LLŶR FLOATING OFFSHORE WIND PROJECT

Llŷr 1 Floating Offshore Wind Farm

Environmental Statement

Volume 2: Chapter 07 – Landscape and Visual

August 2024

Prepared by: Llŷr Floating Wind Ltd

FLOVENTIS ENERGY

Document Status

Version	Authored by	Reviewed by	Approved by	Date
FINAL	AECOM	AECOM	AECOM	August 2024

Approval for Issue

Prepared by	AECOM
Prepared for	Llŷr Floating Wind Limited
Approved by	Jay Hilton-Miller

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Acronyms and abbreviations

Acronym or abbreviation	Definition	Acronym or abbreviation	Definition
BESS	Battery Energy Storage Systems	NRW	Natural Resource Wales
CEA	Cumulative Effects Assessment	CEMP	Construction Environment Management Plan
DTM	Digital Terrain Model	OnECC	Onshore Export Cable Corridor
EEA	European Economic Area	OS	Ordnance Survey
EIA	Environmental Impact Assessment	PCC	Pembrokeshire County Council
ELC	European Landscape Convention	PCNP	Pembrokeshire Coast National Park
ES	Environmental Statement	PINS	Planning Inspectorate
GLVIA	Guidelines for Landscape and Visual Impact Assessment	PPW	Planning Policy Wales
HDD	Horizontal Directional Drilling	RHPG	Registered Historic Park and Garden
LCA	Landscape Character Area	SCA	Seascape Character Area
LDP	Local Development Plan	SLVIA	Seascape, Landscape and Visual Assessment
LEMP	Landscape and Ecological Management Plan	TAN	Technical Advice Note
LFW	Llŷr Floating Wind Ltd	VP	Viewpoint
LVIA	Landscape and Visual Assessment	WTG	Wind Turbine Generator
MLT	Marine Licensing Team	ZoI	Zone of influence
NLCA	National Landscape Character Area	ZTV	Zone of Theoretical Visibility

Glossary of project terms

Term	Definition
The Applicant	The developer of the Project, Llŷr Floating Wind Limited.
Array	All wind turbine generators, inter array cables, mooring lines, floating sub-structures and supporting subsea infrastructure within the Array Area, as defined, when considered collectively, excluding the offshore export cable(s).
Array Area	The area within which the wind turbine generators, inter array cables, mooring lines, floating sub-structures and supporting subsea infrastructure will be located.
Floventis Energy	A joint venture company between Cierco Ltd and SBM Offshore Ltd of which Llŷr Floating Wind Limited is a wholly owned subsidiary.
Landfall	The location where the offshore export cable(s) from the Array Area, as defined, are brought onshore and connected to the onshore export cables (as defined) via the transition joint bays (TJB).
Llŷr 1	The proposed Project, for which the Applicant is applying for Section 36 and Marine Licence consents. Including all offshore and onshore infrastructure and activities, and all project phases.

Term	Definition
Marine Licence	A licence required under the Marine and Coastal Access Act 2009 for marine works which is administered by Natural Resources Wales (NRW) Marine Licensing Team (MLT) on behalf of the Welsh Ministers.
Offshore Development Area	The footprint of the offshore infrastructure and associated temporary works, comprised of the Array Area and the Offshore Export Cable Corridor, as defined, that forms the offshore boundary for the S36 Consent and Marine Licence application.
Offshore Export Cable	The cable(s) that transmit electricity produced by the WTGs to landfall.
Offshore Export Cable Corridor (OfECC)	The area within which the offshore export cable circuit(s) will be located, from the Array Area to the Landfall.
Onshore Development Area	The footprint of the onshore infrastructure and associated temporary works, comprised of the Onshore Export Cable Corridor and the Onshore Substation, as defined, and including new access routes and visibility splays, that forms the onshore boundary for the planning application.
Onshore Export Cable(s)	The cable(s) that transmit electricity from the landfall to the onshore substation.
Onshore Export Cable Corridor (OnECC)	The area within which the onshore export cable circuit(s) will be located.
proposed Project	All aspects of the Llŷr 1 development (i.e. the onshore and offshore components).
Onshore Substation	Located within the Onshore Development Area, converts high voltage generated electricity into low voltage electricity that can be used for the grid and domestic consumption.
Onshore Substation Site	The area within which the Onshore Substation will be located.
Section 36 consent	Consent to construct and operate an offshore generating station, under Section 36 (S.36) of the Electricity Act 1989. This includes deemed planning permission for onshore works.

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7. LANDSCAPE AND VISUAL

7.1 Introduction

1. Llŷr Floating Wind Limited (hereafter the Applicant) is proposing to develop the Llŷr 1 Floating Offshore Wind Farm (hereafter referred to as the proposed Project), located approximately 35 km off the coast of Pembrokeshire in the Celtic Sea.
2. The proposed Project is a test and demonstration wind farm development, comprising up to 10 wind turbine generators (WTGs) and associated infrastructure. The proposed Project will make landfall at Freshwater West before connecting into the national grid network at Pembroke Dock power station.
3. The Applicant is seeking a Section 36 consent and Marine Licence for the offshore components and deemed planning permission as part of the Section 36 consent for the onshore components of the proposed Project. This chapter forms part of the Environmental Statement (ES) which is submitted in support of those consent applications. This chapter describes the potential impacts and effects of the onshore elements of the proposed Project on landscape character and visual amenity during the construction, operation and maintenance and decommissioning phases, and includes mitigation and good practice measures to avoid or reduce impacts.
4. **Section 7.10** of this ES chapter provides a summary of the impact assessment undertaken and any residual significant effects on landscape character and visual amenity following consideration of any mitigation measures.
5. The assessment presented in this chapter should be read in conjunction with the following linked and supporting chapters:
    - **Chapter 04 – Description of the Proposed Project** provides further details of the project design parameters.
    - **Chapter 05 – EIA Approach and Methodology** - provides details of the general framework and approach to the EIA.
6. Additional information to support the assessment includes:
    - **Appendix 7A – Landscape and Visual Assessment Methodology;**
    - **Appendix 7B – LVIA Detailed Assessment; and**
    - **Appendix 7C – LVIA Cumulative Assessment.**
7. The assessment has been undertaken by AECOM Chartered Landscape Architects. Further details of the Project Team's competency are provided in **Appendix 1A: Statement of Competence**.
8. Landscape and visual effects are interrelated with other environmental effects but are assessed separately. Historic features and ecological designations can have an influence on the perception and value of the landscape character or view. Potential effects on the cultural or heritage value of historic sites are considered in **Chapter 09 - Historic Environment and Cultural Heritage**, and potential effects on ecological assets are provided in **Chapter 08 – Ecology and Biodiversity**. A number of tourist destinations and routes are identified as visual receptors within this chapter, and the effects on views are assessed. Effects relating to tourism and social-economic aspects are provided in **Chapter 16 – Socio-economics, Recreation and Tourism**.

7.2 Legislation, Policy and Guidance

9. The following sections identify specific legislation, policy and guidance that is applicable to the assessment of landscape character and visual amenity. Further detail on the wider legislation, policy and guidance relevant to this ES is provided in **Chapter 02: Regulatory and Planning Policy Context**.

7.2.1. Legislation

10. The legislation that is applicable to the assessment of landscape character and visual amenity is summarised below.

- The European Landscape Convention (ELC) focuses specifically on the importance of integration of landscape issues into areas of policy, to promote protection, management and planning of all landscapes in Europe. The ELC defines landscape as '*an area, as perceived by people, whose character is the result of the action and interaction of natural and / or human factors'*. The ELC considers landscape as a whole (land or marine), from urban to rural areas, and whether special or degraded. The ELC was signed by the UK Government in 2006 and became binding from the 1st March 2007.
- The National Park and Access to the Countryside Act 1949 provided the basis for establishment of National Parks. The statutory purposes of the National Park designation are:
  - Conservation and enhancement: '*to conserve and enhance the natural beauty, wildlife and cultural heritage of the National Parks*.'
  - Understanding and enjoyment: '*to promote opportunities for the understanding and enjoyment of the special qualities (of the Parks) by the public*.'
- The Environment Act 1995, Section 66, places a duty on National Park Authorities to prepare a Management Plan for the delivery of National Park purposes.

7.2.2. National Planning Policy

11. The national planning policy that is applicable and/or considered relevant to the assessment of landscape character and visual amenity is summarised in **Table 7-1,** below.

Table 7-1. A summary of national planning policy relevant to landscape and visual

Summary of policy	How and where it is considered in the chapter
National Policy Statements (NPS) on Energy have been designated by the UK government to guide decision making on Nationally Significant Infrastructure Projects (NSIPs) consented under the Planning Act 2008. Given that the NPSs only applies to offshore wind projects that exceed 350 MW in capacity, they would not directly guide decision making on the proposed Project. However, because they were written to guide decision making on offshore wind projects, they are considered relevant as material considerations.	This chapter and supporting appendices provide an assessment of potential impacts on landscape character and visual amenity, undertaken in accordance with good practice guidance.
National Policy Statement for Renewable Energy Infrastructure (EN-3) highlights the importance of good design to help mitigate adverse landscape and visual effects.	As set out in **section 7.7**, landscape and visual considerations have helped to inform the siting and design of the proposed Project.

Summary of policy	How and where it is considered in the chapter
Future Wales: The National Plan 2040 sets out the need for renewable energy developments to demonstrate that they will not have unacceptable impact on the environment, including landscapes and visual amenity of communities and dwellings.	This chapter and supporting appendices provide an assessment of potential impacts on landscape and visual, undertaken in accordance with good practice guidance.
Planning Policy Wales (PPW) (Edition 12, February 2024) indicates that the landscapes of Wales are valued and requires local authorities to protect and enhance the special characteristics of landscapes, whilst paying due regard to the social, economic, environmental and cultural benefits they provide, and to their role in creating valued places.	This chapter and supporting appendices provide an assessment of potential impacts on landscape character, including identified special qualities and key characteristics and sense of place.
PPW Technical Advice Note (TAN) 12 provides advice on how developments should promote sustainability through good design. Specifically, in relation to landscape, it states *"appraisal of the landscape should focus on its quality in terms of geology and geomorphology, vegetation and habitats, visual and sensory quality and historic and cultural quality."*	This chapter and supporting appendices provide an assessment of potential impacts on landscape character, taking account of a range of key characteristics informed by consideration and understanding of the aspects outlined in TAN 12.
TAN 24 provides advice on development in relation to the historic environment. Specifically, in relation to landscape it sets out the need for developers to understand the significance and assess the potential impact upon Registered Historic Parks and Gardens (RHPG).	This chapter and supporting appendices provide an assessment of potential impacts on identified landscape designations. One RHPG was identified within the Study Area but has been excluded from detailed assessment as set out in **Appendix 7B – LVIA Detailed Assessment**.
Welsh National Marine Plan Policy SOC_06 sets out requirements to demonstrate how potential impacts on the purpose and special qualities of National Parks have been considered and advocates the following hierarchy of approach: avoid, minimise, mitigate.	**Appendix 7B – LVIA Detailed Assessment** provides an assessment of potential impacts on the character and special qualities of Pembrokeshire Coast National Park (PCNP). The approach to mitigation is set out in **section 7.7** of this chapter.

7.2.3. Local Planning Policy

12. The local planning policy that is applicable to the assessment of landscape character and visual amenity is summarised in **Table 7-2,** below.

Table 7-2. A summary of local planning policy relevant to landscape and visual

Summary of policy	How and where it is considered in the chapter
Pembrokeshire County Council (PCC) Local Development Plan (LDP) policy GN 1: provides criteria against which development will be considered, highlighting that development should be "*compatible with the capacity and*	This chapter and supporting appendices provide an assessment of potential impacts on landscape character and visual amenity, undertaken in accordance with good practice guidance.

Summary of policy	How and where it is considered in the chapter
character of the site and the area within which it is located" and should not "*result in a significant detrimental impact on local amenity in terms of visual impact*" or "*adversely affect landscape character, quality or diversity, including the special qualities of the Pembrokeshire Coast National Park and neighbouring authorities*".	
PCC LDP Supplementary Guidance: Landscape Character Assessment sets out the key characteristics of the landscapes of Pembrokeshire, defining a series of character areas, and is intended to support decision making in relation to policy GN 1.	The LDP Supplementary Guidance has been reviewed and used to help inform establishment of the landscape character baseline, including identification of landscape character units and associated key characteristics. A baseline description of relevant landscape character units is provided in **Appendix 7B – LVIA Detailed Assessment**.
Pembrokeshire Coast National Park Local Development Plan 2 (LDP2) Policy 8 sets out protection for the special qualities of the PCNP, including the sense of remoteness and tranquillity, pattern and diversity of the landscape, and the unsettled coast. This policy also highlights the importance of potential cumulative impacts in relation to the special qualities.	**Appendix 7B – LVIA Detailed Assessment** provides an assessment of potential impacts on the character and special qualities of the PCNP. An assessment of potential cumulative effects on the PCNP is provided in **Appendix 7C – LVIA Cumulative Assessment**.
PCNP LDP2 Policy 14 states that *"Development will not be permitted where this will have an unacceptable adverse effect on the qualities and special landscape and seascape character of the Pembrokeshire Coast National Park including locally distinctive characteristics".*	**Appendix 7B – LVIA Detailed Assessment** provides an assessment of potential impacts on the character and special qualities of the PCNP.
PCNP LDP2 Policy 33 sets out support for renewable energy development provided it meets a set of criteria including no unacceptable adverse effects on visual amenity, landscape character, the special qualities of the national park and the undeveloped coast. It also sets out the need for development to demonstrate that measures have been taken to minimise impacts on the landscape and result in no unacceptable impacts on residential amenity.	This chapter provides an overview of potential effects on the PCNP, landscape character and visual amenity. A detailed assessment is provided in **Appendix 7B – LVIA Detailed Assessment,** and details of mitigation measures are set out in **section 7.7** of this chapter.
PCNP Supplementary Planning Guidance documents relevant to LVIA include Landscape Character and Renewable Energy.	This chapter and supporting appendices provide an assessment of potential impacts on landscape and visual, undertaken in accordance with good practice guidance. **Appendix 7B – LVIA Detailed Assessment** provides a detailed assessment on relevant receptors.

Summary of policy	How and where it is considered in the chapter
PCNP Authority Management Plan 2020-2024 Policy L1 seeks to protect and enhance seascape and landscape character.	This chapter provides an overview of potential effects on landscape character. A detailed assessment is provided in **Appendix 7B – LVIA Detailed Assessment,** and details of mitigation measures are set out in **section 7.7** of this chapter. Potential seascape effects of offshore elements of the proposed project are assessed in **Chapter 23 – Seascape, Landscape and Visual**.
PCNP Authority Management Plan 2020-2024 Policy L2 recognises the need to develop guidance in relation to lighting for development and seeks to promote good practice in lighting design.	A description of the proposed Project, including approach to lighting is provided in **Chapter 04 – Description of the Proposed Project**, and details of mitigation measures, including limiting of lighting are set out in **section 7.7** of this chapter.

7.2.4. Guidance

13. The key guidance relevant to the assessment of landscape character and visual amenity is outlined in **Table 7-3.**

Table 7-3. A summary of guidance relevant to landscape and visual

Summary of Guidance	How and where it is considered in the chapter
Guidelines for Landscape and Visual Impact Assessment (GLVIA), Third Edition, Landscape Institute and Institute of Environmental Management and Assessment, 2013 provides guidance on approach and methodology for Landscape and Visual Impact Assessment (LVIA).	As detailed in **Appendix 7A – LVIA Methodology**, GLVIA forms the basis of the approach and methodology adopted for the LVIA.
Assessing landscape value outside national designations, Technical Guidance Note 02/21, Landscape Institute 2021 provides supplementary guidance to GLVIA specific to identification of landscape value.	As detailed in **Appendix 7A – LVIA Methodology**, this technical guidance note has helped to inform determination of landscape value.
Using LANDMAP in Landscape and Visual Impact Assessments, NRW 2016, provides guidance on use of LANDMAP data in the assessment process.	LANDMAP data has helped to inform an understanding of the existing landscape and contributed towards the landscape character baseline descriptions provided in **Appendix 7B – LVIA Detailed Assessment**.
Visual Representation of Development Proposals, Technical Guidance Note 06/19, Landscape Institute 2019 provides guidance relating to production of visualisations.	This guidance has informed the approach to production of the visualisations which accompany this chapter (**Volume 5: Figures VP A.1 to VP I.4**).

7.3 Stakeholder Engagement and Consultation

7.3.1. Consultation with statutory and non-statutory organisations is a key element of the EIA process. Consultation with regards to landscape and visual has been undertaken to inform the approach to, and scope of, the assessment.

7.3.2. Stakeholders for the proposed Project include statutory consultees, landowners and local

communities. In addition to the statutory consultation process, there has been ongoing engagement with statutory and non-statutory consultees to steer the development of the proposed Project and this is detailed in **Table 7-4.**

7.3.3. Summary of Stakeholder Consultations

Table 7-4. Summary of the key issues raised by consultees and how each issue was addressed

Consultee	Consultation type and date	Comment raised	How issue has been addressed and location of response in chapter
Scoping			
NRW	Response to request for Scoping Opinion, 23 May 2022	Suggest additional viewpoints from B4320 towards Corseside/minor road to Neath Farm.	A viewpoint was considered at the suggested location but later replaced with Viewpoint D: B4320, Wogaston at request of NRW.
NRW	Response to request for Scoping Opinion, 23 May 2022	A suitable viewpoint e.g. from the Wales Coast Path at West Angle Bay, from Freshwater West or Angle Bay would be required depending on the cable landfall site.	Landfall location proposed slightly inland from the coast near Freshwater West. Viewpoint A: B4320, The Burrows included to capture visual impacts related to the Landfall.
NRW	Response to request for Scoping Opinion, 23 May 2022	Assessment of sequential visual impacts on sections of the Wales Coast Path will also be required.	**Appendix 7B – LVIA Detailed Assessment** provides an assessment of potential visual effects on and relevant sections of the Pembrokeshire Coast Path.
NRW	Response to request for Scoping Opinion, 23 May 2022	Recommend inclusion of photomontages from additional viewpoints.	**Volume 5: Figures VP A.2 to VP I.4** provide visualisations for each representative viewpoint, including photomontages from four locations.
NRW	Response to request for Scoping Opinion, 23 May 2022	Operational effects of the landfall and onshore cable route can be scoped out, assuming Horizontal Directional Drilling (HDD) is used at the landfall.	HDD proposed at the Landfall and therefore assessment of the Onshore Export Cable is focused on the construction stage.

Consultee	Consultation type and date	Comment raised	How issue has been addressed and location of response in chapter
NRW	Response to request for Scoping Opinion, 23 May 2022	Rhoscrowther Wind Farm, Project Erebus and Project Valorous are likely to result in cumulative effects.	A shortlist of projects included in the cumulative assessment is provided in **Table 7-10.** Projects include Erebus and Valorous, but not Rhoscrowther Wind Farm which has been refused consent and is therefore no longer relevant.
PCNP Authority	Response to request for Scoping Opinion, 18 May 2022	Highlighted the relevance of policy SOC_06 of the Welsh National Marine Plan, and the potential requirement for mitigation.	A detailed assessment of potential effects on the character and special qualities of the PCNP is provided in **Appendix 7B – LVIA Detailed Assessment**, and the approach to mitigation is set out in **section 7.7** of this chapter.
PCNP Authority	Response to request for Scoping Opinion, 18 May 2022	An additional viewpoint should be provided from Goldborough Road.	**Table 7-5** provides a list and details of the assessment viewpoints, which include two locations on Goldborough Road.
Pre-application			
NRW	Letter of 15 May 2023	Suggested replacing viewpoint at B4320, Harry Standup with location further east at Wogaston access.	Viewpoint D: B4320, Wogaston included at suggested location.
NRW	Letter of 15 May 2023	Recommended moving proposed viewpoint at Wallaston Cross further east and including a viewpoint north of the Onshore Substation, looking south.	Viewpoint F: Right of Way, west of Lambeeth Farm and Viewpoint G: Goldborough Road (west) provided to capture views from east of Wallaston Cross.
NRW	Letter of 15 May 2023	Recommended including viewpoints north of the	Viewpoint C: Pembrokeshire Coast

Consultee	Consultation type and date	Comment raised	How issue has been addressed and location of response in chapter
		Onshore Substation, looking south.	Path, Pwllcrochan provided to represent potential visibility from the north.
NRW	Letter of 15 May 2023	Consider opportunities for co-locating / sharing infrastructure with Erebus where possible and where it would minimise landscape and visual impacts.	The Applicant has engaged with other developers of planned nearby developments, including Erebus throughout the planning and design process. The Onshore Substation for the proposed Project would be located in an area partially characterised by existing electrical infrastructure and development.
NRW	Letter of 15 May 2023	Photomontages should be provided for greater than 2 viewpoint locations.	**Volume 5: Figures VP A.2 to VP I.4** provide visualisations for each representative viewpoint, including photomontages from four locations.
NRW	Letter of 15 May 2023	Potential for cumulative effects with Erebus and Greenlink developments should be illustrated using photomontages	Greenlink substation is under construction and is therefore present in the baseline photography. An indication of the maximum extents of Erebus substation is provided in the visualisations (**Volume 5: Figures VP A.2 to VP I.4**).
NRW	E-mail of 22 June 2023	A cumulative Zone of Theoretical Visibility (ZTV) would be beneficial for the onshore component in combination with of Erebus and Greenlink substations.	**Volume 5: Figure 7.10** provides a cumulative ZTVs of the proposed Project in relation to the Greenlink converter station

Consultee	Consultation type and date	Comment raised	How issue has been addressed and location of response in chapter
			(under construction) and consented Erebus substation.
PCNP Authority	Meeting on 17 July 2023	Important to be clear on the basis of the assessment and any assumptions made in relation to siting and design.	**Table 7-6** provides details of the design scenarios which form the basis of the LVIA.

7.4 Approach to Assessment

7.4.1. Assessment Methodology

14. **Chapter 05 – EIA Approach and Methodology** provides a summary of the general impact assessment methodology applied in this ES. The following sections provide an overview of the specific methodology used to assess the potential impacts on landscape character and visual amenity which are aligned to GLVIA and differ slightly from that set out in **Chapter 05 – EIA Approach and Methodology**. A more detailed description of the LVIA methodology is provided in **Appendix 7A – LVIA Methodology**.

15. The initial stage of assessment involved a process of desk and field-based survey to refine the scope of the detailed assessment in order to ensure a proportionate approach, focused on potential significant effects. This process involved preparation and analysis of ZTV calculations to determine the extent of potential visibility of the proposed Project. Those receptors located fully or predominantly outside the extent of the ZTV were then scoped out of the assessment.

16. The significance of potential effects has been evaluated using a systematic approach together with the application of professional judgement. The assessment is based upon the identification of the importance/value of receptors and their susceptibility and sensitivity to the proposed Project together with the predicted magnitude of the potential impact.

17. The degree of landscape and visual impact can differ from one stage of the proposed Project to the next and the LVIA therefore considers potential effects related to construction, operation and maintenance, and decommissioning of the proposed Project. It is also recognised that effects can change over time, particularly where planting is included as mitigation. Where relevant the LVIA considers two stages of operation and maintenance, the first at winter of Year 1 in order to represent the worst case, and the second at Year 15 to give an indication of the influence of proposed mitigation planting on longer term effects.

18. For clarity and in accordance with good practice, the assessment of potential effects on landscape character and visual amenity, although closely related, are undertaken separately.

7.4.2. Significance Criteria

19. The LVIA first establishes and describes the existing baseline conditions and value of each identified landscape and visual receptor before making judgements on the sensitivity, magnitude of impact and significance of effect resulting from the proposed Project.

Sensitivity of Receptor

Landscape Character

20. The sensitivity of a landscape receptor is a combination of the value of the landscape (determined as part of the baseline study) and the susceptibility to change of the receptor to the specific type of development being assessed.

21. Landscape value is frequently informed with reference to designations, determined by statutory bodies and planning agencies. However, a range of other factors such as local scarcity, condition and quality are also considered.

22. Landscape susceptibility relates to the ability of a particular landscape to accommodate the proposed Project and is appraised through consideration of the baseline characteristics, and in particular, the scale or complexity of a given landscape.

23. The overall sensitivity assessment is made by employing professional judgement to combine and analyse the identified value and susceptibility, guided by defined criteria with overall levels given from very high, high, medium, low and negligible.

Visual Amenity

24. Sensitivity of visual receptors is defined through appraisal of the viewing expectation, or value placed on the view, as identified as part of the baseline study, and its susceptibility to change.

25. Value of the view is often informed by the appearance on Ordnance Survey or tourist maps and in guidebooks, literature or art or identification in policy. Value can also be indicated by the provision of parking or services, signage, and interpretation. The nature and composition of the view and its scenic quality is also an indicator.

26. The susceptibility of visual receptors is a function of the occupation or activity of people experiencing the view and the extent to which their attention or interest is focussed on the view.

27. The overall sensitivity assessment of the visual receptor is determined by employing professional judgement to combine and analyse the identified value and susceptibility and described on a scale of very high, high, medium, low and negligible.

Magnitude of Impact

Landscape Character

28. Magnitude of landscape impact refers to the extent to which the proposed Project would alter the existing characteristics of the landscape. It is an expression of the size or scale of change, the geographical extent of the area influenced, distance from the receptor and the duration and reversibility. The overall magnitude of impact is determined by combining the above considerations using evidence and professional judgement, guided by defined criteria with levels described as being large, medium, small or negligible.

Visual Amenity

29. Magnitude of visual impact relates to the extent to which the proposed Project would alter the existing view and is an expression of the size or scale of change in the view, the geographical extent of the area influenced, the angle of view, distance from the receptor, potential number of viewers and the duration and reversibility. The overall magnitude of visual impact is determined by combining the above considerations using evidence and professional judgement, guided by defined criteria, with levels described as being large, medium, small or negligible.

Significance of Effect

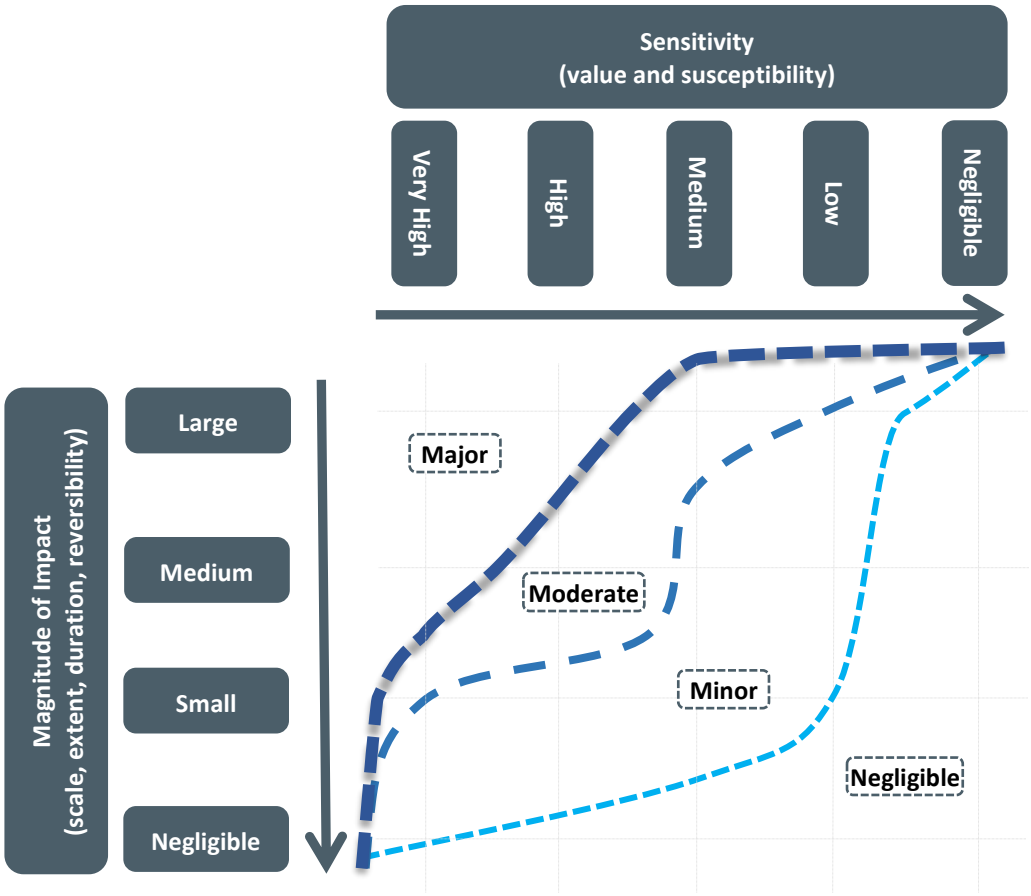
30. Determination of the significance of landscape and visual effects has been undertaken by employing professional judgement and experience to combine and analyse the magnitude of impact against the identified sensitivity of the receptor.

31. The landscape assessment takes account of direct and indirect change on existing key physical and perceptual characteristics and evaluates the extent to which these would be lost or modified, in the context of their importance in determining the existing baseline character.

32. The visual assessment considers likely changes to the visual composition, including the extent to which new features would distract or screen existing elements in the view or disrupt the scale, structure, or focus of the existing view.

33. **Diagram 23-1** provides an indication of how sensitivity and magnitude are considered together to inform the determination of the significance of effect.

Diagram 23-1. Indicative approach to determine significance of effect



34. Levels of effect significance are described on a scale ranging from major to negligible. Assignment of significance is carried out with consideration of embedded mitigation measures relevant to landscape and visual as set out in **Section 7.7.** For the purposes of this assessment, moderate and major levels of effect are defined as significant in EIA terms, and where relevant additional mitigation measures may be required, whilst negligible or minor effects are defined as not significant.

Cumulative Effects

35. The assessment of cumulative effects follows a similar process to that described above, first identifying and describing the baseline, followed by an assessment of the magnitude of change and significance of effect.

36. The cumulative baseline includes other similar onshore projects that are either operational, consented/under construction or for which a consent application has been submitted and is not yet determined or is under appeal. A number of potential developments at the pre-application stage and for which an EIA Scoping request has been submitted have also been included where relevant and/or requested by NRW.

37. The cumulative assessment focuses on the potential change and impacts resulting from the addition of the onshore elements of the proposed Project to that experienced in the identified cumulative scenarios. However, an overview of potential total cumulative impact of the proposed Project in combination with the identified cumulative projects is also provided.

7.4.3. Study Area

38. The Study Area for the assessment of landscape and visual impacts has been defined on the basis of the maximum parameters of the proposed Project, mapping and desk-based research and modelling and professional judgement.

39. The extent of the Study Area, as shown on **Volume 5: Figure 7.1**, has been defined as 3 km from the proposed Onshore Substation and 1 km from the proposed Onshore Export Cable Corridor (OnECC). It is acknowledged that there may be potential visibility of the proposed Project beyond these distances in certain conditions. However, the Study Area extents are considered to be the outer limit of potential for significant landscape and visual effects. The extent of the Study Area has been agreed in consultation with NRW and PCNP Authority.

7.4.4. Data Sources

Site Specific Surveys

40. In order to provide site specific information on which to base the impact assessment for landscape character and visual amenity, site specific surveys were conducted. This involved travel throughout the Study Area and immediate surroundings, including visiting each of the identified landscape character areas, viewpoint locations and sections of the Pembroke Coast Path.

41. Site survey was undertaken both during the daytime and at night and has helped to identify and define landscape and visual receptors, review and verify the findings of desk-based study, refine baseline descriptions and inform consultation with stakeholders in order to agree the scope of the assessment and location of viewpoints.

Desk Study

42. A comprehensive desk-based review was undertaken to inform the baseline for the LVIA. Key data sources used to inform the assessment include:

- Ordnance Survey (OS) mapping, and aerial photography;
- OS Digital Terrain Model (DTM);
- Relevant national, regional, and local planning policy and guidance;
- Published citations and descriptions of landscape designations;
- LANDMAP aspect area descriptions; and
- National and local landscape character descriptions.

7.5 Baseline

43. The following sections provide an overview of the baseline environment relating to landscape character and visual amenity.

7.5.1. Existing Baseline

Landscape Designations

44. Landscapes can be recognised as of international, national, or local importance and designated through statute, development plans or other documents. The following landscape designations have been identified within the Study Area, as shown on **Volume 5: Figure 7.1.**

- Pembrokeshire Coast National Park (PCNP);
- Orielton Registered Historic Parks and Gardens (RHPG): and
- South Pembrokeshire Heritage Coast.

45. Baseline descriptions of the landscape character and/or special qualities of those landscape designations included within the detailed assessment are provided in **Appendix 7B – LVIA Detailed Assessment**.

Landscape Character

46. Landscape character can be defined and described at different levels of scale and detail. At the national level the Study Area for the onshore elements of the proposed Project is covered by the following National Landscape Character Areas (NLCA) as shown on **Volume 5: Figure 7.2**.

- Milford Haven NLCA; and
- South Pembrokeshire Coast NLCA.

47. The national level character descriptions help to inform the landscape context of the Study Area but are considered too broad to act as the basis for defining the baseline for the assessment. The LVIA has therefore been undertaken on the basis of the smaller scale local landscape units identified within the following publications, in combination with relevant LANDMAP aspect areas:

- Pembrokeshire Coast National Park Landscape Character Assessment; and
- Pembrokeshire County Landscape Character Assessment, Consultation Draft.

48. The locations of the Landscape Character Areas (LCA) included within the detailed assessment are shown on **Volume 5: Figure 7.3** and a baseline description of each is provided in **Appendix 7B – LVIA Detailed Assessment**. Three additional figures are provided to provide further information relevant to the landscape baseline. **Volume 5: Figure 7.4** provides an overview of topography of the Study Area, **Volume 5: Figure 7.5** shows LANDMAP Visual and Sensory areas and **Volume 5: Figure 7.6** provides an indication of existing night-time light sources.

Visual

49. Visual receptors with the potential to experience views of the onshore elements of the proposed Project include residents in their home, users of the Pembrokeshire Coast Path and other recreational routes, and users of the local road network.

50. The visual assessment is based on a series of representative viewpoints, selected in consultation with NRW, PCC and PCNP Authority, to provide a cross section of sensitive receptor types and locations within the Study Area. **Table 7-5**, below, provides details of the representative viewpoint locations, with a baseline description of each provided in **Appendix 7B – LVIA Detailed Assessment**. The locations of the viewpoints are shown on **Volume 5: Figure 7.7.**

Table 7-5. Visual assessment viewpoint locations

Viewpoint reference	Location	Receptor type	Reason for inclusion
VP A	B4320, The Burrows	Residential and road users	Elevated location on the B4320, representative of road users and nearby residential receptors.
VP B	Minor Road, south of Rhoscrowther	Recreational	Representative of views from the west at the boundary of the PCNP.
VP C	Pembroke Coast Path, Pwllcrochan	Recreational	Representative of views from the coastal path to the north.
VP D	B4320, Wogaston	Recreational and road users	Elevated location on the B4320, representative of road users at the boundary of the PCNP, suggested by NRW.
VP E	Wallaston Green	Residential and road users	Representative of views from adjacent residential receptors and the minor road.
VP F	Right of Way, west of Lambeeth Farm	Recreational	Representative of views from the local path network near Lambeeth Farm.
VP G	Goldborough Road (west)	Residential and road users	Representative of views from the minor road and nearby residential receptors, requested by PCC.
VP H	Pennar	Residential	Elevated location, representative of views from the settlement edge.
VP I	Goldborough Road (east)	Recreational and residential	Elevated location, representative of views from the coastal path and Hundleton.

7.5.2. Future Baseline

51. This section considers any changes to the baseline conditions described above that might occur over the 30 year operational lifespan of the proposed Project, but in its absence (i.e. in the event that the proposed Project is not constructed).

52. There is potential for a change to the landscape and visual baseline as a result of the introduction of additional energy-related development to the south of Milford Haven. Consent has been granted for Project Erebus, which includes an onshore cable route and substation located approximately 750 m south of Pembroke Power Station and for a synchronous condenser immediate to the west of the Pembroke Power Station. A future baseline scenario including relevant operational and consented projects is considered as part of the cumulative assessment in **Section 7.11**.

53. It is understood that a number of other onshore energy-related developments, including Battery Energy Storage Systems (BESS) and Green Hydrogen, are being considered in the area around Pembroke Power Station, to the south of Milford Haven. There is considerable uncertainty in the scale and extent of potential nearby energy development. However, change to the local landscape character is likely to some degree. A future baseline scenario including relevant scoping stage projects alongside those which are operational and consented is considered as part of the cumulative assessment in **Section 7.11**.

54. There is also potential for energy development in the seascape to the south and west of Pembrokeshire which has the potential to locally influence perceptual aspects of seascape and coastal landscape character.

55. Taking the above into account, although there is likely to be localised change to parts of the landscape, it is anticipated that the nature and character of the wider Study Area, and particularly the areas within PCNP to the west, and south of the B4320, would remain largely similar to that of the existing baseline.

7.6 Scope of the Assessment

56. An EIA Scoping Report for the proposed Project was submitted to NRW Marine Licensing Team (MLT) in April 2022. The Scoping Report was also shared with relevant consultees, inviting comment on the proposed approach adopted by the Applicant. A Scoping Opinion was provided to the Applicant by NRW MLT in July 2022. Based on the Scoping Opinion received, and further consultation undertaken, potential impacts on landscape character and visual amenity scoped into the assessment are listed below in **Table 7-6**. Impacts scoped out of the assessment are listed in **Section 7.6.1**.

57. As set out in **Section 7.4.1**, this assessment considers the design parameters of the proposed Project which are predicted to result in the greatest environmental impact, known as the '*realistic worst case scenario'*. The realistic worst case scenario represents, for any given receptor and potential impact on that receptor, various options in the Design Envelope (as set out in **Chapter 04 – Description of the Proposed Project**) that would result in the greatest potential for change to the receptor in question. Given that the realistic worst case scenario is based on the design option (or combination of options) that represents the greatest potential for change, confidence can be held that the development of any alternative options within the design parameters would give rise to effects no greater or worse than those included in this impact assessment.

58. Accordingly, the design scenarios identified in **Table 7-6** have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group within the LVIA Study Area. These scenarios have been selected from the details provided in **Chapter 04 – Description of the Proposed Project**.

Table 7-6. Design scenario considered for the assessment

Potential impact	Design scenario	Justification
Construction		
Increased movement and activity within the Onshore Development Area with potential to affect physical and perceptual aspects of landscape character and views.	Maximum extent of activity and number and size of construction compounds associated with the OnECC and Onshore Substation, as listed below and detailed in **Chapter 04 – Description of the Proposed Project**. HDD compound at Landfall (approx. 100 m x 75 m). Transition Joint Bay works area and compounds (approx. 140 m x 50 m).	Scale, extent and duration are factors which contribute to magnitude of impact in relation to landscape and visual effects and therefore considering the maximum scenarios for each of these aspects represents the likely worst case.

Potential impact	Design scenario	Justification
	OnECC working width of up to 35 m, locally reduced to 10 m where passing through hedgerows. Cable Joint Bay working areas (up to 8 locations, approx. 20 m x 20 m each). Onshore Substation (approx. 126 m x 109 m). Main compound (approx. 100 m x 50 m). Four satellite compounds (approx. 50 m x 50 m each). The maximum duration over which works could occur (up to 24 months).	
Operation and maintenance		
Potential impact on physical and perceptual aspects of landscape character and on views resulting from introduction of proposed Onshore Substation.	Maximum parameters of the Onshore Substation, including structures up to 15 m height and maximum extent of 126 m x 109 m. Location of Onshore Substation on highest part of identified Onshore Substation Site, with platform level of 65 m above ordnance datum, as indicated on **Volume 5: Figure 7.8**.	The reasonable worst case scenario presented involves the maximum scale and extent of development and greatest potential for impacts on landscape character and visual amenity.
Decommissioning		
Increased movement and activity within the Onshore Substation area, with potential to affect physical and perceptual aspects of landscape character and views.	Maximum extent of activity, compounds etc. as detailed in **Section 4.9** of **Chapter 04 – Description of the Proposed Project.** The maximum duration over which works could occur (up to 12 months).	The reasonable worst case scenario presents the maximum scale, extent and duration and as such represents the greatest potential magnitude of impact to landscape and visual.

7.6.1. Impacts scoped out of assessment

59. Potential impacts relating to the operation and maintenance of the Onshore Export Cable have been scoped out of the LVIA during EIA scoping and subsequent consultation. The Onshore Export Cable would be located underground and therefore would not be visible from or result in impacts on an appreciation of landscape character or views.

7.6.2. Assessment Assumptions and Limitations

60. Details of the assumptions and limitations of the assessment are provided in **Appendix 7A – LVIA Methodology** and are summarised below:

- Duration of operational effects are assumed to be long-term based on a 30-year operational lifespan of the proposed Project;
- Graphics and visualisations have been provided to support the assessment. It is important that these are read in conjunction with the assessment text and should be viewed in the field and with an understanding of their inherent limitations;
- A cumulative cut-off date of 31 October 2023 (except where otherwise agreed with consultees) was set to allow progress with the cumulative assessment and visualisations. Any subsequent changes to the cumulative baseline have not been assessed;
- The night-time baseline is based on targeted site survey at night coupled with daytime observations;
- Weather and prevailing atmospheric conditions can have an influence on the visibility and impression of proposed structures, particularly from more distant locations. The assessment adopts a '*worst case'* approach to which assumes clear weather conditions and good visibility; and
- The precise location of the Onshore Substation within the identified Onshore Substation Site is not yet known. The LVIA has therefore been undertaken based on a realistic worst case scenario with the Onshore Substation positioned on more elevated parts of the identified Onshore Substation Site, while allowing space for potential mitigation measures, if required.

7.7 Embedded Mitigation, Management Plans and Best Practice

61. As part of the project design process, several designed-in measures have been proposed to reduce the potential for impacts on landscape character and visual amenity (see **Table 7-7**). The design of the proposed Project therefore includes embedded mitigation measures and reference to various management plans that would be produced as conditions of consent. This approach has been employed to demonstrate commitment to mitigation measures by including them in the design of the proposed Project and as such these measures have been considered within the assessment presented in **section 7.8** below. Assessment of magnitude and therefore significance includes the implementation of these measures.

Table 7-7. Mitigation measures adopted as part of the proposed Project

Embedded mitigation measures, management plans and best practice	Justification
Design Embedded Measures	
Placing the Onshore Export Cable underground and reinstatement of above ground vegetation as part of construction.	Undergrounding and reinstatement would ensure no operational stage landscape and visual effects from the Onshore Export Cable.
Siting of Onshore Substation outside the PCNP and in context of other existing energy development and infrastructure.	Siting outside PCNP and in area already influenced by development helps to minimise potential effects on the PCNP and other sensitive landscapes.
Minimising the extent of the construction corridor, retention of existing trees and hedges as far as	Limiting vegetation clearance would minimise direct change, reducing potential landscape effects. Siting of construction

Embedded mitigation measures, management plans and best practice	Justification
possible and careful siting of construction compounds.	compounds away from sensitive visual receptors and landscape elements would help reduce potential effects.
Minimising lighting to that required for operational safety, and use of directional and sensor controlled units.	Reduces potential for impacts on dark sky qualities of landscape character.
Management Plans	
Appendix 4A – The Outline Construction Environment Management Plan (CEMP) provided in includes measures to limit removal of existing vegetation as far as possible and to reinstate vegetation required to be removed for construction. The Outline CEMP also includes measures to limit the use of artificial lighting and associated light spillage as far as practical.	Limiting removal of existing vegetation and reinstatement of areas affected by construction would minimise direct and indirect change, reducing potential landscape and visual effects. Limiting use and spillage of lighting would reduce potential for impacts on night-time views and dark sky characteristics.
A Landscape and Ecological Management Plan (LEMP) will be prepared providing details of landscape mitigation measures and management and monitoring to ensure successful establishment. **Volume 5: Figure 7.8** provides an indicative landscape mitigation plan for the Onshore Substation Site.	Mitigation measures such as earthworks and planting around the Onshore Substation would help to reduce longer term landscape and visual impacts.

7.8 Assessment of Environmental Effects

7.8.1. Construction and Decommissioning Effects

62. Construction and decommissioning of the proposed Project have the potential to result in temporary direct and indirect change to both the physical and perceptual aspects of landscape character and to views.

63. Potential construction and decommissioning impacts would principally occur as a result of activity associated with installation of the Onshore Export Cable and construction (or demolition) of the Onshore Substation.

64. A detailed assessment of potential impacts and effects of construction of the onshore elements of the proposed Project on relevant landscape and visual receptors is set out in **Appendix 7B – LVIA Detailed Assessment** and summarised below. Effects related to decommissioning are considered to be broadly similar but of a shorter duration to those relating to construction.

Landscape Designations

65. The following provides a summary of potential effects on PCNP and related Heritage Coast. More detailed assessment, including in relation to the identified special qualities, is provided in **Appendix 7B – LVIA Detailed Assessment**.

66. The remaining landscape designations identified within the Study Area have been scoped out of detailed assessment as a result of the very limited and/or localised nature of potential visibility and therefore no potential for significant effects.

Sensitivity of the receptor

67. PCNP is a nationally designated landscape and as such the landscape value is considered to be very high. Although variable, for the purposes of this assessment the overall susceptibility to change is considered to be high. Considering the factors which contribute to the identified very high value with those that indicate a high susceptibility, the sensitivity of the special qualities of the PCNP are considered to be **high**.

Magnitude of Impact

68. The majority of the PCNP is outside the LVIA Study Area. The assessment therefore focuses on a small area of the PCNP east of the Angle Peninsula, between Rhoscrowther, Freshwater West and Castlemartin.

69. The Landfall and part of the Onshore Export Cable would be located within the PCNP and therefore potential change would be both direct and indirect. The assessment has identified that construction of the Onshore Export Cable would result in limited and localised influence on physical attributes that contribute to the landscape character of the PCNP. Potential indirect change would be limited to perceptual attributes of the remoteness, tranquillity and wildness special quality, with very little or no influence on the remaining special qualities. The rolling nature of the topography within and adjacent to the PCNP would limit the extent of potential indirect change related to construction of the Onshore Substation, such that it results in little, if any, change to the perceptual attributes of the special qualities of the PCNP.

70. On balance, taking account of the potential for localised influence of construction of the Onshore Export Cable on a limited number of identified special qualities, and the temporary nature and short duration of change, the magnitude of impact during construction is assessed as **small**.

Significance of Effect

71. The sensitivity of PCNP and related Heritage Coasts is considered to be **high,** and the magnitude of the impact is assessed as **small**. Therefore, the effect would be **minor adverse**, which is **not significant** in EIA terms.

Landscape Character Areas

72. The following provides a summary of potential effects on landscape character resulting from construction. Detailed assessment of potential effects on each of the relevant LCAs is provided in **Appendix 7B – LVIA Detailed Assessment**.

Sensitivity of the receptor

73. An evaluation of the baseline characteristics of each of the relevant LCAs indicated that landscape value and susceptibility vary considerably across the Study Area, with value ranging from low to very high and susceptibility from negligible to medium. When evaluating the identified value and susceptibility, the overall sensitivity of the LCAs found within the PCNP (Castlemartin/Merrion Ranges LCA, Angle Peninsula LCA and Freshwater West/Brownslade Burrows LCA) is considered to be **high**. Those LCAs characterised by development (Southern Haven Developed LCA and Southern Haven Industrial Fringe LCA) are considered to be of **low** sensitivity, while the remaining two LCAs (Southern Haven Mudflats LCA and Hundleton and Lamphey) are considered to be of **medium** sensitivity.

Magnitude of impact

74. Construction of the Onshore Export Cable would result in direct and indirect change on the majority of the LCAs found within the Study Area. Temporary direct change to physical

elements of the landscape through clearance of vegetation or changes to topography would be relatively localised. Potential indirect change would generally occur over a slightly greater extent and would relate to the influence of increased movement and activity within the OnECC on perceptual aspects of the LCAs. Construction of the Onshore Substation would occur in only one of the LCAs (Hundleton and Lamphey) and as such would largely be indirect in nature, and often limited by topography. The assessment has identified that the magnitude of impact on the majority of LCAs would be **small**, with a reduced magnitude of **negligible** on the Southern Haven Developed LCA, Southern Haven Industrial Fringe LCA and Southern Haven Mudflats LCA. Impacts relating to construction would be temporary in nature and of a short duration.

Significance of the effect

75. The sensitivity of the LCAs is variable, ranging from **low** to **high**, and the magnitude of the impact is assessed as **small** or **negligible**. The effect on the majority of the LCAs would be **minor adverse**, which is **not significant** in EIA terms, with **negligible adverse (not significant)** effects assessed for the remaining LCAs (Southern Haven Developed LCA, Southern Haven Industrial Fringe LCA and Southern Haven Mudflats LCA).

Representative Viewpoints

76. The following provides a summary of potential effects on visual receptors based on the assessment viewpoints. Detailed assessment of potential effects on each of the representative viewpoints is provided in **Appendix 7B – LVIA Detailed Assessment**.

Sensitivity of the receptor

77. Evaluation of the location and nature of existing views from each of the representative viewpoints has indicated that the majority are of medium value. The exceptions are Viewpoint C: Pembrokeshire Coast Path, Pwllcrochan; and Viewpoint F: Right of Way, west of Lambeeth Farm where value is considered to be low. Susceptibility to change varies across the viewpoints, with those representative of residential properties tending to be very high or high and those representing road users or locations with an existing context of development medium. When evaluating the identified value together with the susceptibility, the overall sensitivity of the majority of the visual receptors is **high**. The exceptions are Viewpoint B: Minor Road, south of Rhoscrowther; Viewpoint C: Pembrokeshire Coast Path, Pwllcrochan; and Viewpoint F: Right of Way, west of Lambeeth where sensitivity is considered to be **medium**.

Magnitude of Impact

78. The extent and nature of visibility of construction activity associated with the Landfall, Onshore Export Cable and Onshore Substation varies with each viewpoint. Generally those in close proximity to construction of one or more components and where construction occupies a wide extent of important part of the view are anticipated to receive the greatest magnitude of impact. This applies to Viewpoint A: B4320, The Burrows; Viewpoint E: Wallaston Green; and Viewpoint F: Right of Way, west of Lambeeth Farm, where the magnitude of impact is assessed as **medium**. Magnitude of impact is assessed as **small** for the majority of the remaining viewpoints, generally as a result of being located at greater distance and/or experiencing more limited visibility of construction. The exception to this is Viewpoint C: Pembrokeshire Coast Path, Pwllcrochan for which magnitude of impact is assessed as **negligible**. Impacts relating to construction would be temporary in nature and of a short duration.

Significance of Effect

79. For the majority of the viewpoints the sensitivity is considered to be **high** or **medium** and the magnitude of the impact assessed as **small**, resulting in a **minor adverse** significance of effect, which is **not significant** in EIA terms. A lower magnitude of impact of negligible, resulting in a **negligible adverse** significance of effect, which is **not significant** in EIA terms, is assessed for receptors at Viewpoint C: Pembrokeshire Coast Path, Pwllcrochan.

80. For the remaining viewpoints the sensitivity is considered to **high** or **medium** and the magnitude of the impact assessed as **medium**, resulting in a **moderate adverse** significance of effect, which is **significant** in EIA terms.

Further mitigation and residual risk

81. Construction related effects would be temporary in nature and of a short duration (up to 24 months). Vegetation clearance to facilitate construction would be minimised as far as possible and the majority of vegetation and landform temporarily affected would be reinstated as part of construction such that no, or only very limited, impacts would remain. No further mitigation measures beyond standard construction practices and management are proposed.

Pembrokeshire Coast Path

82. The following provides a summary of potential visual effects on users of the Pembrokeshire Coast Path, and a more detailed assessment is provided in **Appendix 7B – LVIA Detailed Assessment**.

Sensitivity of the receptor

83. The Pembrokeshire Coast Path is a long distance walking route stretching approximately 300 km from St Dogmaels in the north to Amroth in the south. Within the Study Area, views from the route vary considerably, from elevated open coast and sea views to more limited and enclosed views from bays and settlements, and close range views of oil and gas and other industrial development around Milford Haven. Although the scenic quality varies along the length of the route, the overall sensitivity of views is considered to be **high**.

Magnitude of Impact

84. Three relatively short sections of the Pembrokeshire Coast Path are found with in the Study Area. The assessment has identified that there is potential for localised notable change, particularly for the short section (approximately 600 m) north of Lambeeth Farm where construction of the Onshore Export Cable would be in very close proximity. However, from most other parts of the route, there would be no or limited visibility or sense of change resulting from construction. Where visible, construction would be temporary in nature and of a short duration. Overall, the magnitude of impact of construction on views from the Pembrokeshire Coast Path is assessed as **small**.

Significance of Effect

85. The sensitivity of users of the Pembrokeshire Coast path is considered to be **high** and the magnitude of the impact is assessed as **small**. Therefore, the effect would be **minor adverse**, which is **not significant** in EIA terms.

7.8.2. Operation and Maintenance (O&M) Effects

86. A detailed assessment of potential impacts and effects of operation and maintenance of the onshore elements of the proposed Project on relevant landscape and visual receptors is set out in **Appendix 7B – LVIA Detailed Assessment** and summarised below.

87. At operation, areas of the OnECC temporarily affected by construction would have been reinstated such that there would be no, or very limited, impression of change resulting from the Onshore Cable Route. The assessment of operational effects is therefore focused on impacts resulting from the Onshore Substation.

88. As highlighted in **Section 7.4.1**, the assessment of operational stage effects considers two time periods, Year 1 and Year 15. The Year 1 assessment provides an indication of the worst case based on the maximum parameters and embedded mitigation, whereas the Year 15 assessment considers the influence of additional mitigation measures such as planting as indicated on **Volume 5: Figure 7.8**.

Landscape Designations

Sensitivity of the receptor

89. As outlined above, the overall sensitivity of the PCNP and Heritage Coast found within the Study Area is considered to be **high**.

Magnitude of impact

90. The Onshore Substation would be located outside of the PCNP and Heritage Coast and as such would not result in any change to physical characteristics. Potential change would therefore be indirect, relating to the influence of visibility of the Onshore Substation on perceptual aspects of the landscape. The assessment has identified that potential for indirect change would be limited to localised parts of the PCNP, with little or no influence on the identified special qualities. Magnitude of impact is assessed as **negligible** at year 1 of operation.

Significance of the effect

91. The sensitivity of PCNP and related Heritage Coast is considered to be **high,** and the magnitude of the impact is assessed as **negligible**. Therefore, the effect would be **negligible adverse**, which is **not significant** in EIA terms.

Further mitigation and residual risk

92. It is anticipated that native tree and woodland planting would be included adjacent to the Onshore Substation, as indicated on **Volume 5: Figure 7.8**, in order to provide additional screening. Although these measures are largely in response to potential for localised significant visual effects, they would also reduce potential indirect landscape impacts in the longer term. On balance, effects on the PCNP and related Heritage Coast would be **negligible adverse** at year 15 of operation.

93. Other measures to help further reduce potential impacts, such as positioning the Onshore Substation at as low an elevation on the identified Onshore Substation Site as practical and inclusion of additional earthworks mounding, will be consider as part of the detailed design process.

Landscape Character

94. The following provides a summary of potential effects on landscape character. Detailed assessment of potential effects on each of the relevant LCAs is provided in **Appendix 7B – LVIA Detailed Assessment**.

Sensitivity of the receptor

95. As outlined above, the LCAs found within the PCNP (Castlemartin/Merrion Ranges LCA, Angle Peninsula LCA and Freshwater West/Brownslade Burrows LCA) are considered to be of **high** sensitivity. Those LCAs characterised by development (Southern Haven Developed LCA and

Southern Haven Industrial Fringe LCA) are considered to be of **low** sensitivity, while the remaining two LCAs (Southern Haven Mudflats LCA and Hundleton and Lamphey) are considered to be of **medium** sensitivity.

Magnitude of impact

96. The assessment has identified that potential change resulting from the Onshore Substation on the majority of the LCAs would be indirect in nature and limited such that the magnitude of impact is assessed as **negligible** at year 1 of operation.

97. The exception to this is the Hundleton and Lamphey LCA, within which the Onshore Substation would be located. The assessment has identified that there would be localised notable direct and indirect change on this LCA within the footprint of the Onshore Substation and immediate vicinity (up to approximately 500m). However, the localised nature of this change, limited potential for indirect change on the wider LCA and the context and influence of other nearby development, indicate an overall slight alteration to the baseline character of this LCA as a whole. Magnitude of impact is assessed as **small** at year 1 of operation.

Significance of the effect

98. The sensitivity of the LCAs is variable, ranging from **low** to **high**. For the majority of the LCAs the magnitude of the impact is assessed as **negligible**, resulting in a **negligible adverse** significance of effect, which is **not significant** in EIA terms.

99. Slightly greater change is anticipated for the Hundleton and Lamphey LCA for which the magnitude of impact is assessed as small, resulting in an overall **minor adverse** significance of effect, which is **not significant** in EIA terms.

Further mitigation and residual risk

100. It is anticipated that planting included adjacent to the Onshore Substation in order to mitigate potential localised significant visual effects, would also result in a slight reduction in the extent and/or nature of potential indirect impacts on the Hundleton and Lamphey LCA in the longer term. However, on balance effects on this LCA would remain within the **minor adverse** category at year 15 of operation. Effects on the remaining LCAs would be **negligible adverse** at year 15.

101. Other measures to help further reduce potential impacts, such as positioning the Onshore Substation at as low an elevation on the identified Onshore Substation Site as practical and inclusion of additional earthworks mounding, will be consider as part of the detailed design process.

Representative Viewpoints

102. The following provides a summary of potential effects on visual receptors based on the assessment viewpoints. Detailed assessment of potential effects on each of the representative viewpoints is provided in **Appendix 7B – LVIA Detailed Assessment**.

Sensitivity of the receptor

103. As highlighted above, the sensitivity of the majority of the visual receptors is considered to be **high**. The exceptions are Viewpoint B: Minor Road, south of Rhoscrowther; Viewpoint C: Pembrokeshire Coast Path, Pwllcrochan; and Viewpoint F: Right of Way, west of Lambeeth where sensitivity is considered to be **medium**.

Magnitude of impact

104. In relation to the Onshore Substation the assessment has identified that change to views from the majority of viewpoints and associated receptors would be limited. This is largely as a result

of the Onshore Substation occupying a small and/or distant part of available views and often being seen in the context of a range of existing development and infrastructure. Magnitude of impact from the majority of viewpoints is therefore assessed as **small**. A **negligible** magnitude of impact is assessed for Viewpoint A: B4320, The Burrow and Viewpoint C: Pembrokeshire Coast Path, Pwllcrochan as a result of very limited potential visibility.

105. The Onshore Substation would be located in closer proximity to Viewpoint E: Wallaston Green and Viewpoint F: Right of Way, west of Lambeeth Farm, and although visibility of the Onshore Substation from the viewpoints would be relatively limited there would be greater change to views from a small number of nearby receptors, resulting in a **medium** magnitude of change at year 1 of operation.

Significance of the effect

106. For the majority of the viewpoints the sensitivity is considered to be **high** or **medium** and the magnitude of the impact assessed as **small**, resulting in a **minor adverse** significance of effect at year 1 of operation, which is **not significant** in EIA terms.

107. A magnitude of impact of **negligible**, resulting in a **negligible adverse** significance of effect, which is **not significant** in EIA terms, is assessed for receptors at Viewpoint A: B4320, The Burrows and Viewpoint C: Pembrokeshire Coast Path, Pwllcrochan at year 1 of operation.

108. For the remaining two viewpoints (Viewpoint E: Wallaston Green and Viewpoint F: Right of Way, West of Lambeeth Farm) the sensitivity is considered to be **high** or **medium** and the magnitude of the impact assessed as **medium**, resulting in a **moderate adverse** significance of effect at year 1 of operation, which is **significant** in EIA terms.

Further mitigation and residual risk

109. It is anticipated that native tree and woodland planting would be included adjacent to the Onshore Substation in order to provide additional screening of proposed structures in the longer term. **Volume 5: Figure 7.8** provides an indication of potential mitigation measures including earthworks and planting within the Onshore Substation Site. Final mitigation measures will be defined at the detailed design stage and within the LEMP and agreed with relevant consultees.

110. Taking the indicative landscape mitigation measures indicated on **Volume 5: Figure 7.8** into consideration, the magnitude of impact at the majority of the viewpoints would reduce to **negligible** at year 15 of operation, meaning the residual effect would be **negligible adverse** which is **not significant** in EIA terms.

111. The magnitude of impact for Viewpoint E: Wallaston Green and Viewpoint F: Right of Way, west of Lambeeth Farm would reduce to **small** at year 15 of operation with the addition of the above mitigation, meaning the residual effect would be **minor adverse** which is **not significant** in EIA terms.

112. Although the above mitigation would help to reduce change at Viewpoint D: B4320, Wogaston the magnitude of impact would remain **small** and the residual effect **minor adverse** at year 15, which is not significant in EIA terms.

113. Other measures to help further reduce potential impacts, such as positioning the Onshore Substation at as low an elevation on the identified Onshore Substation Site as practical and inclusion of additional earthworks mounding, will be consider as part of the detailed design process.

Pembrokeshire Coast Path

114. The following provides a summary of potential visual effects on users of the Pembrokeshire Coast Path, and a more detailed assessment is provided in **Appendix 7B – LVIA Detailed Assessment**.

Sensitivity of the receptor

115. As outline above, although variable the overall sensitivity of views from the Pembrokeshire Coast Path is considered to be **high**.

Magnitude of impact

116. At operation, there would be no apparent change resulting from the Landfall or Onshore Export Cable. The ZTV for the Onshore Substation (**Volume 5: Figure 7.7**) indicates that potential visibility would be limited to very localised sections of the route, west of Hundleton, north of Pwllcrochan and a very limited section east of Angle Bay. In reality visibility from east of Angle Bay would be predominantly screened by vegetation and intervening topography.

117. On balance, taking into account the distant and limited nature of visibility of the Onshore Substation and very localised parts of the route potentially affected the magnitude of impact during operation is assessed as **negligible**.

Significance of the effect

118. The sensitivity of users of the Pembrokeshire Coast path is considered to be **high** and the magnitude of the impact is assessed as **negligible**. Therefore, the effect would be **negligible adverse**, which is **not significant** in EIA terms.

Further mitigation and residual risk

119. Mitigation planting included in order to reduce potential localised significant visual effects from select receptors may also help to further limit potential visibility of the Onshore Substation from the Pembrokeshire Coast Path. However, the significance of effect would remain **negligible adverse** at year 15 of operation.

7.8.3. Summary of Residual Environmental Effects

120. This chapter of the ES has assessed the potential environmental effects on landscape character and visual amenity from the construction, operation and maintenance and decommissioning phases of the onshore elements of the proposed Project. Mitigation measures have been embedded in the siting and design of the proposed Project and have been considered and incorporated into the assessment.

121. **Table 7-8** summarises the impact assessment undertaken and confirms the significance of any residual effects resulting from the construction and operation and maintenance of the proposed Project. As highlighted above, potential effects from decommissioning of the proposed Project would be similar or less than those related to construction and would be of a short duration and temporary in nature.

7.9 Summary of Additional Mitigation Measures

122. As set out above, additional mitigation measures, including incorporating tree and woodland planting adjacent to the Onshore Substation, as indicated on **Volume 5: Figure 7.8**, would be included as part of the proposed Project in order to reduce potential landscape and visual effects in the longer term.

7.10 Summary of Effects and Conclusions

123. This section summarises the residual significant effects of the onshore elements of the proposed Project on landscape character and visual amenity.

Table 7-8. Assessment summary

Potential impact	Receptor	Receptor sensitivity	Magnitude of impact	Significance of effect	Additional mitigation	Residual significance of effect
Construction						
Impacts on landscape character	PCNP (and Heritage Coast)	High	Small	Minor (adverse)	None required	Minor (adverse) Not Significant
	Castlemartin/Merrion Ranges LCA, Angle Peninsula LCA and Freshwater West/Brownslade Burrows LCA	High	Small	Minor (adverse)	None required	Minor (adverse) Not Significant
	Southern Haven Developed LCA and Southern Haven Industrial Fringe LCA	Low	Negligible	Negligible (adverse)	None required	Negligible (adverse) Not Significant
	Southern Haven Mudflats LCA	Medium	Negligible	Negligible (adverse)	None required	Negligible (adverse) Not Significant
	Hundleton and Lamphey LCA	Medium	Small	Minor (adverse)	None required	Minor (adverse) Not Significant
Impacts on visual amenity	Viewpoints A and E	High	Medium	Moderate (adverse)	None available	Moderate (adverse) Significant
	Viewpoint B	Medium	Small	Minor (adverse)	None required	Minor (adverse) Not Significant
	Viewpoint C	Medium	Negligible	Negligible (adverse)	None required	Negligible (adverse) Not Significant
	Viewpoints D, G, H and I	High	Small	Minor (adverse)	None required	Minor (adverse) Not Significant
	Viewpoint F	Medium	Medium	Moderate (adverse)	None available	Moderate (adverse) Significant
	Pembroke Coast Path	High	Small	Minor (adverse)	None required	Minor (adverse) Not Significant
Operation and Maintenance						
	PCNP (and Heritage Coast)	High	Negligible	Negligible (adverse)	None required	Negligible (adverse) Not Significant

Potential impact	Receptor	Receptor sensitivity	Magnitude of impact	Significance of effect	Additional mitigation	Residual significance of effect
Impacts on landscape character	Castlemartin/Merrion Ranges LCA, Angle Peninsula LCA and Freshwater West/Brownslade Burrows LCA	High	Negligible	Negligible (adverse)	None required	Negligible (adverse) Not Significant
	Southern Haven Developed LCA and Southern Haven Industrial Fringe LCA	Low	Negligible	Negligible (adverse)	None required	Negligible (adverse) Not Significant
	Southern Haven Mudflats LCA	Medium	Negligible	Negligible (adverse)	None required	Negligible (adverse) Not Significant
	Hundleton and Lamphey LCA	Medium	Small	Minor (adverse)	None required	Minor (adverse) Not Significant
Impacts on visual amenity	Viewpoint A	High	Negligible	Negligible (adverse)	None required	Negligible (adverse) Not Significant
	Viewpoint B	Medium	Small	Minor (adverse)	None required	Minor (adverse) Not Significant
	Viewpoint C	Medium	Negligible	Negligible (adverse)	None required	Negligible (adverse) Not Significant
	Viewpoints D, G, H and I	High	Small	Minor (adverse)	None required	Minor (adverse) Not Significant
	Viewpoint E	High	Medium	Moderate (adverse)	Earthworks and planting at Onshore Substation	Moderate (adverse) Significant at year 1 Minor (adverse) Not Significant at year 15
	Viewpoint F	Medium	Medium	Moderate (adverse)	Earthworks and planting at Onshore Substation	Moderate (adverse) Significant at year 1 Minor (adverse) Not Significant at year 15
	Pembroke Coast Path	High	Negligible	Negligible (adverse)	None required	Negligible (adverse) Not Significant

7.11 Cumulative Effects of the Project

7.11.1. Introduction

124. Cumulative effects are those effects upon receptors arising from the proposed Project alongside all existing, and/ or reasonably foreseeable projects, plans and activities that result in cumulative effects with any element of the proposed Project. Existing Projects are generally considered as part of the baseline and as such are considered within the impact assessment presented in **Section 7.8** above.

125. This section assesses potential cumulative effects on landscape character and visual amenity from the addition of the onshore elements of the proposed Project to other identified projects, plans and activities that have the potential to act cumulatively with the proposed Project. Summary analysis of the potential total cumulative effects resulting from all of the shortlisted cumulative projects in combination with the proposed Project is also provided.

126. PINS Advice 17: Cumulative Effects Assessment (2019) suggests that CEA follows a four-stage process. The aim of this approach is to accurately determine relevant projects and associated relationships with scoped in receptors identified in the ES, to be included within the interproject CEA.

127. The general approach to the assessment of cumulative effects is set out in **Appendix 5A – Approach to Cumulative Effects Assessment** and is also summarised in **Table 7-9**. Details of the specific methodology used to assess the potential cumulative impacts on landscape character and visual amenity is set out in **Section 7.8** of **Appendix 7A – LVIA Methodology**.

Table 7-9 PINS advice 17 stages of the CEA process

CEA Stage	Activity
Stage 1	Determine a zone of influence (ZoI) via desk study for each topic receptor scoped into the ES. This will establish a *long list* of projects within each ZoI that will be shortlisted in Stage 2. This list of plans and projects/activities is drawn up through a desk study of planning applications, development plan documents, relevant development frameworks and any other available sources to identify 'other development' within the ZoI. Information on each project (location, development type, status, etc.) is documented, along with the certainty or tier assigned to the 'other development' (i.e. confidence it will take place in the current form and when it will take place in relation to the project). PINS notes that the project should then consult with the relevant planning authority/ authorities and statutory consultees regarding the long list.
Stage 2	Screening of the long list identified in Stage 1, to establish a short list for the CEA. Screening is based on the criteria presented in the scoping report and subsequent comments by the regulator and statutory consultees. PINS has provided inclusions/ exclusion threshold criteria, against which the potential for 'other development' to give rise to significant cumulative effects by virtue of overlaps in temporal scope, the scale and nature of the 'other developments' and /or receiving environment, or any other relevant factors is assessed. From this assessment, a shortlist of 'other developments' to be included in the CEA is produced. It is noted that documented information on each of the 'other developments' is likely to be high level at this stage, outlining the key issues to take forward.
Stage 3	Gathering of all information available on short listed projects generated in Stage 2. At this stage all available data and information about the shortlisted projects that will be included in the CEA is collected to inform the assessment. This should utilise the most current information for each project in the public domain, and

CEA Stage	Activity
	assess the assumptions and limitations of the information collected on each shortlisted project.
Stage 4	Each of the shortlisted projects are reviewed in turn by the different topics to assess whether cumulative effects may arise and the nature of those effects (i.e. beneficial or adverse). The significance of the effects on environmental receptors is established within each ES technical chapters. Where significant adverse cumulative effects are identified, mitigation measures are also considered within the CEA alongside the mechanism to secure that mitigation, e.g. consent condition requirements.

7.11.2. Scope of Cumulative Landscape and Visual Effects Assessment

128. The following impacts have been scoped into the CEA for landscape character and visual amenity:

- Construction
  - Potential cumulative change to landscape and visual receptors resulting from construction of the proposed Project in addition to construction of one or more of the identified cumulative schemes.
- Operation and maintenance
  - Potential cumulative change to landscape designations and LCAs resulting from the addition of the proposed Onshore Substation into the cumulative baseline; and
  - Potential cumulative change to views resulting from the addition of the proposed Onshore Substation into the cumulative baseline.
- Decommissioning
  - Potential cumulative change to landscape and visual receptors resulting from decommissioning of the proposed Onshore Substation in addition to decommissioning of one or more of the identified cumulative schemes.

129. As with the non-cumulative assessment above, impacts relating to the operation and maintenance of the Onshore Export Cable have been scoped out of the cumulative assessment.

130. The assessment considers the cumulative effects resulting from the addition of the onshore elements of the proposed Project to the following cumulative scenarios:

- Scenario 1: The cumulative effects of the proposed Project introduced into a baseline which includes energy developments which have been consented in addition to existing operational developments; and
- Scenario 2: The cumulative effects of the proposed Project introduced into a baseline which includes select scoping stage energy projects in addition to consented and existing operational developments.

131. A third scenario related to application stage developments was scoped out of the assessment as no related application stage developments were identified within the Study Area.

132. **Table 7-10** presents the short list of projects identified and included within the CEA for landscape and visual, the locations of which are shown on **Volume 5: Figure 7.9**. These have been identified through desk based analysis and modelling and include those schemes located within the 1 km and 3 km Study Areas (as agreed with NRW) and with the potential to contribute to a cumulative effect. The short list includes a number of scoping stage projects at the request of NRW. The remaining projects on the long list have been scoped out due to

the distance from the proposed Project, lack of available information and/ or being of an unrelated type of development.

Table 7-10 List of projects considered for the landscape and visual cumulative effects assessment

Project name/developer	Project type	Tier and status	Approx. distance from the proposed Project
Erebus Substation and Onshore Cable	Substation and underground cable	Consented	Erebus cable corridor largely within the OnECC. Erebus Substation 1 km from Onshore Substation
Goldborough Battery Energy Storage System (BESS)	BESS	Scoping	Immediately adjacent to Onshore Development Area
Greenlink Substation	Converter Station	Under Construction	1 km from Onshore Substation
Hoplass Solar Farm	Solar Farm	Existing	Immediately adjacent to Onshore Substation Site and short section of OnECC
Lambeeth BESS	BESS	Scoping	1.1 km from Onshore Substation, and adjacent to short section of OnECC
Pembroke Power Station (PPS)	Power Station	Existing	1.3 km from Onshore Substation, and adjacent to north extent of OnECC
PPS BESS	BESS	Scoping	500 m from Onshore Substation, and adjacent to short sections of OnECC
PPS Green Hydrogen	Hydrogen Plant and pipelines	Scoping	1 km from Onshore Substation and OnECC
PPS Synchronous Condenser	Synchronous Condenser	Consented	1.2 km from Onshore Substation, and adjacent to north extent of OnECC
Wogaston Solar Farm	Solar Farm	Existing	500 m to Onshore Substation Site and section of OnECC

7.11.3. Cumulative Effect Assessment

133. The following section provides a summary of the findings of the cumulative assessment, with more details provided in **Appendix 7C – LVIA Cumulative Assessment**.

Construction and Decommissioning

134. Potential cumulative effects resulting from construction and decommissioning of the onshore elements of the proposed Project would only occur if these activities happened concurrently or sequentially with construction or decommissioning of one or more of the identified cumulative schemes. There is no certainty on timing of construction and decommissioning activity and therefore no certainty whether a cumulative effect would occur.

Landscape Character

135. As set out in **Appendix 7C – LVIA Cumulative Assessment**, it is considered that the proposed Project would have little or no contribution to cumulative change in relation to the Southern Haven Developed, Southern Haven Industrial Fringe and Southern Haven Mudflats LCAs and as such they are scoped out in the cumulative assessment.

136. For the purposes of cumulative assessment, sensitivity is considered to be the same as that identified within the main assessment, **high** for the majority of the landscape receptors, and **medium** for Hundleton and Lamphey LCA.

137. In cumulative scenario 1, construction of Erebus Substation and Onshore Cable would occur in small parts of a number of the identified landscape receptors, including the PCNP. Construction of the PPS Synchronous Condenser would be screened from the majority of the Study Area and where visible would contribute very little to the cumulative baseline.

138. In cumulative scenario 2, construction of each of the scoping stage cumulative projects would largely occur within the Hundleton and Lamphey LCA, with potential to result in a noticeable, although temporary, alteration to a small part of this LCA to the south of PPS. Outside of this area there would be little or no impression of change in addition to that described in relation to scenario 1.

139. The Onshore Export Cable for the proposed Project would follow a similar route to that of the Erebus Onshore Cable. If installation of the onshore cables of both projects were to happen concurrently the additional change resulting from the proposed Project would largely be limited to the Landfall, with potential for localised, temporary and short duration cumulative change on a small part of the PCNP and Freshwater West/Brownslade Burrows LCA. If construction was to occur sequentially, with the proposed Onshore Export Cable construction happening immediately after installation of the Erebus onshore cable, the main impression of change would be an increase in duration of activity and direct landscape impacts.

140. There is potential for construction of the Onshore Substation to result in additional direct and indirect change to a localised area of the Hundleton and Lamphey LCA, with more limited and indirect change on the PCNP and remaining LCAs.

141. Overall, the addition of the proposed Project would marginally increase the influence of construction, although would be temporary in nature and of a short duration and largely experienced in the context of more widespread influence of the cumulative projects. The magnitude of cumulative impact resulting from the addition of the proposed Project construction to both cumulative scenarios is assessed as **small**.

142. The sensitivity of the landscape receptors is considered to be **medium** or **high** and the magnitude of the cumulative impact resulting from the addition of the proposed Project to both cumulative scenarios is assessed as **small**. Therefore, the cumulative effect would be **minor adverse** and **not significant**.

Visual Amenity

143. There would be no or very little visibility of construction of the proposed Project from Viewpoint C: Pembrokeshire Coast Path, Pwllcrochan and no potential visibility of construction of the consented or scoping stage cumulative projects from Viewpoint B: Minor Road, south of Rhoscrowther as such they have been scoped out of the cumulative assessment.

144. For the purposes of cumulative assessment, sensitivity is considered to be the same as that identified within the main assessment, **high** for the majority of the viewpoints.

145. In cumulative scenario 1, construction of Erebus Substation and Onshore Cable would introduce movement and activity to views from the majority of the viewpoints, most notably at Viewpoint F: Right of Way, west of Lambeeth Farm and Viewpoint G: Goldborough Road (west) where construction of the Erebus Substation would be in the foreground. PPS Synchronous Condenser would be predominantly screened and as such would not contribute to the cumulative baseline.

146. In cumulative scenario 2, construction of the scoping stage cumulative projects would add further construction activity and/or increase the period over which construction would be visible in the majority of the viewpoints, with the greatest influence likely to be on Viewpoint F: Right of Way, west of Lambeeth Farm and Viewpoint G: Goldborough Road (west).

147. Construction of the Onshore Export Cable would largely be seen within the same part of the view as Erebus and therefore additional change would be limited and largely resulting from an increase in duration. The exception would be at Viewpoint A: B4320, The Burrows where the proposed Project would add construction to a new part of the view.

148. Construction of the Onshore Substation would add further activity and movement into views from a number of viewpoints, most notably from select properties represented by Viewpoint E: Wallaston Green. Overall, construction of the proposed Project would result in relatively limited change in addition to that of the cumulative schemes and would be temporary in nature and of a short duration, and as such the magnitude of cumulative impact is assessed as **small** for both cumulative scenarios for the majority of the viewpoints. A reduced magnitude of cumulative impact is assessed for Viewpoint F: Right of Way, west of Lambeeth Farm and Viewpoint G: Goldborough Road (west) in cumulative scenario 2 due to the greater influence of construction of other cumulative schemes in the baseline, with the addition of the proposed Project resulting in more limited influence and contributing little to the overall sense of cumulative change.

149. The sensitivity of receptors at the viewpoints is considered to be **medium** or **high**. The magnitude of the cumulative impact resulting from construction of the proposed Project in addition to both cumulative scenarios is assessed as **small** for the majority of the viewpoints, resulting in a **minor adverse** and **not significant** cumulative effect.

150. A lower magnitude of cumulative impact of **negligible** is assessed for Viewpoint F: Right of Way, west of Lambeeth Farm and Viewpoint G: Goldborough Road (west) in relation to cumulative scenario 2, resulting in a **negligible adverse** and **not significant** cumulative effect.

Operation and Maintenance

Landscape Character

151. The non-cumulative assessment identified that the proposed Project would result in very little or no change and a negligible adverse significance of effect on the majority of the landscape receptors found within the Study Area, including the PCNP. As a result it is considered that the Onshore Substation would have little or no contribution to cumulative change in relation to the PCNP and majority of the LCAs found within the Study Area.

152. The exception to this is the Hundleton and Lamphey LCA for which the non-cumulative assessment identified slightly greater impacts. Many of the identified cumulative projects are also located within this LCA and therefore an assessment of potential cumulative effects on this receptor is provided in **Appendix 7C – LVIA Cumulative Assessment** and summarised below.

153. For the purposes of cumulative assessment, sensitivity is considered to be the same as that identified within the main assessment, **medium**.

154. In cumulative scenario 1, Erebus Substation would be located within this LCA adding to the existing context and locally increasing the influence of development. The PPS Synchronous Condenser would be located with the adjacent Southern Haven Industrial Fringe LCA and would largely be screened such that it would add very little to the cumulative baseline.

155. In cumulative scenario 2, the Goldborough, Lambeeth and PSS BESS projects would all be located within this LCA, adding to the concentration of energy developments north of the B4320 and towards the PPS. The PPS Green Hydrogen project would be located east of the PPS and PPS Synchronous Condenser within the adjacent Southern Haven Industrial Fringe LCA. The scoping stage projects in conjunction with the existing and consented developments would reinforce the impression of an energy landscape in a localised part of this LCA.

156. The Onshore Substation would add a further energy related development within the north of this LCA, resulting in a very localised additional direct change within the development footprint. Indirect change would occur over a slightly larger extent, although the proposed Project would not add visibility of energy development to new parts of this LCA. In cumulative scenario 2 the Onshore Substation would contribute less to the overall sense of change and although it may slightly increase the presence of energy development within a very localised and limited part of this landscape it would not tip the balance into creating a more widespread sense of an energy landscape.

157. The magnitude of cumulative impact resulting from the addition of the proposed Project to both cumulative scenarios is assessed as **small**.

158. The sensitivity of this LCA is considered to be **medium** and the magnitude of the cumulative impact for both scenarios is assessed as **small**. Therefore, the cumulative effect would be minor **adverse** and **not significant**.

Visual Amenity

159. Viewpoints A to C and E have been scoped out of the cumulative assessment due to very little or no visibility of the Onshore Substation and/or all of the cumulative schemes, resulting in no potential for significant cumulative effects. The following provides a summary of potential cumulative effects on the remaining viewpoints, with greater detail provided in **Appendix 7C – LVIA Cumulative Assessment**.

160. For the purposes of cumulative assessment, sensitivity is considered to be the same as that identified within the main assessment, **high** for the majority of the viewpoints and **medium** for Viewpoint F.

161. In cumulative scenario 1, Erebus Substation would be visible adjacent to the Greenlink Substation (under construction), adding to the influence of existing development in that part of the view. The PPS Synchronous Condenser would be predominantly screened from the viewpoints and as such would contribute very little to the cumulative baseline.

162. In cumulative scenario 2, one or more of the scoping stage schemes would be visible from each of the viewpoints, most notable from Viewpoint F: Right of Way, west of Lambeeth Farm where the Lambeeth BESS and Goldborough BESS would add further developments in the foreground of views.

163. The Onshore Substation would add a further energy development into views from each of the viewpoints, although would generally occupy a smaller part of the view and often appear less notable relative to the other projects. From most locations the proposed Project would also be slightly more distant than many of the other cumulative schemes.

164. Overall, the Onshore Substation would represent a slight additional change to the view, adding to the range of energy developments and electrical infrastructure present in both

cumulative scenarios. The magnitude of cumulative impact resulting from the addition of the proposed Project to both cumulative scenarios is assessed as **small** for each of the viewpoints.

165. The sensitivity of receptors at the viewpoints is considered to be **medium** or **high**. The magnitude of the cumulative impact resulting from the addition of the proposed Project to both cumulative scenarios is assessed as **small**, resulting in a **minor adverse** and **not significant** cumulative effect.

Combined cumulative effects

166. The above paragraphs consider the potential cumulative effects resulting from the addition of the proposed Project to the cumulative scenarios. The following provides analysis of the potential total cumulative effects resulting from all of the shortlisted cumulative projects in combination with the proposed Project.

167. In cumulative scenario 1, the consented Erebus project in combination with the proposed Project would introduce two additional energy developments into the Hundleton and Lamphey LCA and to views from a number of the viewpoints. These two projects would add slightly to the existing context of energy developments which are an existing characteristic of this part of the landscape and views but would not result in the creation of an energy landscape. The PPS Synchronous Condenser would add a third nearby development but would contribute little to the sense of a cumulative change. Overall, the combined cumulative magnitude of change is assessed as **small** for this cumulative scenario, resulting in a **minor adverse (not significant)** cumulative effect.

168. In cumulative scenario 2, the large number of cumulative schemes would be concentrated in the area adjacent to and south of Pembroke Power Station, resulting in a slight increase and extension of the sense of an energy landscape within a localised area to the north of the shallow valleys between Wogaston and Hoplass, Wallaston and towards Lambeeth. The existing Oil Refinery and Power Station would remain the largest and most notable developments, with the others adding to the overall concentration of energy development.

169. Overall, the combined cumulative magnitude of impact is assessed as **medium** for this cumulative scenario, resulting in a **moderate adverse (significant)** cumulative effect.

170. There is no certainty that all of the identified cumulative schemes would progress to application stage, be consented or constructed and as such the above conclusion is made on the basis of a theoretical maximum development approach. As highlighted above, the proposed Project would only provide a slight contribution to this overall cumulative effect and would not in itself result in an increase in the overall impression of localised energy landscape.

7.12 Inter-related Effects of the proposed Project

171. The term 'Inter-related' takes into account the environmental interactions ('inter-relationships') with other receptors within the proposed Project. These are referred to in the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 and further described in **Chapter 31 – Inter-related Effect Assessment.**

172. As set out in PINS Advice Note 17 (PINS), 2019, *inter-related project effects*, or ‘interrelationships between topics’, derive from combinations of different project specific impacts which, when acting together on the same receptor, could result in a new or different effect, or an effect of greater significance than the project effects, when considered in isolation.

173. Inter-related effects comprise the following:

- *Project lifetime effects*: effects that have the potential to occur during more than one phase of the proposed Project (i.e. construction, operation and maintenance and decommissioning) and also to interact in a way that could potentially create a more significant effect than if it was assessed in isolation.
- *Receptor-led effects*: effects that have the potential to interact, spatially and temporally, to create inter-related effects on a receptor.

174. **Chapter 31 - Inter-related Effects Assessment** details the approach to the inter-related effects assessment and includes a description of the likely inter-related effects that may occur as a result of the proposed Project on landscape and visual.

7.12.1. Inter-related Project lifetime effects

175. Potential effects on landscape character across all phases of the proposed Project would be **minor adverse or less**.

176. Construction and decommissioning stage effects would relate to installation of the Onshore Export Cable and construction (or decommissioning) of the Onshore Substation, with localised **moderate adverse** effects on a small number of visual receptors, with the majority of receptors experience **minor adverse** effects.

177. During operation potential effects on many receptors would be reduced, although **moderate adverse** effects would occur at two locations at year 1. The inclusion of mitigation measures would result in all effects reducing to **minor adverse or less** by year 15 of operation.

7.12.2. Inter-related receptor-led effects

178. There is the potential for inter-related effects where specific landscape or visual receptors may be affected by the construction, operation and maintenance and/or decommissioning of both the offshore and onshore elements of the proposed Project. The LVIA presented in this chapter and the Seascape, Landscape and Visual Impact Assessment (SLVIA) presented in **Chapter 23: Seascape, landscape and visual** combine to provide an assessment of all elements of the proposed Project.

179. Potential receptor-led inter-related effects would be limited to a small number of landscape and visual receptors due to there being no or very limited and/or distant visibility of either the offshore or onshore elements of the proposed Project. During construction inter-related effects, which would be temporary in nature and of a short duration, are only likely to occur at receptors where there would be direct or indirect change resulting from installation of the Offshore Export Cable and the Onshore Export Cable and Onshore Substation. During operation, analysis of the ZTVs in conjunction with observations in the field indicates that locations with potential visibility of both the Onshore Substation and the proposed WTGs would largely be limited to localised parts of the top of the ridgelines between Carters Green and Corston Beacon/ Corston Lodge and near Castlemartin. The limited nature of combined visibility reduces the potential for receptor-led inter-related effects.

180. With respect to this interaction, these individual impacts were assigned a significance of minor or negligible adverse as standalone impacts and although potential combined impacts may arise, it is predicted that this would not be any more significant than the individual impacts in isolation. This is because the area potentially affected would be very limited and the proposed WTGs would be very distant and both geographically and visually separate from the Onshore Substation.

7.13 Transboundary Effects

181. A transboundary effect refers to the impacts or effects of a project that extend beyond the boundaries of the United Kingdom and have the potential to affect the environment of other countries within the European Economic Area (EEA). These effects can occur either from the proposed Project on its own or when combined with the effects of other projects or activities in the wider geographical area.

182. In relation to landscape and visual receptors, potential impacts resulting from the onshore elements of the proposed Project would be predominantly localised to the extent of the LVIA Study Area. Given the intervening distance to neighbouring EEA states, there is no potential for transboundary impacts and resultant effects to occur.

7.14 References

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