

The background of the entire page is a photograph of a green tractor working in a field. The tractor is positioned on the right side of the frame, moving towards the left. The field is brown and appears to be recently plowed or harvested. In the background, there are several green trees and a clear blue sky. The overall scene is rural and agricultural.

The Great Grid Upgrade

Eastern Green Link 3 (EGL 3) and
Eastern Green Link 4 (EGL 4)

Preliminary environmental information report (PEIR)

Volume 1, Part 4, Chapter 28: Cumulative Effects Assessment
May 2025

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28. Cumulative Effects

28. Assessment of Cumulative Effects

28.1 Introduction

- 28.1.1 This chapter sets out the approach to assessing cumulative effects which may arise as a result of the construction and operation of the Projects. In some instances, the Projects are referred to individually, the Eastern Green Link 3 (EGL 3) and the Eastern Green Link 4 (EGL 4).
- 28.1.2 The Environmental Impact Assessment (EIA) Regulations (Ref 28.1) require that, in assessing the effects of a particular development, consideration should also be given to the cumulative effects that may arise from the Projects in conjunction with other existing and/or approved developments.
- 28.1.3 The Environmental Statement (ES) will assess the potential for significant cumulative effects as a result of the Projects in the form of a Cumulative Effects Assessment. The Cumulative Effects Assessment will be presented as a standalone chapter of the ES.
- 28.1.4 In line with Schedule 4, paragraph 5(e) of the EIA Regulations the ES will consider *"the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources"*. Furthermore, it will address Schedule 4, paragraph 5 of the EIA Regulations which states *"the description of the likely significant effects on the factors specified in regulation 4(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project, including in particular those established under Council Directive 92/43/EEC and Directive 2009/147/EC."*
- 28.1.5 Cumulative effects may arise because of several different factors and combined changes. According to Institute of Environmental Management and Assessment (IEMA) (Ref 28.2) cumulative effects can be defined as *"the additional changes caused by a Proposed Development in conjunction with other similar developments as the combined effect of a set of developments, taken together, in practice 'effects' and 'impacts' are used interchangeably"*.
- 28.1.6 The Cumulative Effects Assessment of the Project will consider the following types of effects:
- **Inter-project Cumulative Effects** (referred to as Cumulative Effects) are the residual environmental effects of the Projects combining and interacting with the residual environmental effects of other committed development(s), affecting the same receptor. For example, effects upon users of the local road network because of traffic flows from the Projects and traffic flows from a nearby committed industrial development.
 - **Intra-project Cumulative Effects** (referred to as Combined Effects) are potential significant effects resulting from the interaction of a combination of different residual environmental effects, which on their own are not significant, but could combine with

other environmental aspects to create a significant effect on a receptor. For example, visual and noise effects during construction affecting users of a nearby Public Rights of Way would be assessed in the Health and Wellbeing chapter.

28.1.7 This chapter should be read in conjunction with:

- **Volume 1, Part 2, Chapter 6: Biodiversity to Chapter 16: Health and Wellbeing;** and
- **Volume 1, Part 3, Chapter 17: Designated Sites to Chapter 26: Marine Archaeology,** given the interface with other technical aspects.

28.1.8 This chapter is supported by the following appendices in **Volume 2** and figures in **Volume 3**:

- **Volume 2 Appendices:**
 - **Part 4, Appendix 4.28.A: Cumulative Long List of Other Developments.**
- **Volume 3 Figures:**
 - **Part 4, Figure 28-1: English Onshore Scheme Cumulative Long List of Other Developments;**
 - **Part 4, Figure 28-2: English Onshore Scheme Cumulative Short List of Other Developments;** and
 - **Part 4, Figure 28-3: English Offshore Scheme Cumulative Long and Short List of Other Developments.**

28.2 Relevant Technical Guidance

28.2.1 The legislation and planning policy that informed the assessment of effects with respect to Cumulative Effects is provided within **Volume 2, Part 1, Appendix 1.2.A: Regulatory and Planning Context**. Further information on policies relevant to the English Onshore Scheme is provided in **Volume 1, Part 1, Chapter 2: Regulatory and Policy Overview**. Relevant technical guidance, specific to the assessment of Cumulative Effects, that has informed this Preliminary Environmental Information Report (PEIR) and will inform the assessment within the ES is summarised below.

Technical guidance

28.2.2 A summary of technical guidance documents relevant to the scope of Cumulative Effects, which has informed this PEIR and will inform the assessment within the ES, is provided in **Table 28-1**.

Table 28-1 - Technical guidance relevant to the Assessment of Cumulative Effects

Technical guidance document	Context
Demystifying Cumulative Effects, Impact Assessment Outlook Journal 2020 (Ref 28.2);	The EIA process requires the consideration of Cumulative Effects to be undertaken. However, guidance on this area of practice is often lacking, and a variety of methodologies are adopted by different practitioners. Volume 7 of the Impact Assessment Outlook Journal brings together a selection of articles, thought, and opinion pieces on Cumulative Effects in EIA.
Planning Inspectorate Nationally Significant Infrastructure projects: Advice on Cumulative Effects Assessment (2024) (Ref 28.3);	This guidance identifies the nature of planning applications (referred to as 'Other Developments') that should be considered in a Cumulative Effects Assessment. It advises that a pragmatic approach should be used, in respect of what is feasible, reasonable and where there is a lack of information to identify impacts and assess effects. The guidance specifies that statutory definitions of EIA screening thresholds can be of assistance when considering whether the temporal scope and scale, and nature of the Other Developments identified in the Zone of Influence (Zol) are likely to interact with the Projects and result in a Cumulative Effect.
A Strategic Framework for Scoping Cumulative Effects (2014) (Ref 28.4).	This guidance from the Marine Management Organisation provides a high-level approach to scoping Cumulative Effects in the marine environment. It has partly been superseded by Planning Inspectorate Advice on Cumulative Effects Assessment (2024), but still provides a framework which can be of assistance when considering Cumulative Effects in the marine environment.

28.3 Consultation and engagement

Overview

28.3.1 The assessment has been informed by consultation responses and ongoing stakeholder engagement. An overview of the approach to consultation is provided in **Volume 1, Part 1, Chapter 5: PEIR Approach and Methodology**.

EIA Scoping Opinion

- 28.3.2 An EIA Scoping Opinion was adopted by the Secretary of State, administered by the Planning Inspectorate, on 05 September 2024. A summary of the relevant responses received in the Scoping Opinion in relation to **Volume 1, Part 4, Chapter 28: Cumulative Effects** and confirmation of how these have been addressed within the assessment to date is presented in **Table 28-2**.
- 28.3.3 The information provided in the PEIR is preliminary, and not all of the Scoping Opinion comments have been addressed at this stage, however, all comments will be addressed within the ES.

Table 28-2 - Summary of the Planning Inspectorate's EIA Scoping Opinion responses relating to Cumulative Effects Assessment

Consultee	Consideration	How addressed in this PEIR
Planning Inspectorate	Whilst the Scoping Report clearly lists in each aspect chapter, those aspects which interact, there is little discussion in relation to how the EIA will assess the in-combination effect of multiple effects on a receptor. The EIA should include such an assessment.	The methodology for assessing potential In-combination effects (defined in this chapter as combined effects) is provided in Section 28.5 of this chapter. A detailed assessment of potential combined effects will be provided as part of the ES.
Planning Inspectorate	<p>The Scoping Report details, in section 1.4, that the whole development comprises 4 projects (English offshore and onshore, Scottish onshore and offshore). Where the ES assesses cumulative and in combination effects, the ES should consider the potential for these projects to be developed sequentially or concurrently and the potential for this to result in differing cumulative or in-combination effects dependent on the construction order.</p> <p>The ES should also clearly define whether it has considered EGL 3 and EGL 4 as being constructed separately or concurrently, and therefore whether they are considered as one or 2 projects.</p>	<p>As identified in Volume 1, Part 1, Chapter 1: Introduction, the Projects assessed as part of this PEIR include the English Onshore Scheme and the English Offshore Scheme. Where the construction crosses from one jurisdiction to the next e.g. English to Scottish waters, there will be a continuation of effects along the linear project. These effects will be limited in spatial extent in proximity to the jurisdictional boundary. Similarly, the English Offshore Scheme lies wholly in UK waters. Separate applications will be submitted to the relevant Statutory Authority for the Scottish Schemes. Where the English and Scottish Schemes meet, collaborative environmental assessments will ensure impacts are fully assessed. As outlined in the Planning Inspectorate's Advice Note Twelve (Ref 28.5) the screening process for transboundary effects will be carried out by the Planning Inspectorate. Information to inform this screening assessment will be provided as part of the application for the DCO. The potential for cumulative and combined effects will continue to be considered and, where required, will be reported in the ES.</p> <p>As noted in Volume 1, Part 1, Chapter 1: Introduction, the EGL 3 Project and the EGL 4 Project (termed collectively 'the Projects') are two separate projects; however, in England, they will be part of the same Development Consent Order (DCO) application. For</p>

Consultee	Consideration	How addressed in this PEIR
		<p>the purposes of the EIA and to allow for a reasonable worst case construction scenario to be assessed, the Projects will be assessed together, and a detailed assessment will be presented at the ES stage. In addition, it is recognised in Volume 1, Part 1, Chapter 4: Description of the Projects, that as the Projects have different construction contracts, there would be the potential for different construction timelines. However, there is no scenario where all elements for one project would be completed, a period of no activity would occur, and then the other project would start construction. The construction programmes for the Projects will continue to be reviewed and will be reported as appropriate in the ES. In addition, this PEIR does not present an assessment scenario whereby only one project is developed, as this does not align with the Projects Need Case.</p>
Planning Inspectorate	<p>Requirement for Cumulative Effects to consider offshore receptors. The Scoping Report refers only to the onshore chapters as being relevant to the Cumulative Effects Assessment. The ES must include an assessment of cumulative (inter and intra project) impacts on the offshore receptors, scoped into the ES.</p>	<p>Noted. This has been addressed at PEIR stage with Onshore and Offshore receptors both considered within this chapter. The Cumulative Effects Assessment is considered a project wide chapter and will cover both Onshore and Offshore aspects in the ES.</p>
Planning Inspectorate	<p>Criteria for inclusion of Town and Country Planning Act (TCPA) Developments.</p> <p>The Scoping Report does not contain a legible reference to the criteria used to determine whether TCPA applications would be included, and as such, the criteria are not considered to be listed. The ES should present the criteria used and a justification for this.</p> <p>The ES should also consider other schedule 2 development other than those in category 10 (B).</p>	<p>The methodology for assessing cumulative effects and identifying 'Other Developments' for consideration and assessment is provided in Section 28.4 of this chapter. This includes appropriate criteria for considering developments under TCPA 1990.</p>

Technical Engagement

28.3.4 In advance of the ES, engagement would be undertaken with the following key stakeholders relevant to Cumulative Effects. The long list of 'Other Development' provided in **Volume 2, Part 4, Appendix 4.28.A Cumulative Long List of Other Developments** (in accordance with Stage 1 of the Planning Inspectorate Advice on Cumulative Effects Assessment), will be sent to the relevant local planning authority(ies) for their comment. Agreement will be sought prior to progressing the Cumulative Effects Assessment. The key stakeholders include:

- Lincolnshire County Council;
- Norfolk County Council;
- Cambridgeshire County Council;
- East Lindsey District Council;
- Boston Borough Council;
- South Holland District Council;
- Borough Council of King's Lynn & West Norfolk;
- Fenland District Council; and
- Marine Management Organisation.

28.4 Cumulative Effects

Study Area

28.4.1 The study area for inter-project effects comprises a number of Zols. A Zol is the geographic area within which a project is likely to affect environmental receptors. As such, the Zol will vary for different types of receptors. The Zol used for the PEIR is based on relevant distances (according to the individual environmental topics) extending from the draft Order Limits. The Zols for each environmental topic are listed in **Table 28-4** below.

Methodology Overview

28.4.2 There is no widely accepted methodology or best practice for assessing Cumulative Effects, but various guidance documents, including the Planning Inspectorate Advice on Cumulative Effects Assessment, will inform the approach to the Cumulative Effects Assessment. This approach will make use of professional judgement, considering the specific receptors and project characteristics.

28.4.3 The assessment will primarily be qualitative based on the available information. Where feasible, partially quantitative assessments such as traffic-related effects may be conducted. In cases lacking information, assumptions will be made using reasonable worst-case scenario based on professional judgment. All assumptions and uncertainties will be clearly stated as part of the Cumulative Effects assessment presented at ES.

28.4.4 **Table 28-3** provides a summary of the Cumulative Effects Assessment stages. For the purposes of this PEIR, Stage 1 and 2 have been completed to facilitate agreement on the shortlist of 'Other Development' to be taken forward for assessment in the ES. Once

this list is finalised, Stages 3 and 4 will be completed, with a detailed Cumulative Effects Assessment included as part of the ES.

Table 28-3 - Summary of Planning Inspectorate Advice on Cumulative Effects Assessment process summary

Stage	Description
Stage 1: Establishing the Long List of other existing and, or approved development	Each environmental aspect assessment included in the ES will have a Zol within which the potential for Cumulative Effects will be considered. These have been established through desk studies and modelling. A desk study of planning applications, development plans and frameworks and other available sources will be completed within this Zol to form a long list of 'Other Development'. The Zol is measured from the draft Order Limits of the Projects. This has been completed for the PEIR.
Stage 2: Establishing a shortlist of other existing and, or approved development	Professional judgement from technical specialists will refine the long list of 'Other Development' to identify those that could give rise to a significant effect cumulatively with the Projects. This will be completed in consultation with relevant stakeholders and form the shortlist of 'Other Development' to be assessed. This has been completed for the PEIR.
Stage 3: Information Gathering	Information will be gathered on the 'Other Development' in the shortlist to inform the assessment. This is to be completed for the ES.
Stage 4: Assessment	Each of the environmental aspects will complete an assessment of the relevant 'Other Development' in the shortlist within their Zol. This is to be completed for the ES.

Stage 1: Identifying the Projects Zol and establishing the Long List of 'other existing and, or approved development'

Identifying the Zone of Influence

- 28.4.5 To establish the long list of 'Other Development', the Zol for each of the environmental aspects has been established through expert opinion and reference to accepted industry guidance and standards relevant to the environmental discipline. **Table 28-4** provides a summary of each Zol. The Zol may be refined as the Projects move forward, for example, to consider updates to the Zone of Theoretical Visibility (ZTV), which will provide a more accurate reflection of the visibility of the Projects and its components in relation to 'Other Development'. Feedback on the Zols from consultees during statutory consultation will be considered in the detailed Cumulative Effects Assessment in the ES.
- 28.4.6 Planning Inspectorate Advice on Cumulative Effects Assessment acknowledges that certain assessments, such as transport and associated operational assessments of vehicular emissions (including Air Quality and Noise), may inherently be cumulative assessments. This is because they may incorporate modelled traffic data growth for future traffic flows. Therefore, only proposed developments within the Affected Road Network (ARN) and the immediate surroundings will be considered as part of the

Cumulative Effects Assessment for traffic and transport. This position will be kept under review if any new 'Other Development' is identified that has potential to exceed the previous worst-case assumptions based on growth data (for example, not previously included in modelled forecasts).

- 28.4.7 With regard to English Onshore Scheme ecology and ornithology, a 30 km study area was applied to identify Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) for certain species of birds and bats. The assessment has not identified any sites with potential effects within this study area. As such, the 30 km study area has not been used to define the cumulative Zol as this would be unrealistic in relation to the potential for likely cumulative effects. Instead, 10 km from the draft Order Limits was adopted to identify the long list of other developments. This distance is also deemed appropriate to capture developments that may result in cumulative effects for topics that have more bespoke study areas, such as Traffic and Transport and Socio-economics.
- 28.4.8 For the English Offshore Scheme, an initial study area of 15 km was selected to identify major developments for the long list. This was then refined using the maximum Zol identified for each physical and ecological receptor to provide the short-list. It was deemed appropriate to also apply these Zols as a buffer to Designated Sites (as assessed in **Volume 1, Part 3, Chapter 17: Designated Sites**) which the English Offshore Scheme crosses to ensure that other developments which lay outside of these Designated Sites but could interact with the Protected Features would be included in the long-list. Professional judgement was also used to select other developments within the Designated Sites crossed by the English Offshore Scheme.
- 28.4.9 For commercial fisheries and shipping, although these Zols are useful in determining the potential for spatial overlap between potential cumulative effects they cannot be used to define a study area. This is because fishing grounds span a much wider area than the typical Zol. Minor residual effects in more than one area of the grounds could lead to potential significant effects on the fishery; similarly, for shipping the study area needs to be wider. It is therefore considered appropriate to extend the Zol to include the entire area from the coastal baseline out to the Exclusive Economic Zone (EEZ) between Bridlington and The Wash. This is believed to be the extent of the grounds used by the local fishermen who also fish within the English Offshore Scheme and therefore represents the area that they could move into if disrupted by the Projects.

Table 28-4 - Environmental aspects Cumulative Effects Assessment Zol

Environmental Aspect	Spatial Zol (Distance from draft Order Limits)	Justification and Scope
English Onshore Scheme Aspects		
Landscape and Visual Amenity	3 km	Reflects the likely maximum geographical extent for significant Landscape and Visual Impact Assessment (LVIA) effects arising from 'Other Development' that may overlap with the English Onshore Scheme.
Historic Environment	5 km	Reflects the likely maximum geographical extent for significant effects arising from 'Other Development' that may overlap with the English Onshore Scheme.

Environmental Aspect	Spatial Zol (Distance from draft Order Limits)	Justification and Scope
Biodiversity	10 km	Internationally designated sites (SPA/SAC/Ramsar)
	3 km	Other non-designated sites (excluding bats)
	2 km	Other species/habitats
Hydrology	1 km	The likely maximum spatial extent of effects on common water environment receptors and the land drainage regime.
Geology and Hydrogeology	1.5 km	Reasonable maximum extent over which the Projects could potentially contribute to Cumulative Effects, considering the nature of the development activities associated with the Projects.
Agriculture and Soils	2 km	Whilst direct effects on agricultural land (and associated agricultural enterprises) and soils within the boundary of the Proposed Developments will be assessed, cumulative effects up to 2 km from the boundary of the Proposed Developments will be assessed to identify if there are other potential temporary effects which may occur in the same time period.
Air Quality	250 m	Dust emissions – spatial scope identified in line with Institute of Air Quality Management (IAQM) guidance on dust assessment (Ref 28.6).
	200 m	Construction/operational phase vehicle tailpipe and brake emissions- - For changes in local air quality during construction: 200 m from roads affected by changes in traffic during construction (the ARN). - For changes in local air quality during operation: 200 m from roads within the affected road network.
Noise and Vibration	1 km	1 km from proposed construction sites to enable assessment in accordance with BS 4142 (Ref 28.7), based on guidance contained within ISO 9613-2.
Health and Wellbeing	2 km (maximum extent)	As the assessment of health effects is based on the assessment of other aspects (landscape and visual, noise, air quality, hydrology and socioeconomics) the Zol is based on other environmental aspect Zols.
Socio-economics	2 km (maximum extent)	The likely maximum geographical extent for significant effects to socio-economic, recreation and tourism receptors which may arise from temporary construction works and associated temporary works. This is based on other environmental Zols and potential effects that may affect socio-economic receptors.

Environmental Aspect	Spatial Zol (Distance from draft Order Limits)	Justification and Scope
Transport	ARN	<p>The ARN / study area will include the roads where a change in traffic flows during construction or operation exceeds the following thresholds:</p> <ul style="list-style-type: none"> • Rule 1 - Include highway links where traffic flows (or heavy goods vehicles (HGV) flows) are predicted to increase by more than 30%; and • Rule 2 - Include any other specifically sensitive areas where traffic flows (or HGV flows) are predicted to increase by 10% or more <p>The extent of the ARN/ study area to be assessed will be agreed with the Local Highway Authorities.</p>
English Offshore Scheme Aspects		
Coastal and Marine Physical Processes	2 km	The likely maximum extent of sediment deposition. Whilst it is acknowledged that fine suspended sediment particles will travel further, they will be within natural background levels past 2 km.
Intertidal and Benthic Ecology		
Marine Ornithology	4 km	Visual displacement for divers
Fish and Shellfish	5 km	<p>The maximum Zol for underwater noise from geophysical survey (as defined by Joint Nature Conservation Committee (JNCC) - Ref 28.8). Whilst this Zol relates to harbour porpoise it has been used as a proxy for other noise sensitive species.</p> <p>It should be noted that a cumulative effects assessment would not be considered for Unexploded Ordnance (UXO) clearance. This would not be consented under the DCO; a separate Marine Licence would be applied for, with accompanying environmental assessments.</p>
Marine Mammals		
Commercial fish	From coastal baseline to EEZ from Bridlington to The Wash	Reflects the maximum extent over which displacement of socio-economic receptors could be experienced as described in Paragraph 28.4.9 above.
Shipping & Nav		

Exclusion of Greenhouse Gas assessment from Cumulative Effects Assessment and Zol

28.4.10 The current IEMA Greenhouse Gas (GHG) (Ref 28.9) assessment guidance states “*All global cumulative GHG sources are relevant to the effect on climate change, and this should be taken into account in defining the receptor (the atmospheric concentration of GHGs) as being of ‘high’ sensitivity to further emissions. Effects of GHG emissions from specific cumulative projects therefore in general should not be individually assessed, as there is no basis for selecting any particular (or more than one) cumulative project that has GHG emissions for assessment over any other.*”

28.4.11 Based on the above, it is recognised that the location of the emission source is not relevant to the impact arising from GHGs and there is no difference in the impact on the global climate for a tCO₂e (tonnes CO₂ equivalent) emitted at one location compared to the same mass emitted anywhere on the planet. Therefore, it is not meaningful to carry out a cumulative assessment of the Projects alongside other developments within a specific geographical area. In addition, it is not feasible to assess ‘cumulative effects’ with regards to climate change risk, as the effects of climate change are not contained within a project boundary. A cumulative assessment is therefore not meaningful and not presented for this topic area.

Development tiers and criteria for identifying ‘other existing and, or approved developments’

28.4.12 To identify a preliminary long list of other developments at Stage 1, the following development types were considered:

- Nationally Significant Infrastructure Projects (NSIPs) listed on the Planning Inspectorate’s Programme of Projects;
- Major developments (as defined under the Town and Country Planning (Development Management Procedure) (England) Order (2015) (Ref 28.10), as amended; and
- Sites allocated in relevant Local Development Plans.

28.4.13 Minor planning applications have been excluded from the assessment, as these relate to developments of small scale and local importance. These developments are highly unlikely to give rise to significant cumulative environmental effects over and above the project in isolation.

28.4.14 Planning Inspectorate Advice on Cumulative Effects Assessment acknowledges that the approach to defining which ‘Other Development’ to include in the assessment depends on the availability of information. This will partly depend on the status of the relevant ‘Other Development’. Therefore, the advice groups ‘Other Development’ into tiers, which reflect the likely degree of certainty attached to each development occurring, with Tier 1 being the most certain and Tier 3 the least certain. The criteria associated with the three Tiers is set out in **Table 28-5**.

Table 28-5 - Development tiers for identifying ‘Other Development’

Hierarchy	Proposed Criteria for Identifying ‘Other Development’	
Tier 1	<ul style="list-style-type: none"> • Under construction; • Permitted application(s), where the project is classified as ‘major development’, whether under the Planning Act 2008 or other consent regimes, but not yet implemented; • Submitted application(s), where the project is classified as ‘major development’, whether under the Planning Act 2008 or other consent regimes, but not yet determined; • Submitted marine licence application(s) on the Marine Case Management System (MCMS) public register where the project includes cable works, dredging or seabed deposits; • Submitted marine licence exemptions on the MCMS public register where the project includes geophysical survey (specifically sub-bottom profiler); and • All refusals subject to appeal procedures not yet determined. 	A decreasing level of detail is likely to be available from Tier 1 to Tier 3.
Tier 2	Projects on the Planning Inspectorate’s Programme of Projects or MCMS public register, and/or the relevant local planning authorities planning portal where the project is classified as ‘major development’, and a scoping report has been submitted.	
Tier 3	<ul style="list-style-type: none"> • Projects on the Planning Inspectorate’s Programme of Projects or MCMS public register, and/or the subject of pre-application discussion with a relevant Local Planning Authority (LPA), where a scoping report has not been submitted. Projects registered on the local planning authority’s portal classed as major development but do not require EIA; • Identified in the relevant Development Plan (and emerging Development Plans - with appropriate weight being given as they move closer to adoption) recognising that much information on any relevant proposals will be limited; and • Identified in other plans and programmes (as appropriate) which set the framework for future development consents/approvals, where such development is reasonably likely to come forward. 	

28.4.15 The following criteria builds upon the criteria set out in **Table 28-5** and defines the temporal scope of 'Other Developments' ahead of inclusion in the long list:

- the development is under construction but is not yet completed;
- the development has been permitted within the last five years but is yet to be constructed/implemented. Five years is selected as planning permissions typically expire after a period of three to five years (unless an application for extension is permitted), and there are no made development consent orders which apply within the Zol area. For the PEIR, consideration has been given to the period February 2020 to 14 February 2025; the long list will be reviewed prior to the DCO submission, and any additional Tier 1 to 3 developments will be included in the ES as appropriate; and
- submitted application(s) for a development that are yet determined, or refused, but are subject to appeal procedures not yet determined. Rejected and withdrawn planning applications have not been progressed to Stage 2 on the assumption that planning approval would not be pursued further. However, any successful appeals or new planning applications brought forward will be assessed in the ES, where applicable.

28.4.16 Information on 'Other Development' has been gathered from the following sources:

- Local authority planning portals;
- Relevant Local Plans;
- Planning Inspectorate's programme of projects;
- MCMS Public Register;
- Offshore Petroleum Regulator for Environment and Decommissioning Portal Environmental Tracking System Applications; and
- Developer / project websites, where available.

28.4.17 The long list of cumulative development is presented within **Volume 2, Part 4, Appendix 4.28.A: Cumulative Long List of Other Developments** and shown in **Volume 3, Part 4, Figure 28-1: English Onshore Scheme Cumulative Long List of Other Developments**. This represents the baseline for cumulative assessment at this PEIR stage. The information is captured in a template based on Matrix 1 of the Planning Inspectorate's advice on Cumulative Effects Assessment (Ref 28.3) as a basis.

28.4.18 The cutoff date for adding any further developments to the long list at the PEIR stage was 14 February 2025. Updates to the long list will be made before completing the ES, with new developments added as they are submitted to planning portals. The final cut-off date for these additions will be two months prior to the Projects' application submission to enable the assessment to be concluded. In addition, the updated long-list will be screened for any further developments to be added to the shortlist progressed at **Stage 2: Shortlist of 'other existing and, or approved development'**.

Stage 2: Shortlist of 'other existing and, or approved development'

28.4.19 In accordance with the Planning Inspectorate Advice on Cumulative Effects Assessment after Stage 1, threshold criteria should be applied to the long list to establish a proportionate shortlist for the next assessment stage. Professional judgement was used to identify whether potential Cumulative Effects were likely to be significant (positive or negative). Only potential significant effects were taken forward to the next stage of assessment.

28.4.20 The following inclusion / exclusion criteria was used for the assessment:

- The scale and nature of 'Other Development': In accordance with the Planning Inspectorate Advice on Cumulative Effects Assessment statutory definitions of major development and EIA screening thresholds may be of assistance when considering the scale and nature of the other existing and, or approved developments identified in the Zol. Development identified as Schedule 1 and 2 developments in the EIA Regulations have been considered further. Developments not identified as Schedule 1 or 2 developments have been scoped out of the assessment, except where it was considered that potential significant environmental effects may arise in combination with the Project. An example of this might be offshore geophysical surveys.
- The temporal scope of 'Other Development': Information about other developments including proposed programme of consenting, construction, operation and decommissioning to determine whether there is overlap and any potential for interaction with the Projects has been captured where possible. Where the construction of 'Other Development' are expected to be completed before construction of the Projects commences, and the effects of those projects are fully determined, effects arising from them are considered as part of the future baseline within individual aspect chapters rather than as part of the cumulative effects assessment. The 'Other Development' which have been considered as future baseline are set out in **Volume 2, Part 4, Appendix 4.28.A: Cumulative Long List of Other Developments**.
- Any other relevant factors: This considered whether any other factors, such as the sensitivity of the receiving environment or uncertainty in the potential effects merit further assessment of the potential Cumulative Effects. Professional judgement was used to avoid excluding 'Other Developments' close to the threshold limits but with characteristics likely to give rise to a significant effect; or which could give rise to a Cumulative Effect by virtue of its proximity to the Project. Similarly, professional judgement was applied where 'Other Development' were considered to not give rise to discernible effects.
- Consultation: Requests from relevant stakeholders for the inclusion of specific projects and / or plans within the Cumulative Effects Assessment have been considered.

28.4.21 At this stage, a total of 31 developments for the English Onshore Scheme and 14 developments for the English Offshore Scheme have been taken forward to the shortlist for further assessment, as there is potential for them to have Cumulative Effects with the Projects. A full assessment (Stages 3 and 4) will be undertaken as part of the Cumulative Effects Assessment at the ES stage. This assessment will require a review of EIA documents available for each of the 'Other Development' to understand the residual effects that could contribute to a Cumulative Effect with the Projects.

28.4.22 **Table 28-6** sets out the shortlist of ‘Other Development’ which will be taken forward into the assessment for the ES and identifies at this PEIR stage for which aspects there could be significant effects. The location of ‘Other Developments’ to be taken forward into the assessment are shown on **Volume 3, Part 4, Figure 28-2: English Onshore Scheme Cumulative Short List of Other Developments** and **Volume 3, Part 4, Figure 28-3: English Offshore Scheme Cumulative Long and Short List of Other Developments**.

Table 28-6 - Shortlisted projects for Cumulative Effects Assessment

ID	Application Reference	Status	Tier	Local Authority	Location and distance from draft Order Limits	Aspects with Potential for Significant Cumulative Effects
English Onshore Scheme						
1	EN020036 – NGET, Grimsby to Walpole	Pre-application	1	Boston Borough Council, South Holland District Council, North East Lincolnshire Council, Lincolnshire County Council, West Lindsey District Council, East Lindsey District Council, Fenland District Council and King's Lynn and West Norfolk District Council	Walpole, Within draft Order Limits	All English Onshore Scheme aspects reported in Part 2 of this PEIR
2	EN0210006 - Ossian Offshore Wind Farm Ltd, Ossian Transmission Infrastructure	Pre-application	1	Lincolnshire County Council	Lincolnshire, Within draft Order Limits	All English Onshore Scheme aspects reported in Part 2 of this PEIR
3	EN010169 - Meridian Solar Farm Ltd, North of Peterborough, 2km NE of Crowland, 6km S of Spalding, 9km NW of Wisbech	Pre-application	1	South Holland District Council	Northwest of Wisbech, 3.2km	Biodiversity, Landscape and Visual Amenity, Agriculture and Soils and Air Quality
4	EN010110 - Medworth CHP Limited - Medworth Energy from Waste Combined Heat and Power Facility	Post-decision	1	Fenland District Council, Cambridgeshire County Council	Wisbech, 4.2 km	Biodiversity and Landscape and Visual Amenity

ID	Application Reference	Status	Tier	Local Authority	Location and distance from draft Order Limits	Aspects with Potential for Significant Cumulative Effects
5	EN010123 - Ecotricity (Heck Fen Solar) Ltd, Heckington Fen Solar Park	Decision	1	Boston Borough Council	Northwest of Swineshead, 1.2 km	Biodiversity and Landscape and Visual Amenity
6	EN010095 - Alternative Use Boston Projects Limited - Boston Alternative Energy Facility	Approved	1	Boston Borough Council	Boston, 3.9 km	Biodiversity, Landscape and Visual Amenity and Traffic and Transport
7	EN010151 - Beacon Fen Energy Park Ltd, Beacon Fen Energy Park	Pre-application	2	Boston Borough Council, South Holland District Council	West of Swineshead, 2 km	Biodiversity, Landscape and Visual Amenity and Agriculture and Soils
8	Lincolnshire Reservoir (Anglian Water and Cambridge Water), 2km north of Chatteris	Pre-application	3	Lincolnshire County Council	Southwest of Sleaford, between the settlements of Swaton, Screddington and Helpringham, Within draft Order Limits	Biodiversity, Landscape and Visual Amenity, Water, Agriculture and Soils, Noise and Vibration, Air Quality and Health and Wellbeing
9	Eastern Green Link (EGL) 5	Pre-application	3	East Lindsay District Council	Huttoft, Within draft Order Limits	All English Onshore Scheme aspects reported in Part 2 of this PEIR
10	EN010130 – Outer Dowsing Offshore Wind (Generating Station)	Recommendation	1	Lincolnshire County Council	Lincolnshire, Within draft Order Limits	All English Onshore Scheme aspects reported in Part 2 of this PEIR
11	PL/0081/24 - Welton Aggregates Ltd - Land northwest of Highfield Quarry, Bluestone Heath	Approved	1	Lincolnshire County Council	Northwest of Welton le Marsh, 1.95km	Biodiversity, Landscape and Visual Amenity, Water, Agriculture and Soils

ID	Application Reference	Status	Tier	Local Authority	Location and distance from draft Order Limits	Aspects with Potential for Significant Cumulative Effects
	Road, Welton le Marsh, PE23 5					
17	S/152/01297/22 - Pathfinder Clean Energy UKDev Ltd – Land west of Mallows Lane and north of Pymoor Lane, Main road, Sibsey	Approved	1	East Lindsey District Council	North of Sibsey, 0.37 km	Biodiversity, Landscape and Visual Amenity, Agriculture and Soils and Traffic and Transport
21	N/016/01312/24 – Land east of Ivy House Farm, Farlesthorpe Road, Bilsby	Awaiting determination	1	East Lindsey District Council	West of Thurlby, 1.21 km	Biodiversity, Landscape and Visual Amenity, Agriculture and Soils and Noise and Vibration
26	B/24/0265 - Boardsides, Boston: Exemption application under the Electricity Act 1989	Approved	1	Boston Borough Council	Northwest of Boston, 1.33 km	Biodiversity, Agriculture and Soils and Traffic and Transport
31	B/24/0452 - Land off Station Road, Swineshead, Boston	Awaiting determination	1	Boston Borough Council	North of Swineshead, 1.93 km	Biodiversity, Landscape and Visual Amenity, Agriculture and Soils, Traffic and Transport, Noise and Vibration, Air Quality, Socio-economics and Health and Wellbeing
35	H-18-0741-21 (Appeal Ref: APP/A2525/W/22/3295140) Gunthorpe Road Solar Farm, Land South of Gunthorpe Road, Walpole Marsh, Wisbech	Appeal allowed	1	South Holland District Council	North of Walpole Marsh, Within draft Order Limits	All English Onshore Scheme aspects reported in Part 2 of this PEIR

ID	Application Reference	Status	Tier	Local Authority	Location and distance from draft Order Limits	Aspects with Potential for Significant Cumulative Effects
36	H09-0287-24 - Land off Damgate Holbeach Spalding PE12 7BH	Approved	1	South Holland District Council	Holbeach, 0.59 km	Biodiversity, Landscape and Visual Amenity, Agriculture and Soils, Traffic and Transport, Noise and Vibration, Air Quality, Socio-economics and Health and Wellbeing
38	H18-1077-24 - Sutton Bridge Solar Farm, Land to the South of Centenary Way Sutton Bridge PE12 9TF	Awaiting determination	1	South Holland District Council	South of Sutton Bridge, 0.01 km	Biodiversity, Landscape and Visual Amenity, Agriculture and Soils, Traffic and Transport, Noise and Vibration, Air Quality, Health and Wellbeing
39	H18-1126-20 - Land to the South of Centenary Way Sutton Bridge Spalding PE12 9TF	Decision	1	South Holland District Council	South of Sutton Bridge, Within draft Order Limits	Biodiversity, Landscape and Visual Amenity, Agriculture and Soils and Traffic and Transport
41	24/01103/FM - Land at E548247 N316587, Walpole Bank, Walpole St Andrew, Norfolk	Awaiting determination	1	Borough Council of King's Lynn & West Norfolk	West of Walpole St Andrew, Within draft Order Limits	Biodiversity, Cultural Heritage, Landscape and Visual Amenity, Water, Agriculture and Soils, Traffic and Transport, Noise and Vibration, Air Quality and Health and Wellbeing
42	22/01616/FM - Land at Rose Hall Farm Walpole Bank Walpole St Andrew Wisbech Norfolk PE14 7JD	Approved	1	Borough Council of King's Lynn & West Norfolk	West of Walpole St Peter, Within draft Order Limits	Biodiversity, Cultural Heritage, Landscape and Visual Amenity, Water, Agriculture and Soils, Traffic and Transport, Noise and

ID	Application Reference	Status	Tier	Local Authority	Location and distance from draft Order Limits	Aspects with Potential for Significant Cumulative Effects
						Vibration and Health and Wellbeing
43	24/01275/FM - Land E548887 N317051, NE of White House Farm, Frenchs Road, Walpole St Andrew, Norfolk	Awaiting determination	1	Borough Council of King's Lynn & West Norfolk	West of Walpole St Andrew, Within 0.5 km	Biodiversity, Landscape and Visual Amenity, Water, Agriculture and Soils, Traffic and Transport, Noise and Vibration, Air Quality and Health and Wellbeing
45	22/02021/FM - Land Opposite Walpole Sub Station, Walpole Bank, Walpole St Andrew, Norfolk	Approved	1	Borough Council of King's Lynn & West Norfolk	West of Walpole St Andrew, Within draft Order Limits	Biodiversity, Landscape and Visual Amenity, Water, Agriculture and Soils, Traffic and Transport, Noise and Vibration and Health and Wellbeing
46	22/02265/FM - Land Opposite Walpole Sub Station, Walpole Bank, Walpole St Andrew, Norfolk	Approved	1	Borough Council of King's Lynn & West Norfolk	West of Walpole St Andrew, 0.3 km	Biodiversity, Landscape and Visual Amenity, Water, Agriculture and Soils, Traffic and Transport, Noise and Vibration and Health and Wellbeing
47	22/00438/FM - Land Opposite Walpole Sub Station, Walpole Bank, Walpole St Andrew, Norfolk	Approved	1	Borough Council of King's Lynn & West Norfolk	West of Walpole St Andrew, 0.25 km	Biodiversity, Landscape and Visual Amenity, Water, Agriculture and Soils, Traffic and Transport, Noise and Vibration, Air Quality and Health and Wellbeing
49	21/01803/FM - Land SE Down Track from Westmoor, West Drove	Approved	1	Borough Council of King's Lynn & West Norfolk	Southwest of Walpole St Peter, 0.33 km	Biodiversity, Landscape and Visual Amenity, Agriculture and Soils, Traffic and

ID	Application Reference	Status	Tier	Local Authority	Location and distance from draft Order Limits	Aspects with Potential for Significant Cumulative Effects
	North, Walpole St Peter, Wisbech, Norfolk, PE14 7HU					Transport and Noise and Vibration
50	22/00091/FM - Land Southeast of Walpole Sub Station Walpole Bank Walpole St Andrew Norfolk	Approved	1	Borough Council of King's Lynn & West Norfolk	West of Walpole St Andrew, Within draft Order Limits	Biodiversity, Landscape and Visual Amenity, Water, Agriculture and Soils, Traffic and Transport, Noise and Vibration, Air Quality and Health and Wellbeing
51	24/01766/S37 - Mill Bank, Walpole Highway, Norfolk, PE14 7RA	Awaiting determination	1	Borough Council of King's Lynn & West Norfolk	East of Walton Highway, 0.68 km*	Biodiversity, Landscape and visual Amenity, Agriculture and Soils, Traffic and Transport, Noise and Vibration, Air Quality and Health and Wellbeing
52	21/01715/FM - Model Farm, Frenchs Road, Walpole St Andrew, Wisbech, Norfolk PE14 7JF	Approved	1	Borough Council of King's Lynn & West Norfolk	West of Walpole St Andrew, Within draft Order Limits	Biodiversity, Landscape and Visual Amenity, Water, Agriculture and Soils, Traffic and Transport, Noise and Vibration and Health and Wellbeing
54	21/00623/RMM - Tamar Nurseries 201A School Road, West Walton, Wisbech, Norfolk, PE14 7DS	Approved	1	Borough Council of King's Lynn & West Norfolk	Northwest of Walton Highway, 0.1 km	Biodiversity, Landscape and Visual Amenity, Traffic and Transport and Noise and Vibration
55	20/01508/FM - Walpole Bank Solar Farm and Battery Storage	Approved	1	Borough Council of King's Lynn & West Norfolk	West of Walpole St Peter, Within draft Order Limits	All English Onshore Scheme aspects reported in Part 2 of this PEIR

*Distance based off postcode provided as a location plan is not yet publicly available.

ID	Application Reference and brief description	Status	Tier	Relevant Authority	Location, Distance and Direction from draft Order Limits	Aspects with Potential for Significant Cumulative Effects
English Offshore Scheme						
1	Outer Dowsing Offshore Wind (Generating Station)	Examination	1	Planning Inspectorate	765 m to the east of landfall and draft Order Limits	All English Offshore Scheme aspects reported in Part 3 of this PEIR.
2	MLA/2021/00392 - Saltfleet to Gibraltar Point Beach Management 2022 – 2031	Approved (Variation requested – in progress)	1	Marine Management Organisation (MMO)	draft Order Limits at landfall overlap with Marine Licence boundary	Coastal and Marine Physical Processes, Intertidal and Benthic Ecology, Benthic Ornithology, Shipping and Navigation, Other Marine Users
3	MLA/2024/00227 - Licence Area 1805 Marine aggregate licence application area	Submitted	1	MMO	2.6 km	All English Offshore Scheme aspects reported in Part 3 of this PEIR.

ID	Application Reference and brief description	Status	Tier	Relevant Authority	Location, Distance and Direction from draft Order Limits	Aspects with Potential for Significant Cumulative Effects
4	MLA/2022/00231 - Scotland to England Green Link 1	Approved	1	MMO	14.2 km	Commercial fisheries
5	MLA/2022/00273 - Eastern Green Link 2	Approved	1	MMO	Cable routes cross offshore	Fish and Shellfish, Marine Mammals, Commercial Fisheries
6	Hornsea Project Four Offshore Wind Farm	Approved	1	Planning Inspectorate	Cable routes cross offshore	All English Offshore Scheme aspects reported in Part 3 of this PEIR.
7	Dogger Bank D Offshore Wind Farm	Pre-application	2	Planning Inspectorate	Cable routes cross offshore	All English Offshore Scheme aspects reported in Part 3 of this PEIR.
8	Dogger Bank B OFTO	In construction	1	Planning Inspectorate	Cable routes cross offshore	All English Offshore Scheme aspects reported in Part 3 of this PEIR.

ID	Application Reference and brief description	Status	Tier	Relevant Authority	Location, Distance and Direction from draft Order Limits	Aspects with Potential for Significant Cumulative Effects
9	Dogger Bank C OFTO	In-construction	1	Planning Inspectorate	Cable routes cross offshore	All English Offshore Scheme aspects reported in Part 3 of this PEIR.
10	Dogger Bank Teesside A / Sofia Offshore Wind Farm (formerly known as Dogger Bank Teesside B) - Project previously known as Dogger Bank Teesside A&B	In construction	1	Planning Inspectorate	Cable routes cross offshore	All English Offshore Scheme aspects reported in Part 3 of this PEIR.
11	Dogger Bank South Offshore Wind Farms (comprises Dogger Bank South West and Dogger Bank South East)	Examination	1	Planning Inspectorate	Cable routes cross offshore	All English Offshore Scheme aspects reported in Part 3 of this PEIR.
12	Ossian Transmission Infrastructure	Pre-application	2	Planning Inspectorate	Appears that published scoping boundaries are within ZOI, but distance to be confirmed once further details are available	All English Offshore Scheme aspects reported in Part 3 of this PEIR.

ID	Application Reference and brief description	Status	Tier	Relevant Authority	Location, Distance and Direction from draft Order Limits	Aspects with Potential for Significant Cumulative Effects
13	Morven Hawthorne Pit Grid Connection Project	Pre-application	2	Planning Inspectorate	Appears that published scoping boundaries are within ZOI, but distance to be confirmed once further details are available	Fish and Shellfish, Marine Mammals, Commercial Fisheries
14	Rough Alpha Installation – 47/8A Decommissioning	Approved	1	OPRED	17.8 km (Within Holderness Offshore MCZ)	Intertidal and Benthic Ecology

Stage 3: Information gathering

28.4.23 Further information on the shortlisted developments will be gathered to inform **Stage 4: Assessment of Other Developments** of the Cumulative Effects Assessment from accessible third-party sources within the public domain. This includes:

- Proposed design and location information;
- Construction and operational timescales; and
- Results of any environmental assessments completed.

28.4.24 Output from **Stage 3: Information gathering** will be presented as part of the ES assessments. Details from the information gathering exercise will be tabulated in the format presented in Matrix 2 provided in Annex 2 of the Planning Inspectorate's Advice on Cumulative Effects Assessment (Ref 28.3).

Stage 4: Assessment of Other Developments

28.4.25 The assessment of 'Other Developments' will examine deviations from the baseline conditions at common receptor(s) for changes introduced by the Projects in conjunction within one or more 'Other Development' in the shortlist. This phase aligns with Stage 4 of the Planning Inspectorate Advice on Cumulative Effects Assessment (Ref 28.3).

28.4.26 The assessment will be based on residual effects identified in the technical aspect assessments of the ES, as well as available environmental information for 'Other Developments'. The results of the assessment will be documented and presented in Matrix 2 provided in Annex 2 of Planning Inspectorate Advice on Cumulative Effects Assessment (Ref 28.3).

28.4.27 The assessment of Cumulative Effects will consider the following:

- duration/extent/type of effect;
- frequency of the effect;
- value and resilience of the receptor affected; and
- likely success of mitigation.

28.4.28 By integrating the qualitative assessment outlined in the ES with environmental data accessible for 'Other Developments', conclusions will be reached regarding the probability of significant Cumulative Effects, i.e. those over and above, or different to, those identified for the Projects on their own.

28.4.29 Stage 4 of the assessment will be progressed and reported in the ES and will accord with the methodology presented in Planning Inspectorate Advice on Cumulative Effects Assessment (Ref 28.3). The assessment will be undertaken with information which is available at the time of assessment. Consequently, there may be information gaps for some of the 'Other Development' proposals. Where this occurs, such gaps will be discussed and acknowledged within the assessment.

28.4.30 All shortlisted Tier 1 and Tier 2 'Other Developments' will be assessed. The assessment for Tier 3 'Other Developments' will be high level in comparison to Tier 1 and 2, owing to the information which will be available.

Preliminary Assessment Key Assumptions and Limitations

28.4.31 The following limitations and assumptions have been identified:

- The assessment presented in this chapter is based on publicly available information obtained to date and is therefore limited by the level of information available. The assessment will be reviewed and updated prior to finalisation of the ES.
- There may be instances where 'Other Developments' screened into the shortlist provide information for some technical aspects but not for others. In such cases, the assessment for the respective 'Other Developments' may be limited to only those topics with sufficient information available. However, wherever feasible, attempts will be made to conduct an assessment based on available information, supplemented by assumptions and professional judgment. Such instances will be stated in the ES as appropriate.
- While information may be accessible for 'Other Developments', its compatibility may be limited due to differences in assessment methodologies or criteria used in the technical topic assessments. In cases where such discrepancies hinder or prevent the Cumulative Effects Assessment, it will be clearly stated in the ES.

Further assessment within the ES

28.4.32 As previously noted, Stages 1 and 2 have been completed for this PEIR. Stages 3 and 4 will be undertaken as part of the EIA once assessments are complete and presented in the Cumulative Effects chapter of the ES.

28.5 Combined Effects

Study Area

28.5.1 The Combined Effects study area is the same as that presented within each of the aspect chapters assessed in this PEIR.

Baseline Conditions

28.5.2 Each environmental aspect chapter provides a description of the current and future baseline conditions.

Methodology Overview

28.5.3 Paragraph 5(2)(e) of the EIA Regulations (2017) requires that the EIA consider the interaction of environmental effects associated with the Project. The Combined Effects assessment considers likely significant effects from multiple impacts and activities from the construction, operation and decommissioning of the Projects on the same receptor, or group of receptors.

28.5.4 Combined Effects can be the following:

- Project lifetime effects: i.e., those arising throughout more than one phase of the Project (construction, operation, and decommissioning) to interact to potentially create a more significant effect on a receptor than if just one phase were assessed in isolation.
- Receptor led effects: assessment of the scope for all effects to interact, spatially and temporally, to create inter-related effects on a receptor (or group). Receptor-led

effects might be short term, temporary or transient effects, or incorporate longer term effects.

- 28.5.5 There is no standard approach to the assessment of Combined Effects, although it should be carried out with reference to guidance and to professional judgement. The assessment of Combined Effects will be based on the information and study areas within the aspect chapters (**Volume 1, Part 2, Chapter 6: Biodiversity** to **Chapter 16: Health and Wellbeing** and **Volume 1, Part 3 Chapter 17: Designated Sites** to **Chapter 26: Marine Archaeology**). The methodology for assessing Combined Effects will encompass the following considerations.

Assessment approach

- 28.5.6 The methodology for assessing Combined Effects will encompass the following key stages:

Stage 1:

- 28.5.7 Common receptors for environmental aspects will be identified, and consideration given to whether the aspect effects on any common receptors are likely to combine. This will identify:
- the common receptor(s) from the individual aspect assessments (such as social features including local residents, communities, and businesses as well as environmental features such as a watercourse, a group of listed buildings or protected species);
 - the impact source pathways that can affect the common receptor(s); and
 - the potential spatial and temporal overlap of the common receptors identified.
- 28.5.8 Where the same receptor is identified in more than one chapter, this may indicate a spatial overlap of effects. Where impact source pathways and spatial and temporal overlaps exists, this indicates a potential Combined Effect.

Stage 2:

- 28.5.9 This stage will identify the significance each type of effect has on each receptor. Those receptors exposed to two or more types of effect, with a significance of effect greater than negligible, will be taken forward to the third stage. It should be noted that some elements of the preliminary assessment inherently consider Combined Effects. For example, the terrestrial ecology and nature conservation assessment of effects takes into account the potential for multiple impacts affecting particular features such as disturbance effects on faunal receptors resulting from noise and vibration, visual disturbance and lighting. Where this is the case, this is described within the individual aspect chapter and will not be considered further.

Stage 3:

- 28.5.10 The final stage includes the main combined assessment, considering if the combination of effects is likely to lead to significant effects on the receptor being considered. This assumes that all environmental measures (design measures and control and management measures) as outlined in each environmental topic chapter are in place before assessing the effects. This is in accordance with guidance from the IEMA as part of preparing a proportional assessment (IEMA, 2017) (Ref 28.11). If potential significant

Combined Effects are identified, further environmental measures and monitoring requirements will be identified and incorporated into the Projects, if feasible, to mitigate likely significant Combined Effects.

Significance criteria

28.5.11 While there is no standard approach to the assessment of Combined Effects, it should be carried out with reference to guidance and professional judgement. Professional judgement will be used to determine the potential for Combined Effects, with effects identified as significant or not. This will draw on the experience of different technical specialists and technical guidance and methodology applicable to the aspect of relevance to determine the likely cumulative effect on the receptor as a whole, and whether the combined effect is likely to be significant.

Assessment limitations and assumptions

28.5.12 The assessment of Combined Effects resulting from the Projects will concentrate on residual effects during the construction and operation phases, post- implementation of environmental measures mandated by DCO requirements or other mechanisms.

28.5.13 Assumptions relevant to individual aspect assessments are reported in individual aspect chapters in this PEIR.

Further assessment within the ES

28.5.14 As the PEIR is presenting a preliminary assessment (and significance of identified effects within aspects assessments are not defined for all aspects), an assessment of Combined Effects is not presented in this chapter as it is not possible to progress this assessment past Stage 2.

28.5.15 The detailed assessment within the ES will consider receptors which are likely to experience effects of minor, moderate or major significance in the individual environmental topic chapters. Receptors with negligible effects will not be included within the assessment. If the same receptor is identified in more than one ES chapter (such as an ecologically designated site), this will indicate a spatial overlap of effects which will then be checked for a temporal overlap. If both spatial and temporal overlaps exist, then the receptor would be assessed for Combined Effects.

28.5.16 If potential significant Combined Effects taking into account environmental measures are identified, further environmental measures and monitoring requirements will be identified and incorporated into the Projects, if feasible, to mitigate likely significant Combined Effects.

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