

RWE Renewables UK Dogger Bank South (West) Limited

RWE Renewables UK Dogger Bank South (East) Limited

Dogger Bank South Offshore Wind Farms

Volume 7

Appendix 11-5

Cumulative Effects Assessment Screening

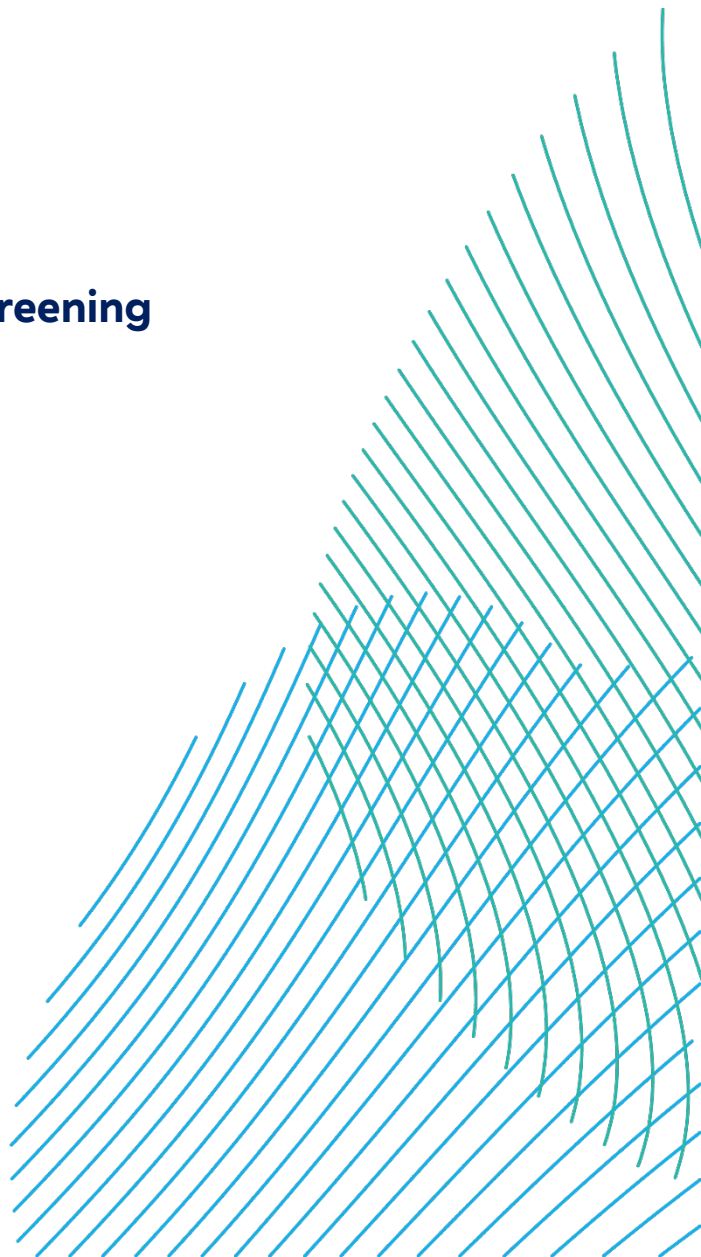
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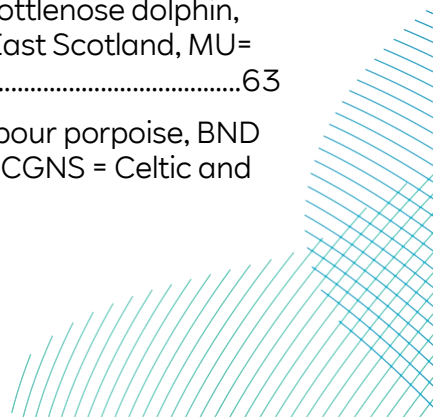
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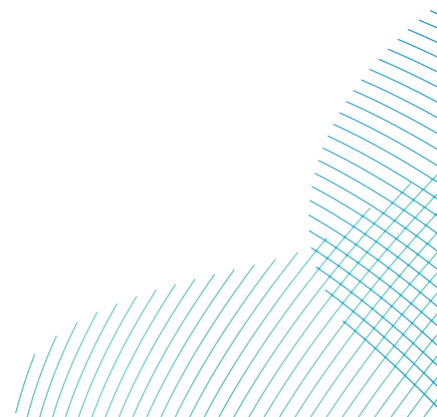
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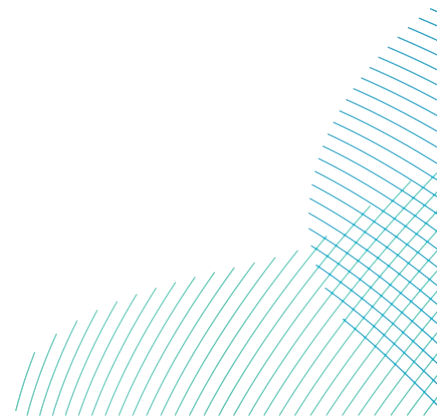


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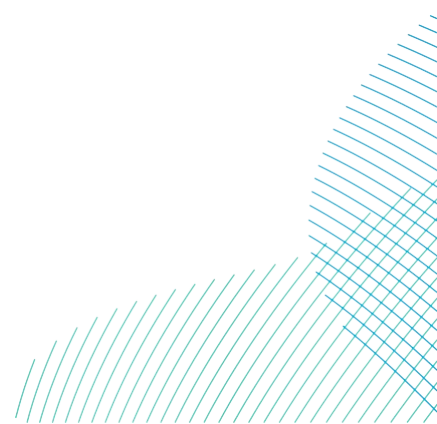


Glossary

| Term | Definition |
|---|---|
| Cumulative Effects | The combined effect of the Projects in combination with the effects of a number of different (defined cumulative) schemes, on the same single receptor / resource. |
| Cumulative Effects Assessment (CEA) | The assessment of the combined effect of the Projects in combination with the effects of a number of different (defined cumulative) schemes, on the same single receptor / resource. |
| Cumulative Impact | The combined impact of the Projects in combination with the effects of a number of different (defined cumulative) schemes, on the same single receptor / resource. |
| Development Consent Order (DCO) | An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Project (NSIP). |
| Dogger Bank South (DBS) Offshore Wind Farms | The collective name for the two Projects, DBS East and DBS West. |
| Effect | Term used to express the consequence of an impact. The significance of an effect is determined by correlating the magnitude of the impact with the value, or sensitivity, of the receptor or resource in accordance with defined significance criteria. |
| Habitats Regulations Assessment (HRA) | The process that determines whether or not a plan or project may have an adverse effect on the integrity of a European Site or European Offshore Marine Site. |
| Impact | Used to describe a change resulting from an activity via the Projects, i.e. increased suspended sediments / increased noise. |



| Term | Definition |
|------------------------------|---|
| Landfall | The point on the coastline at which the offshore export cables are brought onshore. The point on the coastline at which the Offshore Export Cables are brought onshore, connecting to the onshore cables at the Transition Joint Bay (TJB) above mean high water. |
| Management Unit | Management units provide an indication of the spatial scales at which impacts of plans and projects alone, cumulatively and in-combination, need to be assessed for the key cetacean species in UK waters, with consistency across the UK. |
| Marine Mammal Screening Area | Based on species specific Management Units (MUs) used for marine mammal species reference populations defined from the Inter-Agency Marine Mammal Working group (IAMMWG. 2023). |
| Offshore Development Area | The Offshore Development Area for ES encompasses both the DBS East and West Array Areas, the Inter-Platform Cable Corridor, the Offshore Export Cable Corridor, plus the associated Construction Buffer Zones. |
| The Projects | DBS East and DBS West (collectively referred to as the Dogger Bank South Offshore Wind Farms). |

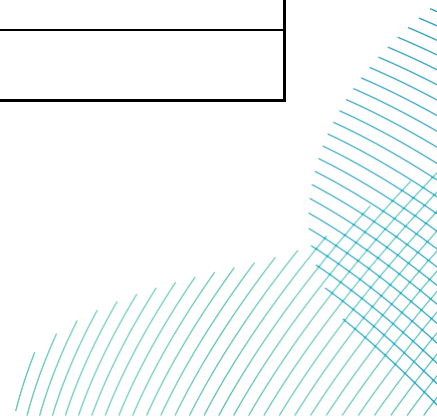


Acronyms

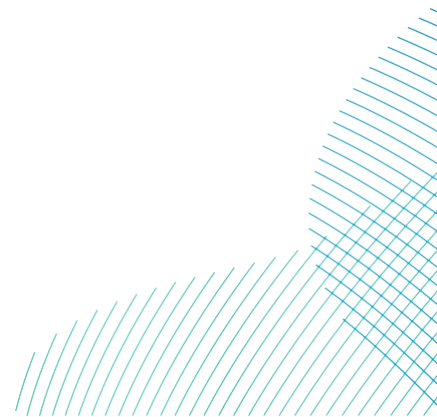
| Term | Definition |
|---------|--|
| BEIS | Department for Business, Energy & Industrial Strategy ¹ |
| CCS | Carbon Capture and Storage |
| CEA | Cumulative Effects Assessment |
| Cefas | Centre for Environment, Fisheries and Aquaculture Science |
| CES | Coastal East Scotland |
| CGNS | Celtic and Greater North Seas |
| DBS | Dogger Bank South |
| DCO | Development Consent Order |
| Defra | Department for Environmental, Food & Rural Affairs |
| DESNZ | Department for Energy Security and Net Zero |
| EMODnet | European Marine Observation and Data Network |
| ES | Environmental Statement |
| EU | European Union |
| FCS | Favourable Conservation Status |
| GNS | Greater North Sea |
| HRA | Habitats Regulations Assessment |
| IAMMWG | Inter-Agency Marine Mammal Working Group |
| JNCC | Joint Nature Conservation Committee |
| MBES | Multibeam Echo Sounder |

¹ As of February 2023, BEIS is known as the Department for Energy Security and Net Zero (DESNZ)

| Term | Definition |
|--------|---|
| MMO | Marine Management Organisation |
| MNR | Marine Noise Registry |
| MRE | Marine Renewable Energy |
| MU | Management Unit |
| NE | North -east England |
| NS | North Sea |
| NSIP | Nationally Significant Infrastructure Project |
| NW | North- West |
| O&M | Operation and Maintenance |
| OWF | Offshore Wind Farm |
| PEIRES | Preliminary Environmental Information Report |
| PTS | Permanent Threshold Shift |
| RMS | Root Mean Square |
| RoC | Review of Consents |
| SAC | Special Area of Conservation |
| SBP | Sub-Bottom Profiler |
| SE | South-East England |
| SNS | Southern North Sea |
| SPL | Sound Pressure Level |
| SSS | Side Scan Sonar |
| TTS | Temporary Threshold Shift |
| UK | United Kingdom |



| Term | Definition |
|------|----------------------|
| USBL | Ultra-Short Baseline |
| UXO | Unexploded ordnance |



11.5. Marine Mammal Cumulative Effects Screening

11.5.1. Introduction

1. The Cumulative Effects of the Dogger Bank South (DBS) East and DBS West Offshore Wind Farms, collectively known as DBS Offshore Wind Farms ('the Projects') have been addressed in **Volume 7, Chapter 11 Marine Mammals (application ref: 7.11)** of the Projects' Environmental Statement (ES). This appendix summarises the results of the Cumulative Effects Assessment (CEA) screening and outlines the cumulative effects of 'the Projects as well as other schemes which have been screened into the marine mammals CEA.
2. The first step in the cumulative assessment process is the identification of which individual impacts assessed for the Projects have the potential for a cumulative effect on receptors (impact screening). This information is set out in section 11.7 of **Volume 7, Chapter 11 Marine Mammals (application ref: 7.11)** of the Projects' ES.
3. The second step in the cumulative assessment process is the identification of the other schemes and activities that may result in cumulative effects for inclusion in the CEA (described as 'project screening'). This Appendix sets out the screening process undertaken to identify the schemes and activities to be screened into the Projects' CEA for marine mammals. This includes additional information to support the screening out of certain industries and activities from the marine mammal CEA.
4. For the marine mammal assessment, the schemes and activities screened into the CEA are located in the relevant marine mammal reference population areas and the overall CEA screening area (section 11.5.1.1).

11.5.1.1. Screening Area Considered in the CEA

5. The screening area for marine mammals has been defined on the basis that marine mammals are highly mobile and transitory in nature. It is, therefore, necessary to examine species occurrence not only within the Projects' Offshore Development Area, but also over the wider area.
6. For the marine mammal species in the assessments, the following screening areas have been defined, based on the relevant Management Units (MUs) (IAMMWG, 2023) and current knowledge, and understanding of the biology of each species (see **Volume 7, Appendix 11-2 Marine Mammal Information Report (application ref: 7.11.11.2)**).
7. Parameters for inclusion of schemes were:
 - Schemes within the agreed reference population boundary for the given receptor:

- Harbour porpoise, *Phocoena phocoena*: North Sea (NS) MU;
 - Bottlenose dolphin, *Tursiops truncatus*: Greater North Sea (GNS) MU or the Coastal East Scotland (CES) MU;
 - Common dolphin, *Delphinus delphis*: Celtic and Greater North Sea (CGNS) MU
 - White-beaked dolphin, *Lagenorhynchus albirostris*: CGNS MU;
 - Minke whale, *Balaenoptera acutorostrata*: CGNS MU;
 - Grey seal, *Halichoerus grypus*: South-east (SE) England and North-east (NE) England MUs; and
 - Harbour seal, *Phoca vitulina*: South-east England.
- Schemes with the potential to cause the type of effect which could have a cumulative effect with the Projects; and
 - Schemes from an assessment Tier which was screened into the assessment.
8. Information and maps of the relevant MU areas are provided in **Volume 7, Appendix 11-2 Marine Mammal Information Report (application ref: 7.11.11.2)**, (Plate 11-1; Plate 11-11 and Plate 11-14).
9. Note that, due to the large size of the common dolphin, white-beaked dolphin and minke whale MUs, schemes were considered only if they are on the East coast of the UK or in the wider North Sea (located within the NS MU or GNS area), in order to provide a more realistic, while still precautionary list of schemes that may have an impact on the same population as the Projects.

11.5.2. Identification of Potential Cumulative Effects

10. The first step in the CEA is the identification of the impacts assessed for the Projects that have the potential for a cumulative effect with other schemes and activities (described as ‘effect screening’). Only potential effects assessed as greater than negligible are considered in the CEA (i.e., those assessed as ‘negligible’ are not taken forward as there is no potential for them to contribute to a cumulative effect).
11. Initially the potential for cumulative effects were considered for:
- The risk of permanent change in hearing sensitivity (Permanent Threshold Shift (PTS)) from underwater noise;
 - The risk of temporary change in hearing sensitivity (Temporary Threshold Shift (TTS)) from underwater noise;
 - Disturbance from underwater noise;

- Barrier effects due to Offshore Windfarms (OWFs);
- Vessel collision risk;
- Disturbance at seal haul-out sites;
- Changes to water quality; and
- Changes to prey availability.

11.5.2.1. Permanent Auditory Injury Due to Underwater Noise from all Noisy Activities

12. PTS could occur as a result of pile driving during OWF installation, pile driving during oil and gas platform installation, underwater explosives (used occasionally during the removal of underwater structures and unexploded ordnance (UXO) clearance) and seismic surveys (JNCC, 2010a; 2010b). However, if there is the potential for any PTS, from any scheme, suitable mitigation would be put in place to reduce any risk to marine mammals. Other activities such as dredging, drilling, rock placement, vessel activity, operational OWFs, oil and gas installations or wave and tidal sites would emit broadband noise in lower frequencies and PTS from these activities is very unlikely.
13. Therefore, the potential risk of PTS in marine mammals from cumulative effects has been **screened out** from further consideration in the CEA.

11.5.2.2. Temporary Auditory Injury and Disturbance due to Underwater Noise from Offshore Wind Farm Construction and other Noisy Activities

14. Disturbance is likely to have greater effect ranges and areas than TTS, and the risk of TTS would be within disturbance ranges for marine mammals. The effects of either TTS or disturbance in marine mammals are temporary. Where there is little information on the potential disturbance ranges for marine mammals, TTS has been used to indicate possible fleeing response.
15. Therefore, the potential risk of TTS in marine mammals from cumulative effects would be considered (where relevant) alongside that of disturbance from underwater noise, and the highest known potential effect ranges (of either TTS or disturbance) would be used to inform the cumulative assessment.
16. The potential for disturbance to marine mammals from underwater noise has been screened into the CEA. Where there are no known disturbance ranges for a particular effect or marine mammal species, the potential for TTS has been considered.

11.5.2.3. Barrier Effects Due to Disturbance from Offshore Wind

17. The potential for a barrier effect to marine mammals, due to the cumulative underwater noise of multiple OWFs, has been **screened in** to the CEA.

11.5.2.4. Vessel Collision Risk

18. The potential for an increase in vessel collision risk, due to an increase in vessels across cumulative schemes, has been **screened in** to the CEA.

11.5.2.5. Disturbance at Seal Haul-Out Sites

19. The potential for disturbance at seal haul-out sites has been **screened in** to the CEA.

11.5.2.6. Changes to Water Quality

20. No significant effects with regard to water quality are expected as a result the Projects (section 11.8.1.8 and section 11.8.2.7 of **Volume 7, Chapter 11 Marine Mammals (application ref: 7.11)**).
21. Aggregate and dredging schemes have the potential for increased sediment suspension (and therefore impacts to marine mammal species), however any changes to water quality as a result of aggregate extraction and dredging would be very localised and temporary. Therefore, no potential for cumulative effect on marine mammal populations as a result of changes to water quality.
22. Therefore, changes to water quality (including from aggregate extraction and dredging) have been **screened out** from further consideration in the CEA.

11.5.2.7. Changes to Prey Availability

23. The potential for changes to prey availability has been **screened in** to the CEA.

11.5.2.8. Underwater Noise Effects from Operational Offshore Wind Turbines

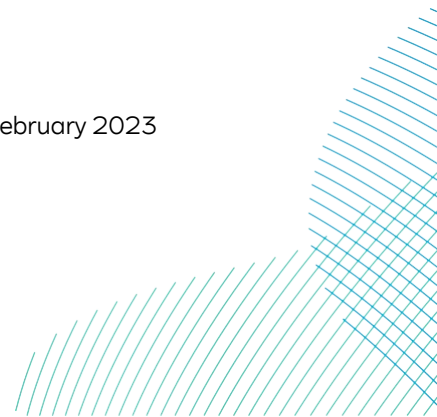
24. Operational underwater noise from the offshore wind turbine is mainly contributed by the mechanical components, which transmits downwards through the turbine tower (Zhou & Guo, 2023).
25. The noise levels associated with operational OWFs is relatively low, and not expected to cause physiological injury to marine mammals, but could cause behavioural reactions if the animals are in the immediate vicinity of the wind turbines (Tougaard *et al.*, 2009a; Sigraay & Andersson, 2011).

26. Operational OWFs have recorded noise levels of between 141 and 146dB re 1 μ Pa-m (Root Mean Square (RMS) Sound Pressure Level (SPL)) at four UK OWFs (MMO, 2015; Cheesman *et al.*, 2016), and levels of 106 and 126dB re 1 μ Pa-m (RMS SPL) at three operational OWFs in Sweden and Denmark, which was not audible for harbour porpoise at a distance of 70m from wind turbine generators (Tougaard *et al.*, 2009). It has also been predicted that within a few hundred metres of a wind turbine, noise would be comparable to background noise levels (MMO, 2015).
27. Due to the low noise levels associated with operational OWFs, the Department for Business, Energy and Industrial Strategy (BEIS)² (2020) Record of Consents (RoC) Habitats Regulation Assessment (HRA) for the Southern North Sea (SNS) Special Area of Conservation (SAC) concluded that there would no potential for significant effect from the operation of OWFs, alongside the construction of OWFs (BEIS, 2020).
28. Therefore, operational OWFs are **screened out** from further consideration within the CEA screening.
29. The potential for cumulative effects from operational wind turbines at the Projects with other schemes and activities has also been **screened out** from further consideration within the CEA screening.

11.5.2.9. Underwater Noise Effects from Maintenance Activities For Operational OWFs

30. Maintenance activities at operational OWFs, such as additional rock placement or cable re-burial / replacement, would be very localised, short in duration and temporary. Noise levels from such activities would be below injury range and barely audible above vessel noise (further information in **Volume 7, Appendix 11-3 Underwater Noise Modelling Report (application ref: 7.11.11.3)**) for noise source levels).
31. Additionally, the potential for cumulative noise impacts from maintenance activities, including vessels at OWFs would be less than the cumulative impacts assessed for construction activities (including construction activities when piling is not occurring).
32. Therefore, underwater noise from OWFs operation and maintenance activity is **screened out** from further consideration within the CEA screening.

² BEIS is now known as the Department for Energy Security and Net Zero as of the 8th February 2023



11.5.2.10. Underwater Noise Effects from OWF Decommissioning Activities

33. There is currently no information on any OWFs that could be decommissioned during the construction of the Projects. Therefore, decommissioning of OWFs is screened out from further consideration within the CEA screening.
34. The potential for cumulative effects during the decommissioning of the Projects are currently unknown. The potential effects for the decommissioning of the Projects including an up-to-date CEA would be assessed prior to any decommissioning activities. Therefore, the decommissioning of the Projects has also been **screened out** from further consideration within this CEA screening.

11.5.3. Screening Process for the CEA

35. The tiers used for assessment are based on guidance issued by the Department for Environmental, Food & Rural Affairs (Defra) and Natural England in March 2022 (Natural England & Defra, 2022), and are as follows:
 - Tier 1: built and operational schemes;
 - Tier 2: schemes under construction;
 - Tier 3: schemes that have been consented (but construction has not yet commenced);
 - Tier 4: schemes that have an application submitted to the appropriate regulatory body that have not yet been determined;
 - Tier 5: schemes that have produced a PEIR and have characterisation data within the public domain;
 - Tier 6: schemes that the regulatory body are expecting to be submitted for determination (e.g., projects listed under the Planning Inspectorate programme of projects); and
 - Tier 7: schemes that have been identified in relevant strategic plans or programmes.
36. These tiers are more appropriate to use compared to the tiers in The Planning Inspectorate (2019) Advice Note 17 for the types of schemes considered in this assessment, in particular for the OWFs.
37. All Tier 1 schemes are considered to be part of the existing baseline environment if operational prior to the start of the baseline surveys for the Projects in March 2021.

38. Any schemes that have the potential for a construction / commissioning cumulative effect that commenced construction / commissioning (Tier 1 or 2) between the start of the baseline surveys in March 2021 and submission in May 2024 of the DCO application would not be taken forward in the CEA. It is assumed that construction / commissioning of those schemes would be completed before the start of construction of the Projects.
39. The first stage of the screening is based on the earliest and longest duration possible range of indicative offshore construction dates for the Projects, of between 2026 and 2032, based on the earliest possible commencement of offshore construction in 2026. Piling would take place between year two and year five of the offshore construction window, and therefore could take place between 2027 and 2030.

11.5.3.1. Identification of Industries for Screening

40. The types of schemes and activities initially considered in this CEA screening are:
- Other OWFs: Construction: (i) piling and (ii) other construction activities, including vessels;
 - Marine renewable (wave and tidal) developments;
 - Geophysical and seismic surveys (such as those associated with OWFs and oil and gas exploration);
 - Oil and gas installations:
 - Construction;
 - Operation; and
 - Decommissioning.
 - Aggregate extraction and dredging;
 - Licenced disposal sites;
 - Planned construction of sub-sea cables and pipelines;
 - UXO clearance;
 - Other industries - gas storage, offshore mines, and carbon capture schemes; and
 - Coastal developments, such as ports and harbours.
41. The potential effect levels associated with some activities at an industry level are such that there is no potential for cumulative effects and have been screened out. These activities have been further described in the following sections.

11.5.3.1.1. Industries and Associated Effect Pathways Screened Out

11.5.3.1.1.1 Underwater Noise and Increased Collision Risk due to Shipping

42. Shipping is considered to be part of the baseline environment. All shipping has been screened out from further consideration in the CEA.

43. This approach is in accordance with the Planning Inspectorate (2019) Advice Note 17 Cumulative Effects Assessment, which states that:

“Where other projects are expected to be completed before construction of the proposed NSIP and the effects of those projects are fully determined, effects arising from them should be considered as part of the baseline”.

11.5.3.1.2.1 Commercial Fishing

44. Commercial fisheries is scoped out of the CEA, as it is an ongoing activity that is considered to be part of the baseline environment.

45. Commercial fisheries potentially impact marine mammals directly through by-catch and indirectly through the loss of marine mammal prey species (from commercial fisheries). Furthermore, there is potential for disturbance impacts from underwater noise (from vessel presence).

46. By-catch as a result of commercial fisheries is recognised as a historic and continuing cause of harbour porpoise mortality and will therefore be a factor in shaping the size of the current NS MU population. The available prey resource for harbour porpoise has also been influenced by historic and continuing commercial fishing. Noise from fisheries vessels is also considered to be part of the baseline conditions.

47. This approach is in accordance with the Planning Inspectorate (2019) Advice Note 17 Cumulative Effects Assessment, which states that:

“Where other projects are expected to be completed before construction of the proposed NSIP and the effects of those projects are fully determined, effects arising from them should be considered as part of the baseline”.

48. There is no specific guidance for the NS, however the potential for cumulative impacts associated with commercial fisheries within the SNS SAC has been considered in the RoC HRA (BEIS, 2020). With regard to effects to habitats, the RoC HRA states:

“18.120 There have been no quantified assessments undertaken on the extent impacts from commercial fishing may have within the SAC and therefore information to inform this assessment is not available.

18.122 Without knowing the extent of impact on the seabed arising from the fishing industry...it is not possible to undertake an in-combination assessment that addresses all the potential impacts on the habitats within the SAC.”

49. With regard to direct effects on harbour porpoise, the RoC HRA (BEIS, 2020) also states that:

“18.203 Commercial fishing has occurred within the SAC for many years and has had, and will continue to have, direct and indirect impacts on harbour porpoise, their habitat and prey within the SAC. As the conservation status of harbour porpoise in UK waters and the SAC is considered favourable (Joint Nature Conservation Committee (JNCC), 2019; JNCC and Natural England, 2019) current and historical levels of fishing in the SAC are not considered to have affected the conservation status of the species.

18.210 There are no known plans to suggest that the level of fishing within the SAC will significantly increase over the period the consented wind farms are planned to be constructed, such that, it is predicted that the current level of impacts from fishing on harbour porpoise within the SAC will not increase.”

50. Natural England’s Deadline 4 Response to the Examining Authority’s Further Written Questions and Requests for information for Hornsea Project 3 (15th January 2019) (page 46, Q 2.2.73) was that:

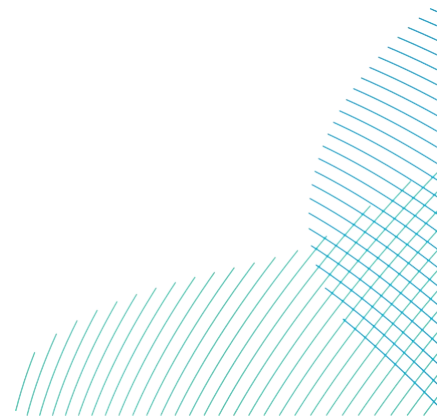
“Where there is ongoing fishing activity in the site, it is important that the impacts of the activity are captured within the assessment in the context of the conservation objectives of the affected designated site(s). This assessment will likely take place as part of the baseline characterisation of the development area, however, as fishing activity is mobile, variable, and subject to change, there may be instances whereby fishing impacts are not adequately captured in the baseline characterisation and therefore may need to be considered as part of the in-combination assessment. This could be due to a change in effort; change in management; or a change in legislation amongst other things, and fishery managers (i.e. Marine Management Organisation (MMO)) would be best placed to advise on this.

In relation to the assessment of impacts on the SNS SAC, Natural England...are not currently aware of anything that would have significantly altered the levels of fishing activity within the site; any current plans for new fisheries, or changes to existing fisheries that have not been captured, but we would look to fisheries managers to advise more definitively on these points.”

51. This, along with the RoC HRA (BEIS, 2020), suggests that by-catch has not affected a population considered to be in Favourable Conservation Status (FCS), whilst Natural England acknowledge that there is currently no evidence to suggest that the current levels of fishing would significantly alter in the future. These principles apply to the NS and marine mammal populations in general.
52. Therefore, the potential impacts from commercial fishing (including by-catch and loss of prey species) and from the underwater noise associated with vessels are considered to be a part of the environmental baseline for marine mammals of the NS, including for harbour porpoise, and are screened out of further assessment.

11.5.3.2. Data Sources

53. A wide range of data sources and information was used for the CEA and CEA screening, including, but not limited to:
 - The Projects (ES);
 - Developer websites;
 - 4C Offshore Wind Database (<http://www.4coffshore.com/offshorewind>);
 - Renewable United Kingdom (UK) website (<http://www.renewableuk.com>);
 - The Crown Estate website;
 - Oil and gas UK licensing rounds website (<https://www.gov.uk/guidance/oil-and-gas-licensing-rounds#past-licensing-rounds>);
 - Oil and gas environmental submissions and determinations (<https://www.gov.uk/guidance/oil-and-gas-environmental-data>);
 - Cefas website (e.g., <http://data.cefas.co.uk/#/View/407> for disposal sites);
 - Planning Inspectorate National Infrastructure Planning website;
 - The Marine Management Organisation (MMO) public register; and
 - European Marine Observation and Data Network (EMODnet) data.



11.5.4. Results of CEA Screening for Marine Mammals

11.5.4.1. Screening of Other OWFs

11.5.4.1.1. UK OWF Long List

54. UK based schemes listed in Tiers 1 - 5 were considered for potential construction cumulative effects, if the construction phases could overlap with the proposed construction of the Projects, and sufficient information and certainty in scheme programmes allowed for a meaningful assessment. In addition, Tier 6 - 7 schemes for which the applications are currently in preparation have also been screened, but due to insufficient information regarding time scales, these schemes have not been further considered and are listed in **Table 11-5-1**.
55. Where possible, known dates of OWF construction are used to assess whether there is the potential for construction periods to overlap with the Projects. For UK Tier 4 schemes (application submitted) the possible construction windows were based on the best available information.
56. The initial screening process resulted in a list of 90 UK OWF schemes within the relevant screening areas for harbour porpoise, bottlenose dolphin, common dolphin, white-beaked dolphin, minke whale, grey seal and harbour seal.
57. OWFs were considered part of the baseline if they were operational (Tier 1) at the time of the start of the DBS site specific surveys (March 2021). There were 31 Tier 1 UK OWF schemes screened out at this stage, with one further currently operational OWFs that were not operational prior to the start of the DBS surveys.
58. Out of the 58 Tier 2-6 UK OWF schemes, 33 schemes have the potential for the construction phase to overlap with construction of the Projects (2026-2032), whereas 15 OWF schemes do not as it was assumed that the offshore construction would finish before the Projects construction commences. A further 10 schemes have limited information, and there is currently no information on when they may be undertaking construction; these schemes have been screened out due to a lack of information to inform an assessment.
59. Of the 33 schemes with the potential to be undertaking construction at the same time as the Projects, 20 are currently listed as Tier 6 with limited information on potential construction methods and programmes. These 20 schemes have therefore also been screened out of further assessment.

60. The remaining 13 OWFs have been screened in as there is the potential for the construction phase to overlap with construction of the Projects (offshore construction window of 2026-2032, and foundation piling between 2027 and 2030). These schemes are scoped into the ES chapter's CEA;
- Screened in for all cetacean species (for bottlenose dolphin, only for the GNS MU):
 - Berwick Bank;
 - Greenvolt;
 - Rampion 2;
 - Seagreen 1A; and
 - West of Orkney;
 - Screened in for all marine mammal species (for bottlenose dolphin, only for the GNS MU):
 - Dudgeon Extension;
 - East Anglia Hub (East Anglia ONE North);
 - Five Estuaries;
 - Hornsea Project Three;
 - Hornsea Project Four;
 - North Falls; and
 - Outer Dowsing;
 - Sheringham Shoal Extension.
61. There were no Tier 7 schemes identified.
62. The results of this initial screening are presented in in **Table 11-5-1**.

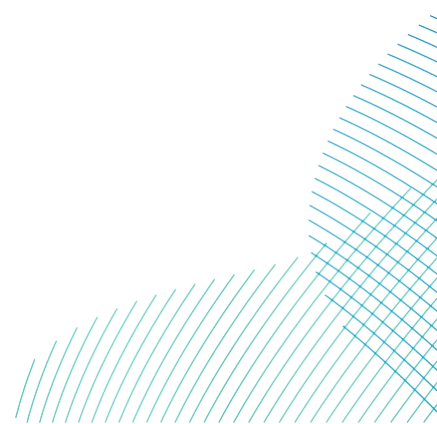
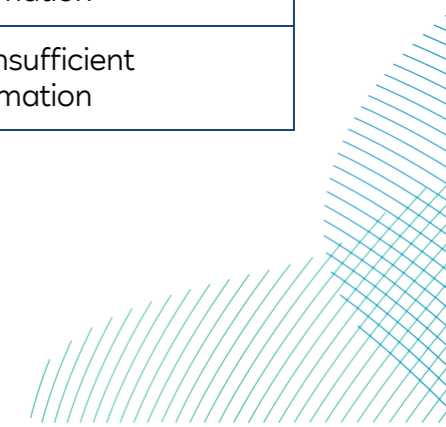


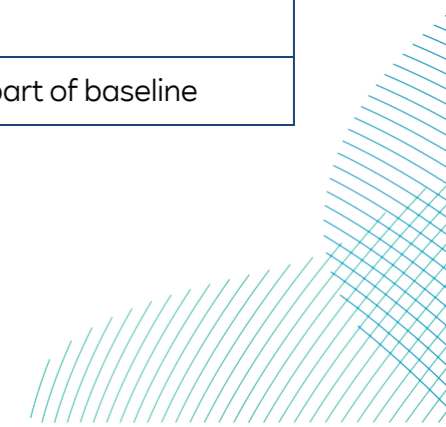
Table 11-5-1 CEA Screening for all UK offshore wind farm schemes within the relevant spatial area for each species and potential to overlap with the Projects construction (2027-2031) (HP = harbour porpoise, BND = bottlenose dolphin, SA = Screening Area, Y = Yes, N = No)

| Scheme Name | Status | Tier | HP - NS | CGNS | BND - GNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Foundation Piling window | Date operational | Potential for overlap of OWF construction with the Projects' construction? | Screened into CEA? |
|------------------|--------------------------|------|---------|------|-----------|-----------|-------------|-------------|--------------------------|------------------|--|------------------------------|
| Aberdeen (EOWDC) | Operational | 1 | Y | Y | N | Y | N | N | n/a | 2018 | N | No, part of baseline |
| Arven | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | Unknown | Unknown | Unknown | No, insufficient information |
| Aspen | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | n/a | 2028 | Y | No, insufficient information |
| Avalon | Concept & Early Planning | 4 | Y | Y | Y | N | N | N | 2023 | Unknown | Unknown | No, insufficient information |
| Ayre | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | n/a | 2033 | Y | No, insufficient information |
| Beatrice | Operational | 1 | Y | Y | N | Y | N | N | n/a | 2018 | N | No, part of baseline |
| Beech | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | n/a | 2028 | Y | No, insufficient information |
| Aberdeen (EOWDC) | Operational | 1 | Y | Y | N | Y | N | N | n/a | 2018 | N | No, part of baseline |
| Arven | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | Unknown | Unknown | Unknown | No, insufficient information |
| Aspen | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | n/a | 2028 | Y | No, insufficient information |
| Avalon | Concept & Early Planning | 4 | Y | Y | Y | N | N | N | 2023 | Unknown | Unknown | No, insufficient information |
| Ayre | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | n/a | 2033 | Y | No, insufficient information |
| Beatrice | Operational | 1 | Y | Y | N | Y | N | N | n/a | 2018 | N | No, part of baseline |
| Beech | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | n/a | 2028 | Y | No, insufficient information |

| Scheme Name | Status | Tier | HP - NS | CGNS | BND - GNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Foundation Piling window | Date operational | Potential for overlap of OWF construction with the Projects' construction? | Screened into CEA? |
|---|--------------------------|------|---------|------|-----------|-----------|-------------|-------------|--------------------------|------------------|--|----------------------------------|
| Bellrock | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | n/a | 2030 | Y | No, insufficient information |
| Berwick Bank | Application Submitted | 4 | Y | Y | Y | N | N | N | 2024-2027 | 2027-2028 | Y | Yes |
| Blyth Offshore Demonstrator - Phase 1 | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2018 | N | No, part of baseline |
| Blyth Offshore Demonstrator - Phase 2 | Consented | 3 | Y | Y | Y | N | Y | N | n/a | 2025 | N | No, no overlap with construction |
| Bowdun | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | 2028-2032 | 2032 | Y | No, insufficient information |
| BP Alternative Energy Investments INTOG | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | n/a | Unknown | Unknown | No, insufficient information |
| Broadshore | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | 2024 | 2028 | Y | No, insufficient information |
| Buchan Offshore Wind | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | n/a | 2033 | Y | No, insufficient information |
| Caledonia Offshore Wind | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | 2028-2030 | 2030 | Y | No, insufficient information |
| CampionWind | Concept & Early Planning | 6 | Y | Y | N | N | N | N | Unknown | 2028 | Y | No, insufficient information |
| Cedar | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | n/a | 2028 | Y | No, insufficient information |
| Cenos | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | n/a | 2030 | Y | No, insufficient information |
| Culzean Floating Wind Pilot Project | Concept & Early Planning | 6 | Y | Y | Y | Y | N | N | n/a | 2024 | N | No, insufficient information |

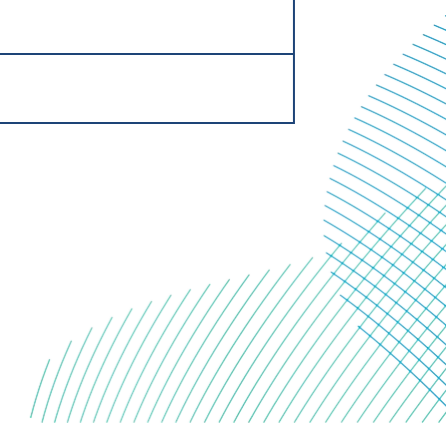


| Scheme Name | Status | Tier | HP - NS | CGNS | BND - GNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Foundation Piling window | Date operational | Potential for overlap of OWF construction with the Projects' construction? | Screened into CEA? |
|---|--------------------------|------|---------|------|-----------|-----------|-------------|-------------|--------------------------|------------------|--|----------------------------------|
| Dogger Bank A | Under Construction | 2 | Y | Y | N | N | N | N | 2022-2023 | 2024 | N | No, no overlap with construction |
| Dogger Bank B | Under Construction | 2 | Y | Y | Y | N | N | Y | 2023-2024 | 2025 | N | No, no overlap with construction |
| Dogger Bank C | Pre-Construction | 3 | Y | Y | Y | N | N | Y | 2024-2025 | 2026 | N | No, insufficient information |
| Dogger Bank D | Concept & Early Planning | 6 | Y | Y | Y | N | N | Y | 2027 | 2029 | Y | No, insufficient information |
| Dolphyn Project - Full Scale | Concept & Early Planning | 6 | Y | N | N | Y | N | N | n/a | 2034 | Y | No, insufficient information |
| Dolphyn Project - Pre-Commercial | Concept & Early Planning | 6 | Y | N | N | Y | N | N | n/a | 2027 | Y | No, insufficient information |
| Dudgeon | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2017 | N | No, part of baseline |
| Dudgeon Extension | Application Submitted | 4 | Y | Y | Y | N | N | Y | 2026-2027 | 2027 | Y | Yes |
| East Anglia One | Operational | 1 | Y | Y | Y | N | N | Y | 2018-2019 | 2020 | N | No, part of baseline |
| East Anglia Hub (One North) | Consented | 3 | Y | Y | Y | N | N | Y | 2027-2028 | 2028 | Y | Yes |
| East Anglia hub (Three) | Consented | 3 | Y | Y | Y | N | N | Y | 2025 | 2026 | N | No, no overlap with construction |
| East Anglia Hub (Two) | Consented | 3 | Y | Y | Y | N | N | Y | 2024-2025 | 2027 | N | No, no overlap with piling |
| Five Estuaries | Concept & Early Planning | 5 | Y | y | Y | N | N | Y | 2028-2030 | 2030 | Y | Yes |
| Forthwind Offshore Wind Demonstration Project - Phase 1 | Consented | 3 | Y | Y | N | Y | N | N | 2024 | 2024 | N | No, construction completed |
| Galloper | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2018 | N | No, part of baseline |



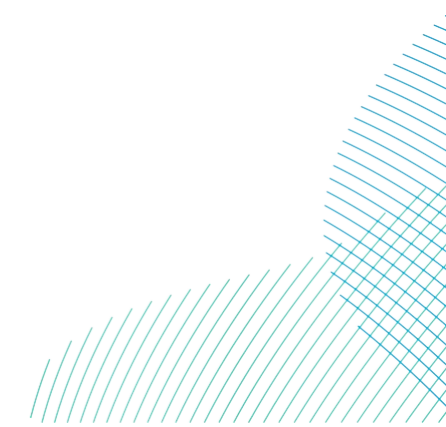
| Scheme Name | Status | Tier | HP - NS | CGNS | BND - GNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Foundation Piling window | Date operational | Potential for overlap of OWF construction with the Projects' construction? | Screened into CEA? |
|----------------------------|--------------------------|------|---------|------|-----------|-----------|-------------|-------------|--------------------------|------------------|--|----------------------------------|
| Greater Gabbard | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2012 | N | No, part of baseline |
| Greenvolt | Application Submitted | 4 | Y | Y | Y | N | N | N | n/a | 2027 | Y | Yes |
| Gunfleet Sands 1 and 2 | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2009 | N | No, part of baseline |
| Gunfleet Sands 3 | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2013 | N | No, part of baseline |
| Harbour Energy South INTOG | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | n/a | Unknown | Unknown | No, insufficient information |
| Hornsea Project Four | Consented | 3 | Y | Y | Y | N | N | Y | 2027-2028 | 2028 | Y | Yes |
| Hornsea Project One | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2019 | N | No, part of baseline |
| Hornsea Project Three | Consented | 3 | Y | Y | Y | N | N | Y | 2024-2027 | 2027 | Y | Yes |
| Hornsea Project Two | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2022 | Y | No, part of baseline |
| Humber Gateway | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2015 | N | No, part of baseline |
| Hywind Scotland Pilot Park | Operational | 1 | Y | Y | Y | Y | Y | N | n/a | 2017 | N | No, part of baseline |
| Inch Cape | Consented | 3 | Y | Y | Y | Y | N | N | 2024-2025 | 2025 | N | No, no overlap with construction |
| Inner Dowsing | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2009 | N | No, part of baseline |
| Kentish Flats | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2005 | N | No, part of baseline |
| Kentish Flats Extension | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2016 | N | No, part of baseline |
| Kincardine - Phase 1 | Operational | 1 | Y | Y | N | Y | N | N | n/a | 2018 | N | No, part of baseline |
| Kincardine - Phase 2 | Operational | 1 | Y | Y | N | Y | N | N | n/a | 2021 | N | No, part of baseline |

| Scheme Name | Status | Tier | HP - NS | CGNS | BND - GNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Foundation Piling window | Date operational | Potential for overlap of OWF construction with the Projects' construction? | Screened into CEA? |
|----------------------------------|--------------------------|------|---------|------|-----------|-----------|-------------|-------------|--------------------------|------------------|--|----------------------------------|
| Levenmouth demonstration turbine | Operational | 1 | Y | Y | N | Y | N | N | n/a | 2013 | N | No, part of baseline |
| Lincs | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2012 | N | No, part of baseline |
| London Array | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2012 | N | No, part of baseline |
| Lynn | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2009 | N | No, part of baseline |
| MarramWind | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | n/a | 2030 | Y | No, insufficient information |
| Moray East | Operational | 1 | Y | Y | N | Y | N | N | n/a | 2022 | Y | No, part of baseline |
| Moray West | Under Construction | 2 | Y | Y | N | Y | N | N | 2023-2025 | 2025 | N | No, no overlap with construction |
| Morven | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | n/a | 2030 | Y | No, insufficient information |
| Muir Mhor | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | n/a | 2030 | Y | No, insufficient information |
| Neart na Gaoithe | Under Construction | 2 | Y | Y | N | Y | N | N | 2020-2024 | 2024 | N | No, no overlap with construction |
| Norfolk Boreas | Consented | 3 | Y | Y | Y | N | N | Y | Unknown | Unknown | Unknown | No, insufficient information |
| Norfolk Vanguard | Consented | 3 | Y | Y | Y | N | N | Y | 2026 | 2027 | Y | No, no overlap with piling |
| North Falls | Concept & Early Planning | 5 | Y | Y | Y | N | N | Y | 2027-2028 | 2030 | Y | Yes |
| Ossian | Concept & Early Planning | 6 | Y | Y | Y | N | N | Y | n/a | 2028 | Y | No, insufficient information |
| Outer Dowsing | Concept & Early Planning | 5 | Y | Y | N | Y | N | N | 2026-2030 | 2030 | Y | Yes |
| Pentland | Consented | 3 | Y | Y | N | Y | N | N | 2024 | 2024 | N | No |



| Scheme Name | Status | Tier | HP - NS | CGNS | BND - GNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Foundation Piling window | Date operational | Potential for overlap of OWF construction with the Projects' construction? | Screened into CEA? |
|---|--------------------------|------|---------|------|-----------|-----------|-------------|-------------|--------------------------|------------------|--|------------------------------|
| Pentland Floating Demo | Pre-Construction | 3 | Y | Y | Y | N | N | N | 2024 | 2026 | N | No |
| Race Bank | Operational | 1 | y | y | N | N | N | N | n/a | 2018 | N | No, part of baseline |
| Rampion | Operational | 1 | Y | Y | N | N | N | N | n/a | 2017 | N | No, part of baseline |
| Rampion 2 | Application Submitted | 4 | Y | Y | Y | N | N | N | 2026-2027 | 2030 | Y | Yes |
| Salamander | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | n/a | 2029 | Y | No, insufficient information |
| Scaraben | Concept & Early Planning | 6 | Y | Y | Y | N | N | Y | n/a | Unknown | Unknown | No, insufficient information |
| Scroby Sands | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2003 | N | No, part of baseline |
| Seagreen | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2022 | Y | No, part of baseline |
| Seagreen 1A | Consented | 3 | Y | Y | Y | N | N | N | 2026-2027 | 2027 | Y | Yes |
| Sealtainn | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | n/a | Unknown | Unknown | No, insufficient information |
| SENSEWind Demonstrator | Concept & Early Planning | 6 | Y | Y | N | Y | | | n/a | Unknown | Unknown | No, insufficient information |
| SENSEWind Pelastar Full-Scale Prototype | Concept & Early Planning | 6 | Y | Y | N | Y | N | N | n/a | Unknown | Unknown | No, insufficient information |
| Sheringham Shoal | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2012 | N | No, part of baseline |
| Sheringham Shoal Extension | Application Submitted | 4 | Y | Y | Y | N | N | Y | 2027 | 2036 | Y | Yes |
| Sinclair | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | n/a | Unknown | Unknown | No, insufficient information |
| Sofia | Under Construction | 2 | Y | Y | Y | N | N | Y | 2024-2026 | 2026 | N | No |

| Scheme Name | Status | Tier | HP - NS | CGNS | BND - GNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Foundation Piling window | Date operational | Potential for overlap of OWF construction with the Projects' construction? | Screened into CEA? |
|------------------|--------------------------|------|---------|------|-----------|-----------|-------------|-------------|--------------------------|------------------|--|------------------------------|
| Stromar | Concept & Early Planning | 6 | Y | Y | Y | N | N | N | 2024 | 2028 | Y | No, insufficient information |
| Teesside | Operational | 1 | Y | Y | Y | N | Y | N | n/a | 2013 | N | No, part of baseline |
| Thanet | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2010 | N | No, part of baseline |
| Triton Knoll | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2022 | N | No, part of baseline |
| West Of Orkney | Application Submitted | 4 | Y | Y | Y | N | N | N | 2028-2029 | 2029 | Y | Yes |
| Westermost Rough | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2014 | N | No, part of baseline |



11.5.4.1.2. European OWF

63. European OWF schemes (**Table 11-5-2**) listed in Tier 1-5 were considered for the CEA. Where possible, known dates of construction were used to assess whether there is the potential for construction periods to overlap with DBS (2026-2032).
64. Of the 80 European OWF schemes considered, 59 are currently operational (Tier 1) and were screened out. All but two of those operational OWFs were operational prior to the commencement of the DBS baseline surveys.
65. None of the 11 Tier 2 schemes would have construction phases that overlap with construction of DBS, and are assumed to have finalised construction before the Projects' construction commences and are therefore also screened out.
66. The six Tier 3 European OWF schemes would not have overlapping construction phases with DBS and are screened out, as would two of the four Tier 4 schemes.
67. The remaining two European OWF schemes listed as Tier 4 schemes and have the potential for an overlap with DBS construction. These schemes are Dunkerque and Galene. There is currently insufficient information on Dunkerque to inform an assessment, and therefore this scheme has been screened out of further assessment. The Galene scheme screened out all species except harbour porpoise, grey seal, and harbour seal³, and Galene is not in the relevant screening area for those species, it has been screened out of further assessment.

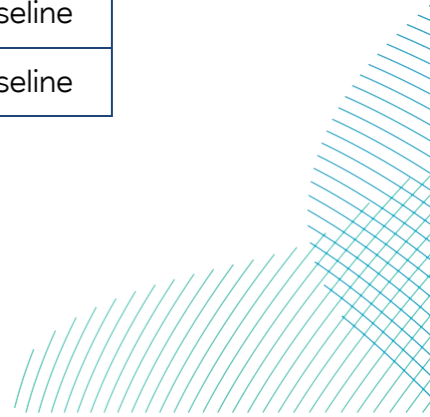
³ As shown by the consenting documents: <https://www.ox2.com/sv/projekt/galatea-galene>

Table 11-5-2 CEA Screening for all European OWF schemes within the relevant spatial area for each species and potential to overlap with the Projects construction (2027-2031) (HP = harbour porpoise, BND = bottlenose dolphin, GS = grey seal, HS = harbour seal, SA = Screening Area, Y = Yes, N = No)

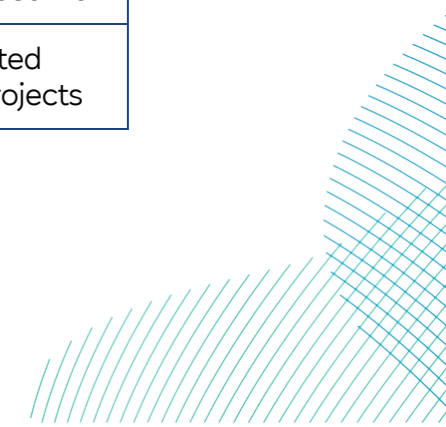
| Scheme Name | Country | Status | Tier | HP - NS | CGNS | BND - GNS | BND - CES | GS Seal MU | HS Seal MU | Foundation Piling window | Date operational | Potential for overlap of OWF construction with the Projects' construction? | Screened into CEA? |
|--|-------------|--------------------|------|---------|------|-----------|-----------|------------|------------|--------------------------|------------------|--|---------------------------------|
| Alpha Ventus | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2009 | N | No, part of baseline |
| Amrumbank West | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2015 | N | No, part of baseline |
| Anholt | Denmark | Operational | 1 | N | Y | Y | N | N | N | - | 2013 | N | No, part of baseline |
| BARD Offshore 1 | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2013 | N | No, part of baseline |
| Belwind Alstom Haliade Demonstration | Belgium | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2013 | N | No, part of baseline |
| Belwind I | Belgium | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2010 | N | No, part of baseline |
| Belwind II | Belgium | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2017 | N | No, part of baseline |
| Borkum Riffgrund 1 | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2015 | N | No, part of baseline |
| Borkum Riffgrund 2 | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2018 | N | No, part of baseline |
| Borkum Riffgrund 3 | Germany | Under Construction | 2 | Y | Y | Y | N | N | N | 2023-2025 | 2025 | N | No, constructed before Projects |
| Borssele 1 and 2 | Netherlands | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2020 | N | No, part of baseline |
| Borssele 3 and 4 - Blauwwind | Netherlands | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2020 | N | No, part of baseline |
| Borssele Site V - Leeghwater - Innovation Plot | Netherlands | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2021 | N | No, part of baseline |
| Butendiek | Germany | Operational | 1 | Y | N | N | N | N | N | n/a | 2015 | N | No, part of baseline |
| Calvados | France | Under Construction | 2 | Y | Y | Y | N | N | N | 2022-2024 | 2024 | N | No, constructed before Projects |
| Dan Tysk | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2015 | N | No, part of baseline |

| Scheme Name | Country | Status | Tier | HP - NS | CGNS | BND - GNS | BND - CES | GS Seal MU | HS Seal MU | Foundation Piling window | Date operational | Potential for overlap of OWF construction with the Projects' construction? | Screened into CEA? |
|----------------------|-------------|-----------------------|------|---------|------|-----------|-----------|------------|------------|--------------------------|------------------|--|-------------------------------------|
| Deutsche Bucht | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2020 | N | No, part of baseline |
| Dieppe - Le Tréport | France | Pre-Construction | 3 | Y | Y | Y | N | N | N | 2023-2026 | 2026 | N | No, constructed before Projects |
| Dunkerque | France | Application Submitted | 4 | Y | Y | N | N | N | N | 2026-2028 | 2028 | Y | No, insufficient information |
| Egmond aan Zee | Netherlands | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2007 | N | No, part of baseline |
| EnBW He Dreiht | Germany | Consented | 3 | Y | Y | Y | N | N | N | 2024-2025 | 2025 | N | No, constructed before Projects |
| Eneco Luchterduinen | Netherlands | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2015 | N | No, part of baseline |
| ENOVA Ems Emden | Germany | Operational | 1 | Y | Y | Y | N | N | N | - | 2004 | N | No, part of baseline |
| Fécamp | France | Under Construction | 2 | Y | Y | N | N | N | N | 2020-2023 | 2023 | N | No, constructed before the Projects |
| Frederikshavn | Denmark | Operational | 1 | N | Y | Y | N | N | N | - | 2003 | N | No, part of baseline |
| Galene | Sweden | Consented | 3 | N | Y | Y | N | N | N | 2026-2030 | 2030 | Y | Yes |
| Gemini | Netherlands | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2017 | N | No, part of baseline |
| Global Tech I | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2015 | N | No, part of baseline |
| Gode Wind 1 and 2 | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2017 | N | No, part of baseline |
| Gode Wind 3 | Germany | Under Construction | 2 | Y | Y | Y | N | N | N | 2023-2024 | 2024 | N | No, constructed before the Projects |
| Hohe See | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2019 | N | No, part of baseline |
| Hollandse Kust Noord | Netherlands | Under Construction | 2 | Y | Y | Y | N | N | N | 2022-2023 | 2023 | N | No, constructed before the Projects |

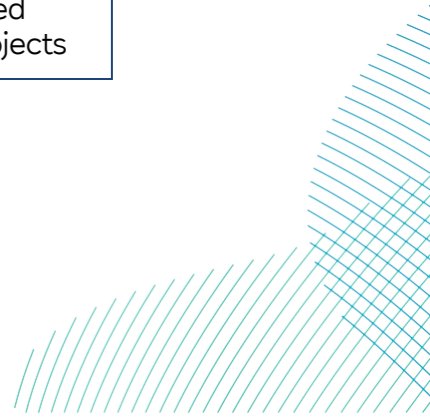
| Scheme Name | Country | Status | Tier | HP - NS | CGNS | BND - GNS | BND - CES | GS Seal MU | HS Seal MU | Foundation Piling window | Date operational | Potential for overlap of OWF construction with the Projects' construction? | Screened into CEA? |
|--|-------------|--------------------|------|---------|------|-----------|-----------|------------|------------|--------------------------|------------------|--|-------------------------------------|
| Hollandse Kust West VI | Netherlands | Under Construction | 2 | Y | Y | Y | N | N | N | 2023-2026 | 2026 | N | No, constructed before the Projects |
| Hollandse Kust West VII | Netherlands | Consented | 3 | Y | Y | Y | N | N | N | Unknown | 2027 | N | No, insufficient information |
| Hollandse Kust Zuid Holland I and II | Netherlands | Under Construction | 2 | Y | Y | Y | N | N | N | 2022-2023 | 2023 | N | No, constructed before the Projects |
| Hollandse Kust Zuid Holland III and IV | Netherlands | Under Construction | 2 | Y | Y | Y | N | N | N | 2022-2023 | 2023 | N | No, constructed before the Projects |
| Horns Rev 1 | Denmark | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2002 | N | No, part of baseline |
| Horns Rev 2 | Denmark | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2009 | N | No, part of baseline |
| Horns Rev 3 | Denmark | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2019 | N | No, part of baseline |
| Hywind Tampen | Norway | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2023 | N | No, constructed before the Projects |
| Kaskasi | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2022 | N | No, part of baseline |
| Meerwind Süd/Ost | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2014 | N | No, part of baseline |
| Merkur | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2019 | N | No, part of baseline |
| Metcentre - FLAGSHIP | Norway | Pre-Construction | 3 | Y | N | N | N | N | N | Floating | 2026 | N | No, constructed before the Projects |
| Metcentre - SeaTwirl S1 | Sweden | Operational | 1 | Y | Y | Y | N | N | N | Floating | 2015 | N | No, part of baseline |
| Metcentre - SeaTwirl S2 | Norway | Pre-Construction | 3 | Y | Y | Y | N | N | N | 2023-?? | Unknown | N | No, insufficient information |
| Metcentre - TetraSpar Demo | Norway | Operational | 1 | Y | Y | Y | N | N | N | Floating | 2021 | N | No, part of baseline |
| Nissum Bredning Vind | Denmark | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2018 | N | No, part of baseline |



| Scheme Name | Country | Status | Tier | HP - NS | CGNS | BND - GNS | BND - CES | GS Seal MU | HS Seal MU | Foundation Piling window | Date operational | Potential for overlap of OWF construction with the Projects' construction? | Screened into CEA? |
|---------------------------|-------------|--------------------------|------|---------|------|-----------|-----------|------------|------------|--------------------------|------------------|--|-------------------------------------|
| Nobelwind | Belgium | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2017 | N | No, part of baseline |
| Nordergründe | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2017 | N | No, part of baseline |
| Nordsee Cluster A - N-3.7 | Germany | Application Submitted | 4 | Y | Y | Y | N | N | N | 2025-2027 | 2027 | N (expected to be completed prior to piling at the Projects) | No, constructed before the Projects |
| Nordsee Cluster A - N-3.8 | Germany | Application Submitted | 4 | Y | Y | Y | N | N | N | 2025-2027 | 2027 | N (expected to be completed prior to piling at the Projects) | No, constructed before the Projects |
| Nordsee One | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2017 | N | No, part of baseline |
| Nordsee Ost | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2015 | N | No, part of baseline |
| Normandie | France | Concept & Early Planning | 6 | Y | Y | N | N | N | N | 2026-2031 | 2031 | Y | No, insufficient information |
| Norther | Belgium | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2019 | N | No, part of baseline |
| Northwester 2 | Belgium | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2020 | N | No, part of baseline |
| Northwind | Belgium | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2014 | N | No, part of baseline |
| Prinses Amaliawindpark | Netherlands | Operational | 1 | Y | Y | Y | N | N | Y | n/a | 2008 | N | No, part of baseline |
| Rentel | Belgium | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2018 | N | No, part of baseline |
| Riffgat | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2014 | N | No, part of baseline |
| Rønland | Denmark | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2003 | N | No, part of baseline |
| Saint-Brieuc | France | Under Construction | 2 | Y | Y | N | N | N | N | 2022 | 2023 | N | No, constructed before the Projects |



| Scheme Name | Country | Status | Tier | HP - NS | CGNS | BND - GNS | BND - CES | GS Seal MU | HS Seal MU | Foundation Piling window | Date operational | Potential for overlap of OWF construction with the Projects' construction? | Screened into CEA? |
|--|-------------|--------------------|------|---------|------|-----------|-----------|------------|------------|--------------------------|------------------|--|-------------------------------------|
| Samsø | Denmark | Operational | 1 | N | Y | Y | N | N | N | 2002 | 2003 | N | No, part of baseline |
| Sandbank | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2017 | N | No, part of baseline |
| Seamade (Mermaid) | Belgium | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2021 | N | No, part of baseline |
| Seamade (SeaStar) | Belgium | Operational | 1 | Y | Y | Y | N | N | N | Unknown | 2020 | N | No, part of baseline |
| Thornton Bank - Phase I | Belgium | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2009 | N | No, part of baseline |
| Thornton Bank - Phase II | Belgium | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2012 | N | No, part of baseline |
| Thorton Bank - Phase III | Belgium | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2013 | N | No, part of baseline |
| Trianel Windpark Borkum I | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2015 | N | No, part of baseline |
| Trianel Windpark Borkum II | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2020 | N | No, part of baseline |
| Tunø Knob | Denmark | Operational | 1 | N | Y | Y | N | N | N | 1995 | 1995 | N | No, part of baseline |
| UNITECH Zefryos by Hywind Technology (Karmoy / Hywind) | Norway | Operational | 1 | Y | Y | Y | N | N | N | Floating | 2012 | N | No, part of baseline |
| Veja Mate | Germany | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2017 | N | No, part of baseline |
| Vesterhav Nord/Syd | Denmark | Under Construction | 2 | Y | Y | Y | N | N | N | 2022-2023 | 2023 | N | No, constructed before the Projects |
| Vindpark Falkenpark | Sweden | Consented | 3 | N | Y | Y | N | N | N | 2023 | 2024 | N | No, constructed before the Projects |
| Westermeerwind | Netherlands | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2016 | N | No, part of baseline |
| Windpark Fryslân | Netherlands | Operational | 1 | Y | Y | Y | N | N | N | n/a | 2021 | N | No, part of baseline |
| Windplanblauw | Netherlands | Under Construction | 2 | Y | Y | Y | N | N | N | 2021-2023 | 2023 | N | No, constructed before the Projects |



11.5.4.2. Screening of Marine Renewable Energy (Wave and Tidal) Schemes

68. Both UK and EU Marine Renewable Energy (MRE) schemes (e.g. wave and tidal) have been considered in the CEA screening, however, due to a lack of information on EU MRE schemes, these have not been assessed.
69. Piling is highly unlikely to be used during the installation of wave and tidal schemes. The installation of wave / tidal schemes is typically using drilled pins or gravity bases. Percussive piling is not anticipated to be used as an installation method and therefore the noise impacts during construction will have a very limited impact range, especially compared to offshore wind farms.
70. The construction of wave or tidal developments is highly unlikely to significantly contribute to the cumulative impacts of the disturbance of marine mammals from underwater noise sources. However, any schemes with the potential for overlapping construction windows with that of the Projects will be screened in for assessment within the CEA.
71. The operation and maintenance of wave and tidal schemes are also highly unlikely to contribute to the cumulative effects of the disturbance of marine mammals from underwater noise sources and therefore have not been included in the CEA.
72. UK based MRE schemes were considered for potential construction and operational cumulative effects, if those phases could overlap with the proposed construction of the Projects, and if sufficient information was available to determine this. Where no information was known on the potential construction phases of the other renewable energy schemes, it was assumed that all schemes currently operational, under construction, or consented would have completed construction prior to the construction of the Projects. It was also assumed that all operational MRE schemes are considered to be part of the existing baseline environment. The results of the screening are in **Table 11-5-3**.
73. Schemes that have been cancelled or are inactive have not been screened into the CEA. Any operational schemes have been included as part of the baseline.
74. All currently operational MRE schemes have been operational since the commencement of the Projects' baseline surveys (in March 2021) and are therefore part of the baseline and screened out from further consideration in the CEA.

75. All Tier 3, 6 and 7 schemes have been screened out of further assessment due to a lack of information on the construction window.
76. Potential impacts during the operation of tidal schemes include collision risk. However, tidal schemes would have to have effective mitigation and monitoring in place to reduce the collision risk for marine mammals. Wave schemes do not present a collision risk to marine mammals, as they are located on the surface of the water. Therefore, collision risk with tidal and wave devices has been screened out of the CEA.
77. The operation and maintenance activities of all wave and tidal schemes have been screened out of the CEA.

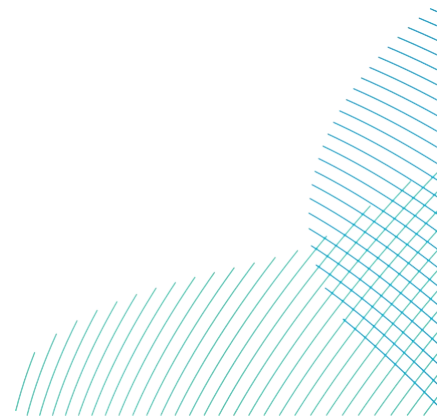
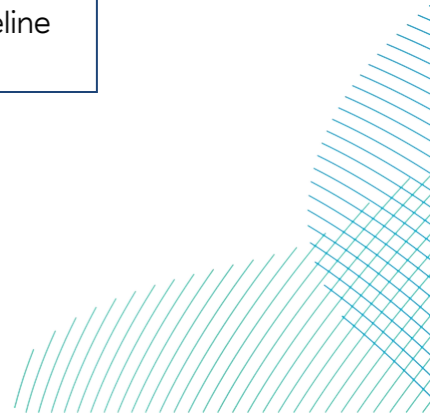
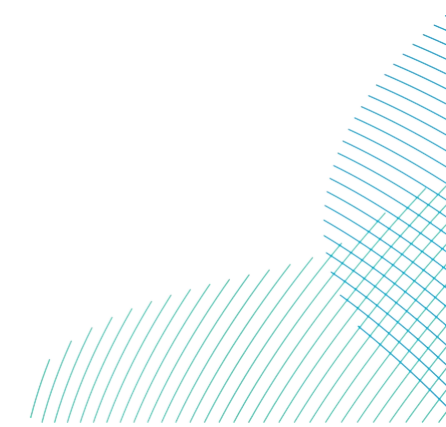


Table 11-5-3 CEA screening for marine renewable schemes within relevant spatial areas and potential overlap with the Projects construction (2026-2032) (HP = harbour porpoise, BND = bottlenose dolphin, GS = grey seal, HS harbour seal, NS= North Sea, CGNS = Celtic and Greater North Seas, CES = Coastal East Scotland, MU= Management Unit , Y = Yes, N = No)

| Scheme Name | Type of Scheme | Status | Tier | HP - NS | CGNS | BND - CGNS | BND - CES | GS Seal MU | HS Seal MU | Potential for overlap of MRE construction with the Projects' construction? [2026-2032] | Potential for overlap of MRE operation with the Projects' construction? | Screened into CEA? |
|--------------------------------------|----------------|--------------------------|------|---------|------|------------|-----------|------------|------------|--|---|------------------------------|
| EMEC Aquantis | Tidal | Consented | 3 | Y | Y | Y | N | N | N | Unknown | Unknown | No, insufficient information |
| EMEC Billia Croo | Wave | Operational | 1 | Y | Y | Y | Y | N | N | N | N | No, part of baseline |
| EMEC Blue Horizon | Wave | Consented | 3 | Y | Y | Y | Y | N | N | Unknown | Unknown | No, insufficient information |
| EMEC Fall of Warness | Tidal | Operational | 1 | Y | Y | Y | Y | N | N | N | N | No, part of baseline |
| EMEC Magallanes Renovables | Tidal | Operational | 1 | Y | Y | Y | Y | N | N | Unknown | Unknown | No, part of baseline |
| EMEC Orbital O2.2 | Tidal | Consented | 3 | Y | Y | Y | N | N | N | Unknown | Unknown | No, insufficient information |
| EMEC Orbital Power O2 | Tidal | Operational | 1 | Y | Y | Y | Y | N | N | N | N | No, part of baseline |
| EMEC Scapa Flow | Wave | Operational | 1 | Y | Y | Y | Y | N | N | N | N | No, part of baseline |
| EMEC Shapinsay Sound | Tidal | Operational | 1 | Y | Y | Y | Y | N | N | N | N | No, part of baseline |
| MeyGen Inner Sound Phase 1 | Tidal | Operational | 1 | Y | Y | Y | Y | N | N | N | N | No, part of baseline |
| MeyGen Inner Sound Phase 2 | Tidal | Consented | 3 | Y | Y | Y | Y | N | N | Unknown | Unknown | No, insufficient information |
| MeyGen Inner Sound Phase 3 | Tidal | Pre-construction | 3 | Y | Y | Y | Y | N | N | Unknown | Unknown | No, insufficient information |
| MeyGen Inner Sound Phase 4 | Tidal | Concept & Early Planning | 6 | Y | Y | Y | Y | N | N | Unknown | Unknown | No, insufficient information |
| Mocean Energy Deerness | Wave | Operational | 1 | Y | Y | Y | N | N | N | N | N | No, part of baseline |
| Nova Innovation Shetland Tidal Array | Tidal | Operational | 1 | Y | Y | Y | Y | N | N | N | N | No, part of baseline |

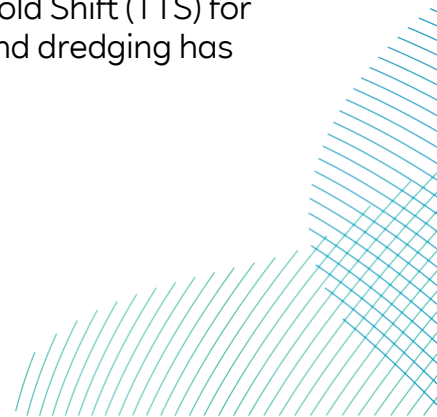


| Scheme Name | Type of Scheme | Status | Tier | HP - NS | CGNS | BND - CGNS | BND - CES | GS Seal MU | HS Seal MU | Potential for overlap of MRE construction with the Projects' construction? [2026-2032] | Potential for overlap of MRE operation with the Projects' construction? | Screened into CEA? |
|--------------------------------------|----------------|--------------------------|------|---------|------|------------|-----------|------------|------------|--|---|------------------------------|
| Nova Innovation Yell Sound Array | Tidal | Concept & Early Planning | 6 | Y | Y | Y | Y | N | N | Unknown | Unknown | No, insufficient information |
| Orbital Marine Power Deer Sound | Tidal | Operational | 1 | Y | Y | Y | Y | N | N | N | N | No, part of baseline |
| Orbital Marine Power Westray | Tidal | Concept & Early Planning | 6 | Y | Y | Y | Y | N | N | Unknown | Unknown | No, insufficient information |
| Orbital Project 6 Ness of Duncansby | Tidal | Concept & Early Planning | 6 | Y | Y | Y | Y | N | N | Unknown | Unknown | No, insufficient information |
| Perpetuus Tidal Energy Centre (PTEC) | Tidal | Consented | 3 | Y | N | Y | N | N | N | Unknown | Unknown | No, insufficient information |



11.5.4.3. Screening of Aggregate and Dredging Schemes

78. Aggregate extraction and dredging schemes considered during the CEA screening were operational schemes (production agreement areas), and those expected to be used in the future (exploration and option areas), for UK based schemes (**Table 11-5-4**). No European schemes were screened in due to a lack of information on scheme locations, phases, and programmes.
79. Schemes were initially considered for potential operational cumulative impacts if those phases could overlap with the proposed construction of the Projects. All aggregate extraction and dredging schemes are considered to be part of the existing baseline environment if operational prior to the start of the baseline surveys for the Projects, in March 2021.
80. Out of the initial list of 70 aggregate schemes within the CEA screening area, 59 were initially screened out as being operational prior to March 2021. The remaining eleven schemes are categorised as Production Agreement Areas, with potential for overlap of operation with the construction period of the Projects. Of these, six separate aggregate areas are included.
81. Schemes that have been cancelled or are inactive have not been screened into the CEA. Any operational schemes have been included as part of the baseline.
82. All currently operational aggregate and dredging schemes have been operational since the commencement of the Projects' baseline surveys (in March 2021) and are therefore part of the baseline and screened out from further consideration in the CEA.
83. Noise arising from dredging vessels whilst transiting has been screened out as it is comparable with that from similar sized vessels and can therefore be considered as part of the baseline noise levels.
84. When undertaking dredging activities, higher levels of broadband noise at frequencies above 1kHz are produced due to the impact or abrasion of aggregate material passing through the drag head, suction pipe and pump. The overall level of noise was found to be higher when extracting gravel compared to when extracting sand (Robinson *et al.*, 2011).
85. Taking into account the small potential noise impact ranges and distances of the aggregate extraction and dredging schemes from the Projects, the potential for contribution to cumulative impacts is very small. Therefore, risk of Permanent Threshold Shift (PTS) or Temporary Threshold Shift (TTS) for all marine mammal species from aggregate extraction and dredging has been screened out from further consideration in the CEA.



86. As outlined in the BEIS (2020) RoC HRA for the SNS SAC, studies have indicated that harbour porpoise may be displaced by dredging operations within 600m of the activities (Diederichs *et al.*, 2010). As a precautionary approach, the 11 aggregate extraction and dredging schemes (undertaken across six sites) screened in will be considered further for the potential of cumulative disturbance.
87. The results of the screening aggregate extraction and dredging schemes is presented in **Table 11-5-4**.

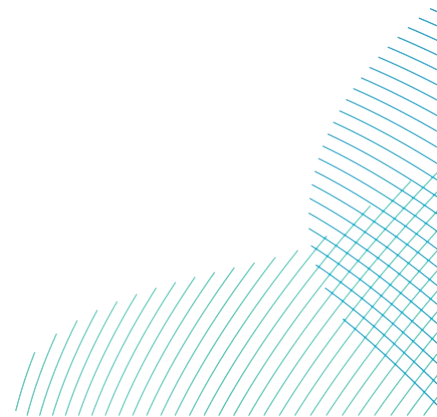


Table 11-5-4 CEA screening for UK aggregate and dredging schemes within the relevant spatial areas and potential overlap with the Projects construction (2026-2032) (HP = harbour porpoise, BND = bottlenose dolphin, NS= North Sea, CGNS = Celtic and Greater North Seas, CES = Coastal East Scotland, MU= Management Unit , Y = Yes, N = No, Production Agreement Area=PAA, Exploration & Option area = E & O)

| Scheme Name | Area number | Project Owner | Crown Estate Option | Licence | HP -NS | CGNS | BND - CGNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Potential for overlap of aggregate extraction with the Projects' construction? [2026-2032] | Screened into CEA? | Scheme Name |
|----------------------|-------------|------------------------------|---------------------|------------|----------|------|------------|-----------|-------------|-------------|--|--------------------|-------------|
| | | | | Start date | End date | | | | | | | | |
| Area 1 South | 478 | DEME Building Materials Ltd | PAA | 07/12/12 | 15/04/24 | Y | Y | N | N | N | Y | N | N |
| Colbart | 530 | Westminster Gravels Ltd | E & O | 01/08/17 | 31/07/23 | Y | Y | N | N | N | Y | N | N |
| Cross Sands | 242 -361 | Hanson Aggregates Marine Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | Y | N | N | Y | Y | N |
| East Orford Ness | 1809 | Volker Dredging Ltd | E & O | 01/09/19 | 01/08/24 | Y | Y | Y | N | N | Y | N | N |
| EEC 1 (former 503) | 529 | Sea Aggregates Ltd | E & O | 01/08/17 | 31/07/23 | Y | Y | N | N | N | Y | N | N |
| EEC 5 South | 1806 | Hanson Aggregates Marine Ltd | E & O | 01/09/19 | 31/08/24 | Y | Y | N | N | N | Y | N | N |
| EEC 5 South | 1807 | Volker Dredging Ltd | E & O | 01/09/19 | 31/08/24 | Y | Y | N | N | N | Y | N | N |
| Greenwich Light East | 473/1 | Hanson Aggregates Marine Ltd | PAA | 06/11/21 | 05/11/36 | Y | Y | N | N | N | Y | Y | Y |
| Greenwich Light East | 473/2 | Hanson Aggregates Marine Ltd | PAA | 06/11/21 | 05/11/36 | Y | Y | N | N | N | Y | Y | Y |
| Greenwich Light East | 473/2 | CEMEX UK Marine Ltd | PAA | 06/11/21 | 05/11/36 | Y | Y | N | N | N | Y | Y | Y |
| Greenwich Light East | 473/1 | CEMEX UK Marine Ltd | PAA | 06/11/21 | 05/11/36 | Y | Y | N | N | N | Y | Y | Y |

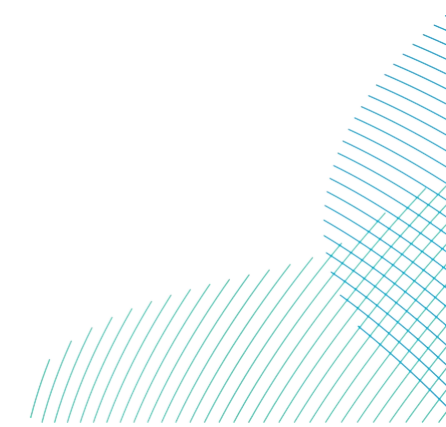
| Scheme Name | Area number | Project Owner | Crown Estate Option | Licence | HP -NS | CGNS | BND - CGNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Potential for overlap of aggregate extraction with the Projects' construction? [2026-2032] | Screened into CEA? | Scheme Name |
|------------------|-------------|------------------------------|---------------------|------------|----------|------|------------|-----------|-------------|-------------|--|--------------------|-------------|
| | | | | Start date | End date | | | | | | | | |
| Humber 1 | 514/1 | CEMEX UK Marine Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | Y | N | N | Y | Y | N |
| Humber 2 | 514/2 | CEMEX UK Marine Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | Y | N | N | Y | Y | N |
| Humber 3 | 514/3 | CEMEX UK Marine Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | Y | N | N | Y | Y | N |
| Humber 3 | 484 | CEMEX UK Marine Ltd | PAA | 01/01/16 | 31/12/30 | Y | Y | Y | N | N | Y | Y | N |
| Humber 4 | 514/4 | CEMEX UK Marine Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | Y | N | N | Y | Y | N |
| Humber 4 and 7 | 506 | DEME Building Materials Ltd | PAA | 01/04/17 | 31/03/32 | Y | Y | Y | N | N | Y | Y | N |
| Humber 5 | 483 | DEME Building Materials Ltd | PAA | 01/04/18 | 31/03/33 | Y | Y | Y | N | N | Y | Y | N |
| Humber Estuary | 106/1 | Hanson Aggregates Marine Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | Y | N | N | Y | Y | N |
| Humber Estuary | 106/2 | Hanson Aggregates Marine Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | Y | N | N | Y | Y | N |
| Humber Estuary | 106/3 | Hanson Aggregates Marine Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | Y | N | N | Y | Y | N |
| Humber Estuary | 400 | Hanson Aggregates Marine Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | Y | N | N | Y | Y | N |
| Humber Overfalls | 493 | Tarmac Marine Ltd | PAA | 01/01/17 | 31/12/31 | Y | Y | Y | N | N | Y | Y | N |

| Scheme Name | Area number | Project Owner | Crown Estate Option | Licence | HP -NS | CGNS | BND - CGNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Potential for overlap of aggregate extraction with the Projects' construction? [2026-2032] | Screened into CEA? | Scheme Name |
|-----------------------|-------------------|------------------------------|---------------------|------------|----------|------|------------|-----------|-------------|-------------|--|--------------------|-------------|
| | | | | Start date | End date | | | | | | | | |
| Inner Dowsing | 1805 | Hanson Aggregates Marine Ltd | E & O | 01/09/19 | 31/08/24 | Y | Y | Y | N | N | Y | N | N |
| Inner Dowsing | 481/1-2 | Tarmac Marine Ltd | PAA | 03/01/23 | 02/01/38 | Y | Y | Y | N | N | Y | Y | Y |
| Inner Dowsing | 481/1-2 | Van Oord Ltd | PAA | 05/01/23 | 04/01/38 | Y | Y | Y | N | N | Y | Y | Y |
| Inner Owers | 435/1-2 | Hanson Aggregates Marine Ltd | PAA | 08/07/15 | 07/07/30 | Y | Y | N | N | N | N | Y | N |
| Inner Owers | 396/1-2 | Tarmac Marine Ltd | PAA | 01/04/17 | 07/07/30 | Y | Y | N | N | N | N | Y | N |
| Inner Owers North | 488 | Tarmac Marine Ltd | PAA | 01/04/17 | 07/07/30 | Y | Y | N | N | N | N | Y | N |
| Longsand | 509/1-3 | Tarmac Marine Ltd | PAA | 22/06/15 | 21/06/30 | Y | Y | Y | N | N | Y | Y | N |
| Longsand | 510/1-2 | CEMEX UK Marine Ltd | PAA | 01/07/15 | 30/06/30 | Y | Y | Y | N | N | Y | Y | N |
| Longsand | 508 | Britannia Aggregates Ltd | PAA | 01/04/14 | 31/03/29 | Y | Y | Y | N | N | Y | Y | N |
| Lowestoft | 511, 512, 513/1&2 | CEMEX UK Marine Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | Y | N | N | Y | Y | N |
| Lowestoft Extension | 1804 | CEMEX UK Marine Ltd | E & O | 01/09/19 | 31/08/24 | Y | Y | Y | N | N | Y | N | N |
| Median Deep | 461 | Volker Dredging Ltd | PAA | 06/09/21 | 05/09/36 | Y | Y | N | N | N | Y | Y | Y |
| Needles Isle of Wight | 137 | CEMEX UK Marine Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | N | N | N | N | Y | N |

| Scheme Name | Area number | Project Owner | Crown Estate Option | Licence | HP -NS | CGNS | BND - CGNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Potential for overlap of aggregate extraction with the Projects' construction? [2026-2032] | Screened into CEA? | Scheme Name |
|------------------------------|-------------|------------------------------|---------------------|------------|----------|------|------------|-----------|-------------|-------------|--|--------------------|-------------|
| | | | | Start date | End date | | | | | | | | |
| North Cross Sands | 494 | Tarmac Marine Ltd | PAA | 01/01/17 | 31/12/31 | Y | Y | Y | N | N | Y | Y | N |
| DBS East | 501 | Westminster Gravels Ltd | PAA | 01/07/17 | 30/06/32 | Y | Y | Y | N | N | Y | Y | N |
| North Inner Gabbard | 498 | Britannia Aggregates Ltd | PAA | 30/01/15 | 29/01/30 | Y | Y | Y | N | N | Y | Y | N |
| North Inner Gabbard | 498 | Volker Dredging Ltd | PAA | 30/01/15 | 29/01/30 | Y | Y | Y | N | N | Y | Y | N |
| Off Great Yarmouth | 254 | Tarmac Marine Ltd | PAA | 01/10/18 | 30/09/33 | Y | Y | Y | N | N | Y | Y | N |
| Off Great Yarmouth | 228 | Volker Dredging Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | Y | N | N | Y | Y | N |
| Off Great Yarmouth Extension | 240 | Hanson Aggregates Marine Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | Y | N | N | Y | Y | N |
| Off Saltfleet | 197 | Tarmac Marine Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | Y | N | N | Y | Y | N |
| Off Selsey Bill | 395/1-2 | Tarmac Marine Ltd | PAA | 06/03/13 | 05/03/28 | Y | Y | N | N | N | N | Y | N |
| Off Selsey Bill | 395/1-2 | Aggregate Industries UK Ltd | PAA | 06/03/13 | 05/03/28 | Y | Y | N | N | N | N | Y | N |
| Outer OTE | 528/2 | Westminster Gravels Ltd | E & O | 01/08/17 | 31/07/23 | Y | Y | Y | N | N | Y | N | N |
| Owers Extension | 453 | Hanson Aggregates Marine Ltd | PAA | 01/04/17 | 31/03/32 | Y | Y | Y | N | N | Y | Y | N |
| Shipwash | 507/1-6 | CEMEX UK Marine Ltd | PAA | 01/10/16 | 30/09/31 | Y | Y | N | N | N | N | Y | N |

| Scheme Name | Area number | Project Owner | Crown Estate Option | Licence | HP -NS | CGNS | BND - CGNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Potential for overlap of aggregate extraction with the Projects' construction? [2026-2032] | Screened into CEA? | Scheme Name |
|--------------------------|-------------|------------------------------|---------------------|------------|----------|------|------------|-----------|-------------|-------------|--|--------------------|-------------|
| | | | | Start date | End date | | | | | | | | |
| South East Isle of Wight | 340 | CEMEX UK Marine Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | Y | N | N | Y | Y | N |
| South East Isle of Wight | 351 | Volker Dredging Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | N | N | N | N | Y | N |
| South East Isle of Wight | 340 | Tarmac Marine Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | N | N | N | N | Y | N |
| South East Isle of Wight | 351 | CEMEX UK Marine Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | N | N | N | N | Y | N |
| South Hastings | 460 | Volker Dredging Ltd | PAA | 09/01/13 | 08/01/28 | Y | Y | N | N | N | N | Y | N |
| South Hastings | 460 | CEMEX UK Marine Ltd | PAA | 09/01/13 | 08/01/28 | Y | Y | N | N | N | Y | Y | N |
| South Hastings | 460 | Tarmac Marine Ltd | PAA | 09/01/13 | 08/01/28 | Y | Y | N | N | N | Y | Y | N |
| South of Needles Channel | 500/3 | Hanson Aggregates Marine Ltd | PAA | 01/04/17 | 31/03/32 | Y | Y | N | N | N | Y | Y | N |
| South West Isle of Wight | 500/4 | Tarmac Marine Ltd | PAA | 01/04/17 | 31/03/32 | Y | Y | N | N | N | N | Y | N |
| South West Isle of Wight | 127 | Tarmac Marine Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | N | N | N | N | Y | N |
| South Wight | 500/1-2 | Tarmac Marine Ltd | PAA | 01/04/17 | 31/03/32 | Y | Y | N | N | N | N | Y | N |
| Southwold East | 430 | Tarmac Marine Ltd | PAA | 07/12/12 | 16/11/25 | Y | Y | N | N | N | N | N | N |
| Southwold East | 430 | CEMEX UK Marine Ltd | PAA | 07/12/12 | 16/11/25 | Y | Y | Y | N | N | Y | N | N |

| Scheme Name | Area number | Project Owner | Crown Estate Option | Licence | HP -NS | CGNS | BND - CGNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Potential for overlap of aggregate extraction with the Projects' construction? [2026-2032] | Screened into CEA? | Scheme Name |
|----------------------------|-------------|------------------------------|---------------------|------------|----------|------|------------|-----------|-------------|-------------|--|--------------------|-------------|
| | | | | Start date | End date | | | | | | | | |
| St Catherine's | 407 | Tarmac Marine Ltd | PAA | 24/03/13 | 23/03/28 | Y | Y | Y | N | N | Y | Y | N |
| St Catherine's | 451 | CEMEX UK Marine Ltd | PAA | 01/04/13 | 31/03/28 | Y | Y | N | N | N | N | Y | N |
| Thames D | 524 | Westminster Gravels Ltd | PAA | 01/01/22 | 31/12/36 | Y | Y | N | N | N | N | Y | Y |
| West Bas-surelle | 458 & 464 | DEME Building Materials Ltd | PAA | 18/09/22 | 17/09/37 | Y | Y | Y | N | N | Y | Y | Y |
| West Bas-surelle | 458 & 464 | CEMEX UK Marine Ltd | PAA | 18/09/22 | 17/09/37 | Y | Y | N | N | N | Y | Y | Y |
| West Bas-surelle Extension | 1803 | Tarmac Marine Ltd | E & O | 01/09/19 | 31/08/24 | Y | Y | N | N | N | Y | N | N |
| West Wight | 522 | CEMEX UK Marine Ltd | PAA | 28/09/21 | 27/09/36 | Y | Y | Y | N | N | Y | Y | Y |
| Yarmouth | 401/2A | Hanson Aggregates Marine Ltd | PAA | 01/01/15 | 31/12/29 | Y | Y | N | N | N | N | Y | N |



11.5.4.4. Screening of Licenced Disposal Sites

88. All UK licensed disposal sites are considered to be part of the existing baseline environment, as they were all operational prior to the start of the baseline surveys in March 2021. All UK licensed disposal sites have therefore been screened out from further consideration in the CEA. All UK licensed disposal areas with are open, are considered in CEA screening and are presented in **Table 11-5-5**.

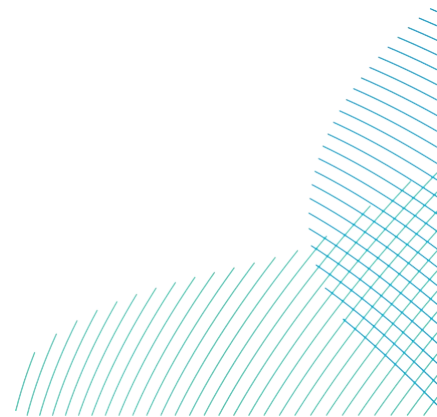
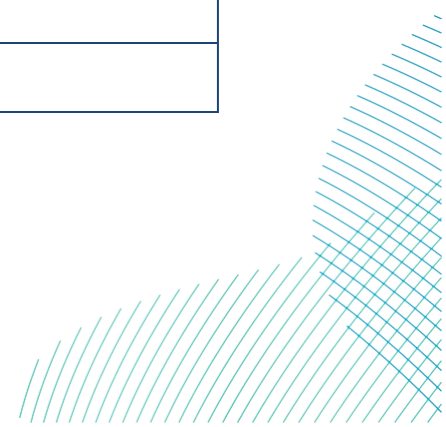
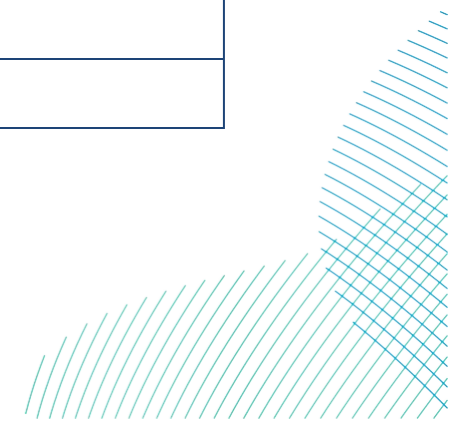


Table 11-5-5 CEA Screening for UK disposal sites within the Relevant Spatial Areas and Potential to Overlap with the Projects Construction (2026-2032) (HP = harbour porpoise, BND = bottlenose dolphin, GS = grey seal, HS harbour seal NS= North Sea, CGNS = Celtic and Greater North Seas, CES = Coastal East Scotland, MU= Management Unit , Y = Yes, N = No)

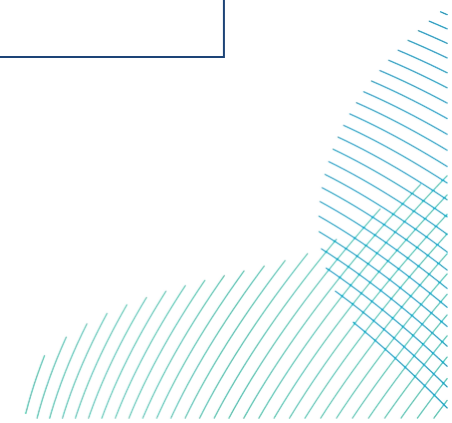
| Name | Reference | Status Site | HP - NS | CGNS | BND - GNS | BND - CES | GS Seal MU | HS Seal MU | Screened into CEA? |
|-------------------------|-----------------|-------------|---------|------|-----------|-----------|------------|------------|--------------------|
| Aberdeen | CR110 | Open | Y | Y | N | Y | N | N | N |
| Aberystwyth South Beach | IS013 | Open | N | Y | N | N | N | N | N |
| Anstruther | FO101 (onshore) | Open | N | N | N | Y | N | N | N |
| Aquind cable Site A | WI048 | Open | Y | Y | N | N | N | N | N |
| Aquind cable Site B | WI049 | Open | Y | Y | N | N | N | N | N |
| Arbroath | FO020 | Open | Y | Y | N | Y | N | N | N |
| Avonmouth (Inner) | LU080 | Open | N | Y | N | N | N | N | N |
| Ayr Bay | MA050 | Open | N | Y | N | N | N | N | N |
| Balnapaling | CR170 | Open | Y | Y | N | Y | N | N | N |
| Barrow D | IS205 | Open | N | Y | N | N | N | N | N |
| Belfast Dredgings C | IS591 | Open | N | Y | N | N | N | N | N |
| Birdham Pool Marina | WI042 | Open | Y | Y | N | N | N | N | N |
| BLYTH A + B | TY042 | Open | Y | Y | Y | N | N | N | N |
| Blyth OWF Demo | TY043 | Open | Y | Y | Y | N | N | N | N |
| Bo'ness | FO044 | Open | Y | Y | N | Y | N | N | N |
| Boston 7 | HU170 | Open | Y | Y | Y | N | Y | Y | N |
| Bridlington a | HU015 | Open | Y | Y | Y | N | Y | Y | N |
| Brighton/ Rotting-dean | WI020 | Open | Y | Y | Y | N | N | N | N |
| Broughton | IS099 | Open | N | Y | N | N | N | N | N |



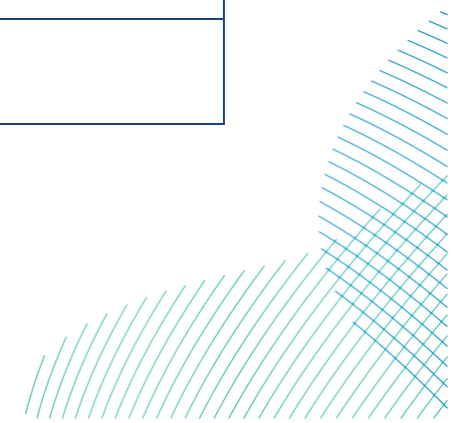
| Name | Reference | Status Site | HP - NS | CGNS | BND - GNS | BND - CES | GS Seal MU | HS Seal MU | Screened into CEA? |
|----------------------------|-----------|-------------|---------|------|-----------|-----------|------------|------------|--------------------|
| Brownsea experi-mental | WI111 | Open | Y | Y | N | N | N | N | N |
| Buckie | CR040 | Open | Y | Y | N | Y | N | N | N |
| Burbo Bank Extension OWF | IS135 | Open | N | Y | N | N | N | N | N |
| Burgh Castle Yacht Station | HU208 | Open | Y | Y | Y | N | Y | Y | N |
| Burghead | CR030 | Open | Y | Y | N | Y | N | N | N |
| Canning Half Tide | IS126 | Open | N | Y | N | N | N | N | N |
| Cardiff Grounds | LU110 | Open | N | Y | N | N | N | N | N |
| Clevedon Lake | LU068 | Open | N | Y | N | N | N | N | N |
| Cleveland Potash Outfall | TY181 | Open | Y | Y | Y | N | N | N | N |
| Cloch Point | MA021 | Open | N | Y | N | N | N | N | N |
| Conmy Beneficial Use | IS065 | Open | N | Y | N | N | N | N | N |
| CONWY BENEFICIAL USE | IS066 | Open | N | Y | N | N | N | N | N |
| Copperas | TH216 | Open | Y | Y | Y | N | Y | Y | N |
| Deep Water Reloca-tion | PO111 | Open | N | Y | N | N | N | N | N |
| Degabwy Beneficial Use | IS035 | Open | N | Y | N | N | N | N | N |
| Dogger Bank A | DG031 | Open | Y | Y | Y | N | Y | Y | N |
| Dogger Bank B | DG032 | Open | Y | Y | Y | N | Y | Y | N |
| Dolau Beach | IS014 | Open | N | Y | N | N | N | N | N |



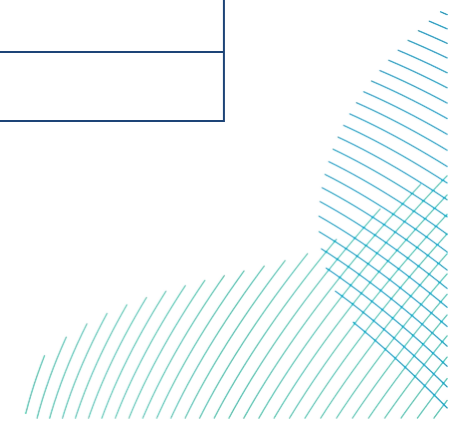
| Name | Reference | Status Site | HP - NS | CGNS | BND - GNS | BND - CES | GS Seal MU | HS Seal MU | Screened into CEA? |
|-------------------------|-----------|-------------|---------|------|-----------|-----------|------------|------------|--------------------|
| Douglas (I.O.M) | IS400 | Open | N | N | N | N | N | N | N |
| Douglas Harbour (I.O.M) | IS445 | Open | N | N | N | N | N | N | N |
| Dover | DV010 | Open | Y | Y | Y | N | Y | Y | N |
| Dover - emergency site | DV011 | Open | Y | Y | Y | N | Y | Y | N |
| EA One Route EC-1 | TH220 | Open | Y | Y | Y | N | Y | Y | N |
| EA One Route EC-2 | TH221 | Open | Y | Y | Y | N | Y | Y | N |
| EA One Route EC-3 | TH222 | Open | Y | Y | Y | N | Y | Y | N |
| EA One Route EC-4 | TH223 | Open | Y | Y | Y | N | Y | Y | N |
| EA One Route EC-5 | TH224 | Open | Y | Y | Y | N | Y | Y | N |
| EAOW3 | HU212 | Open | Y | Y | Y | N | Y | Y | N |
| East Anglia One | TH023 | Open | Y | Y | Y | N | Y | Y | N |
| East Lytham | IS163 | Open | N | Y | N | N | N | N | N |
| Eastbourne | DV040 | Open | Y | Y | Y | N | Y | Y | N |
| Eastbourne Frontage | DV046 | Open | Y | Y | Y | N | Y | Y | N |
| Emerald Quay, R Adur | WI029 | Open | Y | Y | | | N | N | N |
| Erebus OWF Cable Site 1 | LU167 | Open | N | Y | N | N | N | N | N |
| Erebus OWF Cable Site 2 | LU166 | Open | N | Y | N | N | N | N | N |
| Erebus OWF Cable Site 3 | LU165 | Open | N | Y | N | N | N | N | N |



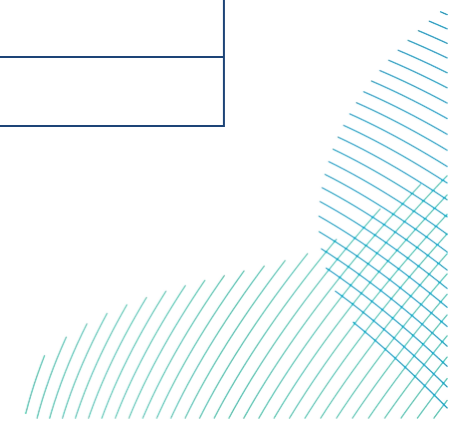
| Name | Reference | Status Site | HP - NS | CGNS | BND - GNS | BND - CES | GS Seal MU | HS Seal MU | Screened into CEA? |
|-------------------------|-----------|-------------|---------|------|-----------|-----------|------------|------------|--------------------|
| Erebus OWF Cable Site 4 | LU164 | Open | N | Y | N | N | N | N | N |
| Erebus OWF Cable Site 5 | LU163 | Open | N | Y | N | N | N | N | N |
| Erwarton Track | TH217 | Open | Y | Y | Y | N | Y | Y | N |
| Eyemouth | FO080 | Open | Y | Y | N | Y | Y | Y | N |
| Falmouth Bay (B) | PL075 | Open | N | Y | N | N | N | N | N |
| Foul Ground | JE001 | Open | N | N | N | N | N | N | N |
| FOULA | FI100 | Open | Y | Y | N | N | N | N | N |
| Girvan | MA025 | Open | N | Y | N | N | N | N | N |
| Goole Reach | HU041 | Open | Y | Y | Y | N | Y | Y | N |
| Granton | FO054 | Open | Y | Y | N | Y | N | N | N |
| Great Yarmouth | HU150 | Open | Y | Y | Y | N | Y | Y | N |
| Greve d'Azette | PO504 | Open | N | Y | N | N | N | N | N |
| Gridlink East Site | TH156 | Open | Y | Y | Y | N | Y | Y | N |
| Gridlink West Site | TH157 | Open | Y | Y | Y | N | Y | Y | N |
| Grouville Bay | JE002 | Open | N | N | N | N | N | N | N |
| Harwich Haven | TH027 | Open | Y | Y | Y | N | Y | Y | N |
| Hill Head | WI072 | Open | Y | Y | N | N | N | N | N |
| Holme Channel Deep | HU056 | Open | Y | Y | Y | N | Y | Y | N |
| Holyhead North | IS043 | Open | N | Y | N | N | N | N | N |
| Hornsea Disposal Area 1 | HU205 | Open | Y | Y | Y | N | Y | Y | N |



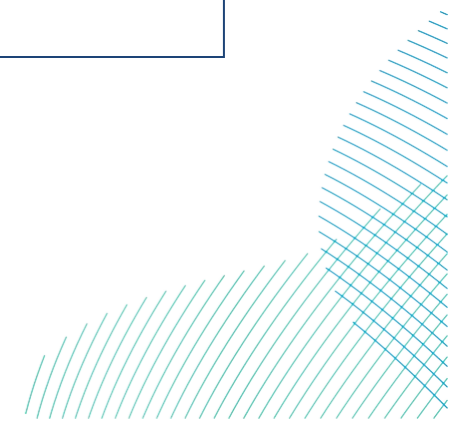
| Name | Reference | Status Site | HP - NS | CGNS | BND - GNS | BND - CES | GS Seal MU | HS Seal MU | Screened into CEA? |
|--------------------------|-----------|-------------|---------|------|-----------|-----------|------------|------------|--------------------|
| Horsey | TH230 | Open | Y | Y | Y | N | Y | Y | N |
| Humber 1a | HU080 | Open | Y | Y | Y | N | Y | Y | N |
| Humber 2 | HU090 | Open | Y | Y | Y | N | Y | Y | N |
| Humber 3a | HU060 | Open | Y | Y | Y | N | Y | Y | N |
| Humber 4 | HU030 | Open | Y | Y | Y | N | Y | Y | N |
| Humber 4b/hook | HU020 | Open | Y | Y | Y | N | Y | Y | N |
| Humber 4b/hook extension | HU021 | Open | Y | Y | Y | N | Y | Y | N |
| Hurst fort | WI080 | Open | Y | Y | N | N | N | N | N |
| Iceni Disposal 1 | HU218 | Open | Y | Y | Y | N | Y | Y | N |
| Iceni Disposal 2 | HU219 | Open | Y | Y | Y | N | Y | Y | N |
| Iceni Disposal 3 | HU220 | Open | Y | Y | Y | N | Y | Y | N |
| Iceni Disposal 4 | HU221 | Open | Y | Y | Y | N | Y | Y | N |
| Iceni Disposal 5 | HU222 | Open | Y | Y | Y | N | Y | Y | N |
| Inner gabbard | TH052 | Open | Y | Y | Y | N | Y | Y | N |
| Inner gabbard east | TH056 | Open | Y | Y | Y | N | Y | Y | N |
| Island Marina | WI068 | Open | Y | Y | N | N | N | N | N |
| Kilkeel | IS650 | Open | N | Y | N | N | N | N | N |
| Kirkcudbright | MA012 | Open | N | Y | N | N | N | N | N |
| Langstone Harbour | WI063 | Open | Y | Y | N | N | N | N | N |
| Lantic Bay | PL060 | Open | N | Y | N | N | N | N | N |
| Levington Site 1 | TH225 | Open | Y | Y | Y | N | Y | Y | N |



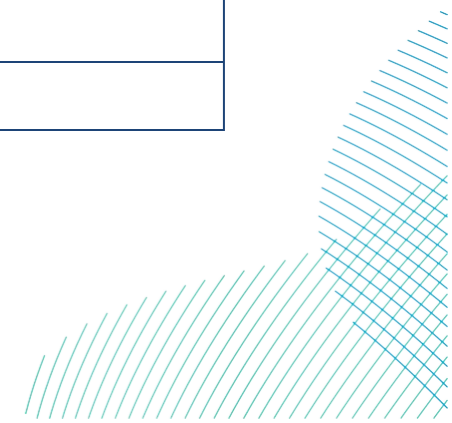
| Name | Reference | Status Site | HP - NS | CGNS | BND - GNS | BND - CES | GS Seal MU | HS Seal MU | Screened into CEA? |
|--|-----------|-------------|---------|------|-----------|-----------|------------|------------|--------------------|
| Levington Site 2 | TH226 | Open | Y | Y | Y | N | Y | Y | N |
| Levington Site 3 | TH227 | Open | Y | Y | Y | N | Y | Y | N |
| Levington Site 4 | TH228 | Open | Y | Y | Y | N | Y | Y | N |
| Lossiemouth | MA090 | Open | N | Y | N | N | N | N | N |
| Lossiemouth Harbour | CR034 | Open | N | Y | N | Y | N | N | N |
| Lowestoft circular north | TH005 | Open | Y | Y | Y | N | Y | Y | N |
| Lowestoft marina temporary disposal site | TH011 | Open | Y | Y | Y | N | Y | Y | N |
| Lune River B | IS192 | Open | N | Y | N | N | N | N | N |
| Lydd Ranges | DV031 | Open | Y | Y | Y | N | Y | Y | N |
| LYME BAY 2 | PO050 | Open | N | Y | N | N | N | N | N |
| Macduff | CR050 | Open | Y | Y | N | Y | N | N | N |
| Maldon saltings 3 | TH064 | Open | Y | Y | Y | N | Y | Y | N |
| Marchwood Shiplift Disposal Area | WI076 | Open | Y | Y | N | N | N | N | N |
| Mercator Disposal | TH081 | Open | Y | Y | Y | N | Y | Y | N |
| Merkur Buoy | LU115 | Open | N | Y | N | N | N | N | N |
| Mersey (Garston Site) | IS110 | Open | N | Y | N | N | N | N | N |
| MERSEY (Liverpool Marina) | IS129 | Open | N | Y | N | N | N | N | N |
| Mersey (Mid-river Site) | IS120 | Open | N | Y | N | N | N | N | N |
| Methil | FO048 | Open | Y | Y | N | Y | N | N | N |



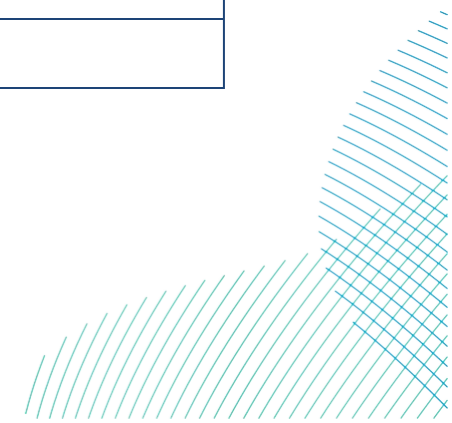
| Name | Reference | Status Site | HP - NS | CGNS | BND - GNS | BND - CES | GS Seal MU | HS Seal MU | Screened into CEA? |
|----------------------------|-----------|-------------|---------|------|-----------|-----------|------------|------------|--------------------|
| Middle Bank (tay) | FO028 | Open | Y | Y | N | Y | N | N | N |
| Milford Haven 3 | LU169 | Open | N | Y | N | N | N | N | N |
| MILFORD HAVEN TWO | LU168 | Open | N | Y | N | N | N | N | N |
| Milford-on-Sea Beach | WI083 | Open | Y | Y | N | N | N | N | N |
| Montrose | FO010 | Open | Y | Y | N | Y | N | N | N |
| MORECAMBE BAY B | IS200 | Open | N | Y | N | N | N | N | N |
| MORECAMBE BAY: LUNE DEEP | IS170 | Open | N | Y | N | N | N | N | N |
| Mostyn Breakwater | IS103 | Open | N | Y | N | N | N | N | N |
| MOSTYN DEEP (MAINTENANCE) | IS102 | Open | N | Y | N | N | N | N | N |
| MOUNTS BAY | PL100 | Open | N | Y | N | N | N | N | N |
| Nab Tower | WI060 | Open | Y | Y | N | N | N | N | N |
| Nairn | CR121 | Open | Y | Y | N | Y | N | N | N |
| Narrow Deep B | FO038 | Open | Y | Y | N | Y | N | N | N |
| Needles | WI090 | Open | Y | Y | N | N | N | N | N |
| Nemo Disposal site A | TH150 | Open | Y | Y | Y | N | Y | Y | N |
| Nemo Disposal site B | TH151 | Open | Y | Y | Y | N | Y | Y | N |
| NeuConnect Disposal Site 1 | TH059 | Open | Y | Y | Y | N | Y | Y | N |
| NeuConnect Disposal Site 2 | TH067 | Open | Y | Y | Y | N | Y | Y | N |



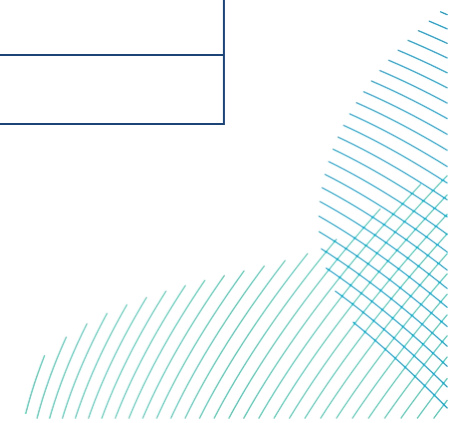
| Name | Reference | Status Site | HP - NS | CGNS | BND - GNS | BND - CES | GS Seal MU | HS Seal MU | Screened into CEA? |
|------------------------------|-----------|-------------|---------|------|-----------|-----------|------------|------------|--------------------|
| NeuConnect Lower Mid Site | TH069 | Open | Y | Y | Y | N | Y | Y | N |
| NeuConnect North Site | HU224 | Open | Y | Y | Y | N | Y | Y | N |
| NeuConnect South Site | TH068 | Open | Y | Y | Y | N | Y | Y | N |
| NeuConnect Upper Mid Site | TH074 | Open | Y | Y | Y | N | Y | Y | N |
| Newhaven | WI010 | Open | Y | Y | N | N | N | N | N |
| NEWPORT | LU140 | Open | N | Y | N | N | N | N | N |
| Newquay Track | IS015 | Open | N | Y | N | N | N | N | N |
| Newtown Harbour | WI069 | Open | Y | Y | N | N | N | N | N |
| NEYLAND (OFF MIL-FORD HAVEN) | LU190 | Open | N | Y | N | N | N | N | N |
| Norfolk Boreas Array | HU217 | Open | Y | Y | Y | N | Y | Y | N |
| Norfolk Vanguard East | HU215 | Open | Y | Y | Y | N | Y | Y | N |
| Norfolk Vanguard ECC 1 | HU213 | Open | Y | Y | Y | N | Y | Y | N |
| Norfolk Vanguard ECC 2 | HU214 | Open | Y | Y | Y | N | Y | Y | N |
| Norfolk Vanguard West | HU216 | Open | Y | Y | Y | N | Y | Y | N |
| North Buchan Ness | CR080 | Open | Y | Y | N | Y | N | N | N |
| North Tyne | TY070 | Open | Y | Y | Y | N | N | N | N |
| Northey Island | TH058 | Open | Y | Y | Y | N | Y | Y | N |



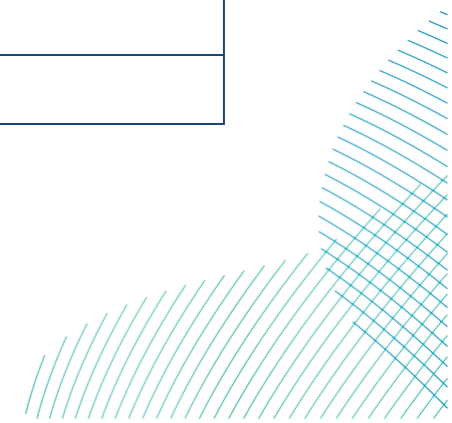
| Name | Reference | Status Site | HP - NS | CGNS | BND - GNS | BND - CES | GS Seal MU | HS Seal MU | Screened into CEA? |
|--|-----------|-------------|---------|------|-----------|-----------|------------|------------|--------------------|
| Noses Point | TY130 | Open | Y | Y | Y | N | N | N | N |
| Orwell East Track | TH219 | Open | Y | Y | Y | N | Y | Y | N |
| Orwell West Track | TH218 | Open | Y | Y | Y | N | Y | Y | N |
| Orwell Yacht Club | TH032 | Open | Y | Y | Y | N | Y | Y | N |
| Oxcars ext a | FO042 | Open | Y | Y | N | Y | N | N | N |
| Oxcars ext b | FO043 | Open | Y | Y | N | Y | N | N | N |
| Oxcars main | FO041 | Open | Y | Y | N | Y | N | N | N |
| PADSTOW BAY | LU010 | Open | N | Y | N | N | N | N | N |
| PEEL (I.O.M) | IS420 | Open | N | N | N | N | N | N | N |
| Pegwell Bay | TH140 | Open | Y | Y | Y | N | Y | Y | N |
| Peterhead Harbour | CR071 | Open | Y | Y | N | Y | N | N | N |
| Plymouth Deep | PL035 | Open | N | Y | N | N | N | N | N |
| PORT ELLEN | MA030 | Open | N | Y | N | N | N | N | N |
| PORTAVOGIE | IS620 | Open | N | Y | N | N | N | N | N |
| PORTISHEAD | LU070 | Open | N | Y | N | N | N | N | N |
| Portland Harbour Deep Water Relocation | PO112 | Open | N | Y | N | N | N | N | N |
| Putney Embankment | TH096 | Open | Y | Y | Y | N | Y | Y | N |
| RAME HEAD SOUTH | PL031 | Open | N | Y | N | N | N | N | N |
| Rampion OWF | WI117 | Open | Y | Y | N | N | N | N | N |
| Reedham Marina | HU159 | Open | Y | Y | Y | N | Y | Y | N |



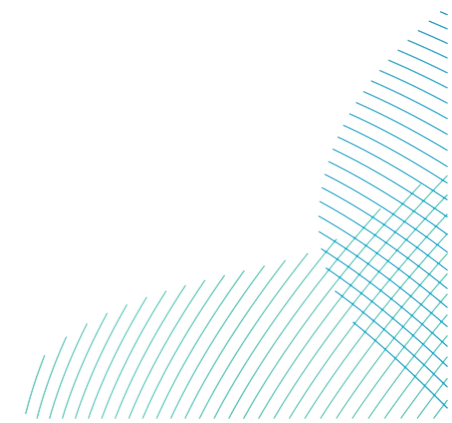
| Name | Reference | Status Site | HP - NS | CGNS | BND - GNS | BND - CES | GS Seal MU | HS Seal MU | Screened into CEA? |
|------------------------|-----------|-------------|---------|------|-----------|-----------|------------|------------|--------------------|
| River Carron | FO053 | Open | Y | Y | N | Y | N | N | N |
| River Dee | MA110 | Open | N | Y | N | N | N | N | N |
| River Hamble site 1 | WI073 | Open | Y | Y | N | N | N | N | N |
| River Hamble site 2 | WI074 | Open | Y | Y | N | N | N | N | N |
| River orwell (abp) | TH034 | Open | Y | Y | Y | N | Y | Y | N |
| ROTHESAY BAY | MA016 | Open | N | Y | N | N | N | N | N |
| ROYAL EDWARD EN-TRANCE | LU085 | Open | N | Y | N | N | N | N | N |
| ROYAL PORTBURY PIER | LU084 | Open | N | Y | N | N | N | N | N |
| Ryde harbour | WI071 | Open | Y | Y | N | N | N | N | N |
| Scarborough Rock | TY190 | Open | Y | Y | Y | N | N | N | N |
| Seaton | PO026 | Open | N | Y | N | N | N | N | N |
| Shell Lagoon, Llanbedr | IS018 | Open | N | Y | N | N | N | N | N |
| Shoreham | WI031 | Open | Y | Y | N | N | N | N | N |
| SILLOTH B | IS251 | Open | N | Y | N | N | N | N | N |
| SITE Y | IS150 | Open | N | Y | N | N | N | N | N |
| SITE Z | IS140 | Open | N | Y | N | N | N | N | N |
| SOLWAY FIRTH | IS240 | Open | N | Y | N | N | N | N | N |
| Souter Point (outer) | TY081 | Open | Y | Y | Y | N | N | N | N |
| South Beach | IS017 | Open | N | Y | N | N | N | N | N |
| South falls | TH070 | Open | Y | Y | Y | N | Y | Y | N |



| Name | Reference | Status Site | HP - NS | CGNS | BND - GNS | BND - CES | GS Seal MU | HS Seal MU | Screened into CEA? |
|---|-----------|-------------|---------|------|-----------|-----------|------------|------------|--------------------|
| Spending Harbour | IS016 | Open | N | Y | N | N | N | N | N |
| SPREY POINT | PO070 | Open | N | Y | N | N | N | N | N |
| St Bredlades Bay | PO503 | Open | N | Y | N | N | N | N | N |
| St.Aubins | PO501 | Open | N | Y | N | N | N | N | N |
| Sunderland | TY090 | Open | Y | Y | Y | N | N | N | N |
| Sutors | CR019 | Open | Y | Y | N | Y | N | N | N |
| Swanage bay | WI110 | Open | Y | Y | N | N | N | N | N |
| SWANSEA BAY (OUTER) | LU130 | Open | N | Y | N | N | N | N | N |
| Tees Bay A | TY160 | Open | Y | Y | Y | N | N | N | N |
| Tees Bay C | TY150 | Open | Y | Y | Y | N | N | N | N |
| Tees Upriver | TY157 | Open | Y | Y | Y | N | N | N | N |
| Teesport dock and Tees Container Terminal | TY158 | Open | Y | Y | Y | N | N | N | N |
| TEOW Disposal Site 1 | TH153 | Open | Y | Y | Y | N | Y | Y | N |
| TEOW Disposal Site 2 | TH154 | Open | Y | Y | Y | N | Y | Y | N |
| TEOW Disposal Site 3 | TH155 | Open | Y | Y | Y | N | Y | Y | N |
| Tilbury Tunnel outfall | TH099 | Open | Y | Y | Y | N | Y | Y | N |
| Treloar hole | WI046 | Open | Y | Y | N | N | N | N | N |
| Truro | PL069 | Open | N | Y | N | N | N | N | N |
| ventnor harbour | WI087 | Open | Y | Y | N | N | N | N | N |
| WARRENPOINT B | IS671 | Open | N | Y | N | N | N | N | N |

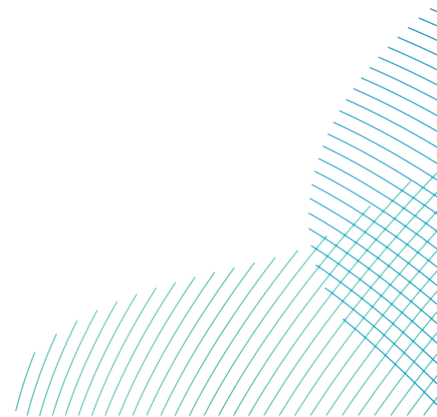


| Name | Reference | Status Site | HP - NS | CGNS | BND - GNS | BND - CES | GS Seal MU | HS Seal MU | Screened into CEA? |
|-----------------------------|-----------|-------------|---------|------|-----------|-----------|------------|------------|--------------------|
| Well Beneficial Use Site2 | HU156 | Open | N | Y | Y | N | Y | Y | N |
| Wells Outer Harbour B1 | HU157 | Open | N | Y | Y | N | Y | Y | N |
| Wells Outer Harbour Site A | HU152 | Open | N | Y | Y | N | Y | Y | N |
| Wells Outer Harbour Site C | HU154 | Open | N | Y | Y | N | Y | Y | N |
| West Balnapaling | IS320 | Open | N | Y | N | N | N | N | N |
| West Beach | PO016 | Open | N | Y | N | N | N | N | N |
| West Cliff Beach | PO015 | Open | N | Y | N | N | N | N | N |
| West Stones | HU143 | Open | Y | Y | Y | N | Y | Y | N |
| Weston Foreshore 3 | LU193 | Open | N | Y | N | N | N | N | N |
| Whitby | TY180 | Open | Y | Y | Y | N | N | N | N |
| Whitgift Bight (river ouse) | HU040 | Open | Y | Y | Y | N | Y | Y | N |
| Whitstable c | TH073 | Open | Y | Y | Y | N | Y | Y | N |
| WORKINGTON AN-CHORAGE | IS241 | Open | N | Y | N | N | N | N | N |
| Wrabness Beach | TH213 | Open | Y | Y | Y | N | Y | Y | N |
| Wrabness Beach East | TH229 | Open | Y | Y | Y | N | Y | Y | N |



11.5.4.5. Screening of Oil and Gas Schemes

89. Existing oil and gas schemes are considered part of the baseline, noting that operation and maintenance activities would be of minimal magnitude, spatially confined and temporary. Oil and gas construction and decommissioning schemes could have the potential for cumulative impacts during the construction of the Projects.
90. UK schemes considered during the CEA screening were either operational or those with either construction or decommissioning currently underway, consented, or with an application submitted. No European schemes are assessed due to a lack of information on scheme locations, phases, and programmes.
91. The schemes were initially considered for potential cumulative impacts, if those schemes could temporarily overlap with the construction of the Projects.
92. As outlined in the BEIS (2020) Roc HRA for the SNS SAC, the use of cutting equipment is predicted to be required primarily during decommissioning activities. There is limited information on the level of noise arising from cutting equipment. However, one published study measured the level of noise from a diamond wire cutter at an offshore gas platform (Pangerc *et al.*, 2016). The results indicated that increases in noise of between 4dB and 15dB at frequencies predominantly above 5kHz could be attributed to the cutting equipment. There was no increase in sound above that from the associated vessels detected at lower frequencies.
93. Based on currently available information, underwater noise during decommissioning of oil and gas installations would be less than levels for PTS to occur, and any disturbance to marine mammals would be localised and not be significantly greater than that arising from vessels. Therefore, potential cumulative impacts from oil and gas decommissioning activities, such as cutting equipment has been screened out from further consideration in the CEA.
94. The potential impacts of vessels associated with the decommissioning of oil and gas installations is unlikely to be significantly greater than vessel activity at these sites during the operational phase of the oil and gas installations. Therefore, potential cumulative impacts from vessels during decommissioning of oil and gas installations has been screened out from further consideration in the CEA.



95. Of the 111 oil and gas schemes considered, 96 are decommissioning schemes, of which 59 have no overlap with construction activities with the Projects. The remaining 37 decommissioning schemes have expected activities that potentially fall within the construction time window (2026-2032) of the Projects. However, as noted above, it is not expected that there would be any cumulative effect pathways from decommissioning schemes and these have therefore not been considered further.
96. Looking at the decommissioning plans in the North Sea, no decommissioning schemes are planning on using explosives, the decommissioning works will involve of cutting, using a continuous sound source and not impulsive.
97. Schemes that have been cancelled or are inactive have not been screened into the CEA.
98. All currently operational decommissioning schemes which have been operational since the commencement of the Projects' baseline surveys (in March 2021) and are therefore part of the baseline and screened out from further consideration in the CEA.
99. The remaining schemes comprise of one pipeline installation scheme, one production increase licence, and 13 production licences. None of these activities are expected to have any overlap with the Projects' construction programme, and are therefore screened out of assessment.
100. The results of the screening are in **Table 11-5-6**.
101. Looking at the schemes that overlap with construction activities with the Projects, none of the decommissioning schemes have stated that will be using any explosives for removal of structures therefore, decommissioning schemes will not be scoped into the CEA.

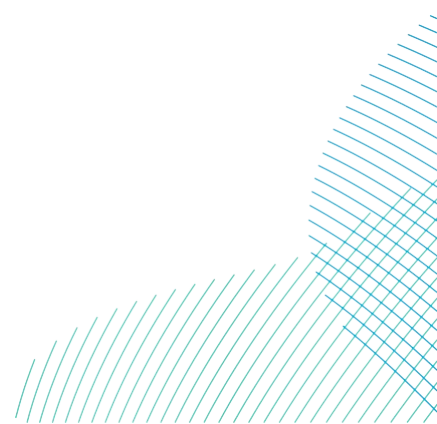
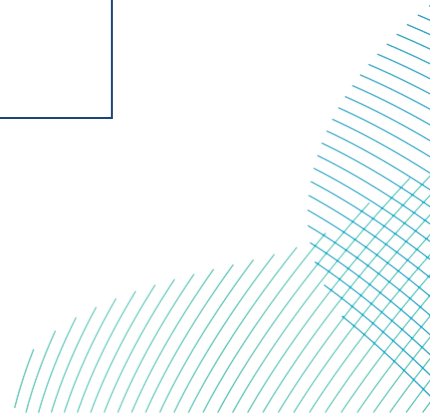


Table 11-5-6 CEA screening for oil and gas schemes (both decommissioning and production schemes are included) within relevant spatial areas and with the potential to overlap with the Projects construction (HP = harbour porpoise, BND = bottlenose dolphin, NS= North Sea, CGNS = Celtic and Greater North Seas, CES = Coastal East Scotland, MU= Management Unit , Y = Yes, N = No, D = Decommissioning)

| Scheme Name | Type of Scheme | Status | Tier | Expected date of activity | Potential for overlap of activities with the Projects' construction? | HP - NS | CGNS | BND - GNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Screened into CEA? |
|--|--------------------|----------------------|------|---|--|---------|------|-----------|-----------|-------------|-------------|--------------------|
| Abigail Field Development | Production licence | Appl. submitted | 4 | Appl. submitted July 2021. Construction 2022 & 2024. | N | Y | Y | Y | N | Y | N | N |
| Affleck Re-development | Production licence | Appl. submitted | 4 | Construction Q2 2023 - Q2 2024 | N | Y | Y | Y | N | Y | N | N |
| Alma & Galia | Decommissioning | Underway | 2 | 2021-2027 | Y | Y | Y | Y | N | Y | Y | N |
| Alwyn East Development | Production licence | Appl. submitted | 4 | Appl. submitted September 2021. Construction spring 2022, completion by September 2022. | N | Y | Y | Y | N | N | Y | N |
| Amethyst A1D, A2D, B1D & C1D Topsides | Decommissioning | Underway | 2 | 2021-2026 | N | Y | Y | Y | N | N | Y | N |
| Anglia Field | Decommissioning | Underway | 2 | 2020-2022 | N | Y | Y | Y | N | N | N | N |
| Ann and Alison | Decommissioning | Underway | 2 | Q1 2020 - Q2 2023 | N | Y | Y | Y | N | N | Y | N |
| Atlantic and Cromarty | Decommissioning | Appl. submitted | 4 | 2017-2021 | N | Y | Y | Y | N | N | N | N |
| Audrey | Decommissioning | Underway | 2 | Q1 2019 - Q2 2023 | N | Y | Y | Y | N | N | Y | N |
| BALMORAL | Decommissioning | Underway | 2 | 2021-2027 | Y | Y | Y | Y | N | N | N | N |
| Banff and Kyle Decommissioning Programmes | Decommissioning | Approved | 3 | 2022-2026 | N | Y | Y | Y | N | N | N | N |
| Beatrice | Decommissioning | Approved | 3 | 2022-2030 | Y | Y | Y | Y | Y | N | N | N |
| Brae Alpha, Brae Bravo, Central Brae, West Brae and Sedgwick | Decommissioning | Appl. submitted | 4 | 2019-2029 | Y | Y | Y | Y | N | N | N | N |
| Brae Bravo Topsides, Flare Bridge, Flare Tower and Flare Jacket and Substructure | Decommissioning | Underway / completed | 2 | 2019-2020 | N | Y | Y | Y | N | N | N | N |

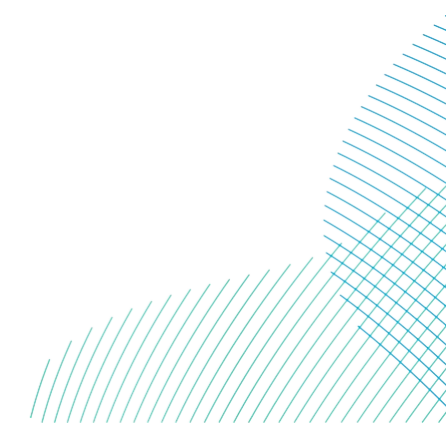


| Scheme Name | Type of Scheme | Status | Tier | Expected date of activity | Potential for overlap of activities with the Projects' construction? | HP - NS | CGNS | BND - GNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Screened into CEA? |
|---|--------------------|----------------------|------|--|--|---------|------|-----------|-----------|-------------|-------------|--------------------|
| BRENDA | Decommissioning | Underway | 2 | 2021-2027 | Y | Y | Y | Y | N | N | N | N |
| Brent | Decommissioning | Appl. submitted | 4 | 2022-2026 | N | Y | Y | Y | N | N | N | N |
| BRENT ALPHA JACKET | Decommissioning | Underway | 2 | 2018-2025 | N | Y | Y | Y | N | N | N | N |
| Brent Alpha, Bravo and Charlie Topsides | Decommissioning | Underway | 2 | Q1 2018 - Q3 2024 | N | Y | Y | Y | N | N | N | N |
| Brent Field | Decommissioning | Underway | 2 | 2020-2024 | N | Y | Y | Y | N | N | N | N |
| Brynhild | Decommissioning | Underway / completed | 2 | 2019-2021 | N | Y | Y | Y | N | N | N | N |
| BUCHAN & HANNAY | Decommissioning | Underway | 2 | 2019-2025 | N | Y | Y | Y | N | N | N | N |
| Caister | Decommissioning | Underway | 2 | 2019-2022 | N | Y | Y | Y | N | N | Y | N |
| Caledonia | Decommissioning | Approved | 3 | 2022-2028 | Y | Y | Y | Y | N | N | N | N |
| Cambo Phase 1 Field Development | Production licence | Appl. submitted | 4 | Appl. submitted June 2021. Construction planned for 2021-2025 (but not yet consented), operational by 2025 | N | Y | Y | Y | N | N | N | N |
| Captain EOR Stage 2 Phase II Development | Production licence | Appl. submitted | 4 | Construction Q1 2023 - Q2 2024 | N | Y | Y | Y | N | N | N | N |
| Causeway and Fionn | Decommissioning | Appl. submitted | 4 | 2022-2027 | Y | Y | Y | Y | N | N | N | N |
| Cavendish | Decommissioning | Underway | 2 | 2019-2022 | N | Y | Y | Y | N | N | Y | N |
| CDP3 Decommissioning Programmes for Murdoch Installations and Trunk Pipelines, CDP3 | Decommissioning | Consented | 3 | 2021 - 2027 | Y | Y | Y | Y | N | N | Y | N |

| Scheme Name | Type of Scheme | Status | Tier | Expected date of activity | Potential for overlap of activities with the Projects' construction? | HP - NS | CGNS | BND - GNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Screened into CEA? |
|---|-----------------|----------------------|------|--------------------------------|--|---------|------|-----------|-----------|-------------|-------------|--------------------|
| Chestnut Phase 2 | Decommissioning | | 3 | 2022 - 2028 | Y | Y | Y | Y | N | N | N | N |
| Conrie, Don SW, W Don and Ythan Decommissioning Programmes | Decommissioning | Underway | 2 | 2021-2029 | Y | Y | Y | Y | N | N | N | N |
| Cormorant Alpha Topsides | Decommissioning | Approved | 3 | 2022-2028 | Y | Y | Y | Y | N | N | N | N |
| CORMORANT ALPHA Derrick Structure Removal & MDR Installation | Decommissioning | Underway / completed | 2 | 2020-2021 | N | Y | Y | Y | N | N | N | N |
| Curlew B&D and Curlew C | Decommissioning | Underway | 2 | 2019-2023 | N | Y | Y | Y | N | Y | N | N |
| Decommissioning Programmes for Caister-Murdoch System III Installations and Pipelines, CDP2 | Decommissioning | Consented | 3 | Construction Q1 2021 - Q4 2027 | Y | Y | Y | Y | N | N | Y | N |
| Devenick | Decommissioning | | 2 | 2024 - 2030 | Y | Y | Y | Y | N | N | N | N |
| DUART DECOMMISSIONING PROGRAMMES | Decommissioning | Appl. submitted | 4 | Decomm 2029-2034 | Y | Y | Y | Y | N | N | N | N |
| Dunlin Alpha | Decommissioning | Underway | 2 | 2016-2026 | N | Y | Y | Y | N | N | N | N |
| Dunlin Alpha Field | Decommissioning | Appl. submitted | 4 | 2021-2026 | N | Y | Y | Y | N | N | N | N |
| Eider | Decommissioning | Underway | 2 | 2019-2028 | Y | Y | Y | Y | N | N | N | N |
| Ensign installation DP | Decommissioning | Approved | 3 | 2022-2026 | N | Y | Y | Y | N | N | Y | N |
| FOINAVEN FPSO OFFSTATION DECOMMISSIONING PROGRAMMES | Decommissioning | | 2 | 2021-2022 | N | N | Y | N | N | N | N | N |
| Fulmar & Auk North | Decommissioning | Underway / completed | 2 | 2017-2021 | N | Y | Y | Y | N | Y | N | N |

| Scheme Name | Type of Scheme | Status | Tier | Expected date of activity | Potential for overlap of activities with the Projects' construction? | HP - NS | CGNS | BND - GNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Screened into CEA? |
|--|-----------------|----------------------|------|---------------------------|--|---------|------|-----------|-----------|-------------|-------------|--------------------|
| Fulmar and Auk North Topsides, Subsea Facilities and Pipelines Decommissioning Programme | Decommissioning | Approved | 3 | 2026-2033 | Y | Y | Y | Y | N | Y | N | N |
| Gaupe Decommissioning Programme | Decommissioning | Approved | 3 | 2022-2031 | Y | Y | Y | Y | N | N | N | N |
| GLAMIS | Decommissioning | Underway | 2 | 2021-2027 | Y | Y | Y | Y | N | N | N | N |
| Goldeneye | Decommissioning | Underway | 2 | 2018-2024 | N | Y | Y | Y | N | N | N | N |
| GUINEVERE | Decommissioning | Underway | 2 | 2018-2022 | N | Y | Y | Y | N | N | Y | N |
| Heather Topsides Decommissioning Programme | Decommissioning | Underway | 2 | 2021-2026 | N | Y | Y | Y | N | N | N | N |
| Heather Upper Jacket | Decommissioning | | 3 | 2025 - 2032 | Y | Y | Y | N | Y | N | N | N |
| Hewett Area Subsea Installations | Decommissioning | Appl. submitted | 4 | 2022-2028 | Y | Y | Y | Y | N | N | Y | N |
| HEWETT PLATFORMS | Decommissioning | Approved | 3 | 2022-2029 | Y | Y | Y | Y | N | N | Y | N |
| Hummingbird FPSO Sailaway and Chestnut riser disconnection | Decommissioning | Approved | 3 | 2022-2028 | Y | Y | Y | Y | N | N | N | N |
| Hunter & Rita Decommissioning Programme | Decommissioning | Approved | 3 | 2021-2025 | N | Y | Y | Y | N | N | Y | N |
| HUNTINGTON | Decommissioning | Underway | 2 | 2021-2028 | Y | Y | Y | Y | N | N | N | N |
| Huntington | Decommissioning | Underway / completed | 2 | 2020 | N | Y | Y | Y | N | N | N | N |
| Indefatigable 18A Topsides Decommissioning Programme | Decommissioning | Approved | 3 | 2022-2029 | Y | Y | Y | Y | N | N | Y | N |

| Scheme Name | Type of Scheme | Status | Tier | Expected date of activity | Potential for overlap of activities with the Projects' construction? | HP - NS | CGNS | BND - GNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Screened into CEA? |
|---|--------------------|----------------------|------|---|--|---------|------|-----------|-----------|-------------|-------------|--------------------|
| Jackdaw Field Development | Production licence | Appl. submitted | 4 | Appl. submitted May 2021. Construction 2022-2024, operational by Q3/Q4 2024 | N | Y | Y | Y | N | N | N | N |
| Jacky | Decommissioning | Approved | 3 | Q1 2022 - Q3 2023 | N | Y | Y | Y | Y | N | N | N |
| JOHNSTON Decommissioning Programmes | Decommissioning | Appl. submitted | 4 | Decom 2027-2029 | Y | Y | Y | Y | N | N | Y | N |
| Juliet | Decommissioning | Underway | 2 | 2019-2021 | N | Y | Y | Y | N | N | Y | N |
| Ketch | Decommissioning | Underway | 2 | Q3 2018 - Q1 2022 | N | Y | Y | Y | N | N | Y | N |
| Kingfisher Decommissioning Programme | Decommissioning | Underway | 2 | 2019-2024 | N | Y | Y | Y | N | N | N | N |
| Lancaster Field FPSO Decommissioning Programme | Decommissioning | Appl. submitted | 4 | Decom 2024 | N | Y | Y | Y | N | N | N | N |
| Leman 27H and 27J Topsides | Decommissioning | | 3 | 2023 - 2024 | N | Y | Y | Y | N | N | Y | N |
| LOGGS PR, LOGGS PC, LOGGS PP, LOGGS PA, North Valiant PD, & Associated Pipelines - LDP5 | Decommissioning | Underway | 2 | 2020-2024 | N | Y | Y | Y | N | N | Y | N |
| LOGGS Satellites - Mimas MN, Saturn ND and Tethys TN, and Associated Infield Pipelines - LDP2 | Decommissioning | Approved | 3 | 2022-2028 | Y | Y | Y | Y | N | N | Y | N |
| LOGGS Satellites Jupiter Area | Decommissioning | Underway | 2 | 2020-2023 | N | Y | Y | Y | N | N | Y | N |
| LOGGS Satellites Jupiter Area: LDP3b | Decommissioning | Underway / completed | 2 | 2020-2021 | N | Y | Y | Y | N | N | Y | N |

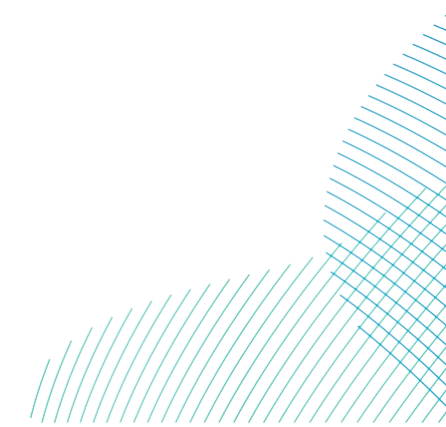


| Scheme Name | Type of Scheme | Status | Tier | Expected date of activity | Potential for overlap of activities with the Projects' construction? | HP - NS | CGNS | BND - GNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Screened into CEA? |
|---|--------------------|----------------------|------|---|--|---------|------|-----------|-----------|-------------|-------------|--------------------|
| LOGGS Satellites V-Fields Area - Vanguard QD, North Valiant SP, South Valiant TD and Vulcan RD, and Associated Infield Pipelines - LDP4 | Decommissioning | Approved | 3 | 2022-2027 | Y | Y | Y | Y | N | N | Y | N |
| LOGGS Satellites Vulcan UR, Viscount VO, Vampire OD - LDP1 | Decommissioning | Underway / completed | 2 | Programme states TBC by end of 2021. | N | Y | Y | Y | N | N | Y | N |
| MacCulloch | Decommissioning | Underway | 2 | 2019-2025 | N | Y | Y | Y | N | N | N | N |
| Minke | Decommissioning | Underway | 2 | 2019-2022 | N | Y | Y | Y | N | N | Y | N |
| Murlach Field Development (re-development of Skua, part of the Marnock-Skua field) | Production licence | Appl. submitted | 4 | Drilling of wells 1Q 2024 to 4Q 2024; • Subsea installation 3Q 2024 to 4Q 2024; • Well tie-in and commissioning 1Q 2025; • First production 2Q 2025. | N | Y | Y | Y | N | N | N | N |
| NEVIS N11 WELLHEAD | Decommissioning | Underway / completed | 2 | 2019-2020 | N | Y | Y | Y | N | N | N | N |
| NICOL | Decommissioning | Underway | 2 | 2021-2027 | Y | Y | Y | Y | N | N | N | N |
| NINIAN NORTHERN PLATFORM | Decommissioning | Underway | 2 | 2020-2025 | N | Y | Y | Y | N | N | N | N |
| NORTH CORMORANT | Decommissioning | Underway | 2 | 2020-2028 | Y | Y | Y | Y | N | N | N | N |
| Northern Producer FPF Float-off and Disconnection of Risers and Pipelines | Decommissioning | Underway | 2 | 2021-2022 | N | Y | Y | Y | N | N | N | N |
| Pegasus West Development | Production licence | Appl. submitted | 4 | Appl. submitted October 2021. Construction Q2/3 2023, operational by Q1-3 2024 | N | Y | Y | Y | N | N | Y | N |

| Scheme Name | Type of Scheme | Status | Tier | Expected date of activity | Potential for overlap of activities with the Projects' construction? | HP - NS | CGNS | BND - GNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Screened into CEA? |
|--|---------------------|----------------------|------|--|--|---------|------|-----------|-----------|-------------|-------------|--------------------|
| Pickerill Alpha (A) and Pickerill Bravo (B) | Decommissioning | Underway | 2 | 2019-2022 | N | Y | Y | Y | N | N | Y | N |
| Pickerill Alpha (A) and Pickerill Bravo (B) | Decommissioning | Underway / completed | 2 | 2018-2019 | N | Y | Y | Y | N | N | Y | N |
| PL301 Heimdal to Brae Pipeline Decommissioning Programme | Decommissioning | Underway | 2 | 2021-2026 | N | Y | Y | Y | Y | N | N | N |
| Rev Decommissioning Programme | Decommissioning | Underway | 2 | Q4 2019 - Q4 2022 | N | Y | Y | Y | N | N | N | N |
| Rhum Production Increase | Production increase | Appl. submitted | 4 | Re-opening a production well only - no additional infrastructure to be built. Planned to commence in July 2021, but not yet consented. | N | Y | Y | Y | N | N | N | N |
| Rockrose Energy | Decommissioning | Underway | 2 | 2019-2027 | Y | Y | Y | Y | N | N | N | N |
| Rockrose Energy | Decommissioning | Underway | 2 | 2020-2021 | N | Y | Y | Y | N | N | N | N |
| Rosebank Field Development | Production licence | Appl. submitted | 4 | Construction 2024, 2025 and 2026 | N | Y | Y | Y | N | N | N | N |
| Saltire A Topsides and Saltire Area Subsea Infrastructure Decommissioning Programmes | Decommissioning | Appl. submitted | 4 | Decom 2027 - 2031 | Y | Y | Y | Y | N | N | N | N |
| Saturn (Annabel) | Decommissioning | Underway / completed | 2 | Q2 2018 - Q2 2021 | N | Y | Y | Y | N | N | Y | N |
| SCHOONER | Decommissioning | Underway | 2 | 2018-2022 | N | Y | Y | Y | N | N | Y | N |
| Scoter & Merganser Fields Decommissioning Programmes | Decommissioning | Appl. submitted | 4 | Decom Q4 2024 - Q4 2026 | N | Y | Y | Y | N | N | N | N |

| Scheme Name | Type of Scheme | Status | Tier | Expected date of activity | Potential for overlap of activities with the Projects' construction? | HP - NS | CGNS | BND - GNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Screened into CEA? |
|---|-----------------------|-----------------|------|--|--|---------|------|-----------|-----------|-------------|-------------|--------------------|
| Sean | Decommissioning | Approved | 3 | 2023-2028 | Y | Y | Y | Y | N | N | Y | N |
| Southwark Pipeline Installation Project | Pipeline installation | Appl. submitted | 4 | Appl. submitted April 2021 Construction originally planned for 2021, but not yet consented | N | Y | Y | Y | N | N | Y | N |
| STIRLING | Decommissioning | Underway | 2 | 2021-2027 | Y | Y | Y | Y | N | N | N | N |
| Talbot Field Development | Production licence | Appl. submitted | 4 | Construction Q4 2022 - Q3 2024 | N | Y | Y | Y | N | Y | N | N |
| Tartan Subsea – Tartan North Terrace (TNT) & Tartan Satellite (TS) DECOMMISSIONING PROGRAMMES | Decommissioning | Appl. submitted | 4 | Decomm 2029 - 2034 | Y | Y | Y | Y | N | N | N | N |
| TARTAN TOPSIDES DECOMMISSIONING PROGRAMME | Decommissioning | Appl. submitted | 4 | Decomm 2029 - 2032 | Y | Y | Y | Y | N | N | N | N |
| Teal West Development | Production licence | Appl. submitted | 4 | Construction Q3 2023 - Q1/Q2 2027 | Y | Y | Y | Y | N | N | N | N |
| TERN TOPSIDE | Decommissioning | Underway | 2 | 2020-2028 | Y | Y | Y | Y | N | N | N | N |
| Thistle Alpha Platform | Decommissioning | Underway | 2 | 2019-2022 | N | Y | Y | Y | N | N | N | N |
| Thistle Topsides | Decommissioning | Approved | 3 | 2022-2027 | Y | Y | Y | Y | N | N | N | N |
| Tolmount East Development | Production licence | Consented | 3 | Appl. submitted April 2021, and consented August 2021. Construction approximately 11 months. Operation approximately 22 years. Construction in 2023, operational by 2023 | N | Y | Y | Y | N | N | Y | N |
| Topaz | Decommissioning | Underway | 2 | 2021-2024 | N | Y | Y | Y | N | N | Y | N |

| Scheme Name | Type of Scheme | Status | Tier | Expected date of activity | Potential for overlap of activities with the Projects' construction? | HP - NS | CGNS | BND - GNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Screened into CEA? |
|--|--------------------|----------------------|------|--|--|---------|------|-----------|-----------|-------------|-------------|--------------------|
| TYNE | Decommissioning | Underway | 2 | 2018-2022 | N | Y | Y | Y | N | N | Y | N |
| Victoria | Decommissioning | Approved | 3 | 2022-2025 | N | Y | Y | Y | N | N | Y | N |
| Victory Field Development | Production licence | Appl. submitted | 4 | Construction May - Oct 2024 | N | Y | Y | Y | N | N | N | N |
| Viking | Decommissioning | Underway | 2 | 2016-2024 | N | Y | Y | Y | N | N | Y | N |
| Viking Satellites CD, DD, ED, GD, HD Pipelines | Decommissioning | Underway / completed | 2 | Programme states TBC by end of 2019 (but no close out report). | N | Y | Y | Y | N | N | Y | N |
| Viking satellites KD, LD, AR | Decommissioning | Underway / completed | 2 | 2016-2021 | N | Y | Y | Y | N | N | Y | N |
| Wenlock | Decommissioning | Approved | 3 | 2023-2025 | N | Y | Y | Y | N | N | Y | N |
| Windermere | Decommissioning | Underway | 2 | 2019-2023 | N | Y | Y | Y | N | N | Y | N |



11.5.4.6. Screening of Subsea Cables and Pipelines

102. Subsea cables and pipelines only have the potential for cumulative impacts with the Projects during their construction. Schemes initially considered for the CEA screening were operational, those with construction underway, consented, or with an application submitted. Existing schemes are considered part of the baseline.
103. All the operational schemes identified during screening are considered part of the baseline and have been screened out from further consideration in the CEA. Of the 96 sub-sea cables and pipelines for which some information is currently unavailable, 73 were screened out from further consideration in the CEA as they are already operational and considered part of the baseline.
104. A further 14 schemes were screened out on the basis that construction would be completed prior to construction at the Projects.
105. Of the remaining schemes, three are in concept / early planning and have unknown construction windows, and are therefore screened out of further assessment.
106. The final scheme is SeaLink, which has a construction programme that may overlap with the Projects, and is therefore screened in for further assessment.
107. As indicated in underwater noise modelling in **Volume 7, Appendix 11-3 Underwater Noise Modelling Report (application ref: 7.11.11.3)**, the underwater noise that could be generated during the seabed preparation, ploughing / jetting / pre-trenching or cutting for installation of cables / pipelines, rock dumping for protection of the cable / pipelines, and installation vessels, would be restricted to the area of installation (less than 100m), with the exception of TTS in harbour porpoise during rock placement (1km) and suction dredging (200m). Any effects would be temporary.
108. The result of the CEA screening for subsea cables and pipelines is presented in **Table 11-5-7**.
109. Only one subsea cable and pipeline (Sea Link) is included in the CEA, with a disturbance area of 50.3km² as a worst case assumption.

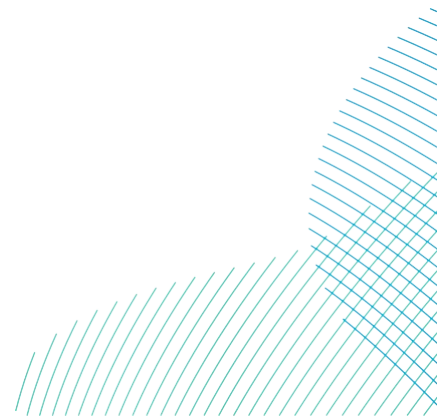


Table 11-5-7 CEA screening for subsea cables and pipelines (HP = harbour porpoise, BND = bottlenose dolphin, GS = grey seal, HS = harbour seal, NS= North Sea, CGNS = Celtic and Greater North Seas, CES = Coastal East Scotland, MU= Management Unit, Y = Yes, N = No)

| Scheme Name | Tier | Landfall | | HP - NS | CGNS | BND - CGNS | BND - CES | GS Seal MU | HS Seal MU | Potential for overlap of cable construction with the Projects' construction? | Screened into CEA? |
|---------------------------------|------|------------------------|------------------------|---------|------|------------|-----------|------------|------------|--|--------------------|
| | | Point 1 | Point 2 | | | | | | | | |
| Cables | | | | | | | | | | | |
| AQUIND Interconnector | 6 | Portsmouth, UK | Le Havre, France | Y | Y | N | N | N | N | No, scheme on hold | N |
| Atlantic Super Connection | 4 | UK | Iceland | Y | Y | Y | Unknown | N | N | Insufficient information available | N |
| Balgzand to Bacton | 1 | Bacton, UK | Balgzand, NL | Y | Y | Y | N | Y | Y | No - considered as part of the baseline | N |
| BritNed | 1 | Isle of Grain, UK | Rotterdam, Netherlands | Y | Y | Y | N | Y | Y | No - considered as part of the baseline | N |
| Caithness Moray | 1 | Noss Head | Tannachy | Y | Y | Y | Y | N | N | No - considered as part of the baseline | N |
| Carradale - Arran 1 | 1 | UK | UK | N | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Carradale - Arran 1 replacement | 4 | UK | UK | N | Y | Y | N | N | N | No - assume construction completed prior to the Projects construction commencing | N |
| Carradale - Arran 2 | 1 | UK | UK | N | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Clift Sound | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| COBRACable | 2 | Eemshaven, Netherlands | Endrup, 6740, Denmark | Y | Y | Y | N | Y | Y | No - assume construction completed prior to the Projects construction commencing | N |
| Continental Link | 5 | Holderness Coast, UK | Norway | Y | Y | Y | N | Y | Y | Insufficient information available | N |
| Cromarty Firth | 1 | UK | UK | Y | Y | Y | Y | Y | Y | No - considered as part of the baseline | N |

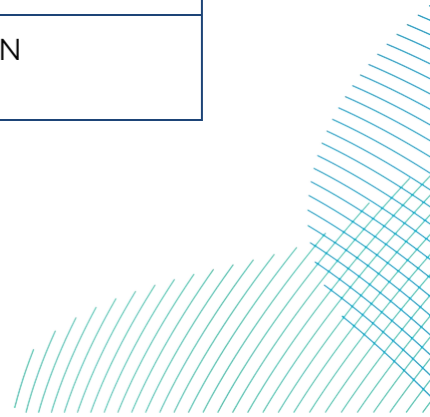
| Scheme Name | Tier | Landfall | | HP - NS | CGNS | BND - CGNS | BND - CES | GS Seal MU | HS Seal MU | Potential for overlap of cable construction with the Projects' construction? | Screened into CEA? |
|------------------------------|------|-------------------------------|-----------------------|---------|------|------------|-----------|------------|------------|--|--------------------|
| | | Point 1 | Point 2 | | | | | | | | |
| Dagebull - Langeness | 1 | Dagebull, Germany | Langeness, Germany | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Dagebull - Oland | 1 | Dagebull, Germany | Oland, Germany | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| East West | 1 | Rol | | N | Y | N | N | N | N | No - considered as part of the baseline | N |
| Eday - Sanday | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Eday - Westray | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| ElecLink | 2 | Folkestone | Les Mandarins, France | Y | Y | Y | N | Y | Y | No - assume construction completed prior to the Projects construction commencing | N |
| Emmellsull - Horsbull - Fohr | 1 | Emmellsull-Horsebull, Germany | Fohr, Germany | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| EWIC | 1 | | | Unknown | | | | | | No - considered as part of the baseline | N |
| FAB Link | 3 | UK | France | Y | Y | Y | N | Y | Y | No - assume construction completed prior to the Projects construction commencing | N |
| Fohr - Amrum | 1 | Fohr, Germany | Amrum, Germany | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Greenlink | 3 | UK | Rol | N | Y | N | N | N | N | No - assume construction completed prior to the Projects construction commencing | N |
| Gridlink | 3 | Kingsnorth, UK | Dunkerque, France | Y | Y | Y | N | Y | Y | No - assume construction completed prior to the Projects construction commencing | N |

| Scheme Name | Tier | Landfall | | HP - NS | CGNS | BND - CGNS | BND - CES | GS Seal MU | HS Seal MU | Potential for overlap of cable construction with the Projects' construction? | Screened into CEA? |
|---------------------------------------|------|--------------------|------------------------------|---------|------|------------|-----------|------------|------------|--|--------------------|
| | | Point 1 | Point 2 | | | | | | | | |
| Harlingen-Vlieland | 1 | Netherlands | Netherlands | Y | Y | Y | N | Y | Y | No - considered as part of the baseline | N |
| Helgoland | 1 | Helgoland, Germany | Sankt Peter-Ordning, Germany | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Hoy - Flotta | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Hoy - Orkney Mainland (centre) | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Hoy - Orkney Mainland (north) | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Hoy - Orkney Mainland (south) | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| IFA | 1 | UK | France | Y | Y | Y | N | Y | Y | No - considered as part of the baseline | N |
| IFA2 | 1 | UK | France | Y | Y | Y | N | Y | Y | No - considered as part of the baseline | N |
| Interconnexion France-Angleterre 2 | 1 | Merville, France | Monks Hill Beach, UK | Y | Y | Y | N | Y | Y | No - assume construction completed prior to the Projects construction commencing | N |
| Interconnexion France-Angleterre 2000 | 1 | Sangatte, France | Folkestone, UK | Y | Y | Y | N | Y | Y | No - considered as part of the baseline | N |
| IUK Interconnector | 1 | UK | Belguim | Y | Y | Y | N | Y | Y | No - considered as part of the baseline | N |
| Lerwick - Bressay 1 | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Lerwick - Bressay 2 | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |

| Scheme Name | Tier | Landfall | | HP - NS | CGNS | BND - CGNS | BND - CES | GS Seal MU | HS Seal MU | Potential for overlap of cable construction with the Projects' construction? | Screened into CEA? |
|----------------------------------|------|-----------------------------|--------------------|---------|------|------------|-----------|------------|------------|--|--------------------|
| | | Point 1 | Point 2 | | | | | | | | |
| Little Belt | 1 | Denmark | Denmark | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Lutmoorsiel - Nordstrandischmoor | 1 | Lutmoorsiel | Nordstrandischmoor | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Moffat to Rol | 1 | Moffat, UK | Rol | N | Y | N | N | N | N | No - considered as part of the baseline | N |
| Mongstad-Kollsnes | 1 | Norway | Norway | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Mossbank - Yell North | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Mossbank - Yell South | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Moyle | 1 | Northern Ireland | | N | Y | N | N | N | N | No - considered as part of the baseline | N |
| Nautilus Interconnector | 5 | Suffolk, UK | Belgium | Y | Y | Y | N | Y | Y | Insufficient information available | N |
| Nemo Link | 1 | Pegwell Bay | Zeebrugge | Y | Y | Y | N | Y | Y | No - considered as part of the baseline | N |
| NeuConnect | 3 | UK | Germany | Y | Y | Y | N | Unknown | | No - assume construction completed prior to the Projects construction commencing | N |
| Nordlink | 2 | Büsum, Germany | Ertsmyra, Norway | Y | Y | Y | N | N | N | No - assume construction completed prior to the Projects construction commencing | N |
| Nordstrand - Pellworm | 1 | Nordstrand, Germany | Pellworm, Germany | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Nordstrandischmoor - Pellworm | 1 | Nordstrandischmoor, Germany | Pellworm, Germany | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |

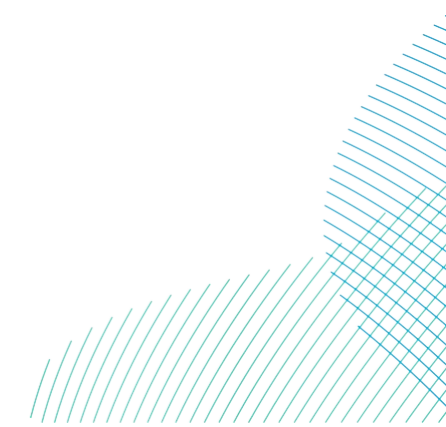
| Scheme Name | Tier | Landfall | | HP - NS | CGNS | BND - CGNS | BND - CES | GS Seal MU | HS Seal MU | Potential for overlap of cable construction with the Projects' construction? | Screened into CEA? |
|--------------------------|------|---------------------|--------------------|---------|------|------------|-----------|------------|------------|--|--------------------|
| | | Point 1 | Point 2 | | | | | | | | |
| NorNed | 1 | Freda, Norway | Eemshaven | Y | Y | Y | N | Y | Y | No - considered as part of the baseline | N |
| North Ness - South Ness | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| North Sea Link | 1 | Hylsfjorden, Norway | Blyth, UK | Y | Y | Y | N | Y | N | No - considered as part of the baseline | N |
| NorthConnect | 3 | Peterhead, UK | Simadalen, Norway | Y | Y | Y | N | Y | N | No - assume construction completed prior to the Projects construction commencing | N |
| Oland - Langeness | 1 | Oland, Germany | Langeness, Germany | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Oresund replacement | 1 | Kristinelundveien | Denmark | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Orkney - Graemsay | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Orkney - Rousay | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Orkney - Shapinsay | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Orkney AC Link | 1 | Thruso, UK | Orkney, UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Oscarsborg - Drobak | 1 | Oscarsbord, Denmark | Drobak, Denmark | N | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Pellworm - Hooge | 1 | Pellworm, Germany | Hooge, Germany | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Rossie Island - Ferryden | 1 | UK | UK | Y | Y | Y | Y | N | N | No - considered as part of the baseline | N |

| Scheme Name | Tier | Landfall | | HP - NS | CGNS | BND - CGNS | BND - CES | GS Seal MU | HS Seal MU | Potential for overlap of cable construction with the Projects' construction? | Screened into CEA? |
|--------------------------|------|-----------------------|-------------------|---------|------|------------|-----------|------------|------------|--|--------------------|
| | | Point 1 | Point 2 | | | | | | | | |
| Rousay - Egilsay | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Rousay - Westray | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Rousay - Wyre | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Sanday - North Ronaldsay | 1 | Germany | Germany | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Schluttsiel - Grode | 1 | Ockholm, Germany | Grode, Germany | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Sea Link | 5 | Sizewell offshore, UK | Kent, UK | Y | Y | Y | N | Y | Y | Yes (construction 2026-2030) | Y |
| Shapinsay - Stronsay | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Shetland - Papa Stour | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Shetland - West Linga | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Shetland - Whalsay | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Skagerrak 1 and 2 | 1 | Kristiansand, Norway | Tjele, Denmark | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Skagerrak 3 | 1 | Kristiansand, Norway | Tjele, Denmark | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Skagerrak 4 | 1 | Kristiansand, Norway | Bulbjerg, Denmark | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Stronsay - Sanday | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |



| Scheme Name | Tier | Landfall | | HP - NS | CGNS | BND - CGNS | BND - CES | GS Seal MU | HS Seal MU | Potential for overlap of cable construction with the Projects' construction? | Screened into CEA? |
|--------------------------|------|------------------------|---------------------------|---------|------|------------|-----------|------------|------------|--|--------------------|
| | | Point 1 | Point 2 | | | | | | | | |
| VikingLink Corridor | 4 | Lincolnshire Coast, UK | Southern Jutland, Denmark | Y | Y | Y | N | Y | Y | No - assume construction completed prior to the Projects construction commencing | N |
| Weisdale Voe | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| West Linga - Whalsay | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Westray - Papa Westray | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Whalsay - Out Skerries | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Yell - Fetlar 1 | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Yell - Fetlar 2 | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Yell - Unst 1 | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Yell - Unst 2 | 1 | UK | UK | Y | Y | Y | N | N | N | No - considered as part of the baseline | N |
| Pipeline | | | | | | | | | | | |
| PL2236 - MIMAS TO SATURN | 2 | | | Y | Y | Y | N | Y | Y | No - assume construction completed prior to the Projects construction commencing | N |
| PL2237 - SATURN TO MIMAS | 2 | | | Y | Y | Y | N | Y | Y | No - assume construction completed prior to the Projects construction commencing | N |

| Scheme Name | Tier | Landfall | | HP - NS | CGNS | BND - CGNS | BND - CES | GS Seal MU | HS Seal MU | Potential for overlap of cable construction with the Projects' construction? | Screened into CEA? |
|---|------|-----------|---------|---------|------|------------|-----------|------------|------------|--|--------------------|
| | | Point 1 | Point 2 | | | | | | | | |
| PL2894 - KATY TO KELVIN GAS EXPORT PIPELINE | 2 | | | Y | Y | Y | N | Y | Y | No - assume construction completed prior to the Projects construction commencing | N |
| PL2895 - KELVIN TO KATY METHANOL PIPELINE | 2 | | | Y | Y | Y | N | Y | Y | No - assume construction completed prior to the Projects construction commencing | N |
| PL3086 - CYGNUS A TO CYGNUS B GAS PIPELINE | 2 | | | Y | Y | Y | N | Y | Y | No - assume construction completed prior to the Projects construction commencing | N |
| PL3088 - CYGNUS TO ETS GAS PIPELINE | 2 | | | Y | Y | Y | N | Y | Y | No - assume construction completed prior to the Projects construction commencing | N |
| PL3121 - JULIET TO PICKERILL A GAS PIPELINE | 2 | | | Y | Y | Y | N | Y | Y | No - assume construction completed prior to the Projects construction commencing | N |
| PLU3122 - JULIET TO PICKERILL A UMBILICAL | 2 | | | Y | Y | Y | N | Y | Y | No - assume construction completed prior to the Projects construction commencing | N |
| NGS Pipeline | | | | | | | | | | | |
| Rough 36" Pipeline | 1 | Easington | Rough | | | | | | | No, considered as part of the baseline | N |
| Rough 16" Pipeline | 1 | Easington | Rough | | | | | | | No, considered as part of the baseline | N |



11.5.4.7. Screening of Coastal Developments

110. Coastal development schemes include ports, harbours, and coastal defence. No European coastal development schemes were considered due to a lack of information.
111. Within the UK, all coastal development schemes on the north-east, east and south-east coast of England were screened, and those with the potential for activities to take place after the start of the Projects' baseline surveys (in March 2021), or those with applications submitted but not yet approved, were considered further. All coastal developments that were completed prior to March 2021 are considered to be part of the baseline and are not included in this screening.
112. **Table 11-5-10** provides the screening results for coastal developments. Two of these schemes have the potential to overlap with the construction of the Projects. The Northern Gateway Container Terminal, which includes dredging activity for a deep sea container, is due to finish by May 2028. Due to the distance between the Northern Gateway Container Terminal and the Projects, and the activities proposed, it is unlikely that there would be any potential for a cumulative effect, and therefore this scheme has not been considered further. The Bathside Bay Container Terminal, Small Boat Harbour and Green Energy Hub scheme could overlap with construction of the Projects, however, there is no further information currently available to inform an assessment as consent has not yet been applied for. Therefore, the Bathside Bay Container Terminal scheme has not been considered further.

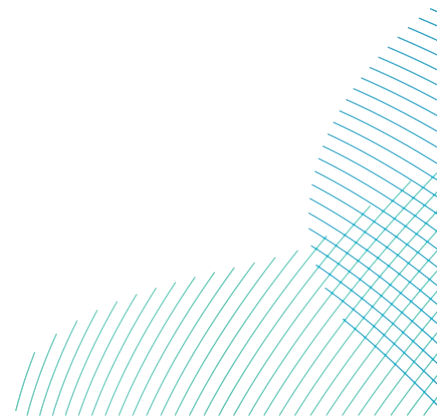
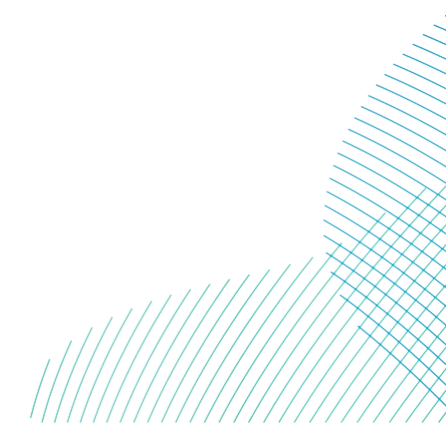


Table 11-5-8 CEA screening for coastal developments with an approved status (such as ports, harbour, coastal defence) with the potential to overlap with the Projects construction (BND = bottlenose dolphin, NS= North Sea, CES = Coastal East Scotland, MU= Management Unit, Y = Yes, N = No)

| Scheme Name | Status | Marine Licence dates | | Relevant activity dates | | HP - NS | CGNS | BND - GNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Potential for overlap with the Projects' construction? | Screened into CEA? |
|--|----------------------|----------------------|--------|-------------------------|-----------|---------|------|-----------|-----------|-------------|-------------|--|---|
| | | Start | End | Start | End | | | | | | | | |
| Port Construction | | | | | | | | | | | | | |
| Bathside Bay Container Terminal, Small Boat Harbour and Green Energy Hub Project | Early planning | n/a | n/a | n/a | n/a | Y | Y | Y | N | N | Y | Unknown | No, insufficient information |
| Cockett Wick Sea Wall Improvement | Works underway | 2023 | 2029 | 2023 | 2025 | Y | Y | Y | N | N | Y | N | No, no overlap with construction |
| Cromer Phase 2 & Mundesley Coastal Management Scheme | Early planning | n/a | n/a | 2023 | 2024-2025 | Y | Y | Y | N | N | Y | N | No, no overlap with construction |
| Port of Sheerness RoRo | Works underway | 20 July 2023 | Dec-24 | 20 July 2023 | Dec-24 | Y | Y | Y | N | N | Y | N | No, no overlap with construction |
| Marchwood Port Development | Early planning | n/a | n/a | n/a | n/a | Y | Y | Y | N | N | N | N | No, insufficient information |
| Northern Gateway Container Terminal | Application approved | Feb-22 | Dec-29 | | May 2028 | Y | Y | Y | N | N | Y | Y | No, no potential for cumulative effects |
| Riverside Ro-Ro Tees estuary | Early planning | n/a | n/a | n/a | n/a | Y | Y | Y | N | Y | N | N/A | No, insufficient information |
| Coastal Defence | | | | | | | | | | | | | |
| Naze north cliff stabilisation emergency works project | Works underway | Apr-22 | Apr-23 | Jun-21 | Sep-21 | Y | Y | Y | N | N | Y | N | No, no overlap with construction |
| Scaffolding works at Fort Cumberland coastal defence | Works completed | Dec-21 | Dec-22 | 2022 | 2022 | Y | Y | N | N | N | N | N | No, no overlap with construction |

| Scheme Name | Status | Marine Licence dates | | Relevant activity dates | | HP - NS | CGNS | BND - GNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Potential for overlap with the Projects' construction? | Screened into CEA? |
|--|----------------|----------------------|--------|-------------------------|---------|---------|------|-----------|-----------|-------------|-------------|--|----------------------------------|
| | | Start | End | Start | End | | | | | | | | |
| Shoeburyness Seawall Repair Works | Works underway | Jun-23 | Jun-24 | Jun-23 | Jun-24 | Y | Y | Y | N | N | Y | N | No, no overlap with construction |
| Great Yarmouth - New Flood Defence Quay Wall | Works underway | May-22 | May-23 | n/a | n/a | Y | Y | Y | N | N | Y | N | No, no overlap with construction |
| Walton on the Naze Sea defence work | Early planning | n/a | n/a | Unknown | Unknown | Y | Y | Y | N | N | Y | N | No, insufficient information |



11.5.4.8. Screening of Other Industries

113. The results of the CEA screening for gas storage, offshore mines and carbon capture schemes are presented in **Table 11-5-9**.

11.5.4.8.1. Gas Storage Schemes

114. There is only one gas storage facility in the screening area, which is listed as Agreement / Option for Lease on the Crown Estate (updated January 2023). The site was reopened after significant engineering upgrades in 2022 (Centrica, 2022) and therefore no construction is likely to coincide with the Projects' construction. Hence, gas storage schemes have been screened out from further consideration in the CEA.

11.5.4.8.2. Offshore Mining Schemes

115. There are only two UK offshore mining schemes, and both have been operational for several years prior to the baseline surveys for the Projects. These schemes are considered part of the current baseline and therefore not considered further in the CEA, hence offshore mining schemes have been screened out from further consideration in the CEA.

116. No European schemes were considered due to a lack of information on scheme locations, phases, and programmes.

11.5.4.8.3. Carbon Capture Schemes

117. Carbon capture schemes considered in the CEA screening are operational, under construction, or consented. All European schemes were screened out due to a lack of information on scheme locations, phases, and programmes.

118. There is limited information on schemes that are in early development. No schemes were identified as operational, nor as under construction or consented. There was not enough certainty or information available for assessment.

119. Carbon capture schemes are unlikely to contribute significantly to any potential cumulative impacts for underwater noise, as most construction work will be on land and use existing offshore infrastructure. Therefore, all carbon capture schemes have been screened out of the CEA.

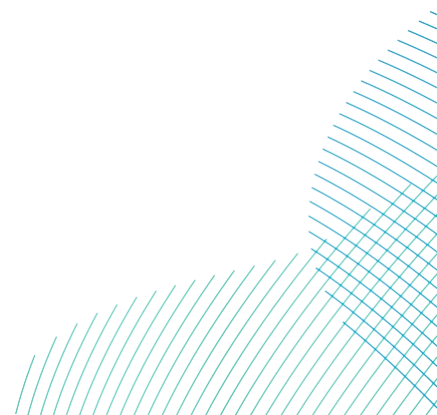


Table 11-5-9 CEA screening for other industries (gas storage facilities, offshore mines and carbon capture schemes) within the relevant spatial areas and with the potential to overlap with the Projects construction (2026-2032) HP = harbour porpoise, BND = bottlenose dolphin, NS= North Sea, CGNS = Celtic and Greater North Seas, CES = Coastal East Scotland, MU= Management Unit, Y = Yes, N = No)

| Scheme Name | Status | Date operational | HP - NS | CGNS | BND - CGNS | BND - CES | Seal - MU 8 | Seal - MU 9 | Screened into CEA? | Potential for overlap of with the Projects' construction? |
|---|---------------------------------|--|---------|------|------------|-----------|-------------|-------------|--------------------|---|
| Gas Storage Facility and Pipelines | | | | | | | | | | |
| Rough | Agreement / Option for Lease | Unknown | Y | Y | Y | N | Y | Y | N | N |
| Offshore Mining Projects | | | | | | | | | | |
| Hundale Potash Mine | Exploration and Option | Jul-16 | Y | Y | Y | N | Y | N | N | N |
| Boulby Potash Mine | Lease | Dec-98 | Y | Y | Y | N | Y | N | N | N |
| Carbon Capture Storage | | | | | | | | | | |
| Acorn Carbon Capture and Storage | Under development | Operational by 2025 | Y | Y | Y | N | Y | N | Y | N |
| Bunter Closure 36 | Portfolio for development | Operational by 2027 | Y | Y | Y | N | N | Y | Y | Unknown |
| Captain X | Portfolio for development | Consented by 2018, operational by 2022 | Y | Y | Y | N | N | Y | Y | N |
| DelpHYnus | Early development opportunities | Unknown | Y | Y | Y | N | N | N | Y | Unknown |
| East Coast Cluster | Early development opportunities | Operational by 2025 | Y | Y | Y | N | N | Y | Y | N |
| Endurance | Early development opportunities | Operational by 2025 | Y | Y | Y | N | Y | Y | Y | N |
| Forties 5 Site 1 | Portfolio for development | Operational by 2030 | Y | Y | Y | N | N | Y | Y | Y |
| Hewett Depleted Gas | | Operational by 2028 | Y | Y | Y | N | N | N | Y | Y |
| V Net Zero | Early development opportunities | Unknown | Y | Y | Y | N | N | Y | Y | Unknown |
| Viking A | DCO application submitted | Operational by 2027 | Y | Y | Y | N | N | Y | Y | Y |

11.5.4.9. Screening of Seismic and Geophysical Surveys

11.5.4.9.1. Seismic Surveys

120. It is currently not possible to accurately estimate the location or number of potential seismic surveys that could be undertaken at the same time as construction and potential piling activity at the Projects.
121. It is noted that there is low certainty on the schedule of these activities and there are no active licence applications. For information purposes the potential for cumulative impacts from seismic surveys has been screened into the CEA for further consideration.
122. Analysis of Marine Noise Registry (MNR) reports indicates that in the North Sea during 2021 there were 20 seismic surveys carried out for a total of 475 days. This gives a potential for just over 1 seismic survey to be undertaken at any one time in the North Sea, therefore it is assumed, as a worst case scenario, that there could be two seismic survey undertaken at the same time as the construction of the Projects.

11.5.4.9.2. Geophysical Surveys

123. Prior to construction, marine development schemes (e.g. OWF, MRE and port expansions) conduct geophysical surveys to determine sea bed conditions, check for debris and other anomalies.
124. These geophysical surveys can involve different equipment, such as:
 - Sub-Bottom Profilers (SBP) (such as pingers, sparkers, boomers and CHIRP systems);
 - Ultra-Short Baseline (USBL) systems;
 - Multibeam Echo Sounder (MBES) system; and
 - Side Scan Sonar (SSS).
125. Due to the high amplitude of MBES and SSS, there is the potential for auditory injury to marine mammal species, however, this is highly unlikely as an animal would need to be within very close proximity of the source. It is also unlikely that the MBES and SSS could cause disturbance due to the operating frequencies being outside the audible range of marine mammals (JNCC *et al.*, 2010). MBES and SSS surveys that are carried out in waters of less than 200m in depth are not considered to be a risk to marine mammals, as that the higher frequencies typically used fall outside of their hearing ranges, and the sounds are likely to attenuate quickly due to the high frequencies used. Therefore, geophysical surveys using MBES and SSS have been screened out of the CEA.

126. The SBP and USBL frequency ranges are within marine mammal hearing range (JNCC, 2017) and will therefore be audible to the marine mammals that could be present in the area. Geophysical surveys using SBP and USBL have the potential to disturb marine mammals and have therefore been screened into the CEA.
127. Auditory injury effects from SBP and USBL are not predicted, as an animal would need to remain in close proximity of the acoustic source for a prolonged period of time, which is highly unlikely (JNCC *et al.*, 2010). Most of the sound energy generated by the SBP or USBL equipment will be directed towards the seabed and the pulse duration is extremely short, with the continuous movement of the survey.
128. For geophysical surveys with SBP it is realistic and appropriate to base the assessments on the potential impact area around the vessel, as the potential for disturbance would be around the vessel at any one time. Marine mammals would not be at risk throughout the entire area surveyed in a day, as animals would return once the vessel had passed, and the disturbance had ceased.
129. It is currently not possible to accurately estimate the location or number of potential geophysical surveys that could be undertaken at the same time as construction and potential piling activity at the Projects. It is therefore assumed, as a worst case scenario, that there could potentially be up to two geophysical surveys in the NS MU at any one time, during construction of the Projects. Analysis of the activities reported to the MNR, indicated in the year 2021 in the North Sea, there was a total of 30 sub-bottom profiler surveys carried out for a total of 257 days. The amount undertaken in 2021 suggests an average of less than one geophysical survey at any one time within a year. Therefore, it is assumed, as a worst case scenario, that there could be two geophysical surveys undertaken at the same time as the construction of the Projects for the ES.

11.5.4.10. Screening of UXO clearance

130. As outlined in section 11.7 of **Volume 7, Chapter 11 Marine Mammals (application ref: 7.11)**, the potential risk of PTS in marine mammals from cumulative impacts has been screened out from further consideration in the CEA. This is because if there is the potential for any PTS, suitable mitigation would be put in place to reduce any risk to marine mammals.
131. The potential for cumulative disturbance effects from UXO clearance at other schemes during construction of the Projects have been screened in to the CEA.

132. Alternative methods for UXO clearance include the use of low-order clearance techniques, which could include a small donor charge, rather than full high-order detonation.
133. It is therefore highly unlikely that more than one UXO high-order detonation would occur at exactly the same time or on the same day as another UXO detonation, even if they had overlapping UXO clearance operation durations. The CEA is therefore based on potential for disturbance from one UXO high-order detonation without mitigation (worst case), as well as one low-order clearance. However, it is noted there is low certainty of the schedule for these activities and likelihood of temporal overlap. In 2021 there were six cases of UXO detonations reported to the MNR in the North Sea, these occurred over a total of 16 days. This amount gives an average of less than one UXO detonation to occur within a year at any one time in the North Sea. It is therefore highly unlikely that more than one UXO high-order detonation would occur at exactly the same time or on the same day as another UXO detonation, even if they had overlapping UXO clearance operation durations. The in-combination assessment is therefore based on potential for disturbance from one UXO high-order detonation without mitigation (worst-case), and one low-order detonation. Therefore, one high order and one low-order UXO clearance is assessed in the CEA to occur at the same time as construction for the Projects.

11.5.5. Summary of CEA Screening

134. **Table 11-5-10** summarises the impacts that are screened into CEA.
135. **Table 11-5-11** summarises the schemes and activities screened in to the CEA.
136. **Table 11-5-12** summarises the schemes and activities screened out of the CEA.

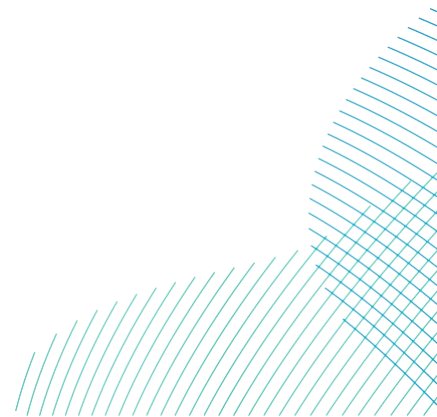
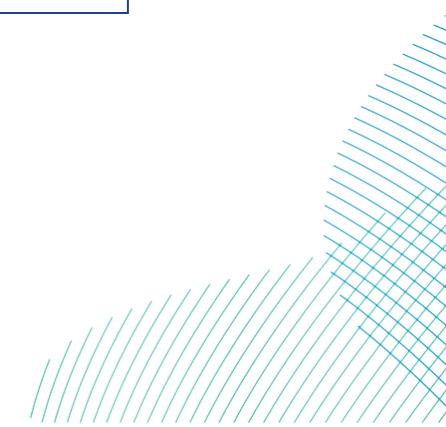


Table 11-5-10 Summary of cumulative effects screening

| Impact (ES Chapter 11 Marine Mammals) | Potential for Cumulative Effects | Rationale |
|--|-----------------------------------|---|
| Construction | | |
| Impact 1: Permanent and temporary auditory injury from underwater noise during piling | PTS – No TTS – Yes (see below) | If there is the potential for any PTS, from any scheme, suitable mitigation would be put in place to reduce any risk to marine mammals. Projects alone, the effect is expected to be minimal, however this might not be the case for the Projects in-combination. Therefore, the potential risk of PTS in marine mammals from cumulative effects has been screened out for further consideration in the CEA and further information will be given during the assessment at ES. |
| Impact 2: Disturbance or behavioural effects from underwater noise Impact 3: TTS and disturbance from underwater noise during other construction activities Impact 4: TTS and disturbance from underwater noise due to the presence of vessels | Yes | There is the potential for cumulative disturbance or TTS / fleeing response due to underwater noise. Disturbance ranges are the widest ranging underwater noise effects assessed, and therefore are used to inform the assessment as a worst-case. Potential TTS ranges have been used to inform the assessment where there is a lack of further relevant information for disturbance. Schemes / activities with the potential for cumulative effects due to disturbance from underwater noise: <ul style="list-style-type: none"> • Piling at OWFs; • Other construction activities at OWFs (other than piling) including vessels, cable installation works, dredging, sea-bed preparation and rock placement; • Geophysical and seismic surveys; • Aggregate extraction and dredging; • Subsea cable and pipelines; and • UXO clearance. |
| Impact 5: Barrier effects as a result of underwater noise during construction | Yes | There is a possibility of temporal and spatial coincidence of barrier effects from disturbance of other wind farms in the area acting on the same populations due to the number of other wind farms in close proximity. |
| Impact 6: Increased collision risk with vessels during construction | Yes | The significance of effect in this assessment for increased collision risk with vessels during construction (section 11.6.1.6) is assessed as moderate to minor adverse as a precaution for all species assessed. Therefore, there is sufficient likelihood to justify a quantitative Cumulative Effects Assessment. |
| Impact 7: Changes to prey resources | Yes | Changes to prey resources in this assessment is assessed as negligible to minor adverse (for further information see section 11.6.1.7). Therefore, as a worst-case of minor adverse significance, it is sufficient likelihood to justify a quantitative Cumulative Effects Assessment. |
| Impact 8: Changes to water quality | No | No significant effects with regard to water quality are expected as a result of the Projects. All other schemes would be required to have equivalent mitigation and prevention as the Projects and therefore have no significant effects. Any changes to water quality as a result of aggregate extraction and dredging would be very localised and temporary. Changes to water quality (including from aggregate extraction and dredging) have been screened out from the CEA. |

| Impact (ES Chapter 11 Marine Mammals) | Potential for Cumulative Effects | Rationale |
|--|----------------------------------|--|
| Impact 9: Disturbance of seals at haul-out sites | Yes | The significance of effect in this assessment for disturbance of seals at haul-out sites (section 11.6.1.9) is assessed as negligible to minor adverse. Therefore, as a worst-case of minor adverse significance, it is sufficient likelihood to justify a quantitative Cumulative Effects Assessment. |
| Operation & Maintenance | | |
| Impact 1: Impacts from underwater noise associated with operational wind turbines | No | Impacts from underwater noise associated with operational wind turbines for nearby schemes could result in a cumulative effect on marine mammal receptors. |
| Impact 2: Impacts from underwater noise associated with operation and maintenance activities | No | Impacts from underwater noise associated with operation and maintenance activities for nearby schemes could result in a cumulative effect on marine mammal receptors. |
| Impact 3: Impacts from underwater noise due to the presence of vessels | No | Impacts from underwater noise due to the presence of vessels for nearby schemes could result in a cumulative effect on marine mammal receptors. |
| Impact 4: Barrier effects | No | Barrier effects from nearby schemes could result in a cumulative effect on marine mammal receptors. |
| Impact 5: Increased collision risk with vessels during operational and maintenance | No | Increased collision risk with vessels during operational and maintenance activities for nearby schemes could result in a cumulative effect on marine mammal receptors. |
| Impact 6: Changes to prey resources | No | Impacts from changes to prey from nearby schemes could result in a cumulative effect on marine mammal receptors. |
| Impact 7: Changes to water quality | No | As mentioned for construction, no significant effects with regard to water quality are expected as a result of the Projects. Therefore, changes to water quality (including from aggregate extraction and dredging) have been screened out from the CEA. |
| Impact 8: Disturbance at seal haul-out sites | No | Impacts from disturbance at seal haul-out sites from nearby schemes could result in a cumulative effect on marine mammal receptors. |
| Decommissioning | | |
| Impact 1: Permanent and temporary auditory injury from underwater noise during piling | No | Decommissioning is assumed to be no worse than construction. Decommissioning arrangements will be detailed in a Decommissioning Programme, which will be drawn up and agreed with BEIS prior to construction. It is assumed that the cumulative effects will be similar to the effects during construction. |
| Impact 2: Disturbance or behavioural effects from underwater noise during piling | No | Therefore, as construction will be getting assessed, all decommissioning effects have been screened out. |



| Impact (ES Chapter 11 Marine Mammals) | Potential for Cumulative Effects | Rationale |
|--|----------------------------------|-----------|
| Impact 3: TTS and disturbance from underwater noise during other construction activities | No | |
| Impact 4: TTS and disturbance from underwater noise due to the presence of vessels | No | |
| Impact 5: Barrier effects as a result of underwater noise during construction | No | |
| Impact 6: Increased collision risk with vessels during construction | No | |
| Impact 7: Changes to prey resources | No | |
| Impact 8: Changes to water quality | No | |
| Impact 9: Disturbance of seals at haul-out sites | No | |

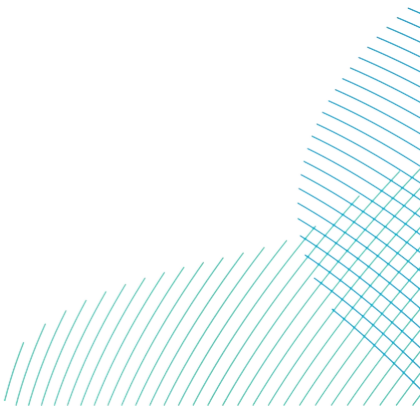
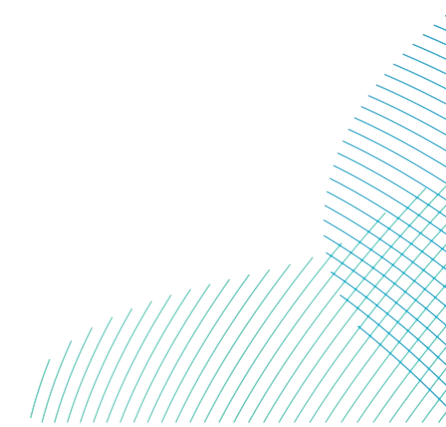


Table 11-5-11 Summary of schemes and activities screened into the CEA

| Cumulative Effect | Industry / activity with the potential for cumulative effect | Schemes |
|---|--|---|
| Cumulative Effect 1: Disturbance from underwater noise due to piling at other OWFs | Piling at OWFs | <p>The OWFs that could be piling at the same time as the Projects and screened into the CEA are:</p> <ul style="list-style-type: none"> • Berwick Bank; • Dudgeon Extension; • East Anglia Hub (East Anglia One North); • Five estuaries; • GreenVolt; • Hornsea Project Three; • Hornsea Project Four; • North Falls; • Outer dowsing; • Rampion 2; • Seagreen 1A • Sheringham Shoal Extension; and • West Of Orkney. |
| Cumulative Effect 2: Disturbance from other industries and activities | Other construction activities at OWFs (other than piling) including vessels, cable installation works, dredging, seabed preparation and rock placement | The OWFs screened in for other construction activities that could have cumulative effects with other construction activities at the Project are the same as listed above for Cumulative Effect 1. |
| | Geophysical surveys | <p>Unknown</p> <p>It is therefore assumed, as a worst case scenario, that there could potentially be up to two geophysical surveys at OWFs in the NS at any one time, during construction of the Project.</p> |
| | Aggregate extraction and dredging | <p>Eleven aggregates scheme (across six sites) have the potential to be taking place at the same time as construction at the Projects:</p> <ul style="list-style-type: none"> • Greenwich Light East4 (473/1) |

⁴ Hanson Aggregates Marine Ltd



| Cumulative Effect | Industry / activity with the potential for cumulative effect | Schemes |
|-------------------|--|--|
| | | <ul style="list-style-type: none"> • Greenwich Light East2 (473/2) • Greenwich Light East⁵ (473/1) • Greenwich Light East⁵ (473/2) • Inner Dowsing⁶(481/1-2) • Inner Dowsing⁷(481/1-2) • Median Deep • Thames D • West Bassurelle3 (458 & 464) • West Bassurelle4 (458 & 464) • West Wight |
| | Seismic surveys | <p>Unknown</p> <p>It is therefore assumed, as a worst case scenario, that there could be up to two seismic surveys in the NS at any one time, during construction of the Projects.</p> |
| | Subsea cable and pipelines | <ul style="list-style-type: none"> • Sea Link |
| | UXO clearance | <p>Unknown</p> <p>It is assumed UXO clearance would use low-order technique.</p> <p>However, as a worst case scenario, CEA includes potential for one UXO high-order detonation and one low-order detonation (no mitigation) in the NS at the same time as piling at the Projects.</p> |

⁵ CEMEX UK Marine Ltd

⁶ Tarmac Marine Ltd

⁷ Van Oord Ltd

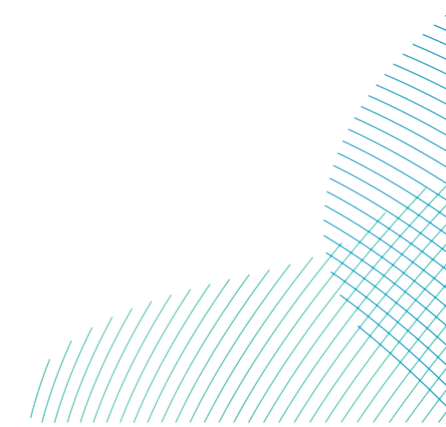
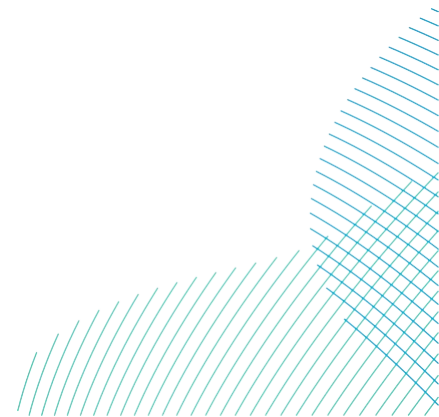


Table 11-5-12 Summary of schemes and activities screened out of the CEA

| Effect | Potential for cumulative effect | Schemes |
|-----------------------------------|---------------------------------|--|
| Disturbance from underwater noise | No | <p>The activities and types of schemes screened out of the CEA, as no potential for significant contribution to underwater noise cumulative impacts during the Projects construction, are:</p> <ul style="list-style-type: none"> • Operational OWFs • Maintenance of operational OWFs • Decommissioning of OWFs • Marine renewable energy (wave and tidal) developments • Oil and gas installation (construction) • Coastal developments • Licensed disposal sites • Gas storage, offshore mining, and carbon capture • Shipping • Commercial fisheries |



References

BEIS (2020). Record of The Habitats Regulations Assessment Undertaken Under Regulation 65 of the Conservation of Habitats and Species (2017), and Regulation 33 of The Conservation of Offshore Marine Habitats and Species Regulations (2017). Review of Consented Offshore Wind farms in the Southern North Sea Harbour Porpoise SAC.

Centrica (2022). Centrica re-opens Rough storage facility. Centrica. 28th October 2022. Available at: <https://www.centrica.com/media-centre/news/2022/centrica-re-opens-rough-storage-facility/> . Accessed on 1st of July 2023.

Cheesman, S. (2016). Measurement of operational wind turbine noise in UK waters. In Popper A N, Hawkins A (eds) The Effects of Noise on Aquatic Life II. Advances in Experimental Medicine and Biology, Vol. 875, pp 153-160. DOI 10.1007/975-1-4939-2981-8_18.

Diederichs, A., Brandt, M., and Nehls, G. (2010). Does sand extraction near Sylt affect harbour porpoises? Wadden Sea Ecosystem, 26:199–203.

IAMMWG. 2023. Review of Management Unit boundaries for cetaceans in UK waters (2023). JNCC Report 734, JNCC, Peterborough, ISSN 0963-8091. <https://hub.jncc.gov.uk/assets/b48b8332-349f-4358-b080-b4506384f4f7>

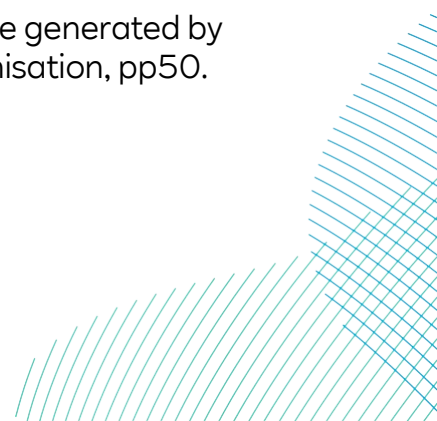
JNCC (2010a). JNCC guidelines for minimising the risk of injury to marine mammals from using explosives. August 2010.

JNCC (2010b). Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise. August 2010

JNCC (2017). JNCC guidelines for minimising the risk of injury to marine mammals from geophysical surveys. April 2017.

JNCC, Natural England and CCW (2010). Draft EPS Guidance - The protection of marine European Protected Species from injury and disturbance. Guidance for the marine area in England and Wales and the UK offshore marine area. Joint Nature Conservation Committee, Natural England and Countryside Council for Wales. October 2010.

MMO (2015). Modelled mapping of continuous underwater noise generated by activities. A report produced for the Marine Management Organisation, pp50. MMO Project N. 1097. ISBN 978-1-909452-87-9.



Natural England and Defra (2022). Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards. Phase III: Expectations for data analysis and presentation at examination for offshore wind applications.

Pangerc, T., Robinson, S. and Theobald, E. (2016). Underwater sound measurement data during diamond wire cutting: First description of radiated noise. Proceedings of Meetings on Acoustic. Vol 27. Fourth International Conference on the Effects of Noise on Aquatic Life. Dublin, Ireland 10-16 July 2016.

Planning Inspectorate (2019). Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects. Version 2 August 2019. <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2015/12/Advice-note-17V4.pdf>

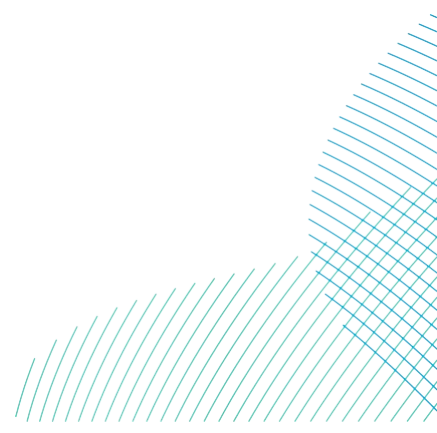
Robinson, S.P., Theobald, P.D., Hayman, G., Wang, L.S., Lepper, P.A., Humphrey, V. and Mumford, S. (2011). Measurement of underwater noise arising from marine aggregate dredging operations. Marine Aggregate Levy Sustainability Fund MEPF report 09/P108.

Scottish and Southern Energy (2020). EPS and Protected Sites and Species Risk Assessment. EPS and Protected Sites and Species Risk Assessment – North Coast and Orkney Islands. Document number A-302244-S02-REPT-001. Prepared by Xodus Group. https://marine.gov.scot/sites/default/files/risk_assessment_4.pdf

Sigray, P. and Andersson, M.H., 2011. Particle motion measured at an operational wind turbine in relation to hearing sensitivity in fish. The Journal of the Acoustical Society of America, 130(1), pp.200-207.

Tougaard, J., Henriksen, O.D. and Miller, L.A. (2009). Underwater noise from three types of offshore wind turbines: estimation of impact zones for harbour porpoise and harbour seals. Journal of the Acoustic Society of America 125(6): 3766.

Zhou, T. and Guo, J., 2023. Underwater noise reduction of offshore wind turbine using compact circular liner. Applied Energy, 329, p.120271.



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