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To:
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Berkshire, Buckinghamshire and Oxfordshire response to Padbury Brook Solar Farm (ref 22/03873/F) received 30th March 2023

Further to the above response by the Public Affairs and planning officer, Nicky Warden, on behalf of Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust (BBOWT) to the Padbury Brook Solar Farm planning application (planning ref 22/03873/F), we, as the applicant JBM Solar 8, have put together the below response to the various points raised. This covers six central concerns raised by BBOWT:

- 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***

These concerns will be addressed in turn below, outlining where we believe that the scheme complies with the relevant national and local policy requirements.

Introduction

As the developer of this project, and a trained ecologist and member of the Chartered Institute of Ecology and Environmental Management (CIEEM), ecology is always at the forefront of every project I work on. Coming from a wildlife conservation background, preservation of the natural world and its protection is one of my primary goals when designing such sites.

The Padbury Brook Solar Farm has been designed to maximise wildlife opportunities, and create large areas of habitat on previously intensively farmed land, which is subject to ongoing pesticide use, in addition to nitrate and phosphate based fertilisers. The farm, should it be granted permission, would be converted from this, into a largely undisturbed habitat. Solar farms create this potential due to the limited need for ground disturbance (only around

1% of the site) resulting in minimal impact, the opportunity to create large areas of habitat within the panelled area, and the fully reversible nature of the development. Due to the considerable spacing between rows of panels implemented on the site (4-5m), shading is minimised, and allows a quality grassland to form underneath, and in between the panelled areas.

Should the site be consented, over 10 acres of dedicated wildflower grassland (comprising EM10) would be created adjacent to the Oldfields Copse, and in the 5m field margins which are left clear of development. This will serve as a crucial habitat for pollinators and insects, a key species that are at risk in the UK from pesticides, and key food species for bats using the site. Additionally, over 2.4km of new native hedgerow/tree planting would occur, with the protection of all trees on-site, and minimal hedge removal required. Additionally, the panelled area, comprising around 130 acres, would be planted with and preserved as grassland, with low intensity sheep grazing to maintain the grounds – a low impact, environmentally conscious form of grassland management. All of this would culminate in a biodiversity net gain of over 215%, 21x the statutory requirement set out in the Environment Act 2021. This considerable habitat creation would be a significant asset to local biodiversity and wildlife, and would only be brought about by the creation of the solar farm. Additionally, around 40 bird boxes would be strategically placed across the site, alongside hibernacula, insect hotels and bee hotels. The opportunity to create such a considerable asset to local wildlife does not present often, and can only come to fruition should the site move ahead. This is supported by a number of studies undertaken in recent years¹²³.

Climate change poses the single biggest threat to the UK's nature and biodiversity, with the climate crisis the cause of a modern-day ecological crisis. Should it be consented, the Padbury Brook Solar Farm would have a considerable, positive environmental impact. It would save over 1.3 million tonnes of CO₂ over its lifetime compared with generation from fossil fuels, equal to the carbon savings of planting over 21 million trees.

Concern 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.

The proposed development accords with policy ESD 10 of the Cherwell Local Plan as it will result in a considerable 215% net gain to local biodiversity (over 21x the standard 10% gain, and significantly greater than 'no net loss').

This is through the conversion of a currently intensively managed/farmed arable holding, subject to ongoing pesticide and fertiliser use, to a retained grassland/wildflower meadow, maintained by low intensity, rotational grazing. The further creation of 2.4km of new hedgerow/tree planting, in addition to the loss of no trees and the protection of all RPAs on-site, will result in the creation/improvement of hedgerow habitats across the site. There will be no deterioration or loss to any protected sites, with a considerable improvement expected with regards to habitat creation as a result of the proposals.

It is correct that Oldfields Copse is ancient woodland, and as a result a 15m buffer to any development has been implemented as part of the design, to ensure no root damage to associated trees, in line with DEFRA guidance. Whilst there will be considerable improvements/enhancement to local wildlife assets as a result of the proposals, it should be clarified that Oldfields Copse is not a designated/protected wildlife site, and as such, any animals associated with it would be protected as per their individual legislation but are not afforded additional protection by being in an Ancient Woodland.

¹ H. Montag, G Parker & T. Clarkson. 2016. The Effects of Solar Farms on Local Biodiversity; A Comparative Study. Clarkson and Woods and Wychwood Biodiversity. https://helapco.gr/wp-content/uploads/Solar_Farms_Biodiversity_Study.pdf

² Solar Trade Association (2019). The Natural Capital value of solar. Eds N. Gall and E. Rosewarne.

³ Solar Energy UK (2022). Natural Capital Best Practice Guidance report.

It should also be noted that taking land adjacent to woodland out of intensive agricultural management will avoid impacts on this woodland associated with modern agriculture such as overspray, nutrient enrichment, cultivation to field boundaries (within less than 5 metres of the woodland), whilst management of the site as a solar farm will provide abundant additional food items for birds, along with food sources for invertebrates, small mammals, amphibians and reptiles. The concern of 'lake effect' on aquatic birds is unproven at this stage, with little supporting evidence.

Concern 2 - Potential for serious impact on priority species breeding and wintering birds

The significant benefits of the proposed development have clearly been shown to outweigh potential minor adverse/temporary impacts posed. The point raised in the objection letter refers to displacement of skylark territories and loss of occasional winter foraging habitat.

Skylark require multiple broods to maintain populations, however agricultural intensification has resulted in a drop in breeding productivity, with winter sown crops generally supporting fewer broods instead of the 2-3 broods usually associated with spring sown crops (Chamberlain & Crick, 1999).

The baseline conditions at the site provide nesting opportunities for early season breeding attempts, however, these will experience a reduction in suitability through the season. This decline in suitability is reflected in the breeding survey results. Therefore, the baseline conditions will only support low productivity for breeding skylark. The study quoted in the objection letter (Montag et al. 2016) actually found that the number of skylark territories was similar, when compared between solar sites and agricultural land, suggesting that solar sites do not lead a decline. Furthermore, abundance of foraging skylark was found to increase on solar sites, and it is likely solar sites are included within territorial boundaries. The proposed development therefore has potential to increase productivity of breeding skylark which hold territories within/adjacent to the solar farm. This increase in productivity would serve to mitigate any displacement of low productivity territories associated with site under its current use. The study by Montag et al. (2016) also found that overall bird species diversity and abundance increased with solar sites mostly related to increased foraging opportunities. The proposed development has potential to benefit a wide range of bird species (including the red and amber listed species recorded at this site).

The change in land use from arable to solar has potential to result in the loss of occasional winter foraging for lapwing. Lapwing were recorded feeding once within the site, and once within a field adjacent to the proposed development. This strongly suggests that use of the site is opportunistic at best. Available evidence suggests that overwinter survival is less important in driving the population decline than breeding productivity (Sheldon & Crick, 1999), being able to utilise a wider range of habitats. There are no designated sites for lapwing within 10km of the proposed development, and the reduction in a limited extent of foraging habitat is not considered likely to impact local populations. The change in land use from arable to solar will similarly provide benefit to a wide range of wintering species, mostly related to improved foraging habitat associated with the permanent grassland under the arrays.

For the reasons shown above proposed development therefore aligns with relevant policy, as the benefits of the development to a wide range of bird species clearly outweigh any associated minor / temporary impacts.

Concern 3 - Concern in relation to Biodiversity Net Gain calculations provided

The intention of the farm will be to operate as a pastoral rather than arable farm, meaning a grazing mix is necessary to ensure the site can continue to operate, and produce food for the UK market. Montag et al (2016) states that even where grazing mixes are used rather than wildflower mixes, an increase in diversity is noted when compared to arable plots. Within field margins, and the dedicated wildflower areas (of which there are around 10 acres across the site), Habitat Aid, or EM2 PMM can be utilised. The considerable BNG (21x the UK standard, and significantly in excess of no net loss) is a result of a wildlife centric approach to design, and has been formulated with the input of ecologists following best practice guidance. The requirement to realise this BNG will form part of the planning permission, and the maintenance of grassland/wildflower meadow across the site will be conditioned through a

LEMP. Whilst not strictly a policy/planning matter, we always seek to ensure the best possible seed mix is used to benefit both local wildlife and the ongoing operation of the pastoral farm.

Concern 4 - Mitigation Measures

We disagree with this characterization that the solar farm would result in a ‘semi-industrialisation of a rural area’. The site would be preserved as greenfield, before, during and after the development is decommissioned, with over 95% of the site would be seeded as grassland meadow / wildflower meadow. This represented a considerable improvement to local biodiversity and wildlife when compared with arable use, subject to ongoing intensive pesticide and fertiliser use. This will create a substantial, improved habitat, providing foraging opportunities for local bird species, and creating vital, preserved habitat for local pollinators. Numerous long term studies observing biodiversity on solar farms compared to arable farms have proven this to be the case (Montag et al, 2016, Solar Energy UK 2022, and Solar Trade Association 2019). There is currently 4-5m spacing between each row of panels, in addition to a minimum 5m buffer to any field margin, left clear of development. Furthermore, the panels are covered in an antiglare coating, to minimise glint and glare. Natural England’s (2017) review of solar farms did not find evidence of adverse effects on birds or bats, with more recent studies, as previously noted, finding an increase in the presence/abundance of breeding bird species over time on existing solar farms (figure 1).

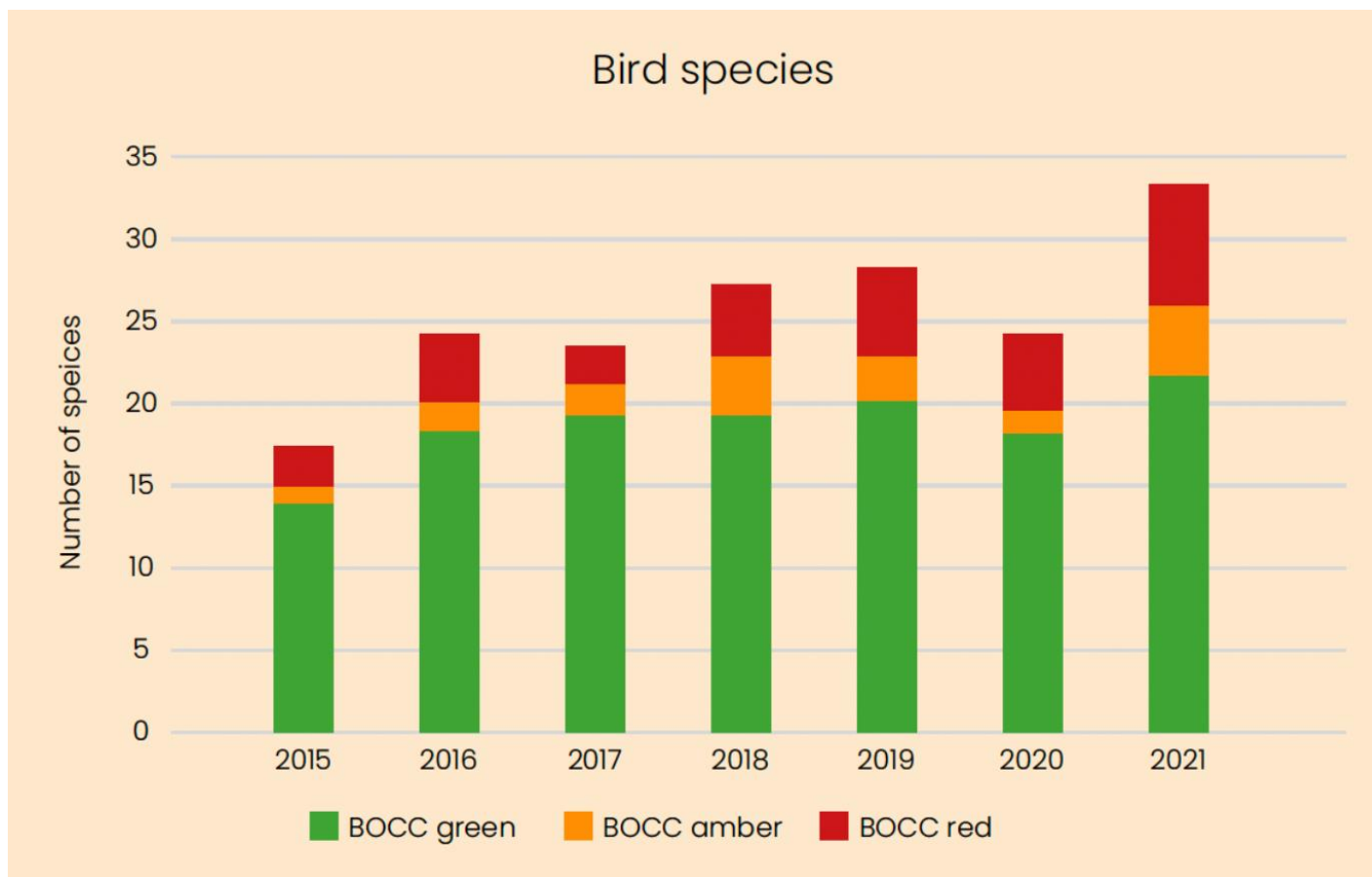


Figure 1: Study looking at the presence of breeding birds present on the Sawmills solar farm in Devon between 2015-2021. Solar Energy UK (2022).

As noted, a 15m buffer, in line with DEFRA guidance, has been implemented as an offset to Oldfields Copse, which is to be planted with wildflower meadow. The overall improvement of the site, from one of intensive agricultural practice, to grassland meadow across over 95% of its area, represents a fantastic opportunity, and improvement, for local wildlife.

Concern 5 - Concerns relating to lighting

It is noted that BBOWT have concerns over lighting potentially being proposed as part of the development. To clarify, no permanent lighting is proposed anywhere on the site.

Concern 6 - Concerns relating to fencing

The proposed form of fencing is a wooden post, deer fence, typically seen across the countryside on farms and allotments alike. This fencing is often erected on farm holdings under permitted development, and is a common feature in the open countryside. Beyond this, following the wildlife centric approach to design of the site, large green corridors have been created throughout to enable continued movement through the site of deer, with mammal gates incorporated at regular intervals. 5m wildflower verges have also been maintained along all field margins, left clear from development. Furthermore, it should be noted that deer are not a notable or protected species (except in relation to hunting), and it is generally advisable to keep them out of solar farms to ensure the protection of young, newly planted trees.

Conclusion

Overall, as a result of a wildlife centric design being adopted, a formerly intensively managed monoculture arable holding will be converted into a preserved, high-quality habitat free from anthropogenic pressures, benefitting from the cessation of the use of pesticides and fertilisers across the site. This large grassland/wildflower meadow habitat (occupying over 95% of the site) will offer fantastic foraging opportunities for local bird species, result in considerable habitat creation for local pollinators, and result in no loss of any trees on-site (with the planting of over 2.4km of new hedgerow/trees). The provision of bird boxes, insect hotels and reptile hibernacula across the site will further enhance the site's ability to benefit local wildlife. This will all culminate in a significant 215% biodiversity net gain, well in excess of the no net loss policy and the 10% net gain target adopted in the Environment Act (2021). As such the site accords with policy ESD 10 of the Cherwell Local Development Plan, and conflicts with no national or local policy with regards to wildlife or biodiversity.

We would welcome the opportunity to discuss the site further with the BBOWT, and hope we are able to work collaboratively to ensure the enhancements outlined are delivered in a meaningful, and effective way.

Yours sincerely,



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