

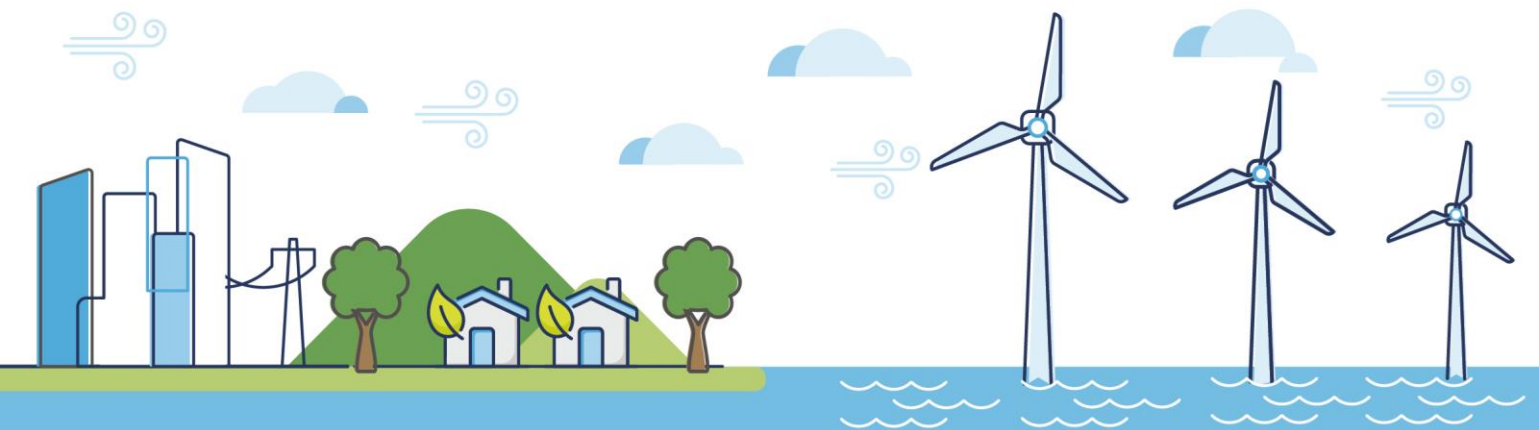
# Morecambe Offshore Windfarm: Generation Assets

## Volume 9

### Appendix A: Seascape, Landscape and Visual Impact and Cultural Heritage Settings Assessment Sensitivity Analysis

Document Reference: 9.28.1

Rev 01



## Document History

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## Glossary of Acronyms

ES	Environmental Statement
ExA	Examining Authority
LDNP	Lake District National Park
MCA	Marine Character Area
SLVIA	Seascape, landscape and visual impact assessment
WTG	Wind turbine generator

## Glossary of Unit Terms

km <sup>2</sup>	square kilometre
km	kilometre

## Glossary of Terminology

Applicant	Morecambe Offshore Windfarm Ltd
Generation Assets (the Project)	Generation assets associated with the Morecambe Offshore Windfarm. This is infrastructure in connection with electricity production, namely the fixed foundation wind turbine generators (WTGs), inter-array cables, offshore substation platform(s) (OSP(s)) and possible platform link cables to connect OSP(s).
Inter-array cables	Cables which link the WTGs to each other and the OSP(s).
Offshore substation platform(s)	A fixed structure located within the windfarm site, containing electrical equipment to aggregate the power from the WTGs and convert it into a more suitable form for export to shore.
Platform link cable	An electrical cable which links one or more OSP(s).
Windfarm site	The area within which the WTGs, inter-array cables, OSP(s) and platform link cables will be present.



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# 1 Introduction

1. This document has been prepared in response to a matter raised by the Examining Authority (ExA) during the Issue Specific Hearing for Morecambe Offshore Windfarm Generation Assets (the Project) on 24 October 2024.
2. The ExA questioned if the current operational offshore windfarms in the Irish Sea are decommissioned during the Project’s operational lifetime, would it have an impact on the assessment conclusions of either the Appendix 15.3 Settings Assessment (APP-077) or the Seascape, Landscape and Visual Impact Assessment (SLVIA) (Chapter 18 SLVIA; APP-055).
3. This document addresses Action 5 arising from Issue Specific Hearing 1 (Document Reference 9.28) for the Applicant “*to undertake (and submit a commentary on the results of) a sensitivity analysis on the potential effects of the Proposed Development in the absence of the other existing baseline offshore wind farms that would be decommissioned and therefore removed within the operational life of the Proposed Development*”.
4. Morecambe Offshore Wind Ltd (the Applicant) has responded to this in **Section 2** with regard to the Settings Assessment (APP-077) and **Section 3** with regard to impacts on SLVIA (APP-055).
5. **Table 1.1** below identifies the operational projects within the SLVIA study area, listing the current decommissioning date. This identifies decommissioning dates as published, however, it is noted that applications could be made to extend their lifetime. **Figure 1** also presents spatially the operational offshore windfarms and their current decommissioning dates.

*Table 1.1 Operational offshore windfarms – expected decommissioning dates*

Offshore windfarm	Developer/owner	Distance from the Project (km)	Expected Decommissioning Date <sup>1</sup>
North Hoyle	RWE Renewables	36.3	2029
Barrow	Ørsted A/S	21.0	By 2030
Burbo Bank	Ørsted A/S	33.4	2032

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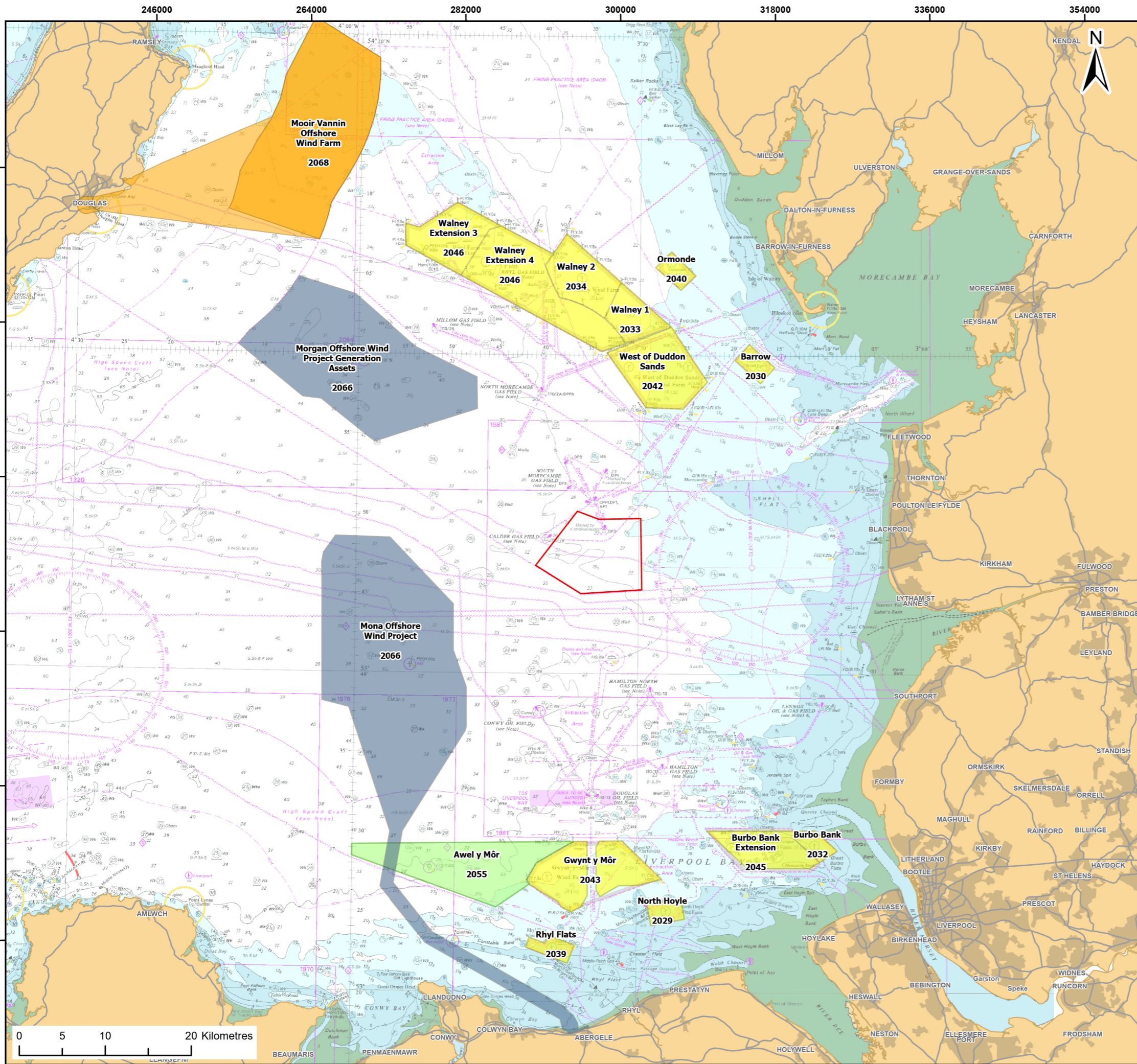
<sup>1</sup> Based on data on operational lifetime taken from the RenewablesUK Energy Pulse database (unless otherwise stated).



Offshore windfarm	Developer/owner	Distance from the Project (km)	Expected Decommissioning Date <sup>1</sup>
Walney 1	Ørsted A/S, Scottish and Southern Electricity Networks (SSE) and OPW	20.3	2033 <sup>2</sup>
Walney 2	Ørsted A/S, SSE and OPW	22.7	2034 <sup>2</sup>
Rhyl Flats	West Coast Energy and RWE	40.0	2039
Ormonde	Vattenfall and AMF	27.0	2040
West of Duddon Sands	Ørsted and Scottish Power Renewables	12.9	2042
Gwynt y Môr	Rheinisch-Westfälisches Elektrizitätswerk Aktiengesellschaft (RWE) Npower and partners	28.9	2043
Burbo Bank Extension	Ørsted A/S and partners PKA and KIRKBI A/S	29.1	2045
Walney Extension 3	Ørsted A/S and partners PKA and PFA	30.7	2046
Walney Extension 4	Ørsted A/S and partners PKA and PFA	18.8	2046
Awel y Môr	RWE, Stadtwerke München, and Siemens Financial Services	28.9	2055 <sup>3</sup>

<sup>2</sup> Walney Offshore Windfarm (Walney 1 & 2) Decommissioning Programme submitted in August 2009 states the windfarm will be decommissioned after 22 years

<sup>3</sup> Volume 2, Chapter 1: Offshore Project Description of the Environmental Statement states start of operation 2030 with an operational lifetime of 25 years



**Legend:**

Morecambe Offshore Windfarm Site

**Windfarm status**

- Fully commissioned
- Consented
- In Planning
- Concept / Early planning

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**Report:**  
Morecambe Offshore Windfarm: Generation Assets

**Title:**  
Expected Decommissioning Dates

Figure: 1 Drawing No: PC1165-RHD-EX-OF-DG-Z-0173

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
P01	06/11/2024	SM	SR	A3	1:450,000
P02	19/11/2024	SM	SR	A3	1:450,000

Co-ordinate system: WGS 1984 UTM Zone 30N



## 2 Impacts on Historic Settings Assessment

### 2.1 Summary of Setting Assessment

6. The Setting Assessment set out at Appendix 15.3 Settings Assessment of the Environmental Statement (ES) (APP-077), identified 37 designated heritage assets whose significance could be affected by the operation of the Project (APP-077, Section 6). This assessment ultimately concluded that there would be no adverse effects arising from change to setting of these designated heritage assets during the construction and operational phases of the Project. The rationale for this assessment varied from case to case according to the specific nature of the significance of the heritage assets assessed and the nature of the visibility of the Project, but in general, visibility of the proposed Wind Turbine Generators (WTGs) would be the background to distant views which made only incidental contributions to significance. Consequently, WTGs would not be visible with sufficient prominence to give rise to an adverse effect (APP-077, Section 8).
7. The assessment set out in APP-077 identified 10 assets or asset groups where visibility of existing offshore turbines associated with the operational offshore windfarms, listed in **Table 1.1**, was a characteristic of that setting that was relevant to the assessment of effects arising from the Project. These are:
  - Heysham Conservation Area and Chapel of St. Patrick and Associated Graveyard (Section 8.2)
  - Sunderland Point Conservation Area (Section 8.4)
  - Cockersand Premonstratensian Abbey (Section 8.5)
  - Listed Buildings associated with Rossall School (Section 8.6)
  - North Promenade, Blackpool Conservation Area (Section 8.7)
  - Blackpool Town Centre Conservation Area and Listed Buildings (Section 8.8)
  - Porritt Houses/Ashton Gardens Conservation Area (Section 8.9)
  - St Anne's Pier (Section 8.10)
  - Promenade Gardens, Lytham St Annes (Section 8.11)
  - Southport Pier (Section 8.15)
8. In all cases this visibility was incidental and there was no specific interaction between the Project and existing operational WTGs.

### 2.2 Consideration of decommissioning on the outcome of the Setting Assessment

9. Any discussion of decommissioning of the current operational offshore windfarms in the Irish Sea is necessarily hypothetical and there is no clear

scenario for the progress of this decommissioning as set out in Section 15.6.3 of Chapter 15 Marine Archaeology and Cultural Heritage (APP-052). These operational windfarms would be decommissioned individually over a period of years, and change would therefore be a gradual process.

10. The assessment of effects of the Project did not identify any specific interactions with other turbine arrays, and therefore any decommissioning during the Project's operational lifetime would result in the removal of WTGs associated with the existing operational offshore windfarms listed in **Table 1.1** that are closer to the relevant designated heritage assets that the Project interacts with. This would lead to fewer WTGs being visible, resulting in a lower combined magnitude of change, notwithstanding the very limited magnitude of any existing effect in the absence of the Project.
11. The decommissioning of these windfarms would see an increase in vessel traffic undertaking the works, however, this would be short term and most activity would be largely indiscernible from the majority of the designated heritage assets.
12. The Project would be visible with a similar degree of prominence in all scenarios resulting from the removal of some or all the existing operational WTGs. As a result, there would be no additional effect arising from change in visibility of the Project's WTGs resulting from the decommissioning of the West of Duddon Sands, Walney 1 and 2, Walney Extension 3 and 4, Ormonde, Barrow, Burbo Bank or Burbo Bank Extension WTGs.

## 3 Impacts on SLVIA

### 3.1 Existing baseline

13. Chapter 18 SLVIA (APP-055) identifies that the baseline visual context of the SLVIA study area includes a number of offshore windfarms off the coast, which form key visual elements and prominent moving structures within the seascape that influence the nature of views. These are described as occurring within two broad geographical windfarm groupings to the north and south of the seascape within the study area, as shown in **Figure 1**.
14. The seascape of the Irish Sea to the north of the SLVIA study area (North West England and the Lake District National Park (LDNP)) includes the regional offshore windfarm grouping formed by West of Duddon Sands, Walney 1-4, Barrow and Ormonde. The baseline influence of this regional grouping (consisting of approximately 350 wind turbine generators (WTGs)), forms a key defining characteristic to the Walney Coast Waters and Duddon Estuary (Marine Character Area (MCA) 32) and northern part of the Irish Sea (MCA 38). These operational windfarms also form prominent elements in sea

views experienced from the coast of Barrow-in-Furness, Copeland, the outer areas of Morecambe Bay and the southern edges of the LDNP.

15. The seascape and coastline of the central section of coastline of the Wyre, Blackpool, Fylde and West Lancashire districts are less influenced by the baseline influence of these operational windfarms. They are visible and appreciable offshore on the horizon to the north and south in good visibility but occur on the periphery of the main views west out to the open sea.
16. The seascape of Merseyside and North Wales, which is the southern part of the SLVIA study area, includes the regional offshore windfarm grouping formed by Burbo Bank, Burbo Bank Extension, North Hoyle, Gwynt y Môr and Rhyl Flats). The baseline influence of this operational windfarm grouping (consisting of approximately 270 WTGs) forms a key defining characteristic to the Inner Liverpool Bay (MCA 35) and North Wales Open Waters (MCA 04). The operational windfarm grouping also forms prominent elements in sea views experienced from the coast of Sefton, Wirral and North Wales between the Dee Estuary, Colwyn Bay and Rhyl Flats.

### 3.2 Consideration of decommissioning on the outcomes of the SLVIA

17. The decommissioning and therefore potential removal of operational windfarms within the operational life of the Project can be considered further with reference to **Table 1.1** and **Figure 1**, which presents spatially the existing offshore windfarms and their current decommissioning dates.
18. The potential effects of the Project in the absence of other existing baseline offshore wind farms post decommissioning may start around 2030. However, the majority of effects would theoretically occur around the mid-2040s, following the theoretical removal of all other baseline offshore wind farms within the operational life of the Project. There is considerable uncertainty about what may occur over 20 years from now, as other projects may be 're-powered', or apply for life extension to take advantage of their available lease period with The Crown Estate or they may be fully decommissioned. Any detailed consideration of impacts following decommissioning over 20 year period of the current operational offshore windfarms is hypothetical, with limited information on decommissioning plans in the public domain.
19. Under the scenario whereby the decommissioning assumption is complete removal of all offshore components of existing offshore WTGs from the seascape, decommissioning would also be phased over the long-term according to the expected decommissioning of different projects (set out in **Table 1.1**). Changes in effects would occur incrementally over a long period of time (rather than as a sudden change).

### 3.2.1 Seascape of the North West England and LDNP

20. Ormonde, West of Duddon Sands, Walney Extension 3 and Walney Extension 4 are expected to be operational well into the 2040s. Therefore, a large-scale offshore wind farm influence will be retained in the seascape over the long-term until the expected decommissioning of Walney 3 and 4 in 2046. Walney 1 and Walney 2 are expected to be decommissioned in 2033 and 2034 respectively, however they will also be present in the baseline over the medium-term. Based on the earliest anticipated operation of the Project by 2030, when viewed from receptors to the north of the SLVIA study area (including the coast of Barrow-in-Furness, Copeland, the outer areas of Morecambe Bay and the southern edges of the LDNP), the Project would continue to be viewed behind the baseline influence of operational offshore windfarms for approximately the first 16 years of its operational life (2030 – 2046), until the expected decommissioning of Walney Extension 3 and 4. It is noted that Barrow Offshore windfarm would be potentially be removed prior to the operational period of the Project.
21. Views most influenced by this grouping of operational wind farms are located around Barrow-in-Furness, Copeland, the outer areas of Morecambe Bay and southern edges of the LDNP. In certain views, as shown in Viewpoint 2 Haverigg Point (APP-110) or Viewpoint 6 South Walney (APP-114), the Project WTGs are fully masked by existing operational WTGs. In other views they extend the spread between other offshore windfarms on the horizon (such as Viewpoint 5 Walney Island) (APP-113). In other elevated views (such as from Viewpoint 1 Black Combe) (APP-109), the existing WTGs are in front of the Project, but do not fully mask them due to the larger height of the Project WTGs in comparison to the operational WTGs.
22. The decommissioning of these existing operational WTGs may, from certain viewing angles, allow more unobstructed views of the Project WTGs. This may result in the Project WTGs be viewed as more distinct objects in their own right. However, they are located at very long distances generally beyond 40km from these coastlines (with the exception of Walney Island) and will therefore still appear small in scale on the distant horizon and infrequently visible in the prevailing weather conditions. Due to these factors, the overall and gradual reduction in existing operational WTG presence and distance and orientation to the coast, no changes have been identified to the overall level of assessed significance from receptors around Barrow-in-Furness, Copeland, the outer areas of Morecambe Bay and southern edges of the LDNP following decommissioning of operational wind farms, compared to the effects assessed in the ES against the current baseline.

### **3.2.1.1 Coastline of the central section of coastline of the Wyre, Blackpool, Fylde and West Lancashire districts**

23. The coastline of the central section of coastline of the Wyre, Blackpool, Fylde and West Lancashire districts are less influenced by operational offshore windfarms. The ES assessments for these views would not change in the event of the decommissioning of existing operational WTGs and the assessments reflect other determining factors, such as the position of the Project in the open seascape relative to this coast and its distance from shore. Where significant effects have been shown to arise on views from this coastline these effects would remain in areas along this coastline in the event of decommissioning of the operational offshore windfarms, which are located at long distance from this coast and on the periphery of the main views west out to sea.

### **3.2.2 Seascape of Merseyside and North Wales**

24. Considering the grouping of windfarms to the south of the SLVIA study area in Merseyside and North Wales the situation is very similar. Gwynt y Môr and Burbo Bank Extension are expected to be operational until 2043 and 2045 respectively, and Rhyl Flats until 2039, therefore a large-scale offshore wind farm influence will be retained in the seascape over the long-term until their expected decommissioning. North Hoyle and Burbo Bank are expected to be decommissioned in 2029 and 2032 respectively, noting that the influence of North Hoyle and Burbo Bank would be potentially removed prior to the early operational period of the Project. The consented Awel y Môr offshore wind farm is expected to be operational until 2055. Based on the earliest anticipated commencement of construction of the Project, when viewed from receptors from the coast of parts of Sefton, Wirral and North Wales between the Dee Estuary, Colwyn Bay and Rhyl Flats, the Project would continue to be viewed behind the influence of operational and consented offshore windfarms for approximately the first 17-19 years of its operational life, until the expected decommissioning of Gwynt y Môr and Burbo Bank Extension.
25. Views most influenced by this grouping of operational wind farms are located around Liverpool Bay and the coastline North Wales. The general observation in terms of effects following decommissioning is very similar in these views (e.g. Viewpoints 16-23 between the Wirral and Great Orme) (APP-127 to APP-134) that described above in views from the north. There is potential for slightly different visual effects to arise in the absence of the existing operational offshore wind farms, as this is likely to allow more unobstructed views of the Project WTGs. This may result in the Project WTGs being viewed as more distinct objects in their own right, however they are located at very long distances beyond 46km from the Welsh coast and will therefore still appear small in scale on the distant horizon and infrequently visible in the prevailing

weather conditions. Due to these factors, the overall and gradual reduction in WTG presence and distance and orientation to the coast, no changes to the overall level of assessed significance have been identified for receptors around Liverpool Bay and the coastline of North Wales following decommissioning of operational wind farms, compared to the effects assessed in the ES against the current baseline.

### 3.3 Conclusion

26. In the context of phased decommissioning of operational windfarms, for seascape, landscape and visual receptors identified in both the northern and southern parts of the SLVIA study area, the additional influence of the Project would continue to be perceived as being subsumed behind or seen in the context of existing windfarms, at greater distance and smaller scale over a long-term period into the mid-2040s, as assessed in Chapter 18 SLVIA (APP-055) and even with the potential situation whereby all windfarms are decommissioned beyond the mid-2040s, no changes to the overall level of assessed significance are identified compared to the effects assessed in the ES against the current baseline. Decommissioning activities for all baseline windfarms are also expected to be undertaken post operation, involving construction equipment and increased vessel movements, thereby retaining construction influence beyond the operational life of the windfarms.
27. Assuming decommissioning of all other operational windfarms in the Irish Sea by 2046 (as per **Table 1.1**), the complete removal of all other operational WTGs would contribute to a reduced overall effect on seascape, landscape and visual receptors around the Irish Sea. This would result in the Project continuing to have just Project-alone effects during the remainder of its operational lifetime. The Project would continue to be visible with a similar degree of prominence and magnitude of change from all receptors and as a result there would be **no additional seascape, landscape and visual effects over and above those assessed in Chapter 18 SLVIA (APP-055)** arising from visibility of the Project resulting from the decommissioning of the operational offshore windfarms in the Irish Sea listed in **Table 1.1**.