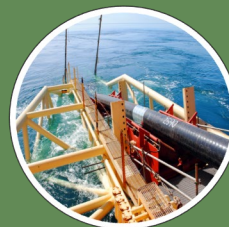


# GREENLINK MARINE ENVIRONMENTAL STATEMENT- WALES

## APPENDIX H

Water Framework Directive Assessment - Scoping

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Greenlink Interconnector  
- connecting the power markets  
in Ireland and Great Britain

*Greenlink*  
INTERCONNECTOR



## Water Framework Directive assessment: scoping template for activities in estuarine and coastal waters

Use this template to record the findings of the scoping stage of your Water Framework Directive (WFD) assessment for an activity in an estuary or coastal water.

If your activity will:

- take place in or affect more than one water body, complete a template for each water body
- include several different activities or stages as part of a larger project, complete a template for each activity as part of your overall WFD assessment

The [WFD assessment guidance for estuarine and coastal waters](#) will help you complete the table.

Your activity	Description, notes or more information
Applicant name	Greenlink Interconnector Limited
Application reference number (where applicable)	Not available
Name of activity	Greenlink Interconnector (Marine Wales)
Brief description of activity	<p>The proposed Greenlink Interconnector (Greenlink) is a high voltage direct current (HVDC) electrical interconnector. This assessment applies to the Proposed Development, the Welsh Marine components of Greenlink, from mean high-water springs at Freshwater West, Pembrokeshire to the median line between Wales and the Republic of Ireland; approximately 73.9km route length from the coast.</p> <p>The Proposed Development comprises:</p> <ul style="list-style-type: none"><li>• Two high voltage direct current (HVDC) electricity power cables;</li><li>• A smaller fibre-optic cable for control and communication purposes; and</li><li>• All associated works required to install, operate, maintain, repair and decommission the aforementioned cables.</li></ul>

Location of activity (central point XY coordinates or national grid reference)	Please refer to coordinate shapefile provided with the Marine Licence application.
Footprint of activity (ha)	<p>The area of the Proposed Development applied for within the Pembrokeshire South Water body is 3776 ha. This is based on the distance the Proposed Development passes through the water body (73.9km) and the width of the corridor which is nominally 500m although it does vary in places. The exact area has been calculated in GIS.</p> <p>The submarine cable will be routed within this consented corridor. The activity which will result in the largest footprint in relation to potential effects on the water body will be installation of the submarine cable resulting in disturbance to seabed sediments. 100m is the distance at which modelled suspended sediment concentration (SSC) arising from cable burial falls below 10 mg/l (which represents background levels); and therefore the footprint will not extend past the boundaries of the consented corridor.</p> <p>The footprint of the activity within the Proposed Development is therefore a maximum of <math>73.9\text{km} \times 100\text{m} = 7.39\text{km}^2</math> (739 hectares).</p>
Timings of activity (including start and finish dates)	<p>An indicative schedule is presented in Greenlink Marine ES – Wales, Chapter 4. In summary:</p> <ul style="list-style-type: none"> <li>• Landfall preparations Q2 – Q4 2021</li> <li>• Submarine route preparation: Q2 2022</li> <li>• Cable lay and burial: Q2 – Q3 2022</li> <li>• Operation: 2023 onwards</li> </ul> <p>It is not known when decommissioning will occur but it is likely to be after 2062</p>
Extent of activity (for example size, scale frequency, expected volumes of output or discharge)	<p>The main activities associated with the Proposed Development will be submarine cable laying, burial and protection. The submarine cable route length is 73.9km in Welsh waters and two cables will be installed, bundled together in one trench. The following extent applies:</p> <ul style="list-style-type: none"> <li>• Depth of burial range – 0.6 to 1.0m</li> <li>• Installation footprint of installation machines – 15m width</li> </ul> <p>The majority of sediment remains in the trench and suspended sediment levels will reduce to 10mg/l within 100m.</p>

Use or release of chemicals (state which ones)	There will be no planned release of chemicals. Trenchless installation at the landfall e.g. by horizontal directional drilling (HDD) will require the use of drilling fluids, however Environmental Protection Measures will be in place as part of the Construction Environmental Management plan to prevent release to the environment and water bodies.
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Water body <sup>1</sup>	Description, notes or more information
WFD water body name	Pembrokeshire South
Water body ID	GB611008590003
River basin district name	Western Wales
Water body type (estuarine or coastal)	Coastal
Water body total area (ha)	41331.8
Overall water body status (2015)	Good
Ecological status	Good
Chemical status	Good
Target water body status and deadline	Good Status by 2015
Hydromorphology status of water body	Not designated A/HMWB
Heavily modified water body and for what use	No
Higher sensitivity habitats present	Yes
Lower sensitivity habitats present	Yes
Phytoplankton status	No data available
History of harmful algae	No data available
WFD protected areas within 2km	Yes

## Specific risk information

Consider the potential risks of your activity to each of these receptors: hydromorphology, biology (habitats and fish), water quality and protected areas. Also consider invasive non-native species (INNS).

### Section 1: Hydromorphology

Consider if hydromorphology is at risk from your activity.

Use the water body summary table to find out the hydromorphology status of the water body, if it is classed as heavily modified and for what use.

Consider if your activity:	Yes	No	Hydromorphology risk issue(s)
Could impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status	Requires impact assessment	Impact assessment not required	Yes – the Greenlink Marine ES Wales, Chapter 6 identified that trenching in the intertidal zone at Freshwater West could have significant effects on coastal processes. To mitigate this an exclusion zone has been established and the base case being assessed is that no works will be undertaken between MHWS and LWM.
Could significantly impact the hydromorphology of any water body	Requires impact assessment	Impact assessment not required	No – see above.
Is in a water body that is heavily modified for the same use as your activity	Requires impact assessment	Impact assessment not required	No. The water body is not heavily modified.

Record the findings for hydromorphology and go to section 2: biology.

## Section 2: Biology

### Habitats

Consider if habitats are at risk from your activity.

Use the water body summary table and Magic maps, or other sources of information if available, to find the location and size of these habitats.

Higher sensitivity habitats <sup>2</sup>	Lower sensitivity habitats <sup>3</sup>
chalk reef	cobbles, gravel and shingle
clam, cockle and oyster beds	intertidal soft sediments like sand and mud
intertidal seagrass	rocky shore
maerl	subtidal boulder fields
mussel beds, including blue and horse mussel	subtidal rocky reef
polychaete reef	subtidal soft sediments like sand and mud
saltmarsh	
subtidal kelp beds	
subtidal seagrass	

<sup>2</sup> Higher sensitivity habitats have a low resistance to, and recovery rate, from human pressures.

<sup>3</sup> Lower sensitivity habitats have a medium to high resistance to, and recovery rate from, human pressures.

Consider if the footprint <sup>4</sup> of your activity is:	Yes	No	Biology habitats risk issue(s)
0.5km <sup>2</sup> or larger	Yes to one or more – requires impact assessment	No to all – impact assessment not required	Yes – the footprint of cable installation activities within the water body is 7.39km <sup>2</sup> . An assessment of the effects on habitats is presented in the Greenlink Marine ES Wales, Chapter 7.
1% or more of the water body's area			Yes – 1.79%
Within 500m of any higher sensitivity habitat			Yes – polychaete reef has been identified within the Proposed Development. An assessment of the effects on

			habitats is presented in the Greenlink Marine ES Wales, Chapter 7.
1% or more of any lower sensitivity habitat			<i>No</i> – The Proposed Development crosses subtidal rocky reef, subtidal sediments like sand and mud and cobbles, gravel and shingle. However, the footprint represents less than 1% of the identified habitat within the region. An assessment of the effects on habitats is presented in the Greenlink Marine ES Wales, Chapter 7.

<sup>4</sup> Note that a footprint may also be a temperature or sediment plume. For dredging activity, a footprint is 1.5 times the dredge area.

## Fish

Consider if fish are at risk from your activity, but only if your activity is in an estuary or could affect fish in or entering an estuary.

Consider if your activity:	Yes	No	Biology fish risk issue(s)
Is in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary	Continue with questions	Go to next section	<i>No</i> – The Proposed Development is not within an estuary. The Greenlink Marine ES Wales, Chapter 8 concluded that underwater noise from the Proposed Development will not prevent fish entering or migrating through nearby estuaries or coastal waters.
Could impact on normal fish behaviour like movement, migration or spawning (for example creating a physical barrier, noise, chemical change or a change in depth or flow)	Requires impact assessment	Impact assessment not required	<i>Yes</i> – Proposed Development crosses the spawning and nursery grounds for 15 species. As assessment of effects is presented in the Greenlink Marine ES Wales, Chapter 8.
Could cause entrainment or impingement of fish	Requires impact assessment	Impact assessment not required	<i>No</i> .

Record the findings for biology habitats and fish and go to section 3: water quality.



### Section 3: Water quality

Consider if water quality is at risk from your activity.

Use the water body summary table to find information on phytoplankton status and harmful algae.

Consider if your activity:	Yes	No	Water quality risk issue(s)
Could affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)	Requires impact assessment	Impact assessment not required	No.
Is in a water body with a phytoplankton status of moderate, poor or bad	Requires impact assessment	Impact assessment not required	Pembrokeshire South was assessed as high for phytoplankton and DIN (dissolved inorganic nitrogen). However, the Proposed Development will not effect oxygen levels or levels of nutrients so will not have an effect on phytoplankton status. Impact assessment is not required.
Is in a water body with a history of harmful algae	Requires impact assessment	Impact assessment not required	Unknown – there is no information available on the history of harmful algae along the open coast for this waterbody. Information is available for Milford Haven but this is not thought to be representative of the conditions in the Proposed Development.

Consider if water quality is at risk from your activity through the use, release or disturbance of chemicals.

<b>If your activity uses or releases chemicals (for example through sediment disturbance or building works) consider if:</b>	<b>Yes</b>	<b>No</b>	<b>Water quality risk issue(s)</b>
The chemicals are on the Environmental Quality Standards Directive (EQSD) list	Requires impact assessment	Impact assessment not required	Not applicable
It disturbs sediment with contaminants above Cefas Action Level 1	Requires impact assessment	Impact assessment not required	The Greenlink cable route survey undertook grab samples and the tested samples indicated no contamination.

<b>If your activity has a mixing zone (like a discharge pipeline or outfall) consider if:</b>	<b>Yes</b>	<b>No</b>	<b>Water quality risk issue(s)</b>
The chemicals released are on the Environmental Quality Standards Directive (EQSD) list	Requires impact assessment <sup>5</sup>	Impact assessment not required	Not applicable

<sup>5</sup> Carry out your impact assessment using the Environment Agency's surface water pollution risk assessment guidance, part of Environmental Permitting Regulations guidance.

Record the findings for water quality go on to section 4: WFD protected areas.

## **Section 4: WFD protected areas**

Consider if WFD protected areas are at risk from your activity. These include:

- special areas of conservation (SAC)
- special protection areas (SPA)
- shellfish waters
- bathing waters
- nutrient sensitive areas

Use Magic maps to find information on the location of protected areas in your water body (and adjacent water bodies) within 2km of your activity.

Consider if your activity is:	Yes	No	Protected areas risk issue(s)
Within 2km of any WFD protected area <sup>6</sup>	Requires impact assessment	Impact assessment not required	<p>Yes – The Proposed Development is within the following sites.</p> <ul style="list-style-type: none"> <li>• Pembrokeshire Marine/ Sir Benfro Forol SAC</li> <li>• West Wales Marine / Gorllewin Cymru Forol cSAC</li> <li>• Skomer, Skokholm and the seas off Pembrokeshire / Sgomer, Sgogwm a moroedd Benfro SPA</li> <li>• Castlemartin Coast SPA</li> </ul> <p>It is also within 2km of a number of other protected areas. An assessment of the potential for likely significant effects is provided in the Greenlink Marine Habitats Regulation Assessment (HRA) and is summarised in the Greenlink Marine ES Wales, Chapter 11.</p>

<sup>6</sup> Note that a regulator can extend the 2km boundary if your activity has an especially high environmental risk.

Record the findings for WFD protected areas and go to section 5: invasive non-native species.

## Section 5: Invasive non-native species (INNS)

Consider if there is a risk your activity could introduce or spread INNS.

Risks of introducing or spreading INNS include:

- materials or equipment that have come from, had use in or travelled through other water bodies
- activities that help spread existing INNS, either within the immediate water body or other water bodies

Consider if your activity could:	Yes	No	INNS risk issue(s)
Introduce or spread INNS	Requires impact assessment	Impact assessment not required	Yes – The deposit of external cable protection material in the form of rock berms or concrete mattresses has the potential to introduce INNS. This has been assessed in the Greenlink Marine ES Wales, Chapter 7.

Record the findings for INNS and go to the summary section.

### Summary

Summarise the results of scoping here.

Receptor	Potential risk to receptor?	Note the risk issue(s) for impact assessment
Hydromorphology	Yes	The Greenlink Marine ES Wales, Chapter 6 identified that trenching in the intertidal zone at Freshwater West could have significant effects on coastal processes. To mitigate this an exclusion zone has been established and the base case being assessed is that no works will be undertaken between MHWS and LWM.
Biology: habitats	Yes	Disturbance of habitats assessed in Greenlink Marine ES Wales, Chapter 7.
Biology: fish	Yes	Disturbance of spawning grounds assessed in Greenlink Marine ES Wales, Chapter 8 .
Water quality	No	Not applicable

Protected areas	Yes	Effects on protected sites assessed in Greenlink Marine HRA and summarised in Greenlink Marine ES Wales, Chapter 11.
Invasive non-native species	Yes	Potential pathway for effects from the deposit of external cable protection material. Assessed in Greenlink Marine ES Wales, Chapter 7.

If you haven't identified any receptors at risk during scoping, you don't need to continue to the impact assessment stage and your WFD assessment is complete.

If you've identified one or more receptors at risk during scoping, you should continue to the impact assessment stage.

Include your scoping results in the WFD assessment document you send to your activity's regulator as part of your application for permission to carry out the activity.