



Scottish Natural Heritage

Assessing the impact of repowered wind farms on nature

Consultation draft – June 2018



Introduction

This draft guidance provides advice on the scope of environmental impact assessment for applications to repower onshore wind farms. It focusses on the effects on nature.

Proposals to replace all or part of an existing wind farm scheme are typically referred to as 'repowering'. These may involve turbines of a different size or design, and in a different layout, within the same footprint¹. The relationship between repowering proposals and the existing wind farm being replaced will vary widely.

This guidance will cover most situations but please speak to us about all repowering proposals at an early stage, as our advice may be affected by case-specific circumstances, and our approach may evolve over time. In some circumstances the competent authority may decide to take an alternative approach.

This guidance does not cover applications to: (a) extend the operating period of an existing scheme; (b) change a consented, but unbuilt, scheme; and (c) renew permissions before expiry of time limits on implementing a scheme.

1. The assessment baseline

Environmental Impact Assessment (EIA) allows decision-makers and the public to understand the full impacts of development. The full effects of the new proposal, as assessed and presented in the EIA Report, will be weighed against other material considerations, including the current use of the site as a wind farm as set out in [Scottish Planning Policy](#) (paragraph 174).

In order to assess the full impacts of a repowering proposal, the baseline for EIA is the expected restored state of the site, excluding the existing turbines. A [decommissioning and restoration plan](#) is normally required by planning conditions attached to the original consent. Such a plan is necessary to inform the baseline for repowering.

The repowering application may retain some of the existing tracks and infrastructure and so, if consented, the site may not actually be restored as originally intended. But in such cases the repowering proposal should still be assessed against a baseline of the site as if it were fully restored.

We set out our reasoning on the baseline issue at [Annex A](#).

Notwithstanding our advice about the baseline, the current use of the site as a wind farm will be a material consideration. It is therefore likely to be helpful to also present information which compares the full effects of the new proposal with those of the existing scheme. This can then be weighed by decision-makers as part of the planning balance. We offer advice on this at Section 2 below.

The new environmental assessment should also take account of (or confirm the absence of) any changes in the wider environmental context of the development (for example adjacent development that may have been constructed; or changes in the distribution of sensitive habitats and species).

¹ 'Footprint' being considered as the area relatively close to existing tracks and infrastructure.
Cover Photo: Carland Cross repowered wind farm, Becky Rae (2017)

2. Landscape assessment

Developers should use current landscape and visual impact assessment guidance. Visualisations should exclude the existing wind farm. The existing turbines should be digitally removed from the baseline panorama. However, because the current use of the site as a wind farm will be a material consideration it is helpful to also present some information comparing the full effects of the new proposal with those of the existing scheme.

We would like to encourage discussion of potential approaches to the presentation of such comparative information and would welcome feedback on this. Our advice may evolve in response to future repowering experience but for now, we advise that any comparative information in the application should include:

- A table comparing the likely significant effects of the proposed and existing schemes.
- A comparative Zone of Theoretical Visibility (ZTV) map.
- Comparative visualisations for viewpoints.

We recommend that any comparative visualisations should be based on the 'baseline panorama and wireline' format set out in our [visual representation of wind farms guidance](#), with the existing wind farm shown in the panorama (photo) part of the visualisation, and the existing and proposed repowered wind farms shown together in the wireline part (the original scheme in a 'greyed out' or otherwise distinctive colour).

It will be important to avoid confusion in the EIA Report between the assessment against the baseline and any material comparing the repowered proposal with the existing wind farm.

We recommend that developers discuss wind farm design with SNH and planning authorities at an early stage. This will improve the potential for proposals presenting a good fit with the environment and neighbouring schemes. Repowering provides an opportunity to improve upon the design of the existing wind farm and/ or enable overall improvement in the appearance of a wider wind farm cluster. This will require cooperation between developers.

3. Bird assessment

Existing turbines on a wind farm site would skew the results of standard surveys. Such results would provide a distorted picture of expected bird activity on the restored site (i.e. baseline bird activity) and skew the related assessment of impacts. For example, due to existing bird displacement effects, normal vantage point survey and collision risk modelling won't produce meaningful results. Consequently, bird survey across existing wind farm sites won't normally be required for repowering.

Baseline bird activity should instead be estimated using a qualitative, desk-based approach. While this may be less straightforward than describing the landscape baseline, clearly reasoned judgements will be acceptable. The assessment should be based on the likely state of the environment once any planning conditions of the consent have been discharged – i.e. once the decommissioning and restoration plan has been implemented. Whilst the use of the site by birds will change with time as they habituate to the restored environment, this will be very difficult to predict accurately given other factors including availability of birds to recolonise, climate change and changes in land management. A reasoned judgement is therefore essential.

This desk-based study should identify and review all potential sources information for the site and surrounding area, including:

- Original bird and habitat survey data and assessment.
- Post-construction monitoring data, including data related to Habitat Management Plans.
- Other relevant data held by SNH, RSPB, WWT, Scottish Raptor Study Group etc.
- Other relevant additional survey information collected for the site.

The related assessment should, for example, take account of:

- Current information on the national and regional conservation and/or legal status of any sensitive species present.
- Current understanding of the risks from wind farms to any sensitive species present (e.g. disturbance distances and collision risk avoidance rates may well have changed since the original assessment).
- New calculations of bird collision risk mortality (taking account of the predicted baseline flight activity and the proposed new turbine dimensions / locations).

In some exceptional circumstances a new targeted bird survey might be required – e.g. if evidence suggests that the presence of sensitive bird species may have changed markedly since the original survey (either on site, or nearby). For some older wind farms, where the survey was based on early methods, the original data may not be helpful. In these situations, site-specific post-construction monitoring data will become more important, if it is available. If the proposal extends outside the footprint of the existing wind farm, then new survey is likely to be required in those areas, as it would for any normal wind farm extension.

It is important that developers contact us at the early stages to discuss the scope of any bird assessment, as there may be exceptions to the general approach set out above, and our advice will be case-specific.

[4. Other ecology](#)

To inform assessment, and because displacement is likely to be less of an issue for species other than birds, we advise that new surveys of terrestrial species and bat roost / activity should be carried out across the site. If good post-construction monitoring data exists then new surveys may be unnecessary. We can provide case-specific advice on this, taking into account the sensitivity of the site.

The survey information will help inform any new design layout and mitigation measures.

Original peat survey information may still be relevant, i.e. where conditions haven't changed, but more survey may be necessary to comply with the latest [peat survey guidance](#).

New habitat survey is likely to be required, unless evidence is available to justify otherwise e.g. habitats are unchanged since the original survey, or the affected habitats are of low importance, such as more intensively managed farmland. This will inform the design of the new wind farm and help identify suitable mitigation.

Developers should review the expected success of any restoration/ management associated with the original scheme and look for new opportunities to provide benefits. We recommend that developers should:

- Review current best practice and priorities.
- Continue/ improve successful management.
- Change unsuccessful management.
- Extend benefits spatially.
- Address new priorities where possible.

Annex A – SNH advice on the EIA baseline

An EIA should identify the full impacts of a new development proposal. The identification of likely significant effects should, therefore, not be based on appraising the difference between the existing wind farm and new proposal. We therefore advise that the EIA baseline for repowering should be the expected restored state of the site, i.e. excluding existing turbines. This is the likely evolution of the site in the absence of consent for a new wind farm.

There are three lines of reasoning to support this approach:

- Mutual exclusivity
- Power of assessment
- Time-limited permissions

The *EIA* baseline is different from the *cumulative assessment* baseline which considers the in-combination effects of a proposal with existing and consented schemes (in the *surrounding area*) which will co-exist. In contrast, the proposed and existing schemes on the same footprint are mutually exclusive, i.e. they cannot physically co-exist.

The alternative approach of including the existing development in the assessment baseline would limit the EIA to a type of ‘gap assessment’ which only considers the *additional* effects of the new proposal and would fail to identify the full impacts. Under that approach the identification of likely significant effects would just be assessed on the basis of the difference between the two schemes. The magnitude of ‘additional’ effects may be quite small and insignificant, but the full effects of the new proposal on the environment will be very different and could be highly significant. That approach would have major consequences for the power of EIA to help decision-makers to understand the full effects of the new proposal and to judge whether environmental impacts have been minimised.

Including the existing wind farm (to be repowered) in the EIA baseline would have the following consequences:

- There would be reduced potential for identifying significant effects, which could limit the scope for decision-makers to influence the proposed layout and design of a scheme, or to refuse the new application (e.g. in the context of a preferred wider development pattern without the existing wind farm).
- There would be a high risk of underestimating the effects of successive incremental changes. For example, over time, a wind farm could increase substantially in size, using larger turbines and new infrastructure. The full effects of these changes would not be assessed if only the ‘gap’ between each application is, leading to incremental changes to the environment which are not properly assessed.

Paragraph 3 of Schedule 4 to The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (and the equivalent Regulations under the 1997 Act) requires a “description of the relevant aspects of the current state of the environment (‘the baseline scenario’)”. However, it also requires an “outline of the likely evolution” of the baseline scenario “as far as can be assessed with reasonable effort on the basis of the availability of relevant information and scientific knowledge”. The Regulations do not specifically address time-limited permissions but by clear logic the baseline for the EIA of a repowering proposal should be that as it is intended to be after the expiry of the old wind farm permission.

This reflects the fact that there will be no planning entitlement to maintain the use of the land for wind farm purposes after the expiry of the previous permission. The existing wind farm cannot legally exist beyond the period of the consent as planning conditions require its removal.

Notwithstanding the above discussion, the current use of the site as a wind farm will be a material planning consideration and we acknowledge that it is therefore likely to be helpful to present some information within the application which compares the *full* likely significant effects on the environment of the new proposal with those which have been described for the existing scheme. Such comparison may find that there are many similarities between the two schemes, and this may influence decision-makers. However that type of analysis is quite different from an EIA approach where identification of likely significant effects is based on appraising the difference between the two schemes.

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Annex B - Providing feedback on this guidance

We welcome your feedback. If you have any suggestions on how to improve this guidance, or have any queries about it, please contact Brendan Turvey – brendan.turvey@snh.gov.uk
Tel: 01738 458622.

We'd welcome your feedback on the guidance by 31 August 2018. It would be helpful if you could base your comments around the following consultation questions.

We will publish consultation responses on our website. If you do not wish your response to be published, please clearly indicate this in your response.

1. We advise that the formal baseline for EIA should be the expected restored state of the site, excluding the existing turbines. We set out our reasoning at Annex A of this draft guidance.

Do you agree with this approach? If not, why not?

2. We think it could also be helpful for decision-makers to see information comparing the full likely significant effects of the new proposal with the effects of the existing scheme. For example, we suggest that the application information should include a table comparing likely significant effects, a comparative ZTV, and comparative visualisations based on the 'baseline panorama and wireline' type format (see Section 2).

Do you agree with the proposed approach to comparing effects? Can you suggest a better alternative on how to present comparative visualisations?

3. Because of the existing wind farm, standard bird surveys will give a skewed picture of the restored site's likely bird activity and the related impacts of the new proposal. This is largely due to displacement effects. We therefore advise that there should normally only be a new desk-based assessment drawing upon a range of information (see Section 3).

Do you agree with this approach? If not, why not?

4. We advise that new terrestrial species and bat surveys should typically be undertaken. New habitat survey is also likely to be required and new peat survey may be necessary to comply with the latest peat survey guidance. Developers should review the success of any implemented restoration/ management associated with the original scheme, and look for opportunities to improve upon this.

Do you agree with this approach? If not, why not?