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Botanical Study - Appendix 6-1

Briskalagh Renewable
Energy Development, Co.
Kilkenny – EIAR



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1. INTRODUCTION

1.1 Introduction

MKO were commissioned to undertake detailed botanical surveys to provide an evaluation and assessments of the habitats occurring at the Site. The detailed assessments focused on the habitats occurring under or immediately adjacent to the Proposed Project infrastructure footprint. Botanical surveys were undertaken during 2023 with additional information on habitat mapping undertaken during 2023 and 2024.

1.2 Survey Methods

A total of 9 detailed relevés and additional botanical surveys (species present were recorded) were undertaken within the Proposed Project infrastructure construction footprint or representative habitats within the Site. The location of each is provided on **Figure 1.1**.

Habitats within the footprint of the proposed development were assessed and described using both Fossitt (Fossitt, 2000) and the Irish Vegetation Classification (IVC) (Perrin et al., 2018) system.

Plant nomenclature for vascular plants follows ‘*New Flora of the British Isles*’ (Stace, 2019), while mosses and liverworts nomenclature follow ‘*Mosses and Liverworts of Britain and Ireland - a field guide*’ (British Bryological Society, 2010).

1.3 Statement of Authority

This report has been prepared by Colin Murphy (B.Sc., (Ecology), M.Sc.) and Fiona Killeen (B.Sc. (Env)). This report has been reviewed by Corey Cannon (B.Sc, M.Sc CEcol MCIEEM). Field surveys were undertaken by Fiona Killeen (B.Sc. (Env)), Rachel Minogue (B.Sc., (Env)), Tom Peters (B.Sc., M.Sc.). Fiona and Rachel are Practitioner Ecologists and have over 2 years’ professional consultancy experience in ecological surveys and assessment. Tom is an Ecologist and has over 1 years’ professional consultancy experience and ecology assessments.



Map Legend

- EIAR Site Boundary
- ◆ Turbine Relevé Locations
- ◆ Met Mast Relevé
- Substation Relevé



Relevé/Botanical Survey Locations

Project Title

Enerco Briskalagh Wind Farm

Drawn By	Checked By
FK	CM
Project No.	Drawing No.
230502	Figure 1-1
Scale	Date
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2.

RESULTS

2.1

Turbine 1

Turbine 1 will be located on Improved agricultural grassland (GA1) habitat which is surrounded by further agricultural grasslands on all sides and bordered by Hedgerow (WL1) habitat. A semi-natural woodland habitat is located to the south-west.

Table 2-1 Botanical Survey Results – Turbine 1

Relevé 1	Grid reference: ITM 640082 655054	Date 27.07.2023
Species	Common Name	% Cover
Vascular Plants		
<i>Lolium perenne</i>	Perennial ryegrass	50
<i>Trifolium pratense</i>	Red clover	35
<i>Lysimachia nummularia</i>	Creeping genny	20
<i>Agrostis capillaris</i>	Bent grass	5
<i>Poa pratensis sens lat.</i>	Smooth meadow grass	10
<i>Juncus effusus</i>	Soft rush	5
<i>Holcus lanatus</i>	Yorkshire fog	10
<i>Festuca rubra agg.</i>	Red Fescue	5
<i>Cynosurus cristatus</i>	Crested Dog’s Tail	5
Fossitt (2000) Habitat Classification	Improved agricultural grassland (GA1)	
IVC (Irish Vegetation Community classification)	GL3B <i>Lolium perenne</i> – <i>Trifolium repens</i> grassland	
Affinity to Annex I habitat	No	



Plate 2-1. Example of the receiving habitat at Turbine 1

2.2

Turbine 2

Turbine 2 will be located on Improved agricultural grassland (GA1) habitat which is surrounded by further agricultural grasslands on all sides and bordered by Hedgerow (WL1) habitat

Table 2-2 Botanical Survey Results – Turbine 2

Relevé 1	Grid reference: ITM 640412 654782	Date 27.07.2023
Species	Common Name	% Cover
Vascular Plants		
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	30
<i>Lolium perenne</i>	Perennial rye grass	30
<i>Agrostis capillaris</i>	Bent grass	20
<i>Cynosurus cristatus</i>	Crested dog's tail	45
<i>Juncus effusus</i>	Soft Rush	20



<i>Ranunculus repens</i>	Creeping Buttercup	10
<i>Stellaria media</i>	Chickweed	0.5
<i>Lolium pratense</i>	Meadow fescue	10
<i>Trifolium repens</i>	White Clover	45
<i>Juncus articulatus</i>	Joint leaf rush	0.5
<i>Holcus lanatus</i>	Yorkshire Fog	40
Fossitt (2000) Habitat Classification	Improved Agricultural Grassland (GA1)	
IVC (Irish Vegetation Community classification)	GLAA <i>Agrostis capillaris</i> – <i>Trifolium repens</i> grassland	
Affinity to Annex I habitat	No	



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Plate 2-2. Example of the receiving habitat at Turbine 2

2.3 Turbine 3

Turbine 3 is within an area of Improved agricultural grassland (GA1) that is bordered by linear vegetative habitat hedgerow (WL1) and treeline (WL2) and surrounded by Improved Agricultural grassland (GA1).

Table 2-3 Botanical Survey Results – Turbine 3

Relevé 1	Grid reference:	Date 27.07.2023
Species	Common Name	% Cover
Vascular Plants		
<i>Lolium perenne</i>	Perennial rye grass	95
<i>Trifolium repens</i>	White clover	40

<i>Taraxacum officinale</i>	Dandelion	5
<i>Rumex obtusifolius</i>	Broad leaved dock	5
<i>Scorzonerooides autumnalis</i>	Hawksbit	0.5
<i>Cynosurus cristatus</i>	Crested dog's tail	0.5
<i>Holcus lanatus</i>	Yorkshire fog	0.5
<i>Agrostis capillaris</i>	Bent grass	0.5
Fossitt (2000) Habitat Classification	Improved Agricultural Grassland GA1	
IVC community classification	GL3B <i>Lolium perenne</i> – <i>Trifolium repens</i> grassland	
Affinity to Annex I habitat	No	



Plate 2-3. Example of the receiving habitat at Turbine 3

Turbine 4

Turbine 4 is located within an area of Improved Agricultural Grassland (GA1) that is bordered by linear vegetative habitat mature hedgerow (WL1) habitat surrounded by Improved Agricultural grassland (GA1).

Table 2-4 Botanical Survey Results – Turbine 4

Relevé 1	Grid reference: ITM 640618 654425	Date 28.08.2023
Species	Common Name	% Cover
Vascular Plants		
<i>Rumex obtusifolius</i>	Broad leaved dock	5
<i>Lolium perenne</i>	Perennial rye grass	95
<i>Taraxacum officinale</i>	Dandelion	2
<i>Stellaria media</i>	Chickweed	0.5
<i>Urtica dioica</i>	Stinging nettle	0.5
Fossitt (2000) Habitat Classification		Improved Agricultural Grassland (GA1)
IVC classification		WE1E <i>Poa annua</i> – <i>Plantago major</i> weed community
Affinity to Annex I habitat		No

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Plate 2-4. Example of receiving habitat at Turbine 4

2.5

Turbine 5

Turbine 5 is located within an area of Improved Agricultural Grassland (GA1)/Wet grassland (GS4). It is surrounded by Hedgerow (WL1), Treeline (WL2) and Eroding/Upland Rivers (FW1).

Table 2-5 Botanical Survey Results – Turbine 5

Relevé 1	Grid reference: ITM 640063 654218	Date: 27.07.2023
Species	Common Name	% Cover
Vascular Plants		
<i>Lolium perenne</i>	Perennial rye grass	40
<i>Trifolium repens</i>	White clover	15
<i>Juncus effusus</i>	Soft rush	15
<i>Holcus lanatus</i>	Yorkshire fog	50
<i>Agrostis capillaris</i>	Common bent grass	15
<i>Festuca rubra</i> agg.	Red fescue	10

<i>Ranunculus repens</i>	Creeping buttercup	50
<i>Alopecurus pratensis</i>	Meadow Fox-tail	0.5
<i>Poa annua</i>	Annual meadow grass	10
<i>Juncus articulatus</i>	Jointed rush	30
<i>Cardamine hirsuta</i>	Hairy bittercress	2
<i>Cirsium arvense</i>	Creeping thistle	0.5
<i>Juncus inflexus</i>	Hard rush	15
<i>Potentilla anserina</i>	Silverweed	20
<i>Myosotis scorpioides</i>	Water forget me not	0.5
Fossitt (2000) Habitat Classification	Improved agricultural grassland (GA1)/Wet grassland GS4	
IVC classification	GL2C <i>Holcus lanatus</i> – <i>Lolium perenne</i> grassland	
Affinity to Annex I habitat	No	

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Plate 2-5. Example of receiving habitat at Turbine 5

2.6

Turbine 6

Turbine 6 is located within an area of Improved Agricultural Grassland (GA1) and is bordered by Treeline (WL2) and Hedgerow (WL1) habitat.

Table 2-6 Botanical Survey Results – Turbine 6

Relevé 1	Grid reference: ITM 639857 654306	Date 28.07.2023
Species	Common Name	% Cover
Vascular Plants		
<i>Holcus lanatus</i>	Yorkshire fog	70
<i>Rumex crispus</i>	Curly dock	0.5
<i>Lolium perenne</i>	Perennial rye grass	20
<i>Rumex acetosa</i>	Common sorrel	20
<i>Poa trivialis</i>	Rough meadow grass	20
<i>Alopecurus pratensis</i>	Meadow foxtail	0.5

<i>Cerastium fontanum</i>	Mouse ear	5
<i>Poa annua</i>	Meadow grass	15
<i>Carex hirata</i>	Hammer sedge	0.5
<i>Rumex spp.</i>	Dock	20
<i>Cirsium arvense</i>	Thistle	10
<i>Potentilla anserina</i>	Silverweed	5
<i>Ranunculus acris</i>	Meadow buttercup	2
<i>Dactylus glomerata</i>	Cock's foot	0.5
<i>Trifolium repens</i>	White clover	20
Fossitt (2000) Habitat Classification	Improved Agricultural Grassland (GA1)	
IVC classification	GL2C <i>Holcus lanatus</i> – <i>Lolium perenne</i> grassland	
Affinity to Annex I habitat	No	



Plate 2-6. Example of receiving habitat at Turbine 6

2.7

Turbine 7

Turbine 7 is located within an area of conifer plantation (WS5). This location is surrounded by Mixed broadleaved/conifer woodland (WD2), Broad-leaved woodland (WD1) conifer plantation (WD4).

Table 2-7 Botanical Survey Results – Turbine 7

Species List T7	Grid reference: ITM 639082 653616	Date 24.08.2023
Species	Common Name	
Vascular Plants		
<i>Hedra hibernica</i>	Ivy	
<i>Pseudotsuga menziesii</i>	Douglas fir	
<i>Picea sitchensis</i>	Sitka spruce	
<i>Picea abies</i>	Norway spruce	
Fossitt (2000) Habitat Classification	Conifer Plantation WD4	
IVC classification	N/A	
Affinity to Annex I habitat	N/A	

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Plate 2-7. Example of receiving habitat at Turbine 7

2.8

Proposed Onsite Substation

The proposed onsite substation is within an area of Improved Agricultural Grassland (GA1) The field is delineated by treelines (WL1) to the north. An unmapped watercourse was recorded adjacent to the proposed substation location.

Table 2-8 Botanical Survey Results – Proposed Onsite Substation

Relevé 1	Grid reference: ITM 639030 654662	Date 24.07.2023
Species	Common Name	% Cover
<i>Taraxacum officinale</i>	Dandelion	20
<i>Trifolium repens</i>	White clover	30
<i>Rumex obtusifolius</i>	Large dock	30
<i>Lolium perenne</i>	Perennial rye grass	80
<i>Rumex acetosa</i>	Sorrel	5
<i>Cirsium vulgare</i>	Thistle	0.5

<i>Ranunculus repens</i>	Creeping buttercup	10
<i>Ranunculus acris</i>	Meadow buttercup	2
Fossitt (2000) Habitat Classification	Improved Agricultural Grassland (GA1)	
IVC classification	<i>GL3B Lolium perenne – Trifolium repens</i> grassland	
Affinity to Annex I habitat	No	

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Plate 2-8. Example of receiving habitat in the footprint of the proposed onsite substation.

Met Mast

The proposed met mast will be located within a field comprising of Improved Agricultural grassland (GA1). Hedgerow (WL1) bordered the grassland and a drainage ditch (FW4) was recorded to the west.

Table 2.9 Botanical Survey Results – Met Mast

	Grid reference: ITM 640340 654224	Date 02.04.2024
Species	Common Name	% Cover
Hedgerow habitat		
<i>Ulex europaeus</i>	Gorse	90
<i>Crataegus monogyna</i>	Hawthorn	10
<i>Rubus fruticosus</i> agg.	Bramble	5
<i>Hedra hibernica</i>	Ivy	10
<i>Urtica dioica</i>	Nettle	3
<i>Geranium robertianum</i>	Herb robert	0.5
Grassland habitat		
<i>Lolium perenne</i>	Perennial rye grass	95
<i>Trifolium repens</i>	White clover	5
<i>Cerastium fontanum</i>	Common mouse ear	2
<i>Taraxacum vulgaria</i>	Dandelion	3
<i>Ranunculus repens</i>	Creeping buttercup	1
<i>Bellis perennis</i>	Daisy	0.5
<i>Rumex crispus</i>	Curly dock	1
Fossitt (2000) Habitat Classification	Improved Agricultural grassland (GA1), Hedgerow (WL1)	
IVC classification	N/A	
Affinity to Annex I habitat	N/A	

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Plate 2-9. View of Improved Agricultural Grassland (GA1) habitat and location of the proposed met mast.

3.

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