

MONA OFFSHORE WIND PROJECT

Biodiversity Benefit and Green Infrastructure Statement

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Image of an offshore wind farm

MONA OFFSHORE WIND PROJECT

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Glossary

Term	Meaning
Project terminology	
Applicant	Mona Offshore Wind Limited.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Project (NSIP).
Environmental Statement	The document presenting the results of the Environmental Impact Assessment (EIA) process for the Mona Offshore Wind Project.
Evidence Plan Process	The Evidence Plan process is a mechanism to agree upfront what information the Applicant needs to supply to the Planning Inspectorate as part of the Development Consent Order (DCO) application for the Mona Offshore Wind Project.
Local Authority	A body empowered by law to exercise various statutory functions for a particular area of the United Kingdom. This includes County Councils, District Councils and County Borough Councils.
Mona Array Area	The area within which the wind turbines, foundations, inter-array cables, interconnector cables, offshore export cables and offshore substation platforms (OSPs) forming part of the Mona Offshore Wind Project will be located.
Mona Offshore Cable Corridor and Access Areas	The corridor located between the Mona Array Area and the landfall up to Mean High Water Springs, in which the offshore export cables will be located and in which the intertidal access areas are located.
Mona Offshore Wind Project	The Mona Offshore Wind Project is comprised of both the generation assets and offshore and onshore transmission assets and associated activities.
Mona Onshore Cable Corridor	The corridor between Mean High Water Springs at the landfall and the Mona onshore substation, in which the onshore export cables will be located.
Mona Onshore Development Area	The area in which the landfall, onshore cable corridor, onshore substation, mitigation areas, temporary construction facilities (such as access roads and construction compounds), and the connection to National Grid substation will be located
National Policy Statement (NPS)	The current national policy statements published by the Department for Energy Security & Net Zero in 2023.
Offshore Substation Platform	The offshore substation platforms located within the Mona Array Area will transform the electricity generated by the wind turbines to a higher voltage allowing the power to be efficiently transmitted to shore.
Outline Landscape and Ecology Management Plan (OLEMP)	A plan detailing hydrological, ecological and landscape provisions and mitigation which is to be delivered through all phases of the Mona Offshore Wind Project, and provides details of the provisions and measures which the adopted as part of the Mona Offshore Wind Project.

Acronyms

Acronym	Description
CCBC	Conwy County Borough Council
CIEEM	Chartered Institute of Ecology and Environmental Management
CaSP Cymru	Wales Coasts and Seas Partnership

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Acronym	Description
DCC	Denbighshire County Council
DCO	Development Consent Order
Defra	Department for Environment, Food and Rural Affairs
EnBW	Energie Baden-Württemberg AG
ES	Environmental Statement
GCN	Great Crested Newts
LWS	Local Wildlife Site
NPS	National Policy Statement
NRW	Natural Resources Wales
NSIP	Nationally Significant Infrastructure Project
OLEMP	Outline Landscape and Ecology Management Plan
PPW	Planning Policy Wales
SSSI	Site of Special Scientific Interest
WNMP	Welsh National Marine Plan

Units

Unit	Description
MW	Megawatt
nm	Nautical Mile
%	Percent

1 Introduction

- 1.1.1.1 Mona Offshore Wind Limited (the Applicant), a joint venture of bp Alternative Energy Investments Ltd (hereafter referred to as bp) and Energie Baden-Württemberg AG (hereafter referred to as EnBW) is developing the Mona Offshore Wind Project.
- 1.1.1.2 The Mona Array Area is located in Welsh offshore waters (beyond 12 nm from the Welsh coast). The Mona Offshore Cable Corridor and Access Area is located within Welsh offshore and Welsh inshore waters. The Onshore Cable Corridor is wholly located in Wales. As the Project is an offshore generating station with a capacity of greater than 350 MW located in Welsh waters, it is a Nationally Significant Infrastructure Project (NSIP) as defined by Section 15(3) of the Planning Act 2008.
- 1.1.1.3 This Biodiversity Benefit and Green Infrastructure Statement outlines the policy relating to the provision of net biodiversity benefit and green infrastructure across the Mona Offshore Wind Project. It then describes how green infrastructure has been incorporated and how biodiversity net benefit will be achieved across the onshore, intertidal and offshore elements of the Project.
- 1.1.1.4 This document should be read in conjunction with the following documents:
- Volume 2, Chapter 1: Physical processes of the Environmental Statement (ES) (document reference F.2.1)
 - Volume 2, Chapter 2: Benthic, subtidal and intertidal ecology of the ES (document reference F.2.2)
 - Volume 2, Chapter 3: Fish and shellfish ecology of the ES (document reference F.2.3)
 - Volume 2, Chapter 4: Marine mammals of the ES (document reference F.2.4)
 - Volume 2, Chapter 5: Offshore ornithology of the ES (document reference F.2.5)
 - Volume 3, Chapter 3: Onshore ecology of the ES (document reference F.3.3)
 - Volume 3, Chapter 4: Onshore and intertidal ornithology of the ES (document reference F.3.4)
 - Volume 3, Chapter 6: Landscape and visual resources of the ES (document reference F.3.6)
 - Outline Landscape and Ecology Management Plan (OLEMP) (document reference J.22).

2 POLICY REQUIREMENTS AND LEGISLATION

2.1 Biodiversity policy and legislation

2.1.1 Overview

2.1.1.1 This section sets out the planning policy requirements and legislation that the Applicant considers are relevant to the provision of net biodiversity benefit.

2.1.2 National Policy Statement EN-1

2.1.2.1 Overarching National Policy Statement (NPS) for Energy (EN-1) sets out the UK Government's policy for the delivery of major energy infrastructure (Department for Energy Security & Net Zero, 2024). The need for net biodiversity benefit is set out in NPS EN-1, section 4.6 states:

"Environmental net gain is an approach to development that aims to leave the natural environment in a measurably better state than beforehand. Projects should therefore not only avoid, mitigate and compensate harms, following the mitigation hierarchy, but also consider whether there are opportunities for enhancements..."

...In Wales, Net Benefit for Biodiversity is based on the concept that development should leave biodiversity and the resilience of ecosystems in a better state than before, through securing long-term, measurable and demonstrable benefit, primarily on or immediately adjacent to the site.

The Welsh National Marine Plan includes policy to ensure that biological and geological components of ecosystems are maintained, restored where needed and enhanced where possible, to increase the resilience of marine ecosystems and the benefits they provide. It encourages consideration of the inclusion of restoration and enhancement in a development project at sea and at the coast. However, there is currently no obligation upon proposers of projects in the marine environment to provide enhancement within their proposals."

2.1.2.2 Paragraph 5.4.19 requires applicants to:

"show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological interests."

2.1.2.3 Paragraph 5.4.24 outlines the requirements for Projects located in Wales to:

"In Wales, applicants should consider the guidance set out in Section 6.4 of Planning Policy Wales and the relevant policies in the Wales National Marine Plan."

2.1.2.4 Paragraph 5.4.33 states that:

"Applicants should consider any reasonable opportunities to maximise the restoration, creation, and enhancement of wider biodiversity."

2.1.3 Action Plan for NSIPs

2.1.3.1 The Applicant notes the recent Action Plan NSIPs (Department for Levelling Up, Housing and Communities, 2023), which was published in February 2023, proposes to incorporate biodiversity net gain requirements for all terrestrial NSIPs, from December 2025. The Department for Environment, Food and Rural Affairs (Defra) plan to consult on the details for the biodiversity net gain proposals in March 2024 before publishing final guidance in September 2024.

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- 2.1.3.2 However, until this comes into force, the position for NSIPs in Wales remains unchanged with no current requirements to quantify losses and gains through use of a metric. Instead of a metric, the Welsh Government approach is to place the *“emphasis on proactive consideration of biodiversity and wider ecosystem benefits within a placemaking context early in the design process. The aim is that the planning system will encourage the use of high calibre ecological expertise and early discussions with planning teams to design developments on a case-by-case basis that positively impact ecosystem resilience.”* (CIEEM, 2022)
- 2.1.3.3 It is this qualitative approach, in close consultation with stakeholders, that the Applicant has used in the development of the proposed mitigation and biodiversity benefit proposals that have been developed with input from NRW, Conwy County Borough Council (CCBC) and Denbighshire County Council (DCC).
- 2.1.3.4 It is recognised that a complementary marine net gain system is under development and Defra has consulted on the principles of marine net gain in English waters. The consultation confirmed strong support from a wide range of stakeholder for the principles of marine net gain and therefore the government will continue to develop the details of the relevant policy required. Defra will be required to consult again before any policy can be implemented. The Applicant is aware the Welsh National Marine Plan already includes an aspiration for projects to achieve enhancement of the marine environment where possible and acknowledges that any developments in marine net gain in English waters could be transposed into Welsh legislation too.
- 2.1.3.5 Given the current timescale of the ongoing government consultation, it is assumed to be unlikely that there will be any formalisation of the requirement for the delivery of terrestrial net gain within the DCO determination timeframe of Mona Offshore Wind Project. However, the Applicant is committed to engaging positively with this concept as it becomes stipulated in policy and guidance is made available.

2.1.4 Planning Policy Wales (2021)

- 2.1.4.1 Planning Policy Wales (PPW) Edition 11 sets out the land use planning policies of the Welsh Government. The objective is to ensure the planning system contributes towards sustainable development and improves the social, economic, environmental and cultural well-being of Wales.
- 2.1.4.2 In October 2023 the Welsh Government published an update to Chapter 6 of PPW. Paragraph 6.4.3 of the updated Chapter 6 of PPW (2023) sets out the requirement to secure enhancement of, and improvement to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks:
- “Development plan strategies, policies and development proposals must consider the need to:*
- *support the maintenance and enhancement of biodiversity and the resilience of ecosystems;*
 - *ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats, including the most recent targets set out in the 2022 UN Global Biodiversity Framework;*
 - *ensure statutorily and non-statutorily designated sites and habitats are properly protected and managed and their role at the heart of resilient ecological networks is safeguarded;*
 - *safeguard protected species and species of principal importance and existing biodiversity assets from direct, indirect or cumulative adverse impacts that affect*

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their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water, air and soil, including peat; and

- *secure the maintenance and enhancement of ecosystem resilience and resilient ecological networks by improving diversity, extent, condition, and connectivity.”*

2.1.5 Well-being of Future Generations (Wales) Act 2015

2.1.5.1 The objective of achieving biodiversity resilience is a key goal within Section 4 of the Well-being of Future Generations (Wales) Act 2015 which aims for:

“A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience to adapt to change.”

2.1.6 Environment (Wales) Act 2016

2.1.6.1 The Environment (Wales) Act 2016 states:

“A public authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in doing so promote the resilience of ecosystem, so far as consistent with the proper exercise of those functions.”

2.1.6.2 Public authorities include local planning authorities who must consider the maintenance and enhancement of biodiversity when considering planning applications.

2.1.7 Future Wales: The National Plan 2040

2.1.7.1 Biodiversity resilience is also a fundamental aspect of Policy 9 of Future Wales: The National Plan 2040 which concerns Resilient Ecological Networks and Green Infrastructure.

2.1.7.2 Policy 9 – Resilient Ecological Networks and Green Infrastructure states that:

“to ensure the enhancement of biodiversity, the resilience of ecosystems and the provision of green infrastructure, the Welsh Government will work with key partners to:

- *identify areas which should be safeguarded and created as ecological networks for their importance for adaptation to climate change, for habitat protection, restoration or creation, to protect species, or which provide key ecosystems services, to ensure they are not unduly compromised by future development; and*
- *identify opportunities where existing and potential green infrastructure could be maximised as part of placemaking, requiring the use of nature-based solutions as a key mechanism for securing sustainable growth, ecological connectivity, social equality and well-being.”*

2.1.7.3 Through this policy, Welsh Government aims to work with key partners, including NRW, to ensure the enhancement of biodiversity, the resilience of ecosystems and the provision of green infrastructure by identifying areas which should be safeguarded and created and by identifying opportunities where existing and potential green infrastructure could be maximised.

2.1.7.4 Action towards securing the maintenance and enhancement of biodiversity, the resilience of ecosystems and green infrastructure assets must be demonstrated as part of development proposals through innovative, nature-based approaches to site planning and the design of built environment.

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2.1.8 Natural Resources Policy (2017)

2.1.8.1 The theme of resilient ecosystems also forms part of Welsh Government Natural Resource Policy (2017). A key principle is:

“Through actions such as increasing resource efficiency or reducing pollution, the aim is to build greater resilience into our ecosystems.”

2.1.9 Nature Recovery Action Plan for Wales 2020-21

2.1.9.1 Resilient ecosystems are an important aspect of the Nature Recovery Action Plan for Wales 2020-21. It includes an ambition:

“To reverse the decline in biodiversity, for its intrinsic value, and to ensure lasting benefits to society.”

2.1.9.2 One of the objectives included in the Plan is to:

“Increase the resilience of our natural environment by restoring degraded habitats and habitat creation.”

2.1.10 Welsh National Marine Plan

2.1.10.1 The Welsh National Marine Plan (WNMP) was formally adopted by Welsh Government in Autumn 2019. With reference to biodiversity enhancement, policy ENV_01 of the WNMP (Resilient marine ecosystems) has the following aim:

“To ensure that biological and geological components of ecosystems are maintained, restored where needed and enhanced where possible, to increase the resilience of marine ecosystems and the benefits they provide. Under the policy, the sensitivities of marine ecosystems and ecosystem impacts should be taken into account when developing proposals and, where possible, proposals should demonstrate how they will contribute to ecosystem protection, restoration and/or enhancement.”

2.1.10.2 The Welsh National Marine Plan Implementation Guidance (Welsh Government, 2020b) states::

“[Relevant Public Authorities] should satisfy themselves that proposals have:

- adequately investigated and evaluated the significance of identified impacts on marine ecosystems of their proposed activity or development; and,*
- taken appropriate measures to avoid, minimise or mitigate the identified impacts in a manner that is proportionate to their significant; and/or.*
- where necessary, submitted a suitable case for proceeding which sufficiently demonstrates the overriding benefits of the proceedings.*

...Proposals should demonstrate how they maintain and enhance these habitats and species, including protecting them from potential impacts or promoting their restoration and/or enhancement.

Proposals are encouraged to contribute to the restoration or enhancement of marine ecosystems. Incorporating restoration and/or enhancement of marine ecosystems into proposals does not have to be expensive or complex... Developers should engage with NRW for advice on enhancement to ensure any proposed enhancement is suitable.”

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2.1.11 NRW Area Statements

- 2.1.11.1 The NRW North East Wales Area Statement sets out five key themes, three of which are relevant to net biodiversity benefit, these are:
- Develop and improve urban/rural green infrastructure
 - Increasing woodland cover for social, environmental and economic benefits
 - Promoting the resilience of ecosystems in maintaining and enhancing biodiversity
- 2.1.11.2 The NRW North West Wales Area Statement also sets out themes which are relevant to net biodiversity benefit, these are:
- Supporting sustainable land management
 - Opportunities for resilient ecosystems

2.1.12 Summary

- 2.1.12.1 The policies summarised above set out consistent objectives for projects to provide:
- Evidence that the project has sought to minimise impacts to ecological receptors
 - A net benefit to biodiversity
 - A diverse and connected ecological network in good condition
 - An increasingly resilient ecosystem.

2.2 Green infrastructure policy and legislation

2.2.1 Overview

- 2.2.1.1 This section sets out the planning policy requirements and legislation that the Applicant considers are relevant to the provision of green infrastructure.

2.2.2 National Policy Statement EN-1

- 2.2.2.1 NPS EN-1 defines green infrastructure as “a network of multi-functional green and blue spaces and other natural features, both rural and urban, which is capable of delivering a wide range of environmental, economic, health and wellbeing benefits for nature, climate, local and wider communities and prosperity”.
- 2.2.2.2 The need for applicants to consider green infrastructure within proposals is set out in a number of places within NPS EN-1. Paragraph 5.11.7 states:
- “Green and blue infrastructure can also enable developments to provide positive environmental, social, health and economic benefits. Green infrastructure includes green space such as parks and woodlands but also other environmental features such as street trees, hedgerows and green walls and roofs. It also includes blue infrastructure such as canals, rivers, streams, ponds lakes and their borders. Well designed and managed green and blue infrastructure provides multiple benefits at a range of scales. It can contribute to biodiversity recovery, sequester carbon, absorb surface water, cleanse pollutants, absorb noise and reduce high temperatures. The Green Infrastructure Framework – Principles and Standards for England can be used to consider green infrastructure in development and plan for good quality and targeted creation or improvement.”*

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2.2.2.3 With regard to environmental and biodiversity net gain paragraph 4.6.13 states:
“The scope of potential gains will be dependent on the type, scale, and location of specific projects. Applicants should look for a holistic approach to delivering wider environmental gains and benefits through the use of nature-based solutions and Green Infrastructure.”

2.2.2.4 Section 5.8 also outlines how green infrastructure should be considered as part of solutions for managing flood risk. Paragraph 5.8.32 states:
“Where development may contribute to a cumulative increase in flood risk elsewhere, the provision of multifunctional sustainable drainage systems, natural flood management and green infrastructure can also make a valuable contribution to mitigating this risk whilst providing wider benefits.”

2.2.3 Planning Policy Wales (2021)

2.2.3.1 The updated Chapter 6 of PPW (2023) sets out the requirement to provide a Green Infrastructure Statement:
“A green infrastructure statement should be submitted with all planning applications. This will be proportionate to the scale and nature of the development proposed and will describe how green infrastructure has been incorporated into the proposal... The green infrastructure statement will be an effective way of demonstrating positive multi-functional outcomes which are appropriate to the site in question and must be used for demonstrating how the step-wise approach (Paragraph 6.4.21) has been applied.”

3 DELIVERING BIODIVERSITY BENEFIT AND GREEN INFRASTRUCTURE

3.1 Overview

3.1.1.1 Nature based principles have been applied to the design of the Mona Offshore Wind Project from the outset. Throughout the pre-application process the Applicant has engaged with NRW, DCC and CCBC and other relevant stakeholders through the Evidence Plan Process. The Applicant has presented and sought feedback on the approach to biodiversity mitigation and net biodiversity benefit and received no objection.

3.2 A qualitative, rather than quantitative, approach

3.2.1.1 The Applicant is aware of the forthcoming mandatory requirement for 10% measurable biodiversity net gain for NSIPs in England that will come into force in 2025. However, in Wales, there is currently no requirement to quantify losses and gains, e.g. using a metric. The qualitative approach that the Applicant has taken (without use of a metric) was agreed with NRW in April 2023 (see Technical Engagement Plan document reference E4).

3.2.1.2 The Welsh Government has confirmed its approach to net benefits for biodiversity ('Welsh Government's Approach to Net Benefits for Biodiversity and the DECCA Framework in Terrestrial Planning System' (CIEEM, 2022)), which aligns with the qualitative approach the Applicant has applied. The Welsh Governments briefing paper states:

"The net-benefits for biodiversity approach by Welsh Government has the same intent – to deliver an overall improvement in biodiversity – but it does not utilise a metric. Instead, it puts the emphasis on proactive consideration of biodiversity and wider ecosystem benefits within a placemaking context early in the design process. The aim is that the planning system will encourage the use of high calibre ecological expertise and early discussions with planning teams to design developments on a case-by-case basis that positively impact ecological resilience."

3.2.1.3 The approach document goes on to confirm that:

"Ecologists and developers should note that the metric approach is not designed to meet Welsh legislative requirements, for example encompassing ecosystem resilience. A metric can be submitted to provide evidence and a supplementary overview if preferred, but will not necessarily demonstrate compliance with planning requirements. Local planning authorities will be considering whether a net benefit for biodiversity has been secured."

3.2.1.4 In developing the proposed biodiversity benefit measures for the Mona Offshore Wind Project, the Applicant has employed ecological specialists to undertake baseline ecology surveys and an ecological assessment while engaging closely with NRW, DCC and CCBC to develop and agree the biodiversity benefit proposals.

3.2.1.5 The Applicant considers that net benefit for biodiversity will be achieved through the provision of biodiversity benefit measures in addition to sufficient mitigation that will be put in place to reduce and/or eliminate the potential for significant effects as part of the mitigation hierarchy.

3.2.1.6 Given the lack of legislative or policy requirements for a quantitative style assessment, in addition to the agreement that has been reached to date with NRW and the

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approach taken by Welsh Government, the Applicant does not consider a quantitative or metric-based approach is required to demonstrate that Mona Offshore Wind Farm Project would deliver net benefits to biodiversity.

3.3 A step-wise approach

3.3.1.1 Planning Policy Wales requires applicants to apply a 'step-wise' approach to maintaining and enhancing biodiversity. Table 1-1 outlines how the Applicant has applied the step-wise approach during the development of the Mona Offshore Wind Project.

Table 1-1 Mona Offshore Wind Project's step-wise approach to biodiversity benefit

Step	How the Mona Offshore Wind Project has considered the step	Further information
Step 1 – avoid	<p>The site selection process aimed to avoid statutory designated sites and protected species and habitats where possible. Sites avoided through the site selection process include:</p> <ul style="list-style-type: none"> - Aber Dyfrdwy/Dee Estuary Special Area of Conservation (SAC) and SPA and Ramsar site - Traeth Lafan/Lavan Sands, Conwy Bay SPA - Morwenoliaid Ynys Môn/Anglesey Terns SPA - Gogledd Môn Forol/North Anglesey Marine SAC - Coedwigoedd Dyffryn Elwy/Elwy Valley Woods SAC - Coedydd Ac Ogofau Elwy A Meirchion Site of Special Scientific Interest (SSSI) - <i>Sabellaria alveolata</i> reef - All areas of Ancient Woodland 	Full details of the site selection process can be found in Volume 1 Chapter 4 Site Selection and Consideration of Alternatives of the ES (document reference F.1.4).
Step 2 – minimise	<p>Where designated sites and protected species and habitats could not be avoided the area impacted has been reduced as far as possible. In the offshore development area and intertidal area, the designated features of designated sites have been avoided. Within the onshore development area construction methods, such as trenchless crossing techniques, will be used to minimise impacts on designated sites and protected species and habitats where possible. Examples of measures implemented avoid potential impacts include:</p> <ul style="list-style-type: none"> - Selecting the shortest available through Bae Lerpwl/Liverpool Bay SPA to minimise potential interaction with designated species - Minimising the overlap of the offshore cable corridor with designated features of the Y Fenai a Bae Conwy/Menai Strait and Conwy Bay SAC - Committing to not install any cable protection and reduce sandwave clearance to a minimum within Constable Bank Annex 1 sandbank - Adopting trenchless technology to install the cable underneath Traeth Pensarn SSSI. Construction access to the beach has also been designed to avoid the designated features of Traeth Pensarn SSSI - Adopting trenchless technology to install the cable underneath Gwrych Castle SSSI 	Further details are available in Volume 1 Chapter 3 Project Description of the ES and Volume 1 Chapter 4 Site Selection and Consideration of Alternatives of the ES (document reference F.1.4).

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Step	How the Mona Offshore Wind Project has considered the step	Further information
Step 3 – mitigate / restore	As part of the Environmental Impact Assessment process mitigation has been proposed to reduce the adverse impacts of the Mona Offshore Wind Project.	<p>Details of proposed mitigation can be found in the following documents:</p> <ul style="list-style-type: none"> • Volume 2, Chapter 1: Physical processes (document reference F.2.1) • Volume 2, Chapter 2: Benthic, subtidal and intertidal ecology (document reference F.2.2) • Volume 2, Chapter 3: Fish and shellfish ecology (document reference F.2.3) • Volume 2, Chapter 4: Marine mammals (document reference F.2.4) • Volume 2, Chapter 5: Offshore Ornithology (document reference F.2.5) • Volume 3, Chapter 3: Onshore ecology (document reference F.3.3) • Volume 3, Chapter 4: Onshore and intertidal ornithology (document reference F.3.4) • Volume 3, Chapter 6: Landscape and visual resources (document reference F.3.6) • In addition, further details can be found in the OLEMP (document reference J.22).
Step 4 – compensate on site	In order to ensure a net biodiversity benefit is achieved as part of the Mona Offshore Wind Project a suite of measures have been proposed within the Development Area to provide overall biodiversity benefit.	These measures are outlined in sections 3.4 and 3.5 of this report.
Step 5 – compensate off site	The Mona Offshore Wind Project is confident overall biodiversity benefit can be achieved through the use of on site measures (see above). However, the Applicant is open to considering (post consent) voluntary off site opportunities to further improve biodiversity and will continue to engage with stakeholders to identify possible opportunities.	Further information is provided in sections 3.4 and 3.5 of this report.

3.4 Onshore biodiversity benefit

3.4.1 Mitigation

3.4.1.1 A range of ecological mitigation measures will be put in place along the onshore export cable corridor and at the onshore substation to mitigate the impacts of the construction, operation and maintenance and decommissioning of the Mona Offshore Wind Project. Measures include:

- the re-instatement of hedgerows to provide habitat connectivity for bats and dormice
- hedgerow re-instatement and tree planting to provide mitigation for habitat loss for breeding birds
- ponds and terrestrial habitat (such as hedgerows and species rich grassland) for displaced Great Crested Newts (GCN) and reptiles

3.4.1.2 Further details of the onshore biodiversity mitigation measures to be implemented can be found in Volume 3, Chapter 3: Onshore ecology and Volume 3, Chapter 4: Onshore and intertidal ornithology of the ES.

3.4.2 Additional biodiversity benefit

3.4.2.1 The Applicant has identified a number of opportunities to deliver additional biodiversity benefit along the onshore cable corridor and at the Onshore Substation. The measures outlined below have been designed to balance the provision of biodiversity benefit with the principle of reducing the impacts to landowners ability to manage their land.

Hedgerow restoration and enhancement

3.4.2.2 To mitigate potential impacts, all hedgerows lost within the Onshore Cable Corridor and Onshore Substation will be replaced.

3.4.2.3 In addition to the replacement of hedgerows, ten strategic hedgerows along the Onshore Cable Corridor have been identified for further enhancement.

3.4.2.4 The hedgerows identified for enhancement along the Onshore Cable Corridor are hedgerows that are not ecologically important in terms of species diversity but provide existing connectivity (albeit poor) to strategic blocks of woodland outside of the Onshore Cable Corridor. Restoration of these hedgerows will deliver net biodiversity benefit in terms of improved ecological landscape connectivity. The restoration of these hedgerows will improve connectivity between areas of important habitat and support a range of protected species, specifically bats, farmland breeding birds and dormice.

3.4.2.5 At the Onshore Substation, in addition to the hedgerow restoration required to mitigate ecological impacts, a number of hedgerows will be enhanced or created to mitigate landscape and visual impacts. The enhancement and creation of these additional hedgerows will provide better connectivity than currently exists, for example the hedgerows will connect Coed Cord Local Wildlife Site (LWS), Coed y Saeson LWS and Coed Celyn Sites of Special Scientific Interest (SSSI) and Meirionydd Oakwoods SSSI. In addition to the improved connectivity these hedgerows will provide, they will also provide biodiversity benefit for bats, breeding birds, dormouse, GCN, reptiles and terrestrial invertebrates.

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- 3.4.2.6 The areas of hedgerow enhancement and creation have been included within the Mona Onshore Development Area and details of the restoration, enhancement and creation have been included in the OLEMP (document reference J.22). A final version of the LEMP will be approved by the local planning authority as a requirement of the Development Consent Order (DCO).

Woodland planting

- 3.4.2.7 For every tree that is lost in order to construct the Mona Offshore Wind Project a minimum of three new trees will be planted. In addition to the tree planting to mitigated for tree loss, new sections of woodland will be created in order to mitigate the landscape and visual impacts at the Onshore Substation. The woodland planting associated with landscape and visual impacts can be considered a biodiversity benefit.
- 3.4.2.8 The new woodland will provide roosting and foraging opportunities for bats, habitat for dormouse (hibernation and breeding), habitats for invertebrates and hibernation opportunities for amphibians (including GCN) and reptiles. In addition, the new woodland will provide a buffer to the connective features (hedgerows and mitigation habitat) around the Onshore Substation which will improve the resilience of the mitigation habitat.
- 3.4.2.9 The woodland planting will increase connectivity between areas of existing woodland, connecting Coed Cord LWS and Coed y Saeson LWS providing further biodiversity benefit.
- 3.4.2.10 The areas of woodland planting have been included within the Mona Onshore Development Area and details of the planting have been included in the OLEMP (document reference J.22). A final version of the LEMP will be approved by the local planning authority as a requirement of the Development Consent Order (DCO).

Wildflower Planting

- 3.4.2.11 The creation of wildflower planting around the Onshore Substation as mitigation to prevent fragmentation of habitat for GCN will provide additional biodiversity benefit. Wildflower planting will attract pollinators such as butterflies and bees. Wildflowers and wildflower-rich habitats, such as meadows, provide valuable support for insects and other wildlife. Established wildflower meadows have complex root systems, which makes the soil very stable. This helps to mitigate flooding by holding on to rainwater and stop nutrients from washing away.
- 3.4.2.12 The areas of wildflower planting have been included within the Mona Onshore Development Area and details of the planting have been included in the OLEMP (document reference J.22). A final version of the LEMP will be approved by the local planning authority as a requirement of the Development Consent Order (DCO).

Scrub

- 3.4.2.13 The creation of scrub habitat as mitigation habitat for GCN will significantly increase the structural diversity of habitat within the landscape and which in turn will increase the biomass and diversity of terrestrial invertebrates which will also provide foraging habitat for species such as bats and birds. Scrub habitat is an excellent resource for breeding birds, which provides an additional biodiversity benefit.
- 3.4.2.14 The areas of scrub planting have been included within the Mona Onshore Development Area and details of the planting have been included in the OLEMP

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(document reference J.22). A final version of the LEMP will be approved by the local planning authority as a requirement of the Development Consent Order (DCO).

Species rich grassland

3.4.2.15 The creation of species rich grassland as mitigation to prevent fragmentation of habitat for GCN around the Onshore Substation will improve the quality of habitat. This will increase the structural diversity of habitat within the landscape and which in turn will increase the biomass and diversity of terrestrial invertebrates which will also provide foraging habitat for species such as bats and birds , which provides an additional biodiversity benefit.

3.4.2.16 The areas of species rich grassland planting have been included within the Mona Onshore Development Area and details of the planting have been included in the OLEMP (document reference J.22). A final version of the LEMP will be approved by the local planning authority as a requirement of the Development Consent Order (DCO).

Ditch realignment

3.4.2.17 In order to accommodate the Onshore Substation a minor ditch will need to be realigned. The ditch is currently a linear infilled ditch, the re-alignment of ditch to a more natural meandering profile will create a riparian habitat with associated wildflower and species rich grassland enhancement. This, in turn, will improve the ecosystem which will increase the abundance of terrestrial and aquatic invertebrates, resulting in a biodiversity benefit.

3.4.2.18 The ditch realignment has been included within the Mona Onshore Development Area and details area included in Volume 1, Chapter 3: Project Description of the ES (document reference F.1.3). The final design of the ditch realignment will be included in the Operational Drainage Management Strategy which will be approved by the local planning authority as a requirement of the Development Consent Order (DCO).

Ponds and attenuation basin

3.4.2.19 The creation of 25 ponds around the Onshore Substation as mitigation habitat for GCN will significantly increase the habitat diversity within the landscape and which in turn will increase the biomass and diversity of aquatic invertebrates which will also provide foraging habitat for species such as bats and birds.

3.4.2.20 The location of the GCN mitigation habitat has been included within the Mona Onshore Development Area and details have been included in the OLEMP (document reference J.22). A final version of the LEMP will be approved by the local planning authority as a requirement of the Development Consent Order (DCO).

3.4.2.21 An attenuation basin is proposed to manage the surface water from the Onshore Substation during the operational phase of the Mona Offshore Wind Project. The Mona Offshore Wind Project will seek to design and manage the attenuation basin using best practice, which will include maximising biodiversity benefit (see Outline Operational Drainage Management Strategy document reference J.29). The attenuation basin will provide additional habitat for GCN and aquatic invertebrates resulting in a biodiversity benefit.

3.4.2.22 The attenuation basin has been included within the Mona Onshore Development Area and details area included in the Outline Operational Drainage Management Strategy (document reference J.29). The Operational Drainage Management Strategy will be

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approved by the local planning authority as a requirement of the Development Consent Order (DCO).

Further voluntary opportunities

3.4.2.23 In addition to the measures outlined above, which will be secured through the DCO, the Mona Offshore Wind Project will also explore further options to provide additional biodiversity benefit within and outside the Mona Onshore Development Area through voluntary agreements with landowners. Options to be explored include further hedgerow enhancement, additional woodland planting and support existing local biodiversity restoration projects through the local wildlife trusts and local authorities.

3.5 Green infrastructure

3.5.1.1 Many of the measures outline in Section 3.4 have a dual purpose of providing biodiversity benefit and green infrastructure by improving connectivity through the wider landscape, these include:

- Hedgerow restoration and enhancement
- Woodland planting
- Ditch realignment
- Ponds and attenuation basin

3.5.1.2 As with onshore biodiversity benefit the Applicant will also consider additional green infrastructure measures outside the Mona Onshore Development Area through voluntary agreements with landowners. Options to be explored include improving public access as a benefit to people and nature.

3.6 Intertidal and Offshore biodiversity benefit

3.6.1 Overview

3.6.1.1 NPS EN-1 states “The Welsh National Marine Plan includes policy to ensure that biological and geological components of ecosystems are maintained, restored where needed and enhanced where possible, to increase the resilience of marine ecosystems and the benefits they provide. It encourages consideration of the inclusion of restoration and enhancement in a development project at sea and at the coast. However, there is currently no obligation upon proposers of projects in the marine environment to provide enhancement within their proposals.”

3.6.1.2 Offshore and intertidal biodiversity enhancement is therefore recognised in policy, but it is not a policy requirement. The Applicant has engaged with NRW on the topic of intertidal and offshore biodiversity benefit through the pre-application phase of the Mona Offshore Wind Project, noting that no formal advice from NRW has been received.

3.6.1.3 Whilst there is currently no legislative requirement to deliver net benefits for biodiversity in the offshore environment, and further policy and guidance on this topic may be expected from the Welsh Government and NRW in the future, the Applicant intends to explore the opportunities for intertidal and offshore biodiversity benefit listed below, and these opportunities will be discussed with NRW as the Marine Licensing process progresses into the post consent phase. Potential intertidal and/or offshore biodiversity benefit measures could be secured in consultation with NRW through the deemed Marine Licence and standalone Marine Licence. The Applicant also awaits

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future policy updates and guidance from the Welsh Government and NRW which may influence opportunities for intertidal, offshore and wider biodiversity benefit on the Mona Offshore Wind Project.

3.6.2 Mitigation

3.6.2.1 A range of ecological mitigation measures will be put in place within the array area and offshore export cable corridor to mitigate the impacts of the construction, operation and maintenance and decommissioning of the Mona Offshore Wind Project. Further details of the offshore biodiversity mitigation measures to be implemented can be found in Volume 2, Chapter 1: Physical processes; Volume 2, Chapter 2: Benthic, subtidal and intertidal ecology; Volume 2, Chapter 3: Fish and shellfish ecology; Volume 2, Chapter 4: Marine mammals, Volume 2, Chapter 5: Offshore ornithology and Volume 3, Chapter 4: Onshore and intertidal ornithology of the ES.

3.6.3 Additional intertidal and offshore biodiversity benefit

3.6.3.1 The Applicant has identified a number of opportunities within the Irish Sea which could deliver additional intertidal and offshore biodiversity benefit to the Mona Offshore Wind farm Project. These early opportunities are currently being explored for feasibility and suitability. Discussions are ongoing with stakeholders which are expected to continue into the Mona Offshore Wind Project examination, and if requested, the Applicant can provide an update to the examining authority on progress and decisions regarding these elements.

- The Mona offshore and intertidal ornithological surveys have enabled identification of connectivity of seabird species such as gulls and terns with the intertidal breeding areas at designated sites in the Irish Sea. The Applicant is exploring opportunities to increase the productivity of breeding seabirds.
- Site specific benthic subtidal ecology surveys undertaken across the Mona Array Area and Mona Offshore Cable Corridor and Access Area have been used to identify potential measures within the project design that could provide additional biodiversity benefit, if feasible and suitable to the area, such as:
 - Installing cable crossing mattresses designed to enhance biodiversity for cable protection
 - Biodiversity enhancements which could be introduced as part of foundation design for Wind Turbine Generators and Offshore Substation Platforms within the Mona Array Area, scour protection for the foundations, or cable protection to stabilise inter-array cables across the foundations. This may include reef blocks or cubes, with specific designs/modifications which are appropriate to the surrounding environment, habitats and species Opportunities to restore fish and shellfish habitats in the offshore environment.
- Existing marine habitat and species restoration projects in the Irish Sea are being explored.

3.6.3.2 The Mona Offshore Wind Project is aware that the Wales Coasts and Seas Partnership (CaSP Cymru) is in the process of developing the MARINE Fund Cymru which will provide a source of funding to invest in Wales' natural resources. The fund will seek to invest in programmes and projects that enable, maintain and enhance the resilience of marine and coastal ecosystems for the long term, facilitating the delivery of wider benefits to individuals, communities and businesses. At the time of writing the Mona

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Offshore Wind Project is in early discussions with CaSP Cymru to explore ways of working together in the future.

- 3.6.3.3 The Applicant will continue to explore these opportunities as the project design develops, in collaboration with stakeholders post-consent.

4 CONCLUSION

- 4.1.1.1 The Mona Offshore Wind Project has committed to delivering a net benefit for biodiversity.
- 4.1.1.2 This document presents the measures committed to through the DCO process to achieve onshore biodiversity benefit and outlines those measures that will be considered post-consent to deliver intertidal and offshore biodiversity benefit.
- 4.1.1.3 The biodiversity benefit measures outlined in this document will be developed further with stakeholders post-consent.

5 REFERENCES

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