Appendix 15.5

Terms for Impact Assessment

Coolglass Wind Farm EIAR Volume 3

Coolglass Wind Farm Limited

SLR Project No.: 501.V00727.00006

27 June 2023

5.8 There could be any number of possible impacts on important ecological features arising from a development. However, it is only necessary to describe in detail the impacts that are likely to be significant (see paragraphs 5.24 to 5.28). Impacts that are either unlikely to occur, or if they did occur are unlikely to be significant, can be scoped out. For transparency, justification for scoping out any ecological impact should be provided. If in doubt, the potential impact should be assessed.

Characterising Ecological Impacts

5.9 When describing ecological impacts and effects, reference should be made to the following characteristics as required:

- positive or negative
- extent
- magnitude
- duration
- frequency and timing
- reversibility.

5.10 The assessment only needs to describe those characteristics relevant to understanding the ecological effect of the impacts and determining its significance. For example, timing of the removal of a hedgerow is unlikely to be of particular relevance to the assessment of the effect on hedgerows, although it may be relevant in assessing the effect on a species using the hedgerow, such as nesting birds.

Positive or negative

5.11 Positive and negative impacts and effects should be determined according to whether the change is in accordance with nature conservation objectives and policy:

- positive – a change that improves the quality of the environment e.g. by increasing species diversity, extending habitat or improving water quality. This may also include halting or slowing an existing decline in the quality of the environment.
- negative – a change which reduces the quality of the environment e.g. destruction of habitat, removal of foraging habitat, habitat fragmentation, pollution.

Extent

5.12 The extent is the spatial or geographical area over which the impact/effect may occur under a suitably representative range of conditions (e.g. noise transmission under water).

Magnitude

5.13 Magnitude refers to size, amount, intensity and volume. It should be quantified if possible and expressed in absolute or relative terms e.g. the amount of habitat lost, percentage change to habitat area, percentage decline in a species population.

Duration

5.14 Duration should be defined in relation to ecological characteristics (such as the lifecycle of a species) as well as human timeframes. For example, five years, which might seem short-term in the human context or that of other long-lived species, would span at least five generations of some invertebrate species.

5.15 The duration of an activity may differ from the duration of the resulting effect caused by the activity. For example, if short-term construction activities cause disturbance to birds during their breeding period, there may be long-term implications from failure to reproduce that season. Impacts and effects may be described as short, medium or long-term and permanent or temporary. These will need to be defined in months/years.

Frequency and timing

5.16 The number of times an activity occurs will influence the resulting effect. For example, a single person walking a dog will have very limited impact on nearby waders using wetland habitat, but numerous walkers will subject the waders to frequent disturbance and could affect feeding success, leading to displacement of the birds and knock-on effects on their ability to survive.

5.17 The timing of an activity or change may result in an impact if it coincides with critical life-stages or seasons e.g. bird nesting season.

Reversibility

5.18 An irreversible effect is one from which recovery is not possible within a reasonable timescale or there is no reasonable chance of action being taken to reverse it. A reversible effect is one from which spontaneous recovery is possible or which may be counteracted by mitigation. In some cases, the same activity can cause both reversible and irreversible effects. Examples of reversible and irreversible effects are provided in Box 18 below.

Box 18: Examples of reversible and irreversible effects

Ancient woodland

Placement of a temporary access through an ancient wood could cause the loss of food and shelter for common woodland birds that may be reversible, but the compaction of woodland soils and damage to ancient woodland ground flora along the access route is irreversible

Cold-water coral reefs

Irreversible damage can be caused by the destruction of cold-water coral reefs by fishing trawls. These structures on the deep seabed have formed slowly over thousands of years, and their removal also removes the essential habitat for their associated fauna.

Species populations

The loss of small numbers of individuals of a rapidly breeding species could be considered reversible where the overall population is sufficiently robust to recover in terms of numbers and distribution within a relatively short space of time. In some cases, the loss of small numbers of individuals could push a population into a long-term decline from which it is not capable of recovering, causing an irreversible effect. This could occur as a result of the population not being sufficiently robust to recover or where it is suffering from other limiting factors made worse by the development project.

Assessment of Cumulative Impacts and Effects

5.19 Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects are particularly important in EcIA as ecological features may be already exposed to background levels of threat or pressure and may be close to critical thresholds where further impact could cause irreversible decline. Cumulative effects can also make habitats and species more vulnerable or sensitive to change.

5.20 Different types of actions can cause cumulative impacts and effects:

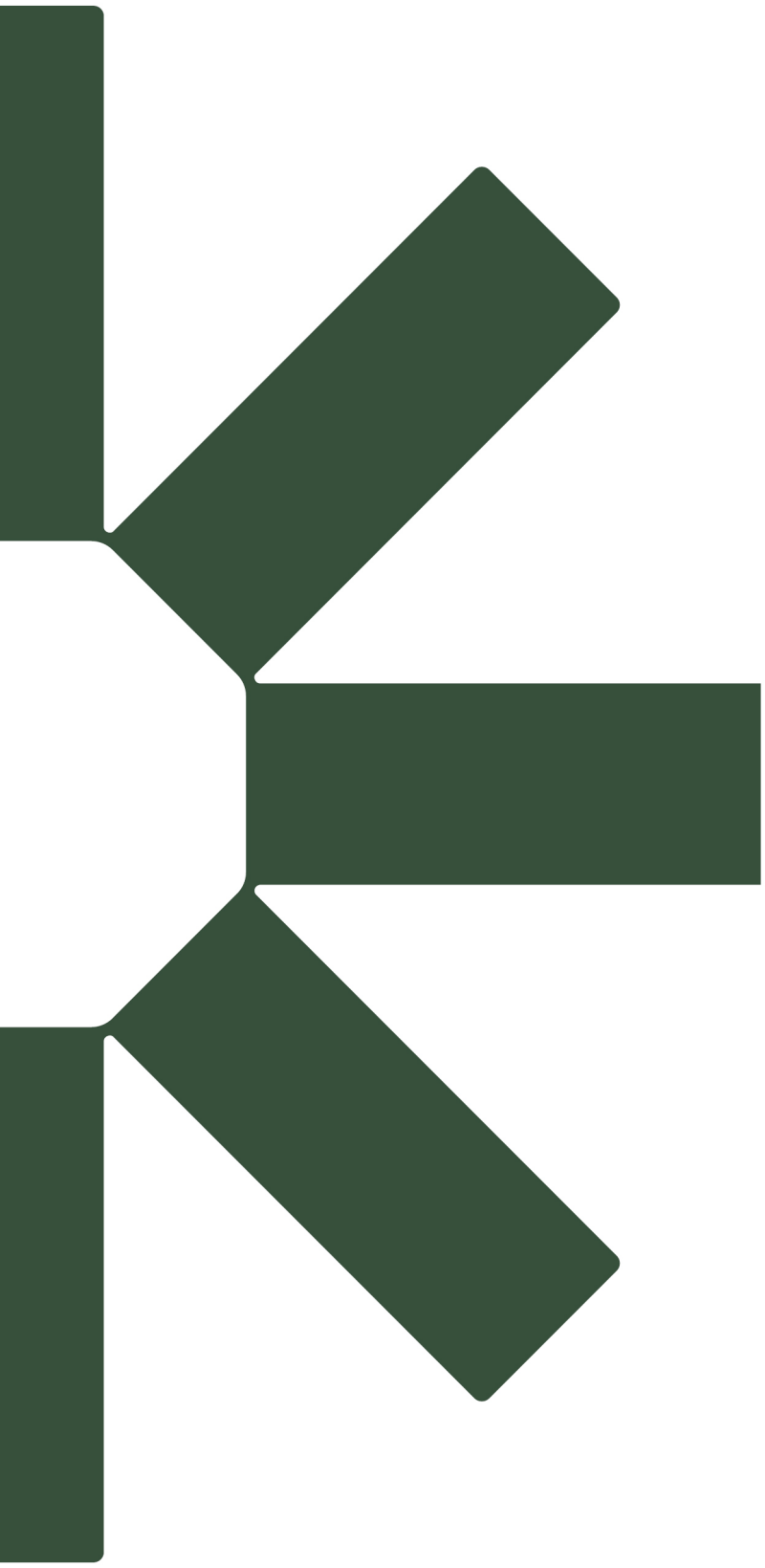
- Additive/incremental – multiple activities/projects (each with potentially insignificant effects) added together to give rise to a significant effect due to their proximity in time and space. The effect may be additive (1+1 = 2) or synergistic (1+1 = 3).

Table 3.4 Descriptions of Effects

Quality of Effects It is important to inform the non-specialist reader whether an effect is positive, negative or neutral.	**Positive Effects** A change which improves the quality of the environment (for example, by increasing species diversity, or improving the reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).
	Neutral Effects No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
	Negative/Adverse Effects A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem, or damaging health or property or by causing nuisance).
Describing the Significance of Effects 'Significance' is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful (also see *Determining Significance*).	**Imperceptible** An effect capable of measurement but without significant consequences.
	Not Significant An effect which causes noticeable changes in the character of the environment but without significant consequences.
	Slight Effects An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
	Moderate Effects An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
	Significant Effects An effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment.
	Very Significant An effect which, by its character, magnitude, duration or intensity, significantly alters most of a sensitive aspect of the environment.
	Profound Effects An effect which obliterates sensitive characteristics.
Describing the Extent and Context of Effects Context can affect the perception of significance. It is important to establish if the effect is unique or, perhaps, commonly or increasingly experienced.	**Extent** Describe the size of the area, the number of sites and the proportion of a population affected by an effect.
	Context Describe whether the extent, duration or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)

Describing the Probability of Effects Descriptions of effects should establish how likely it is that the predicted effects will occur so that the CA can take a view of the balance of risk over advantage when making a decision.	**Likely Effects** The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
	Unlikely Effects The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
Describing the Duration and Frequency of Effects 'Duration' is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful.	**Momentary Effects** Effects lasting from seconds to minutes.
	Brief Effects Effects lasting less than a day.
	Temporary Effects Effects lasting less than a year.
	Short-term Effects Effects lasting one to seven years.
	Medium-term Effects Effects lasting seven to fifteen years.
	Long-term Effects Effects lasting fifteen to sixty years.
	Permanent Effects Effects lasting over sixty years.
	Reversible Effects Effects that can be undone, for example through remediation or restoration.
	Frequency of Effects Describe how often the effect will occur (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually).

Describing the Types of Effects	**Indirect Effects (a.k.a. Secondary or Off-site Effects)** Effects on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
	Cumulative Effects The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects.
	'Do-nothing Effects' The environment as it would be in the future should the subject project not be carried out.
	'Worst-case' Effects The effects arising from a project in the case where mitigation measures substantially fail.
	Indeterminable Effects When the full consequences of a change in the environment cannot be described.
	Irreversible Effects When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.
	Residual Effects The degree of environmental change that will occur after the proposed mitigation measures have taken effect.
	Synergistic Effects Where the resultant effect is of greater significance than the sum of its constituents (e.g. combination of SOx and NOx to produce smog).



Making Sustainability Happen