Email to:
Kenny Taylor, Supporting Good Development
Kenny.taylor@nature.scot

30 May 2022

Dear Kenny,

**Response to NatureScot: General pre-application and scoping advice for solar farms**

Scottish Renewables is the voice of Scotland’s renewable energy industry. Our vision is for Scotland leading the world in renewable energy. We work to grow Scotland’s renewable energy sector and sustain its position at the forefront of the global clean energy industry. We represent over 300 organisations that deliver investment, jobs, social benefit and reduce the carbon emissions which cause climate change.

Our members work across all renewable energy technologies, in Scotland, the UK, Europe and around the world, ranging from energy suppliers, operators and manufacturers to small developers, installers, and community groups, as well as companies throughout the supply chain. In representing them, we aim to lead and inform the debate on how the growth of renewable energy can help sustainably heat and power Scotland’s homes and businesses.

Solar provides an easy mechanism to take forward biodiversity net-gain and enhancement because it frequently takes place on improved farmland close to urban areas with limited natural heritage value. The process of developing a solar farm allows agriculture to continue in some cases through less intensive grazing. Further, solar farms can provide opportunities for the creation of more natural, permanent, species-rich grassland/ meadow type habitats within sites alongside opportunities to maintain or enhance hedgerows and tree belts around the periphery, as well as set aside wetlands and watercourses which may be no use to the development and operation of the site. These measures will also have landscape benefits and so provide a mechanism for NatureScot and Local Planning Authorities (LPAs) to meet their objectives for enhancement.

Scottish Renewables welcomes the opportunity to provide our view to NatureScot through the consultation on this draft guidance. In responding, we would like to draw your attention to the following key points:

* SR members find that this document adopts a negative, regulatory approach and in doing so misses an opportunity to tie in wider industry knowledge and some key threads in the draft National Planning Framework 4, such as enhancing biodiversity.
* Careful siting and design will both avoid the most significant adverse effects. as well as achieve positive enhancements by giving attention to how the site can be managed over its lifetime.
* Formal site access in the form of core paths and/or rights of way will take place along field edges and can generally be accommodated within the development or around the periphery of a development. Right to roam will be affected but no more so than in forestry schemes. For example, where deer fencing is being used or to a lesser extent on arable land where people generally would avoid walking across a field when it was in crop or if a site was being developed for any other purpose.
* Our recommendation is a redraft of this guidance which starts from the point of view that solar is a relatively benign form of development which brings with it opportunities for Scotland to enhance biodiversity, reduce flood risk and enhance our landscapes.

Scottish Renewables would be keen to engage further with this agenda, review further draft iterations and would be happy to discuss our response in more detail to ensure stakeholders can buy into useable, actionable guidance which can achieve shared outcomes.

Yours sincerely,

**Mark Richardson
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Scottish Renewables

**NatureScot: Draft General pre-application and scoping advice for solar farms**

[This new draft guidance will replace our [existing solar guidance](https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/renewable-energy/solar-energy)]

**Purpose**

This guidance provides NatureScot’s standing advice on natural heritage considerations for large-scale, commercial solar photovoltaic (PV) proposals. It aims to assist developers and consultants involved in preparing applications and Environmental Impact Assessment reports (EIA reports) (should EIA be required) for such developments.

The combination of climate change policy, improved technology, reduced costs and in some case the benefits of co-locating with wind farm and other renewable technology development appears likely to lead to an increased interest in solar farm proposals in Scotland. We will continue to learn from case experience and update this guidance as required.

**The service we provide**

Our [Service Statement](https://www.nature.scot/professional-advice/planning-and-development/our-planning-role-and-consulting-us.) (our planning role and consulting us) and related guidance set out the level of engagement you can expect from us during the planning process Our [guide on the service that developers and consultants can expect](https://www.nature.scot/guidance-planners-development-management-our-service-guidance-developers-and-their-consultants) is particularly relevant.

Our engagement with any specific solar proposal will depend on the nature, scale and importance of the potential impacts on the natural heritage. At pre-application (including screening and scoping) stage, our priority is to identify the likely significant effects on nature and landscapes that could raise natural heritage issues of national interest. At application stage, we will only provide tailored advice for Planning Act cases where the impacts closely approach or exceed levels that raise issues of national interest. We will, however, provide case-specific advice on issues that are not of national interest for section 36 (Electricity Act) cases.

**Landscape and visual**

The landscape and visual impacts of solar farm proposals will require assessment, including the impacts of any associated infrastructure such as access tracks, security fencing, lighting and substations where likely significant effects occur. The grid connection component should also be taken into account if developers have confirmed details of this within enough time prior to submission.

Assessment should follow the Guidelines for Landscape and Visual Impact Assessment (GLVIA 3), and should include a Zone of Theoretical Visibility (ZTV) map to indicate where the arrays might be seen from, and a viewpoint analysis based on key viewpoints throughout the surrounding area. The number of viewpoints will be dependent on the scale of the proposal and visibility within the surrounding area., Where the potential for likely significant effects exist the LVIA should include an assessment of the impact of glint and glare. In keeping with GLVIA, cumulative effects will need to be considered, including cumulative effects fromco-location of the solar project with wind farm development

The ability of a landscape to accommodate development will often depend on the landscape characteristics of the site ([NatureScot Landscape Character Assessment page](https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/landscape-character-assessment-scotland)); key issues are likely to be around landscape scale, landform and land cover. Siting and design should take account of these aspects. With appropriate siting and effective screening the visibility can often be minimised for ground-mounted panels.

Proposed development in National Scenic Areas (NSAs) should not detract from the quality or character of the landscape. We are also [developing guidance on how to assess effects on NSA Special Qualities](https://www.nature.scot/professional-advice/protected-areas-and-species/protected-areas/national-designations/national-scenic-areas/nsa-special-qualities) and can provide a draft copy of that guidance by request.

Please follow our [advice and guidance on Wild Land Areas (WLAs).](https://www.nature.scot/professional-advice/landscape/landscape-policy-and-guidance/wild-land/wild-land-area-descriptions-and-assessment-guidance) The guidance should be applied to proposals whose nature, siting, scale or design are likely to result in a significant effect on the qualities of a WLA.

Requirements relating to Local Landscape Areas (LLAs) will be available from local planning authorities. [See general information on LLAs on our website](https://www.nature.scot/professional-advice/protected-areas-and-species/protected-areas/local-designations/local-landscape-areas).

**Birds**

Little scientific evidence exists to demonstrate a direct impact of solar PV on birds. While there is always some risk of bird collision with man-made objects, incidental evidence suggests this risk is low for solar. The main potential impacts are therefore likely to arise through habitat loss and disturbance, both of which may affect breeding, foraging and roosting birds.

We therefore advise that assessment should focus on the potential likely significant effects on birds associated with habitat loss and disturbance. Our wind farm bird survey guidance (<https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms>) should help guide the survey effort required, with surveys being proportionate to the scale and location of the development. Distribution and abundance surveys may be required and, as appropriate, should be undertaken in line with the methodology detailed in our onshore wind farm bird survey guidance. Generally, in the non-breeding season, walkover surveys (a minimum of three or preferably one per month) will be required, although in some situations, there could be periodic counts from vantage points (e.g. for wintering wildfowl feeding in agricultural land). During the breeding season, the type of distribution and abundance survey will vary according to the habitat on the site and the species likely to be present. It is expected that the most common surveys required will be for moorland birds using the Brown & Shepherd method, raptors and short-eared owl using the Hardey *et al* method and lowland waders using the Gilbert *et al* method.

When required, one year of abundance and distribution surveys will typically be appropriate for solar farm development. When survey duration of less than one year is proposed, developers and consultants must clearly demonstrate that the chosen duration is robust and appropriate to the specific proposal. Additional survey work after one year may be required in some cases, for example:

* To enable further detailed assessment of impacts of birds on, or connected to, protected areas, such as Special Protected Areas (SPAs):
* In areas where bird sensitivity is expected or has been shown to be high, especially where activity varies significantly between years.

We do not advise any need for vantage point watches to predict collision mortality given the low risk.

**Bats**

There is little evidence about the effect solar panels may have on bats. Although this makes it difficult to draw firm conclusions, the general risks appear low, for example the potential collision risk for bats would appear to be lower for solar farms than for wind farms, given the lack of large fast moving parts.

As for all development, a bat roost survey will be needed if a roost may be adversely affected (e.g. see our standing advice for bats at [https://www.nature.scot/doc/standing-advice-planning-consultations-bats)](https://www.nature.scot/doc/standing-advice-planning-consultations-bats%29), however we do not advise the need for bat activity survey, as would be expected for wind farms.

**Other protected species**

The presence (or potential presence) of other legally protected species also needs to be factored into the planning and design of solar development proposals. Any impacts on protected species must be fully considered prior to the determination of the application, and if there is evidence to suggest that a protected species is present on site or may be affected by the proposed development, steps must be taken to establish this. Our standing advice on survey (and mitigation) for various other protected species is available at <https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/planning-and-development-protected-species>.

The assessment should include consideration of how construction works (e.g. piling), security fencing and lighting installations may affect local ecology.

**Deer**

Depending on the location and size of development, construction and operational phases of solar farms may lead to significant displacement of wild deer onto adjacent land, which may result in damage to agricultural land or sensitive habitat. In some situations, deer displacement may also increase the risk of road traffic accidents.

A deer assessment will therefore be required if wild deer regularly use the proposed development site and there is a risk of displacement. This should follow our guidance, [‘What to consider and include in deer assessments and management at development sites’](https://www.nature.scot/guidance-planning-and-development-what-consider-and-include-deer-assessment-and-management). The deer assessment need not be complex or onerous.

**Terrestrial habitats**

Solar farm proposals, including any associated buildings and access tracks, may result in habitat loss, fragmentation and modification.

As for wind farm development, we advise that related habitat surveys should include:

* Either Phase 1 or EUNIS survey for all terrestrial habitats likely to be affected by the development.
* National Vegetation Classification (NVC) survey of habitats listed on Annex 1 of the EC Habitats Directive and UK Biodiversity Action Plan (UKBAP) Priority Habitat.
* Records of any rare and scarce plant species.

The habitat assessment should consider earthworks associated with construction compounds, access roads and cable trenching.

Example opportunities for site-specific mitigation and enhancement measures are outlined in the *Mitigation, compensation and enhancement* section below.

**Peatland**

In upland situations, potential peatland loss or damage will be a key issue.

The Carbon and Peatland map 2016 is a high-level tool that provides some context to more detailed peat survey work – see <https://www.nature.scot/professional-advice/planning-and-development/general-advice-planners-and-developers/planning-and-development-soils/carbon-and-peatland-2016-map>. The map is not a definitive account of where important carbon rich soils, deep peat and priority peatland habitat exist. Development proposals with the potential to significantly effect peat, whether in the mapped area or not, will always require a site-specific and detailed peat and vegetation survey to confirm the quality and distribution of peatland across the site. This information will confirm the extent to which nationally-important peatland will actually be affected by the development, and inform design, micro-siting and mitigation. Where the presence of peat may be a material issue for siting of infrastructure, peat survey is likely to be required, in line with Scottish Government guidance <https://www.gov.scot/publications/peatland-survey-guidance/>.

There is a lack of evidence about how installation and operation of a solar farm might affect peatland, however we know that peatland habitat can be easily disturbed, and a reduction in rainfall and sunlight below panels is likely to affect vegetation composition. A sensitive approach will therefore be required, particularly minimising soil disturbance. Thorough assessment will help ensure that risks are understood as far as possible, and we hope to learn more from developer monitoring of any early consents. On a precautionary basis we advise that the area under solar panels is effectively considered as permanent habitat loss, which, together with other direct and indirect peatland loss associated with the solar farm, would require compensation and additional enhancement required to ensure overall positive effects for biodiversity.

In summary, the approach to development on peatland should aim to:

* Minimise losses to carbon-rich soils, deep peat and priority peatland habitat, and avoid the highest quality peatland habitat through siting and design.
* Mitigate any loss or damage to peatland as far as possible (see mitigation section below).
* Restore and manage already damaged peatland to more than compensate for any losses and deliver positive effects for biodiversity.

**Woodland**

If tree felling/ woodland clearance will be required as part of the proposed development, we recommend that you contact Scottish Forestry at as early a stage as possible to discuss the [Control of Woodland Removal Policy](https://forestry.gov.scot/support-regulations/control-of-woodland-removal) and the implications it may have on the development.

**Freshwater**

, All areas directly (e.g. watercourse crossings) or indirectly (e.g. sediment run off) affected by the development and appropriate buffers up and downstream should have a habitat survey following the Scottish Fisheries Coordination Centre (SFCC) method (*Habitat Surveys Training Course Manual, Revised August 2007*). This should inform the likelihood of the presence of salmonids, eels, freshwater pearl mussel and other protected/ Biodiversity Action Plan (BAP) species and so the need or otherwise for species-specific surveys. Please also follow our [guidance on freshwater pearl mussel survey methods](https://www.nature.scot/plants-animals-and-fungi/invertebrates/freshwater-invertebrates/freshwater-pearl-mussel).

**Access and recreation**

Consideration should also be given to the existing and potential use of the area for recreation by the general public, with reference to Scottish access rights under the Land Reform (Scotland) Act 2003 and rights of way. Planning Authorities including National Park Authorities have a duty to uphold access rights within their areas. These authorities have a lead role in advising on access management within the development site, including the effects of the development on existing access and opportunities for improved access provision. In situations where formal access is directly affected by the proposed solar development we recommend that developers engage with Planning Authorities in the preparation of any access management plan if required on a case-by-case basis. This should identify the current recreational activities in the area and any positive or negative impacts that may occur as a consequence of the development during both construction and operation. Consideration should be given to the design of any new infrastructure such as tracks and signs to improve access provision and experience.

Developers are encouraged to design the layout and appearance of the site to ensure continued recreational use, where possible, during construction. Whilst access rights may be suspended while construction work is actively taking place, except for on core paths and rights of way, the suspension should be for the minimum area and time possible. When operational, the design should also ensure as much continued recreational use of the site as possible and minimise the visual impact from new and existing paths and tracks.

**Mitigation, and enhancement**

Selection of the solar farm site will be important. In addition, ‘mitigation by design’ can also help avoid and/or minimise effects on the more sensitive parts of a chosen site.

Solar farms should aim to maximise available opportunities to provide positive effects for biodiversity.

Tailored, site-specific mitigation and enhancement measures may include:

* Retaining and establishing native trees and hedges for the benefit of screening and biodiversity.
* Establishing wildlife buffer strips between and around arrays.
* Where soil stripping occurs, topsoil and subsoil should be stripped, stored, and replaced separately in order to minimise soil damage and to provide optimal conditions for site restoration.
* Manage vegetation to minimise fire risk, in line with habitat management and enhancement opportunities.
* Incorporating wider biodiversity enhancements such as nesting and roosting boxes, plant mixes for pollinator species.
* Employing vegetated roofs (in keeping with local habitats) on associated buildings, and cladding or screening these to reduce visual impacts.
* Maintaining appropriate grazing management in relation to proposals for habitat restoration / creation.
* Facilitating enhancements to the local path network.
* Minimising the use of security fencing and lighting where possible to reduce any adverse visual impacts or adverse effects on ecology and access/ recreation.
* Minimising the height and intrusive design of security fencing where possible, and considering potential for screening of fencing using existing hedges or landscaping.
* Considering the availability of natural features / defences such as steep gradients, hedging and rivers to help minimise the use of security fencing.
* Incorporating mammal gates / gaps into fencing.
* Marking fencing with deflectors to reduce risk of bird strikes in higher sensitivity locations.
* Directing security lighting away from areas of valued habitat, and using passive infra-red (PIR) technology.
* Minimising disruption and ground disturbance where possible, including through; sympathetic installation methods, efficient maintenance regimes, and the use of existing infrastructure, for example access and cabling adhering to the routes of existing tracks.
* Minimising the use of chemicals to clean panels. Plain water is preferable, especially over peatlands, where panel cleaning might also be done as infrequently as possible in order to minimise drainage and compaction impacts associated with maintenance.

Developers should take account of our guidance on [What to consider and include in Habitat Management Plans](https://www.nature.scot/guidance-planning-development-what-consider-and-include-habitat-management-plans) when Habitat Management Plans are being presented.

**END**