Peat Stability Risk Assessment (PSRA)

Illaubaun Wind Farm

Location:	**Turbine 1**
Conditions:	**Undrained (U), undrained surcharge (US), drained (D), drained surcharge (DS)**
Inspected on:	Mar-25
Inspected by:	CE
Completed by:	SR
Date:	Mar-25

Hazard factors			Value				Rating criteria				Rating value	Weighting	Score	Comment
			U	US	D	DS	0	1	2	3				
Factor of Safety			6.4	2.7	5.2	4.7	-	≥ 1.3	1.3 - 1.0	≤ 1.0	1	10	10	Peat depth: ~0.7m. Slope angle: 6.1º.
Secondary factors	Slide history	Distance to previous slides (km)	NA				NA	5 - 10	< 5	On site	0	2	0	Nearest slide >15km away
		Evidence of peat movement (e.g. tension cracks, step features, compression features).	NA				NA	-	-	Yes	0	2	0	No evidence observed
	Subsoil conditions (visible in trial pits)	Subsoil type	Gravel / Firm glacial till				NA	Gravel / Firm glacial till	Smooth rock	Soft sensitive clay	1	1	1	Nearest TP101 records - Firm, bluish-grey CLAY, containing occasional cobbles and boulders. The cobbles are angular to subrounded, flat, and composed of grey sandstone and mudstone. The boulders are also angular to subrounded, flat, and consist of grey sandstone and mudstone
		Peat fibres across transition to subsoil	NA				NA	Yes	Partially	No	0	1	0	Not recorded in TP log
		Peat wetness	Slowly squeezing				NA	Dry / Stands well	Slowly squeezing	Extremely wet / Undiggable	0	2	0	Recorded as B2 in Von Post log
	Topography	General curvature downslope	Planar				NA	-	Planar	Convex	2	1	2	Generally planar
		Distance to the convexity break (only if previous factor is Convex)	NA				NA	> 100 m	50 - 100 m	< 50 m	0	1	0	
		Slope aspect (for high latitudes in northern hemisphere)	NA				NA	SW, S, SE	W, E	NW, N, NE	0	1	0	
	Hydrology	Distance from watercourse (m)	< 200				NA	> 300	200 - 300	< 200	3	2	6	Nearest watercourse ~110m away
		Surface moisture index (NDMI)	96 -135				NA	0 - 96	96 -135	135 - 174	2	1	2	
		Surface water (water table level indicator)	NA				NA	Localised	Ponded in drains	Springs	0	1	0	No evident surface water ponding
		Evidence of piping (subsurface flow)	NA				NA	-	-	Yes	0	1	0	Not observed
		Significant surface desiccation (previous summer was dry?)	NA				NA	-	-	Yes	0	1.5	0	Not observed
		Existing drainage ditches	NA				NA	Down slope	Varied / Oblique	Across slope	0	1	0	Drains generally downslope
		Annual rainfall	1000 - 1400 mm/yr				NA	< 1000 mm/yr	1000 - 1400 mm/yr	> 1400 mm/yr	2	1	2	
	Vegetation	Bush	Grassland				NA	Dry heather	Grassland	Wetlands	2	1	2	Grassland
		Forestry (if applicable)	NA				NA	Good growth	Fair	Stunted growth	0	1.5	0	Not within forestry
	Peat workings	Peat cuts presence	NA				NA	-	Cutaway / Turbary	Machine cut	0	1	0	No peat cutting observed
		Peat cuts vs contour lines	NA				NA	Perpendicular	Oblique	Parallel	0	1	0	No peat cutting observed
	Existing loads	Roads	Solid				NA	Solid	-	Floating	1	1	1	Solid roads
	Time of year for construction		Late Summer, Autumn				NA	Spring	Winter, Early Summer	Late Summer, Autumn	3	1	3	Wost case estimate

Hazard $_{total}$ 29

Max. possible 102

Hazard $_{0-1}$ 0.28

Hazard	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Consequence factors	Value	Rating criteria				Rating value	Weighting	Score	Comment
		0	1	2	3				
Volume of potential peat flow (function of distance from nearest watercourse and peat depth in the area)	Small	NA	Small	Medium	Large	1	3	3	Peat depth <1m
Downslope hydrology features	Minor undefined watercourse	NA	Bowl / contained	Minor undefined watercourse	Valley	2	1	2	N/A
Proximity from defined valley (m)	< 200	NA	> 500	200 - 500	< 200	3	1	3	
Downhill slope angle	Intermediate	NA	Horizontal	Intermediate	Steep	2	1	2	Slope angle: 6.1º.
Downstream aquatic environment	Sensitive	NA	Non-sensitive	Sensitive	Drinking water supply	2	1	2	sensitive
Public roads in potential peat flow path	NA	NA	Minor road	Local road	Regional road	0	1	0	no
Overhead lines in potential peat flow path	NA	NA	Phone lines	Electricity (LV)	Electricity (MV, HV)	0	1	0	no
Buildings in potential peat flow path	NA	NA	Farm out-houses	-	Dwelling	0	1	0	no
Capability to respond (access and resources)	Poor	NA	Good	Fair	Poor	3	1	3	Fair

Consequences $_{total}$ 15

Max. possible 33

Consequences $_{0-1}$ 0.45

Consequences	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Risk rating

Risk		Action required
0.00 - 0.20	Negligible	Normal site investigation
0.20 - 0.40	Low	Targeted site investigation, design of specific mitigation measures. Part time supervision during construction.
0.40 - 0.60	Medium	Avoid construction in the area if possible. If unavoidable, detailed site investigation and design of specific mitigation measures. Full time supervision during construction.
0.60 - 1.00	High	Avoid construction in this area.

Risk rating = Hazard * Consequences

Risk rating = 0.28 0.45 = **0.13**

Peat Stability Risk Assessment (PSRA)

Illaubaun Wind Farm

Location:	**Turbine 2**
Conditions:	**Undrained (U), undrained surcharge (US), drained (D), drained surcharge (DS)**
Inspected on:	Mar-25
Inspected by:	CE
Completed by:	SR
Date:	Mar-25

Hazard factors			Value				Rating criteria				Rating value	Weighting	Score	Comment
			U	US	D	DS	0	1	2	3				
Factor of Safety			36.8	10.8	29.7	18.7	-	≥ 1.3	1.3 - 1.0	≤ 1.0	1	10	10	Peat depth: ~0.4m. Slope angle: 1.8º.
Secondary factors	Slide history	Distance to previous slides (km)	NA				NA	5 - 10	< 5	On site	0	1	0	Nearest slide >15km away
		Evidence of peat movement (e.g. tension cracks, step features, compression features).	NA				NA	-	-	Yes	0	2	0	No evidence observed
	Subsoil conditions (visible in trial pits)	Subsoil type	NA				NA	Gravel / Firm glacial till	Smooth rock	Soft sensitive clay	0	1	0	No TP undertaken
		Peat fibres across transition to subsoil	NA				NA	Yes	Partially	No	0	1	0	No TP undertaken
		Peat wetness					NA	Dry / Stands well	Slowly squeezing	Extremely wet / Undiggable	0	2	0	No TP undertaken
	Topography	General curvature downslope	Convex				NA	-	Planar	Convex	3	1	3	Convex slope breaks downslope
		Distance to the convexity break (only if previous factor is Convex)	50 - 100 m				NA	> 100 m	50 - 100 m	< 50 m	2	1	2	
		Slope aspect (for high latitudes in northern hemisphere)	SW, S, SE				NA	SW, S, SE	W, E	NW, N, NE	1	1	1	SE
	Hydrology	Distance from watercourse (m)	200 - 300				NA	> 300	200 - 300	< 200	2	2	4	~240m
		Surface moisture index (NDMI)	96 -135				NA	0 - 96	96 -135	135 - 174	2	1	2	
		Surface water (water table level indicator)	Localised				NA	Localised	Ponded in drains	Springs	1	1	1	No evident surface water ponding
		Evidence of piping (subsurface flow)	NA				NA	-	-	Yes	0	1	0	Not observed
		Significant surface desiccation (previous summer was dry?)	NA				NA	-	-	Yes	0	1.5	0	Not observed
		Existing drainage ditches	Down slope				NA	Down slope	Varied / Oblique	Across slope	1	1	1	Forestry drainage oriented generally downslope
		Annual rainfall	1000 - 1400 mm/yr				NA	< 1000 mm/yr	1000 - 1400 mm/yr	> 1400 mm/yr	2	1	2	
	Vegetation	Bush	NA				NA	Dry heather	Grassland	Wetlands	0	1	0	Forestry
		Forestry (if applicable)	Good growth				NA	Good growth	Fair	Stunted growth	1	1.5	1.5	Forestry
	Peat workings	Peat cuts presence	-				NA	-	Cutaway / Turbary	Machine cut	1	1	1	No peat cuts
		Peat cuts vs contour lines	NA				NA	Perpendicular	Oblique	Parallel	0	1	0	No peat cuts
	Existing loads	Roads	Solid				NA	Solid	-	Floating	1	1	1	
	Time of year for construction		Late Summer, Autumn				NA	Spring	Winter, Early Summer	Late Summer, Autumn	3	1	3	Wost case estimate

Hazard $_{total}$	32.5
Max. possible	93
Hazard $_{0-1}$	**0.35**

Hazard	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Consequence factors	Value	Rating criteria				Rating value	Weighting	Score	Comment
		0	1	2	3				
Volume of potential peat flow (function of distance from nearest watercourse and peat depth in the area)	Small	NA	Small	Medium	Large	1	3	3	Peat depth 0.4m
Downslope hydrology features	NA	NA	Bowl / contained	Minor undefined watercourse	Valley	0	1	0	NA
Proximity from defined valley (m)	200 - 500	NA	> 500	200 - 500	< 200	2	1	2	240m from valley
Downhill slope angle	Intermediate	NA	Horizontal	Intermediate	Steep	2	1	2	Slope angle: 1.8º.
Downstream aquatic environment	Sensitive	NA	Non-sensitive	Sensitive	Drinking water supply	2	1	2	sensitive
Public roads in potential peat flow path	NA	NA	Minor road	Local road	Regional road	0	1	0	NA
Overhead lines in potential peat flow path	NA	NA	Phone lines	Electricity (LV)	Electricity (MV, HV)	0	1	0	NA
Buildings in potential peat flow path	NA	NA	Farm out-houses	-	Dwelling	0	1	0	NA
Capability to respond (access and resources)	Poor	NA	Good	Fair	Poor	3	1	3	good

Consequences $_{total}$	12
Max. possible	33
Consequences $_{0-1}$	**0.36**

Consequences	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Risk rating

Risk		**Action required**
0.00 - 0.20	Negligible	Normal site investigation
0.20 - 0.40	Low	Targeted site investigation, design of specific mitigation measures. Part time supervision during construction.
0.40 - 0.60	Medium	Avoid construction in the area if possible. If unavoidable, detailed site investigation and design of specific mitigation measures. Full time supervision during construction.
0.60 - 1.00	High	Avoid construction in this area.

Risk rating = Hazard * Consequences

Risk rating =	0.35	0.36	=	**0.13**

Peat Stability Risk Assessment (PSRA)

Illaubaun Wind Farm

Location:	**Turbine 3**
Conditions:	**Undrained (U), undrained surcharge (US), drained (D), drained surcharge (DS)**
Inspected on:	Jan-25
Inspected by:	CE
Completed by:	SR
Date:	Mar-25

Hazard factors			Value				Rating criteria				Rating value	Weighting	Score	Comment
			U	US	D	DS	0	1	2	3				
Factor of Safety			2.5	1.33	2.0	2.3	-	≥ 1.3	1.3 - 1.0	≤ 1.0	1	10	10	Peat depth: ~1.0 m. Slope angle: 7.1º.
Secondary factors	Slide history	Distance to previous slides (km)	NA				NA	5 - 10	< 5	On site	0	2	0	Nearest slide >15km away
		Evidence of peat movement (e.g. tension cracks, step features, compression features).	NA				NA	-	-	Yes	0	2	0	No evidence observed
	Subsoil conditions (visible in trial pits)	Subsoil type	Gravel / Firm glacial till				NA	Gravel / Firm glacial till	Smooth rock	Soft sensitive clay	1	1	1	Nearest TP102 Recorded firm wet grey gravelly silty CLAY with occasional cobbles. Gravel is angular to subangular and flat fine to medium of mudstone and sandstone. Cobbles are angular to subrounded and flat of grey sandstone and mudstone.
		Peat fibres across transition to subsoil	NA				NA	Yes	Partially	No	0	1	0	Not recorded in TP
		Peat wetness	Slowly squeezing				NA	Dry / Stands well	Slowly squeezing	Extremely wet / Undiggable	2	2	4	Von Post rating B3 indicates moderately wet peat
	Topography	General curvature downslope	Convex				NA	-	Planar	Convex	3	1	3	Convex slope breaks downslope
		Distance to the convexity break (only if previous factor is Convex)	50 - 100 m				NA	> 100 m	50 - 100 m	< 50 m	2	1	2	
		Slope aspect (for high latitudes in northern hemisphere)	SW, S, SE				NA	SW, S, SE	W, E	NW, N, NE	1	1	1	SW
	Hydrology	Distance from watercourse (m)	< 200				NA	> 300	200 - 300	< 200	3	3	9	~50m from lake
		Surface moisture index (NDMI)	96 -135				NA	0 - 96	96 -135	135 - 174	2	1	2	
		Surface water (water table level indicator)	Localised				NA	Localised	Ponded in drains	Springs	1	1	1	Very localised surface water ponding
		Evidence of piping (subsurface flow)	NA				NA	-	-	Yes	0	1	0	Not observed
		Significant surface desiccation (previous summer was dry?)	NA				NA	-	-	Yes	0	1.5	0	Not observed
		Existing drainage ditches	Varied / Oblique				NA	Down slope	Varied / Oblique	Across slope	2	1	2	Varied
		Annual rainfall	> 1400 mm/yr				NA	< 1000 mm/yr	1000 - 1400 mm/yr	> 1400 mm/yr	3	1	3	
	Vegetation	Bush	Grassland				NA	Dry heather	Grassland	Wetlands	2	1	2	Grassy pastureland
		Forestry (if applicable)	NA				NA	Good growth	Fair	Stunted growth	0	1.5	0	Forestry
	Peat workings	Peat cuts presence	NA				NA	-	Cutaway / Turbary	Machine cut	0	1	0	No peat cuts
		Peat cuts vs contour lines	NA				NA	Perpendicular	Oblique	Parallel	0	1	0	No peat cuts
	Existing loads	Roads	Solid				NA	Solid	-	Floating	1	1	1	Solid road immediately to the east
	Time of year for construction		Late Summer, Autumn				NA	Spring	Winter, Early Summer	Late Summer, Autumn	3	1	3	Wost case estimate

Hazard $_{total}$ 44

Max. possible 99

Hazard $_{0\text{-}1}$ **0.44**

Hazard	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Consequence factors	Value	Rating criteria				Rating value	Weighting	Score	Comment
		0	1	2	3				
Volume of potential peat flow (function of distance from nearest watercourse and peat depth in the area)	Small	NA	Small	Medium	Large	1	3	3	NA
Downslope hydrology features	Bowl / contained	NA	Bowl / contained	Minor undefined watercourse	Valley	1	1	1	Lake adjacent to T3
Proximity from defined valley (m)	> 500	NA	> 500	200 - 500	< 200	1	1	1	>500
Downhill slope angle	Intermediate	NA	Horizontal	Intermediate	Steep	2	1	2	Slope angle: 7.1º.
Downstream aquatic environment	Sensitive	NA	Non-sensitive	Sensitive	Drinking water supply	2	1	2	sensitive
Public roads in potential peat flow path	Minor road	NA	Minor road	Local road	Regional road	1	1	1	Minor unnamed track
Overhead lines in potential peat flow path	NA	NA	Phone lines	Electricity (LV)	Electricity (MV, HV)	0	1	0	NA
Buildings in potential peat flow path	NA	NA	Farm out-houses	-	Dwelling	0	1	0	NA
Capability to respond (access and resources)	Poor	NA	Good	Fair	Poor	3	1	3	NA

Consequences $_{total}$ 13

Max. possible 33

Consequences $_{0\text{-}1}$ **0.39**

Consequences	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Risk rating

Risk		Action required
0.00 - 0.20	Negligible	Normal site investigation
0.20 - 0.40	Low	Targeted site investigation, design of specific mitigation measures. Part time supervision during construction.
0.40 - 0.60	Medium	Avoid construction in the area if possible. If unavoidable, detailed site investigation and design of specific mitigation measures. Full time supervision during construction.
0.60 - 1.00	High	Avoid construction in this area.

Risk rating = Hazard * Consequences

Risk rating = 0.44 0.39 = **0.18**

Peat Stability Risk Assessment (PSRA)

Illaubaun Wind Farm

Location:	**Turbine 4**
Conditions:	**Undrained (U), undrained surcharge (US), drained (D), drained surcharge (DS)**
Inspected on:	Jan-25
Inspected by:	CE
Completed by:	SR
Date:	Mar-25

Hazard factors			Value				Rating criteria				Rating value	Weighting	Score	Comment
			U	US	D	DS	0	1	2	3				
Factor of Safety			4.75	1.93	3.80	1.58	-	≥ 1.3	1.3 - 1.0	≤ 1.0	1	10	10	Peat depth: ~0.2 m. Slope angle: 5.8º.
Secondary factors	Slide history	Distance to previous slides (km)	NA				NA	5 - 10	< 5	On site	0	2	0	Nearest slide >15km away
		Evidence of peat movement (e.g. tension cracks, step features, compression features).	NA				NA	-	-	Yes	0	2	0	No evidence observed
	Subsoil conditions (visible in trial pits)	Subsoil type	Soft sensitive clay				NA	Gravel / Firm glacial till	Smooth rock	Soft sensitive clay	3	1	3	Nearest TP (TP103) records wet bluish grey sandy clayey angular to subangular and flat fine to coarse shale GRAVEL with rare cobbles. Sand is medium to coarse. Cobbles are rounded to subangular and flat of sandstone.
		Peat fibres across transition to subsoil	NA				NA	Yes	Partially	No	0	1	0	No/very shallow peat peat
		Peat wetness	NA				NA	Dry / Stands well	Slowly squeezing	Extremely wet / Undiggable	0	2	0	No/very shallow peat peat
	Topography	General curvature downslope	Planar				NA	-	Planar	Convex	2	1	2	Generally planar slope
		Distance to the convexity break (only if previous factor is Convex)	NA				NA	> 100 m	50 - 100 m	< 50 m	0	1	0	N/A
		Slope aspect (for high latitudes in northern hemisphere)	SW, S, SE				NA	SW, S, SE	W, E	NW, N, NE	1	1	1	SE
	Hydrology	Distance from watercourse (m)	> 300				NA	> 300	200 - 300	< 200	1	1	1	~300m
		Surface moisture index (NDMI)	96 -135				NA	0 - 96	96 -135	135 - 174	2	1	2	
		Surface water (water table level indicator)	NA				NA	Localised	Ponded in drains	Springs	0	1	0	No evident surface water ponding
		Evidence of piping (subsurface flow)	NA				NA	-	-	Yes	0	1	0	Not observed
		Significant surface desiccation (previous summer was dry?)	NA				NA	-	-	Yes	0	1.5	0	Not observed
		Existing drainage ditches	Down slope				NA	Down slope	Varied / Oblique	Across slope	1	1	1	
		Annual rainfall	1000 - 1400 mm/yr				NA	< 1000 mm/yr	1000 - 1400 mm/yr	> 1400 mm/yr	2	1	2	
	Vegetation	Bush	Grassland				NA	Dry heather	Grassland	Wetlands	2	1	2	Forestry
		Forestry (if applicable)	Good growth				NA	Good growth	Fair	Stunted growth	1	1.5	1.5	Forestry
	Peat workings	Peat cuts presence	NA				NA	-	Cutaway / Turbary	Machine cut	0	1	0	No Peat
		Peat cuts vs contour lines	NA				NA	Perpendicular	Oblique	Parallel	0	1	0	No Peat
	Existing loads	Roads	Solid				NA	Solid	-	Floating	1	1	1	
	Time of year for construction		Late Summer, Autumn				NA	Spring	Winter, Early Summer	Late Summer, Autumn	3	1	3	Wost case estimate

Hazard $_{total}$ 29.5

Max. possible 94

Hazard $_{0\text{-}1}$ **0.31**

Hazard	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Consequence factors	Value	Rating criteria				Rating value	Weighting	Score	Comment
		0	1	2	3				
Volume of potential peat flow (function of distance from nearest watercourse and peat depth in the area)	NA	NA	Small	Medium	Large	0	3	0	No peat.
Downslope hydrology features	NA	NA	Bowl / contained	Minor undefined watercourse	Valley	0	1	0	NA
Proximity from defined valley (m)	> 500	NA	> 500	200 - 500	< 200	1	1	1	>500
Downhill slope angle	Horizontal	NA	Horizontal	Intermediate	Steep	1	1	1	Slope angle: 5.8º.
Downstream aquatic environment	Sensitive	NA	Non-sensitive	Sensitive	Drinking water supply	2	1	2	Sensitive
Public roads in potential peat flow path	Minor road	NA	Minor road	Local road	Regional road	1	1	1	Minor, unnamed road downslope
Overhead lines in potential peat flow path	NA	NA	Phone lines	Electricity (LV)	Electricity (MV, HV)	0	1	0	NA
Buildings in potential peat flow path	NA	NA	Farm out-houses	-	Dwelling	0	1	0	NA
Capability to respond (access and resources)	Poor	NA	Good	Fair	Poor	3	1	3	Poor

Consequences $_{total}$ 8

Max. possible 33

Consequences $_{0\text{-}1}$ **0.24**

Consequences	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Risk rating

Risk		Action required
0.00 - 0.20	Negligible	Normal site investigation
0.20 - 0.40	Low	Targeted site investigation, design of specific mitigation measures. Part time supervision during construction.
0.40 - 0.60	Medium	Avoid construction in the area if possible. If unavoidable, detailed site investigation and design of specific mitigation measures. Full time supervision during construction.
0.60 - 1.00	High	Avoid construction in this area.

Risk rating = Hazard * Consequences

Risk rating = 0.31 0.24 = **0.08**

Peat Stability Risk Assessment (PSRA)

Illaubaun Wind Farm

Location:	**Turbine 5**
Conditions:	**Undrained (U), undrained surcharge (US), drained (D), drained surcharge (DS)**
Inspected on:	Mar-25
Inspected by:	CE
Completed by:	SR
Date:	Mar-25

Hazard factors			Value				Rating criteria				Rating value	Weighting	Score	Comment
			U	US	D	DS	0	1	2	3				
Factor of Safety			23.5	8.9	3.8	1.6	-	≥ 1.3	1.3 - 1.0	≤ 1.0	1	10	10	Peat depth: ~ 0.6m. Slope angle: 6.5º.
Secondary factors	Slide history	Distance to previous slides (km)	NA				NA	5 - 10	< 5	On site	0	2	0	Nearest slide >15km away
		Evidence of peat movement (e.g. tension cracks, step features, compression features).	NA				NA	-	-	Yes	0	2	0	No evidence observed
	Subsoil conditions (visible in trial pits)	Subsoil type	NA				NA	Gravel / Firm glacial till	Smooth rock	Soft sensitive clay	0	1	0	No TP undertaken
		Peat fibres across transition to subsoil	NA				NA	Yes	Partially	No	0	1	0	No TP undertaken
		Peat wetness	NA				NA	Dry / Stands well	Slowly squeezing	Extremely wet / Undiggable	2	2	4	No TP undertaken
	Topography	General curvature downslope	Convex				NA	-	Planar	Convex	3	1	3	Convex slope break downslope of T5
		Distance to the convexity break (only if previous factor is Convex)	< 50 m				NA	> 100 m	50 - 100 m	< 50 m	3	1	3	
		Slope aspect (for high latitudes in northern hemisphere)	NW, N, NE				NA	SW, S, SE	W, E	NW, N, NE	3	1	3	NE
	Hydrology	Distance from watercourse (m)	< 200				NA	> 300	200 - 300	< 200	3	3	9	150m
		Surface moisture index (NDMI)	96 -135				NA	0 - 96	96 -135	135 - 174	2	1	2	
		Surface water (water table level indicator)	NA				NA	Localised	Ponded in drains	Springs	0	1	0	
		Evidence of piping (subsurface flow)	NA				NA	-	-	Yes	0	1	0	No evident surface water ponding
		Significant surface desiccation (previous summer was dry?)	NA				NA	-	-	Yes	0	1.5	0	Not observed
		Existing drainage ditches	Down slope				NA	Down slope	Varied / Oblique	Across slope	1	1	1	Not observed
		Annual rainfall	1000 - 1400 mm/yr				NA	< 1000 mm/yr	1000 - 1400 mm/yr	> 1400 mm/yr	2	1	2	
	Vegetation	Bush	NA				NA	Dry heather	Grassland	Wetlands	0	1	0	Forestry
		Forestry (if applicable)	Fair				NA	Good growth	Fair	Stunted growth	2	1.5	3	Forestry
	Peat workings	Peat cuts presence	NA				NA	-	Cutaway / Turbary	Machine cut	0	1	0	No peat cutting
		Peat cuts vs contour lines	NA				NA	Perpendicular	Oblique	Parallel	0	1	0	No peat cutting
	Existing loads	Roads	NA				NA	Solid	-	Floating	0	1	0	No roads
	Time of year for construction		Late Summer, Autumn				NA	Spring	Winter, Early Summer	Late Summer, Autumn	3	1	3	

Hazard $_{total}$ 43

Max. possible 99

Hazard $_{0\text{-}1}$ **0.43**

Hazard	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Consequence factors	Value	Rating criteria				Rating value	Weighting	Score	Comment
		0	1	2	3				
Volume of potential peat flow (function of distance from nearest watercourse and peat depth in the area)	Small	NA	Small	Medium	Large	1	3	3	0.5m peat depth
Downslope hydrology features	Bowl / contained	NA	Bowl / contained	Minor undefined watercourse	Valley	1	1	1	Contained hydrological feature (former lake) downslope
Proximity from defined valley (m)	> 500	NA	> 500	200 - 500	< 200	1	1	1	>500
Downhill slope angle	NA	NA	Horizontal	Intermediate	Steep	0	1	0	Slope angle: 6.5º
Downstream aquatic environment	Sensitive	NA	Non-sensitive	Sensitive	Drinking water supply	2	1	2	Sensitive
Public roads in potential peat flow path	NA	NA	Minor road	Local road	Regional road	0	1	0	NA
Overhead lines in potential peat flow path	NA	NA	Phone lines	Electricity (LV)	Electricity (MV, HV)	0	1	0	NA
Buildings in potential peat flow path	Farm out-houses	NA	Farm out-houses	-	Dwelling	1	1	1	NA
Capability to respond (access and resources)	Poor	NA	Good	Fair	Poor	3	1	3	Good

Consequences $_{total}$ 11

Max. possible 33

Consequences $_{0\text{-}1}$ **0.33**

Consequences	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Risk rating

Risk		Action required
0.00 - 0.20	Negligible	Normal site investigation
0.20 - 0.40	Low	Targeted site investigation, design of specific mitigation measures. Part time supervision during construction.
0.40 - 0.60	Medium	Avoid construction in the area if possible. If unavoidable, detailed site investigation and design of specific mitigation measures. Full time supervision during construction.
0.60 - 1.00	High	Avoid construction in this area.

Risk rating = Hazard * Consequences

Risk rating = 0.43 0.33 = **0.14**

Peat Stability Risk Assessment (PSRA)

Illaubaun Wind Farm

Location:	**Turbine 6**
Conditions:	**Undrained (U), undrained surcharge (US), drained (D), drained surcharge (DS)**
Inspected on:	Mar-25
Inspected by:	CE
Completed by:	SR
Date:	Mar-25

	Hazard factors		Value				Rating criteria				Rating value	Weighting	Score	Comment
			U	US	D	DS	0	1	2	3				
Factor of Safety			29.8	7.30	24.06	12.60	-	≥ 1.3	1.3 - 1.0	≤ 1.0	1	10	10	Peat depth: 0.32m. Slope angle: 3.1º.
Secondary factors	Slide history	Distance to previous slides (km)	NA				NA	5 - 10	< 5	On site	0	2	0	Nearest slide >15km away
		Evidence of peat movement (e.g. tension cracks, step features, compression features).	NA				NA	-	-	Yes	0	2	0	No evidence observed
	Subsoil conditions (visible in trial pits)	Subsoil type	Gravel / Firm glacial till				NA	Gravel / Firm glacial till	Smooth rock	Soft sensitive clay	1	1	1	TP114 records :Soft blue slightly sandy slightly gravelly clayey SILT. Gravel is angular to subangular and flat fine to medium of shale and sandstone.
		Peat fibres across transition to subsoil	No				NA	Yes	Partially	No	3	1	3	Not recorded in TP log
		Peat wetness	Slowly squeezing				NA	Dry / Stands well	Slowly squeezing	Extremely wet / Undiggable	3	2	6	Recorded as B2 in Von Post log
	Topography	General curvature downslope	Convex				NA	-	Planar	Convex	3	1	3	Convex slope break downslope of T6 location
		Distance to the convexity break (only if previous factor is Convex)	50 - 100 m				NA	> 100 m	50 - 100 m	< 50 m	2	1	2	
		Slope aspect (for high latitudes in northern hemisphere)	SW, S, SE				NA	SW, S, SE	W, E	NW, N, NE	1	1	1	SE
	Hydrology	Distance from watercourse (m)	< 200				NA	> 300	200 - 300	< 200	3	3	9	60m
		Surface moisture index (NDMI)	0 - 96				NA	0 - 96	96 -135	135 - 174	1	1	1	
		Surface water (water table level indicator)	NA				NA	Localised	Ponded in drains	Springs	0	1	0	No evident surface water ponding
		Evidence of piping (subsurface flow)	NA				NA	-	-	Yes	0	1	0	Not observed
		Significant surface desiccation (previous summer was dry?)	NA				NA	-	-	Yes	0	1.5	0	Not observed
		Existing drainage ditches	NA				NA	Down slope	Varied / Oblique	Across slope	0	1	0	No observed drainage ditches within TP footprint
		Annual rainfall	1000 - 1400 mm/yr				NA	< 1000 mm/yr	1000 - 1400 mm/yr	> 1400 mm/yr	2	1	2	
	Vegetation	Bush	Dry heather				NA	Dry heather	Grassland	Wetlands	1	2	2	Bush gnerally dry heather
		Forestry (if applicable)	NA				NA	Good growth	Fair	Stunted growth	0	1.5	0	No forestry
	Peat workings	Peat cuts presence	Cutaway / Turbary				NA	-	Cutaway / Turbary	Machine cut	2	1	2	Area appears to be historically cut-over
		Peat cuts vs contour lines	NA				NA	Perpendicular	Oblique	Parallel	0	1	0	No remaining peat cuts.
	Existing loads	Roads	NA				NA	Solid	-	Floating	0	1	0	
	Time of year for construction		Late Summer, Autumn				NA	Spring	Winter, Early Summer	Late Summer, Autumn	3	1	3	Wost case estimate

Hazard	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Hazard $_{total}$ 45

Max. possible 106

Hazard $_{0\text{-}1}$ **0.42**

Consequence factors	Value	Rating criteria				Rating value	Weighting	Score	Comment
		0	1	2	3				
Volume of potential peat flow (function of distance from nearest watercourse and peat depth in the area)	Small	NA	Small	Medium	Large	1	3	3	0.3m peat depth
Downslope hydrology features	Bowl / contained	NA	Bowl / contained	Minor undefined watercourse	Valley	1	1	1	Lake downslope.
Proximity from defined valley (m)	< 200	NA	> 500	200 - 500	< 200	3	1	3	Lake downslope.
Downhill slope angle	Intermediate	NA	Horizontal	Intermediate	Steep	2	1	2	Slope angle: 3.1º.
Downstream aquatic environment	Sensitive	NA	Non-sensitive	Sensitive	Drinking water supply	2	1	2	
Public roads in potential peat flow path	NA	NA	Minor road	Local road	Regional road	0	1	0	
Overhead lines in potential peat flow path	NA	NA	Phone lines	Electricity (LV)	Electricity (MV, HV)	0	1	0	
Buildings in potential peat flow path	NA	NA	Farm out-houses	-	Dwelling	0	1	0	
Capability to respond (access and resources)	Poor	NA	Good	Fair	Poor	3	1	3	

Consequences	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Consequences $_{total}$ 14

Max. possible 33

Consequences $_{0\text{-}1}$ **0.42**

Risk rating

Risk		Action required
0.00 - 0.20	Negligible	Normal site investigation
0.20 - 0.40	Low	Targeted site investigation, design of specific mitigation measures. Part time supervision during construction.
0.40 - 0.60	Medium	Avoid construction in the area if possible. If unavoidable, detailed site investigation and design of specific mitigation measures. Full time supervision during construction.
0.60 - 1.00	High	Avoid construction in this area.

Risk rating = Hazard * Consequences

Risk rating = 0.42 0.42 = **0.18**

Peat Stability Risk Assessment (PSRA)

Illaubaun Wind Farm

Location:	**Temporary construction compound**
Conditions:	**Undrained (U), undrained surcharge (US), drained (D), drained surcharge (DS)**
Inspected on:	Mar-25
Inspected by:	CE
Completed by:	SR
Date:	Mar-25

Hazard factors			Value				Rating criteria				Rating value	Weighting	Score	Comment
			U	US	D	DS	0	1	2	3				
Factor of Safety			17.9	4.31	15	14.7	-	≥ 1.3	1.3 - 1.0	≤ 1.0	1	10	10	Peat depth: 0.3, Slope angle: 3.3
Secondary factors	Slide history	Distance to previous slides (km)	NA				NA	5 - 10	< 5	On site	0	2	0	Nearest slide >15km away
		Evidence of peat movement (e.g. tension cracks, step features, compression features).	NA				NA	-	-	Yes	0	2	0	No evidence observed
	Subsoil conditions (visible in trial pits)	Subsoil type	Gravel / Firm glacial till				NA	Gravel / Firm glacial till	Smooth rock	Soft sensitive clay	1	1	1	TP116 Recorded "Firm damp bluish grey slightly gravelly slightly sandy, silty CLAY. Gravel is rounded to subangular fine to medium of shale and sandstone."
		Peat fibres across transition to subsoil	NA				NA	Yes	Partially	No	0	1	0	Not recorded in TP log
		Peat wetness	Slowly squeezing				NA	Dry / Stands well	Slowly squeezing	Extremely wet / Undiggable	1	2	2	Recorded as B3 in Von Post log
	Topography	General curvature downslope	NA				NA	-	Planar	Convex	0	1	0	Flat
		Distance to the convexity break (only if previous factor is Convex)	NA				NA	> 100 m	50 - 100 m	< 50 m	0	1	0	
		Slope aspect (for high latitudes in northern hemisphere)	W, E				NA	SW, S, SE	W, E	NW, N, NE	2	1	2	E facing
	Hydrology	Distance from watercourse (m)	< 200				NA	> 300	200 - 300	< 200	3	1	3	50m
		Surface moisture index (NDMI)	96 -135				NA	0 - 96	96 -135	135 - 174	2	1	2	
		Surface water (water table level indicator)	Localised				NA	Localised	Ponded in drains	Springs	1	1	1	No evident surface water ponding
		Evidence of piping (subsurface flow)	NA				NA	-	-	Yes	0	1	0	Not observed
		Significant surface desiccation (previous summer was dry?)	NA				NA	-	-	Yes	0	1.5	0	Not observed
		Existing drainage ditches	Down slope				NA	Down slope	Varied / Oblique	Across slope	1	1	1	Drains oriented downslope
		Annual rainfall	< 1000 mm/yr				NA	< 1000 mm/yr	1000 - 1400 mm/yr	> 1400 mm/yr	1	1	1	
	Vegetation	Bush	Grassland				NA	Dry heather	Grassland	Wetlands	2	1	2	Grassy heathland
		Forestry (if applicable)	NA				NA	Good growth	Fair	Stunted growth	0	1.5	0	No forestry
	Peat workings	Peat cuts presence	NA				NA	-	Cutaway / Turbary	Machine cut	0	1	0	No peat cutting
		Peat cuts vs contour lines	NA				NA	Perpendicular	Oblique	Parallel	0	1	0	No peat cutting
	Existing loads	Roads	Solid				NA	Solid	-	Floating	1	1	1	Founded roads
	Time of year for construction		Late Summer, Autumn				NA	Spring	Winter, Early Summer	Late Summer, Autumn	3	1	3	Wost case estimate

Hazard $_{total}$ 29

Max. possible 99

Hazard $_{0-1}$ **0.29**

Hazard	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Consequence factors	Value	Rating criteria				Rating value	Weighting	Score	Comment
		0	1	2	3				
Volume of potential peat flow (function of distance from nearest watercourse and peat depth in the area)	Small	NA	Small	Medium	Large	1	3	3	0.3m peat depth
Downslope hydrology features	Bowl / contained	NA	Bowl / contained	Minor undefined watercourse	Valley	1	1	1	Lake adjacent to T3
Proximity from defined valley (m)	< 200	NA	> 500	200 - 500	< 200	3	1	3	>500
Downhill slope angle	Intermediate	NA	Horizontal	Intermediate	Steep	2	1	2	Slope angle: 3.3
Downstream aquatic environment	Sensitive	NA	Non-sensitive	Sensitive	Drinking water supply	2	1	2	sensitive
Public roads in potential peat flow path	Minor road	NA	Minor road	Local road	Regional road	1	1	1	Minor unnamed road
Overhead lines in potential peat flow path	NA	NA	Phone lines	Electricity (LV)	Electricity (MV, HV)	0	1	0	NA
Buildings in potential peat flow path	NA	NA	Farm out-houses	-	Dwelling	0	1	0	NA
Capability to respond (access and resources)	Poor	NA	Good	Fair	Poor	3	1	3	Fair

Consequences $_{total}$ 15

Max. possible 33

Consequences $_{0-1}$ **0.45**

Consequences	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Risk rating

Risk		Action required
0.00 - 0.20	Negligible	Normal site investigation
0.20 - 0.40	Low	Targeted site investigation, design of specific mitigation measures. Part time supervision during construction.
0.40 - 0.60	Medium	Avoid construction in the area if possible. If unavoidable, detailed site investigation and design of specific mitigation measures. Full time supervision during construction.
0.60 - 1.00	High	Avoid construction in this area.

Risk rating = Hazard * Consequences

Risk rating = 0.29 0.45 = **0.13**

Peat Stability Risk Assessment (PSRA)

Illaubaun Wind Farm

Location:	**Substation**
Conditions:	**Undrained (U), undrained surcharge (US), drained (D), drained surcharge (DS)**
Inspected on:	Mar-25
Inspected by:	CE
Completed by:	SR
Date:	Mar-25

Hazard factors			Value				Rating criteria				Rating value	Weighting	Score	Comment
			U	US	D	DS	0	1	2	3				
Factor of Safety			10.1	4.31	8	7.5	-	≥ 1.3	1.3 - 1.0	≤ 1.0	1	1	1	Peat depth: 0.7, Slope angle: 3.8
Secondary factors	Slide history	Distance to previous slides (km)	NA				NA	5 - 10	< 5	On site	0	2	0	Nearest slide >15km away
		Evidence of peat movement (e.g. tension cracks, step features, compression features).	NA				NA	-	-	Yes	0	2	0	No evidence observed
	Subsoil conditions (visible in trial pits)	Subsoil type	Smooth rock				NA	Gravel / Firm glacial till	Smooth rock	Soft sensitive clay	2	1	2	TP105 indicates bedrock
		Peat fibres across transition to subsoil	NA				NA	Yes	Partially	No	0	1	0	Not recorded in TP log
		Peat wetness	Slowly squeezing				NA	Dry / Stands well	Slowly squeezing	Extremely wet / Undiggable	1	2	2	Recorded as B3 in Von Post log
	Topography	General curvature downslope	NA				NA	-	Planar	Convex	0	1	0	Flat
		Distance to the convexity break (only if previous factor is Convex)	NA				NA	> 100 m	50 - 100 m	< 50 m	0	1	0	
		Slope aspect (for high latitudes in northern hemisphere)	W, E				NA	SW, S, SE	W, E	NW, N, NE	2	1	2	E
	Hydrology	Distance from watercourse (m)	200 - 300				NA	> 300	200 - 300	< 200	2	1	2	250m
		Surface moisture index (NDMI)	96 -135				NA	0 - 96	96 -135	135 - 174	2	1	2	
		Surface water (water table level indicator)	NA				NA	Localised	Ponded in drains	Springs	0	1	0	No evident surface water ponding
		Evidence of piping (subsurface flow)	NA				NA	-	-	Yes	0	1	0	Not observed
		Significant surface desiccation (previous summer was dry?)	NA				NA	-	-	Yes	0	0	0	Not observed
		Existing drainage ditches	Down slope				NA	Down slope	Varied / Oblique	Across slope	1	1	1	Drains generally oriented downslope
		Annual rainfall	< 1000 mm/yr				NA	< 1000 mm/yr	1000 - 1400 mm/yr	> 1400 mm/yr	1	1	1	
	Vegetation	Bush	Dry heather				NA	Dry heather	Grassland	Wetlands	1	1	1	Dry heathland
		Forestry (if applicable)	Good growth				NA	Good growth	Fair	Stunted growth	1	1	1	Partially forested
	Peat workings	Peat cuts presence	NA				NA	-	Cutaway / Turbary	Machine cut	0	1	0	No peat cutting
		Peat cuts vs contour lines	NA				NA	Perpendicular	Oblique	Parallel	0	1	0	No peat cutting
	Existing loads	Roads	Solid				NA	Solid	-	Floating	1	1	1	Founded roads
	Time of year for construction		Late Summer, Autumn				NA	Spring	Winter, Early Summer	Late Summer, Autumn	3	1	3	Wost case estimate

Hazard $_{total}$ 19

Max. possible 66

Hazard	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Hazard $_{0-1}$	**0.29**

Consequence factors	Value	Rating criteria				Rating value	Weighting	Score	Comment
		0	1	2	3				
Volume of potential peat flow (function of distance from nearest watercourse and peat depth in the area)	Small	NA	Small	Medium	Large	1	3	3	0.7m peat depth
Downslope hydrology features	Bowl / contained	NA	Bowl / contained	Minor undefined watercourse	Valley	1	1	1	NA
Proximity from defined valley (m)	200 - 500	NA	> 500	200 - 500	< 200	2	1	2	>500
Downhill slope angle	Horizontal	NA	Horizontal	Intermediate	Steep	1	1	1	Slope angle: 3.8
Downstream aquatic environment	Sensitive	NA	Non-sensitive	Sensitive	Drinking water supply	2	1	2	Sensitive
Public roads in potential peat flow path	Minor road	NA	Minor road	Local road	Regional road	1	1	1	Minor unnamed road
Overhead lines in potential peat flow path	NA	NA	Phone lines	Electricity (LV)	Electricity (MV, HV)	0	1	0	NA
Buildings in potential peat flow path	NA	NA	Farm out-houses	-	Dwelling	0	1	0	NA
Capability to respond (access and resources)	Fair	NA	Good	Fair	Poor	2	1	2	Fair

Consequences $_{total}$ 12

Max. possible 33

Consequences	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Consequences $_{0-1}$	**0.36**

Risk rating

Risk		Action required
0.00 - 0.20	Negligible	Normal site investigation
0.20 - 0.40	Low	Targeted site investigation, design of specific mitigation measures. Part time supervision during construction.
0.40 - 0.60	Medium	Avoid construction in the area if possible. If unavoidable, detailed site investigation and design of specific mitigation measures. Full time supervision during construction.
0.60 - 1.00	High	Avoid construction in this area.

Risk rating = Hazard * Consequences

Risk rating =	0.29	0.36	=	**0.10**

GDG GAVIN & DOHERTY GEOSOLUTIONS

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Peat Stability Risk Assessment (PSRA)

Illaubaun Wind Farm

Location:	**PRA 1**
Conditions:	**Undrained (U), undrained surcharge (US), drained (D), drained surcharge (DS)**
Inspected on:	Mar-25
Inspected by:	CE
Completed by:	SR
Date:	Mar-25

Hazard factors			Value				Rating criteria				Rating value	Weighting	Score	Comment
			U	US	D	DS	0	1	2	3				
Factor of Safety			87.1	37.2	70.9	64.9	-	≥ 1.3	1.3 - 1.0	≤ 1.0	1	10	10	Peat depth: ~0.7m. Slope angle: 0.4º.
Secondary factors	Slide history	Distance to previous slides (km)	NA				NA	5 - 10	< 5	On site	0	2	0	Nearest slide >15km away
		Evidence of peat movement (e.g.	NA				NA	-	-	Yes	0	2	0	No evidence observed
	Subsoil conditions (visible in trial pits)	Subsoil type	NA				NA	Gravel / Firm glacial till	Smooth rock	Soft sensitive clay	0	1	0	No TP
		Peat fibres across transition to	NA				NA	Yes	Partially	No	0	1	0	No TP
		Peat wetness					NA	Dry / Stands well	Slowly squeezing	Extremely wet / Undiggable	0	2	0	No TP
	Topography	General curvature downslope	Convex				NA	-	Planar	Convex	3	1	3	Flat
		Distance to the convexity break (only if previous factor is Convex)	< 50 m				NA	> 100 m	50 - 100 m	< 50 m	3	1	3	
		Slope aspect (for high latitudes in northern hemisphere)	W, E				NA	SW, S, SE	W, E	NW, N, NE	2	1	2	E
	Hydrology	Distance from watercourse (m)	< 200				NA	> 300	200 - 300	< 200	3	1	3	70m
		Surface moisture index (NDMI)	96 -135				NA	0 - 96	96 -135	135 - 174	2	1	2	
		Surface water	NA				NA	Localised	Ponded in drains	Springs	0	1	0	No evident surface water ponding
		Evidence of piping (subsurface flow)	NA				NA	-	-	Yes	0	1	0	Not observed
		Significant surface desiccation (previous summer was dry?)	NA				NA	-	-	Yes	0	1.5	0	Not observed
		Existing drainage ditches	Down slope				NA	Down slope	Varied / Oblique	Across slope	1	1	1	Drains generally oriented downslope
		Annual rainfall	< 1000 mm/yr				NA	< 1000 mm/yr	1000 - 1400 mm/yr	> 1400 mm/yr	1	1	1	
	Vegetation	Bush	NA				NA	Dry heather	Grassland	Wetlands	0	1	0	Dry heathland
		Forestry	NA				NA	Good growth	Fair	Stunted growth	0	1.5	0	
	Peat workings	Peat cuts presence	Cutaway / Turbary				NA	-	Cutaway / Turbary	Machine cut	2	1	2	Possible historic turbary cutaway
		Peat cuts vs contour lines	NA				NA	Perpendicular	Oblique	Parallel	0	1	0	No visible peat cuts
	Existing loads	Roads	Solid				NA	Solid	-	Floating	1	1	1	Founded roads
	Time of year for construction		Late Summer, Autumn				NA	Spring	Winter, Early Summer	Late Summer, Autumn	3	1	3	Wost case estimate

Hazard $_{total}$ 31

Max. possible 93

Hazard	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Hazard $_{0\text{-}1}$ **0.33**

Consequence factors	Value	Rating criteria				Rating value	Weighting	Score	Comment
		0	1	2	3				
Volume of potential peat flow	Small	NA	Small	Medium	Large	1	3	3	0.7m peat depth
Downslope hydrology features	Bowl / contained	NA	Bowl / contained	Minor undefined watercourse	Valley	1	1	1	
Proximity from defined valley (m)	< 200	NA	> 500	200 - 500	< 200	3	1	3	
Downhill slope angle	Intermediate	NA	Horizontal	Intermediate	Steep	2	1	2	Slope angle: 0.4º.
Downstream aquatic environment	Sensitive	NA	Non-sensitive	Sensitive	Drinking water supply	2	1	2	
Public roads in potential peat flow path	Minor road	NA	Minor road	Local road	Regional road	1	1	1	Unnamed minor track
Overhead lines in potential peat flow path	NA	NA	Phone lines	Electricity (LV)	Electricity (MV, HV)	0	1	0	
Buildings in potential peat flow path	NA	NA	Farm out-houses	-	Dwelling	0	1	0	
Capability to respond (access and resources)	Poor	NA	Good	Fair	Poor	3	1	3	

Consequences $_{total}$ 15

Max. possible 33

Consequences	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Consequences $_{0\text{-}1}$ **0.45**

Risk rating

Risk		Action required
0.00 - 0.20	Negligible	Normal site investigation
0.20 - 0.40	Low	Targeted site investigation, design of specific mitigation measures. Part time supervision during construction.
0.40 - 0.60	Medium	Avoid construction in the area if possible. If unavoidable, detailed site investigation and design of specific mitigation measures. Full time
0.60 - 1.00	High	Avoid construction in this area.

Risk rating = Hazard * Consequences

Risk rating = 0.33 0.45 = **0.15**

Peat Stability Risk Assessment (PSRA)

Illaubaun Wind Farm

Location:	**PRA 2**
Conditions:	**Undrained (U), undrained surcharge (US), drained (D), drained surcharge (DS)**
Inspected on:	Mar-25
Inspected by:	CE
Completed by:	SR
Date:	Mar-25

Hazard factors			Value				Rating criteria				Rating value	Weighting	Score	Comment
			U	US	D	DS	0	1	2	3				
Factor of Safety			15.7	5.1	12.7	8.9	-	≥ 1.3	1.3 - 1.0	≤ 1.0	1	10	10	Peat depth: ~0.48 m. Slope angle: 3.8º.
Secondary factors	Slide history	Distance to previous slides (km)	NA				NA	5 - 10	< 5	On site	0	2	0	Nearest slide >15km away
		Evidence of peat movement (e.g. tension	NA				NA	-	-	Yes	0	2	0	No evidence observed
	Subsoil conditions (visible in trial pits)	Subsoil type	NA				NA	Gravel / Firm glacial till	Smooth rock	Soft sensitive clay	0	1	0	No neaby trial pit
		Peat fibres across transition to subsoil	NA				NA	Yes	Partially	No	0	1	0	No neaby trial pit
		Peat wetness					NA	Dry / Stands well	Slowly squeezing	Extremely wet / Undiggable	0	2	0	No neaby trial pit
	Topography	General curvature downslope	NA				NA	-	Planar	Convex	0	1	0	Flat
		Distance to the convexity break (only if previous factor is Convex)	NA				NA	> 100 m	50 - 100 m	< 50 m	0	1	0	
		Slope aspect (for high latitudes in northern hemisphere)	SW, S, SE				NA	SW, S, SE	W, E	NW, N, NE	1	1	1	S
	Hydrology	Distance from watercourse (m)	200 - 300				NA	> 300	200 - 300	< 200	2	1	2	
		Surface moisture index (NDMI)	96 -135				NA	0 - 96	96 -135	135 - 174	2	1	2	
		Surface water (water table level indicator)	NA				NA	Localised	Ponded in drains	Springs	0	1	0	No evident surface water ponding
		Evidence of piping (subsurface flow)	NA				NA	-	-	Yes	0	1	0	Not observed
		Significant surface desiccation (previous summer was dry?)	NA				NA	-	-	Yes	0	1.5	0	Not observed
		Existing drainage ditches	Varied / Oblique				NA	Down slope	Varied / Oblique	Across slope	2	1	2	Drains generally oriented downslope, but varied orientations
		Annual rainfall	< 1000 mm/yr				NA	< 1000 mm/yr	1000 - 1400 mm/yr	> 1400 mm/yr	1	1	1	
	Vegetation	Bush	NA				NA	Dry heather	Grassland	Wetlands	0	1	0	Forestry
		Forestry	Fair				NA	Good growth	Fair	Stunted growth	2	1.5	3	Forestry
	Peat workings	Peat cuts presence	NA				NA	-	Cutaway / Turbary	Machine cut	0	1	0	No peat cutting
		Peat cuts vs contour lines	NA				NA	Perpendicular	Oblique	Parallel	0	1	0	No peat cutting
	Existing loads	Roads	NA				NA	Solid	-	Floating	0	1	0	No existing tracks
	Time of year for construction		Late Summer, Autumn				NA	Spring	Winter, Early Summer	Late Summer, Autumn	3	1	3	Wost case estimate

Hazard $_{total}$ 24

Max. possible 93

Hazard $_{0-1}$ **0.26**

Hazard	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Consequence factors	Value	Rating criteria				Rating value	Weighting	Score	Comment
		0	1	2	3				
Volume of potential peat flow	Small	NA	Small	Medium	Large	1	3	3	Peat depth 0.48m
Downslope hydrology features	Minor undefined watercourse	NA	Bowl / contained	Minor undefined watercourse	Valley	2	1	2	200-300m
Proximity from defined valley (m)	200 - 500	NA	> 500	200 - 500	< 200	2	1	2	>500
Downhill slope angle	Intermediate	NA	Horizontal	Intermediate	Steep	2	1	2	Slope angle: 3.8º.
Downstream aquatic environment	Sensitive	NA	Non-sensitive	Sensitive	Drinking water supply	2	1	2	Sensitive
Public roads in potential peat flow path	NA	NA	Minor road	Local road	Regional road	0	1	0	NA
Overhead lines in potential peat flow path	NA	NA	Phone lines	Electricity (LV)	Electricity (MV, HV)	0	1	0	NA
Buildings in potential peat flow path	NA	NA	Farm out-houses	-	Dwelling	0	1	0	NA
Capability to respond (access and resources)	Poor	NA	Good	Fair	Poor	3	1	3	NA

Consequences $_{total}$ 14

Max. possible 33

Consequences $_{0-1}$ **0.42**

Consequences	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Risk rating

Risk		Action required
0.00 - 0.20	Negligible	Normal site investigation
0.20 - 0.40	Low	Targeted site investigation, design of specific mitigation measures. Part time supervision during construction.
0.40 - 0.60	Medium	Avoid construction in the area if possible. If unavoidable, detailed site investigation and design of specific mitigation measures. Full time supervision
0.60 - 1.00	High	Avoid construction in this area.

Risk rating = Hazard * Consequences

Risk rating = 0.26 0.42 = **0.11**

Peat Stability Risk Assessment (PSRA)

Illaubaun Wind Farm

Location:	**PRA 3**
Conditions:	**Undrained (U), undrained surcharge (US), drained (D), drained surcharge (DS)**
Inspected on:	Mar-25
Inspected by:	CE
Completed by:	SR
Date:	Mar-25

Hazard factors			Value				Rating criteria				Rating value	Weighting	Score	Comment
			U	US	D	DS	0	1	2	3				
Factor of Safety			49.6	28.7	40.9	50.4	-	≥ 1.3	1.3 - 1.0	≤ 1.0	1	10	10	Peat depth: ~1.0 m. Slope angle: 0.4º.
Secondary factors	Slide history	Distance to previous slides (km)	NA				NA	5 - 10	< 5	On site	0	2	0	Nearest slide >15km away
		Evidence of peat movement (e.g. tension	NA				NA	-	-	Yes	0	2	0	No evidence observed
	Subsoil conditions (visible in trial pits)	Subsoil type	Gravel / Firm glacial till				NA	Gravel / Firm glacial till	Smooth rock	Soft sensitive clay	1	1	1	Nearest tp 117 records :Firm bluish grey slightly sandy gravelly clayey SILT. Gravel is rounded to subangular fine to medium of mudstone and sandstone
		Peat fibres across transition to subsoil	NA				NA	Yes	Partially	No	0	1	0	
		Peat wetness	Slowly squeezing				NA	Dry / Stands well	Slowly squeezing	Extremely wet / Undiggable	0	2	1	Von Post logging records value of B2 for wetness.
	Topography	General curvature downslope	NA				NA	-	Planar	Convex	0	1	0	Flat
		Distance to the convexity break (only if previous factor is Convex)	< 50 m				NA	> 100 m	50 - 100 m	< 50 m	3	1	3	
		Slope aspect (for high latitudes in northern hemisphere)	NW, N, NE				NA	SW, S, SE	W, E	NW, N, NE	3	1	3	NE
	Hydrology	Distance from watercourse (m)	< 200				NA	> 300	200 - 300	< 200	3	1	3	>300
		Surface moisture index (NDMI)	96 -135				NA	0 - 96	96 -135	135 - 174	2	1	2	
		Surface water	Localised				NA	Localised	Ponded in drains	Springs	1	1	1	Localised
		Evidence of piping (subsurface flow)	NA				NA	-	-	Yes	0	1	0	Not observed
		Significant surface desiccation (previous summer was dry?)	NA				NA	-	-	Yes	0	1.5	0	Not observed
		Existing drainage ditches	Varied / Oblique				NA	Down slope	Varied / Oblique	Across slope	2	1	2	Drains generally oriented downslope, but varied orientations
		Annual rainfall	< 1000 mm/yr				NA	< 1000 mm/yr	1000 - 1400 mm/yr	> 1400 mm/yr	1	1	1	
	Vegetation	Bush	Dry heather				NA	Dry heather	Grassland	Wetlands	1	1	1	Forestry
		Forestry	Good growth				NA	Good growth	Fair	Stunted growth	1	1.5	1.5	Generally dry heathland
	Peat workings	Peat cuts presence	Cutaway / Turbary				NA	-	Cutaway / Turbary	Machine cut	2	1	2	Historically cutaway
		Peat cuts vs contour lines	NA				NA	Perpendicular	Oblique	Parallel	0	1	0	No visible peat cuts
	Existing loads	Roads	Solid				NA	Solid	-	Floating	1	1	1	Founded roads
	Time of year for construction		Late Summer, Autumn				NA	Spring	Winter, Early Summer	Late Summer, Autumn	3	1	3	Wost case estimate

Hazard	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Hazard $_{total}$	35.5
Max. possible	96
Hazard $_{0-1}$	**0.37**

Consequence factors	Value	Rating criteria				Rating value	Weighting	Score	Comment
		0	1	2	3				
Volume of potential peat flow	Small	NA	Small	Medium	Large	1	3	3	1m peat depth
Downslope hydrology features	Bowl / contained	NA	Bowl / contained	Minor undefined watercourse	Valley	1	1	1	
Proximity from defined valley (m)	< 200	NA	> 500	200 - 500	< 200	3	1	3	>500
Downhill slope angle	Horizontal	NA	Horizontal	Intermediate	Steep	1	1	1	Slope angle: 0.4º.
Downstream aquatic environment	Sensitive	NA	Non-sensitive	Sensitive	Drinking water supply	2	1	2	Sensitive
Public roads in potential peat flow path	NA	NA	Minor road	Local road	Regional road	0	1	0	NA
Overhead lines in potential peat flow path	NA	NA	Phone lines	Electricity (LV)	Electricity (MV, HV)	0	1	0	NA
Buildings in potential peat flow path	NA	NA	Farm out-houses	-	Dwelling	0	1	0	NA
Capability to respond (access and resources)	Poor	NA	Good	Fair	Poor	3	1	3	

Consequences	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Consequences $_{total}$	13
Max. possible	33
Consequences $_{0-1}$	**0.39**

Risk rating

Risk		Action required
0.00 - 0.20	Negligible	Normal site investigation
0.20 - 0.40	Low	Targeted site investigation, design of specific mitigation measures. Part time supervision during construction.
0.40 - 0.60	Medium	Avoid construction in the area if possible. If unavoidable, detailed site investigation and design of specific mitigation measures. Full time supervision
0.60 - 1.00	High	Avoid construction in this area.

Risk rating =	Hazard *	Consequences	=	
Risk rating =	0.37	0.39	=	**0.15**

Peat Stability Risk Assessment (PSRA)

Illaubaun Wind Farm

Location:	**BP1**
Conditions:	**Undrained (U), undrained surcharge (US), drained (D), drained surcharge (DS)**
Inspected on:	Mar-25
Inspected by:	CE
Completed by:	SR
Date:	Mar-25

Hazard factors			Value				Rating criteria				Rating value	Weighting	Score	Comment
			U	US	D	DS	0	1	2	3				
Factor of Safety			9.3	3.6	7.6	6.2	-	≥ 1.3	1.3 - 1.0	≤ 1.0	1	10	10	Peat depth: 0.6m. Slope angle: 4.9º.
Secondary factors	Slide history	Distance to previous slides (km)	NA				NA	5 - 10	< 5	On site	0	2	0	Nearest slide >15km away
		Evidence of peat movement (e.g.	NA				NA	-	-	Yes	0	2	0	No evidence observed
	Subsoil conditions (visible in trial pits)	Subsoil type	Gravel / Firm glacial till				NA	Gravel / Firm glacial till	Smooth rock	Soft sensitive clay	1	1	1	TP 106 records : Bluish grey sandy very silty angular to subangular and flat fine to medium shale GRAVEL. Sand is medium.
		Peat fibres across transition to	Yes				NA	Yes	Partially	No	1	1	1	Rootlets recorded into the subsoil
		Peat wetness	NA				NA	Dry / Stands well	Slowly squeezing	Extremely wet / Undiggable	0	2	0	
	Topography	General curvature downslope	Planar				NA	-	Planar	Convex	2	1	2	Gently sloping
		Distance to the convexity break (only if previous factor is Convex)	NA				NA	> 100 m	50 - 100 m	< 50 m	0	1	0	
		Slope aspect (for high latitudes in northern hemisphere)	W, E				NA	SW, S, SE	W, E	NW, N, NE	2	1	2	W
	Hydrology	Distance from watercourse (m)	200 - 300				NA	> 300	200 - 300	< 200	2	1	2	
		Surface moisture index (NDMI)	96 -135				NA	0 - 96	96 -135	135 - 174	2	1	2	
		Surface water	NA				NA	Localised	Ponded in drains	Springs	0	1	0	No evident surface water
		Evidence of piping (subsurface flow)	NA				NA	-	-	Yes	0	1	0	Not observed
		Significant surface desiccation (previous summer was dry?)	NA				NA	-	-	Yes	0	1.5	0	Not observed
		Existing drainage ditches	Down slope				NA	Down slope	Varied / Oblique	Across slope	1	1	1	Drains generally oriented downslope
		Annual rainfall	< 1000 mm/yr				NA	< 1000 mm/yr	1000 - 1400 mm/yr	> 1400 mm/yr	1	1	1	
	Vegetation	Bush	Dry heather				NA	Dry heather	Grassland	Wetlands	1	1	1	Dry heathland
		Forestry	NA				NA	Good growth	Fair	Stunted growth	0	1.5	0	No forestry
	Peat workings	Peat cuts presence	NA				NA	-	Cutaway / Turbary	Machine cut	0	1	0	No peat cutting
		Peat cuts vs contour lines	NA				NA	Perpendicular	Oblique	Parallel	0	1	0	No peat cutting
	Existing loads	Roads	Solid				NA	Solid	-	Floating	1	1	1	No existing tracks
	Time of year for construction		Late Summer, Autumn				NA	Spring	Winter, Early Summer	Late Summer, Autumn	3	1	3	Wost case estimate

Hazard	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Hazard $_{total}$	27
Max. possible	102
Hazard $_{0-1}$	**0.26**

Consequence factors	Value	Rating criteria				Rating value	Weighting	Score	Comment
		0	1	2	3				
Volume of potential peat flow	Small	NA	Small	Medium	Large	1	3	3	Small
Downslope hydrology features	Bowl / contained	NA	Bowl / contained	Minor undefined watercourse	Valley	1	1	1	
Proximity from defined valley (m)	200 - 500	NA	> 500	200 - 500	< 200	2	1	2	>500
Downhill slope angle	Intermediate	NA	Horizontal	Intermediate	Steep	2	1	2	Slope angle: 4.9º
Downstream aquatic environment	Sensitive	NA	Non-sensitive	Sensitive	Drinking water supply	2	1	2	Sensitive
Public roads in potential peat flow path	NA	NA	Minor road	Local road	Regional road	0	1	0	NA
Overhead lines in potential peat flow path	NA	NA	Phone lines	Electricity (LV)	Electricity (MV, HV)	0	1	0	NA
Buildings in potential peat flow path	NA	NA	Farm out-houses	-	Dwelling	0	1	0	NA
Capability to respond (access and resources)	Poor	NA	Good	Fair	Poor	3	1	3	

Consequences	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Consequences $_{total}$	13
Max. possible	33
Consequences $_{0-1}$	**0.39**

Risk rating

Risk		Action required
0.00 - 0.20	Negligible	Normal site investigation
0.20 - 0.40	Low	Targeted site investigation, design of specific mitigation measures. Part time supervision during construction.
0.40 - 0.60	Medium	Avoid construction in the area if possible. If unavoidable, detailed site investigation and design of specific mitigation measures. Full time
0.60 - 1.00	High	Avoid construction in this area.

Risk rating = Hazard * Consequences

Risk rating = 0.26 0.39 = **0.10**

Peat Stability Risk Assessment (PSRA)

Illaubaun Wind Farm

Location:	**BP2**
Conditions:	**Undrained (U), undrained surcharge (US), drained (D), drained surcharge (DS)**
Inspected on:	Mar-25
Inspected by:	CE
Completed by:	SR
Date:	Mar-25

Hazard factors			Value				Rating criteria				Rating value	Weighting	Score	Comment
			U	US	D	DS	0	1	2	3				
Factor of Safety			24.0	5.8	19.3	9.9	-	≥ 1.3	1.3 - 1.0	≤ 1.0	1	10	10	Peat depth: ~0.4 m. Slope angle: 3.8º.
Secondary factors	Slide history	Distance to previous slides (km)	NA				NA	5 - 10	< 5	On site	0	2	0	Nearest slide >15km away
		Evidence of peat movement (e.g. tension	NA				NA	-	-	Yes	0	2	0	No evidence observed
	Subsoil conditions (visible in trial pits)	Subsoil type	Gravel / Firm glacial till				NA	Gravel / Firm glacial till	Smooth rock	Soft sensitive clay	1	1	1	TP 107 records :Bluish grey slightly clayey slightly sandy angular to subangular and flat shale GRAVEL. Sand is medium.
		Peat fibres across transition to subsoil	NA				NA	Yes	Partially	No	0	1	0	Not recorded in TP log
		Peat wetness	Dry / Stands well				NA	Dry / Stands well	Slowly squeezing	Extremely wet / Undiggable	0	2	0	Von post log records value of B1, indicating dry peat
	Topography	General curvature downslope	Convex				NA	-	Planar	Convex	3	1	3	Convex slope break within BP2
		Distance to the convexity break (only if previous factor is Convex)	< 50 m				NA	> 100 m	50 - 100 m	< 50 m	3	1	3	
		Slope aspect (for high latitudes in northern hemisphere)	SW, S, SE				NA	SW, S, SE	W, E	NW, N, NE	1	1	1	SE
	Hydrology	Distance from watercourse (m)	< 200				NA	> 300	200 - 300	< 200	3	1	3	150m
		Surface moisture index (NDMI)	0 - 96				NA	0 - 96	96 -135	135 - 174	1	1	1	
		Surface water	NA				NA	Localised	Ponded in drains	Springs	0	1	0	No evident surface water
		Evidence of piping (subsurface flow)	NA				NA	-	-	Yes	0	1	0	Not observed
		Significant surface desiccation (previous summer was dry?)	NA				NA	-	-	Yes	0	1.5	0	Not observed
		Existing drainage ditches	Down slope				NA	Down slope	Varied / Oblique	Across slope	1	1	1	Drains generally oriented downslope
		Annual rainfall	< 1000 mm/yr				NA	< 1000 mm/yr	1000 - 1400 mm/yr	> 1400 mm/yr	1	1	1	
	Vegetation	Bush	Grassland				NA	Dry heather	Grassland	Wetlands	2	1	2	Grassland
		Forestry	NA				NA	Good growth	Fair	Stunted growth	0	1.5	0	No forestry
	Peat workings	Peat cuts presence	NA				NA	-	Cutaway / Turbary	Machine cut	0	1	0	No peat cutting
		Peat cuts vs contour lines	NA				NA	Perpendicular	Oblique	Parallel	0	1	0	No peat cutting
	Existing loads	Roads	Solid				NA	Solid	-	Floating	1	1	1	No existing tracks
	Time of year for construction		Late Summer, Autumn				NA	Spring	Winter, Early Summer	Late Summer, Autumn	3	1	3	Wost case estimate

Hazard	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Hazard $_{total}$	30
Max. possible	96
Hazard $_{0-1}$	**0.31**

Consequence factors	Value	Rating criteria				Rating value	Weighting	Score	Comment
		0	1	2	3				
Volume of potential peat flow	Small	NA	Small	Medium	Large	1	3	3	Peat depth 0.4m
Downslope hydrology features	Minor undefined watercourse	NA	Bowl / contained	Minor undefined watercourse	Valley	2	1	2	Minor watercourse
Proximity from defined valley (m)	200 - 500	NA	> 500	200 - 500	< 200	2	1	2	>500
Downhill slope angle	Horizontal	NA	Horizontal	Intermediate	Steep	1	1	1	Slope angle: 3.8º.
Downstream aquatic environment	Sensitive	NA	Non-sensitive	Sensitive	Drinking water supply	2	1	2	Sensitive
Public roads in potential peat flow path	NA	NA	Minor road	Local road	Regional road	0	1	0	NA
Overhead lines in potential peat flow path	NA	NA	Phone lines	Electricity (LV)	Electricity (MV, HV)	0	1	0	NA
Buildings in potential peat flow path	NA	NA	Farm out-houses	-	Dwelling	0	1	0	NA
Capability to respond (access and resources)	Poor	NA	Good	Fair	Poor	3	1	3	NA

Consequences	
0.0 - 0.3	Negligible
0.3 - 0.5	Low
0.5 - 0.7	Medium
0.7 - 1.0	High

Consequences $_{total}$	13
Max. possible	33
Consequences $_{0-1}$	**0.39**

Risk rating

Risk		Action required
0.00 - 0.20	Negligible	Normal site investigation
0.20 - 0.40	Low	Targeted site investigation, design of specific mitigation measures. Part time supervision during construction.
0.40 - 0.60	Medium	Avoid construction in the area if possible. If unavoidable, detailed site investigation and design of specific mitigation measures. Full time supervision
0.60 - 1.00	High	Avoid construction in this area.

Risk rating =	Hazard *	Consequences		
Risk rating =	0.31	0.39	=	**0.12**