and we therefore consider the application to be contrary to the NPPF.

As an absolute minimum we consider that the entire field closest to the Oldfields Copse ancient woodland/proposed CDWS should not have any solar panels and instead be used for the creation and management of high-quality species rich wildlife habitat to provide a buffer between the ancient woodland and the fields with solar panels. For more details see section 4 below.

## **2. Potential for serious impact on priority species breeding and wintering birds**

The applicant’s wintering bird survey found foraging lapwing and acknowledges that the proposed development will result in the reduction in availability of low value foraging habitat, for lapwing which favour open vista habitats (paragraph 4.2 of the Wintering Bird Survey Report) snipe and red kite were also recorded along with 17 notable bird species including the red listed fieldfare, linnets, redwing, skylark, starling, song thrush and yellowhammer and the applicant acknowledges that winter bird food plots will be lost to the development (paragraph 4.3).

The applicant's breeding bird survey found a total of 12 target or notable species were recorded within the site, including red listed species linnets, grey partridge, skylark, song thrush, yellowhammer and yellow wagtail and red kite and hobby which are listed under Schedule 1 of the WCA (1981). Ground nesting species that were recorded included grey partridge, skylark and yellow wagtail. Skylark is a species which nests within open vista habitats such as arable field compartments, while grey partridge and yellow wagtail are likely to use boundary habitats such as hedgerow bases for nesting. A total of 7 likely skylark territories were recorded within the arable habitats.

Paragraph 2.26 of BSG Ecology's report, Potential ecological impacts of ground-mounted photovoltaic solar panels: An introduction and literature review states:

*"Dwyer et al. (2018) also comment on the indirect effects of solar energy, including habitat loss, displacement and avoidance. There are a number of accounts of birds nesting on the structures that support solar panels including personal observations of such nesting by Hernandez et al. (2014). It is also reasonable to hypothesize that some ground-nesting birds would be attracted to solar parks due to the availability of a safe nesting area, as the security fencing around the solar parks may deter ground predators (Smith et al., 2010). However, during a comparative study of 11 UK PV solar farms, Montag et al. (2016) found that skylark tended to use undeveloped control plots more than the solar farms. Montag et al. (2016) are of the view that ground-nesting birds need an unbroken line of sight and would therefore avoid nesting at solar farms."*

Policy ESD 10: Protection and Enhancement of Biodiversity and the Natural Environment of the Cherwell Local Plan states:

*"Development which would result in damage to or loss of a site of biodiversity or geological value of regional or local importance including habitats of species of principal importance for biodiversity will not be permitted unless the benefits of the development clearly outweigh the harm it would cause to the site, and the loss can be mitigated to achieve a net gain in biodiversity/geodiversity"*

In addition, DEFRA has provided guidance to competent authorities (including local authorities) on how to comply with the legal requirements of the Conservation of Habitats and Species Regulations 2017 (as amended). The guidance is available at: <https://www.gov.uk/guidance/providing-and-protecting-habitat-for-wild-birds>

The guidance states that:

*"As a competent authority, you must help to provide, protect and restore habitats for wild birds. This will help to make sure there are healthy populations of wild birds in their natural habitats across England and Wales..."*

*...You must take appropriate steps to help:*

- *preserve, manage and re-establish habitat that is large and varied enough for wild birds to support and maintain their populations in the long term*
- *avoid any pollution or deterioration of wild bird habitat as far as possible*

*Your duty to provide and protect wild bird habitats applies when you carry out your functions, for example, when you:*

...

- *make plans or strategies to decide where activities or development should take place*
- *take decisions that might affect wild bird habitats, such as giving permissions or consents*

*...When you carry out your duties you should aim to provide or protect habitat that allows wild bird populations to maintain their numbers in the areas where they naturally live.*

*You should consider habitats used by wild bird species that are in decline and also habitats supporting wild birds with healthy populations.”*

We do not consider that the applicant has illustrated how the benefits of the development clearly outweigh the harm it would cause to the site, and the loss can be mitigated to achieve a net gain in biodiversity/geodiversity as required by policy ESD 10 or set out the steps that will be taken to “*preserve, manage and re-establish habitat that is large and varied enough for wild birds to support their population in the long term*” in relation both to “*wild birds that are in decline*” and to “*wild birds with healthy populations*” as required by the DEFRA guidance quoted above.

It is not acceptable to suggest that there is suitable habitat elsewhere for priority farmland species since the territories in these areas would already be occupied, and this would be contrary to ecological theory of carrying capacity. We consider that mitigation for the loss of breeding and foraging habitat for priority species is therefore required (see also paragraph 4 below).

### **3. Concern in relation to Biodiversity Net Gain calculations provided**

We note that the BNG statement provided by the applicant predicts that the development will result in a net habitat unit change of 285.41 habitat units, which represents a 215.29 % net gain and a net linear unit change of 25.52 hedgerow units, which represents a 27.34 % net gain. Whilst we welcome the ambition of creating a 215% net gain in habitat units we are concerned that the measures to be taken might fail to achieve the predicted result.

In particular we are concerned that the seed mix (Habitat Aid ‘Grazing Meadow Seed Mix’ or similar) to be sown within the solar array fence which will cover the vast majority of the site (49.27 of 58.05 hectares) is a grazing mix rather than a wildflower seed mix and contains a high proportion of perennial ryegrass. It therefore may not achieve the predicted other neutral grassland in moderate condition within five years (see paragraph 4.2.4 of the applicant’s BNG statement) especially as most of this area will be shaded by the solar panels.

A much more diverse grassland might be achieved by sowing a meadow seed mix containing a wider variety of suitable wildflower and grass species (such as Habitat Aid Basic Wildflower Seed Mix

<https://www.habitataid.co.uk/products/basic-meadow-seed-mix> or Emorsgate EM2 Standard general Purpose Meadow Mixture <https://wildseed.co.uk/product/mixtures/complete-mixtures/general-purpose-meadow-mixtures/standard-general-purpose-meadow-mixture/> amongst other good examples ) and managing it appropriately with a view to maximising the wildlife outcome. We would also recommend that the use of a seed mix is combined with green hay spreading from a suitable species-rich donor site. We disagree with the applicant's statement at 3.7 of their LEMP that *"Hay cuts are not suitable around solar arrays due to the additional shading impacts on the cut grassland piles, which prevents the grassland from drying out sufficiently to drop seed and be collected"* we believe that it is possible to cut and collect hay from solar farms (see <https://solarenergyuk.org/wp-content/uploads/2022/05/LEMP-220422.pdf> for more information).

#### **4. Mitigation measures**

The covering of a greenfield site by solar panels represents a semi-industrialisation of a rural area of great value for wildlife. We consider it should be a matter of standard practice to maximise the opportunities for wildlife provided, to compensate for the impact on wildlife of a semi-industrialisation of a green field site.

Measures to reduce the likelihood of some of the issues associated with solar farms set out above should be implemented. This would include for example, reducing polarised light from the solar panels, and reducing the density of the solar panels, by widening the corridors between the panels, so as to reduce any resemblance to a lake, and the intensity of the polarised light issues. Some measures are set out in the BGS review (*Potential ecological impacts of ground-mounted photovoltaic solar panels - An introduction and literature review – 2019*). There are coating measures available to reduce polarised light from panels, and the affixing of white grid patterns on each panel to break up the reflections from panels to reduce the chance of attraction to wildlife. Whilst we do not consider that these will remove the risk to wildlife they could reduce the risk.

One possible measure which might be taken in order to mitigate the impact on wildlife would be to use the most northerly field adjacent to Oldfields Copse ancient woodland/proposed CDWS as a buffer area keeping it free from solar panels and managing it for the benefit of wildlife, including the breeding and wintering bird species which favour open vista habitats such as lapwing and skylark (see paragraph 2 above). This would also provide the buffer we consider necessary for the bird, bat and invertebrate species using the ancient woodland habitat at Oldfield Copse (see paragraph 1 above).

#### **5. Concerns relating to lighting**

We consider the impact of any security lighting on a dark, rural area so close to a site of high wildlife value to be unacceptable. Lighting can have negative impacts on many species, including birds, bats and invertebrates. Therefore, we consider that all plans for lighting should be removed, both in the construction phase and the operational phase.

## 6. Concerns relating to fencing

The application includes plans for security fencing 2 m in height. We note the provision of mammal gates at the base of this fencing, however we consider that it is likely to present a significant collision risk to low-flying birds and would also have significant impacts on the movement of deer. We therefore consider that no security fencing should be used.

We hope that these comments are useful. Please do not hesitate to get in touch should you wish to discuss any of the matters raised.

Yours sincerely

Nicky Warden

Public Affairs and Planning Officer

Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust