

3. Approach to preparing the PEIR

3.1 Introduction

- 3.1.1 Environmental Impact Assessment (EIA) is a process for identifying the likely significant environmental effects (positive and negative) of a project to inform the decision-making process whether an order granting development consent should be made.
- 3.1.2 As part of the EIA, the Preliminary Environmental Information Report (PEIR) provides the latest information obtained and assessed in relation to the Project. In so doing it provides a preliminary assessment of likely significant effects arising from the construction, operational and decommissioning phases of the Project.
- 3.1.3 The EIA process will culminate in the provision of an Environmental Statement (ES) written in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations (as amended) 2017¹ (hereafter referred to as the 'EIA Regulations'). The ES will accompany the Development Consent Order (DCO) application and will follow a similar approach to EIA as set out in this PEIR. It will help inform the determination of the DCO application for the Project. In particular, the ES will provide a full assessment of the likely significant effects associated with the Project during its construction, operation and decommissioning phases.
- 3.1.4 This chapter sets out the approach to the EIA for the Project. This represents the approach upon which subsequent environmental topic chapters are based to support consultation being undertaken under Sections 42 to 48 of the Planning Act 2008². This consultation will inform the evolution of the Project before a formal DCO application is made.
- 3.1.5 For each environmental topic, the assessment of effects has been undertaken by competent persons (see **Appendix 1A**) with relevant specialist skills, drawing on their experience of working on other similar projects, good practice in EIA and on relevant published information.

3.2 EIA terminology

Impacts and effects

- 3.2.1 For the purposes of this PEIR, the term 'impacts' is used to describe the changes that arise as a result of the Project and the term 'effects' are the consequences of those changes, for example:

¹ UK Government (2017). Infrastructure Planning (Environmental Impact Assessment) Regulations (as amended) 2017 (online). Available at: <https://www.legislation.gov.uk/ukxi/2017/572/contents> (Accessed August 2022).

² UK Government (2008). Planning Act 2008. (online) Available at: <https://www.legislation.gov.uk/ukpga/2008/29/contents> (Accessed August 2022).

- Impacts could occur from physical activities that would take place if the Project were to proceed (e.g. vehicle movements during construction); and
- environmental changes that are predicted to occur as a result of these activities (e.g. loss of vegetation prior to the start of construction work or an increase in noise levels) which could have an effect on a receptor. In some cases, one change causes another change, which in turn results in an environmental effect.

3.2.2 The predicted environmental effects are the consequences of the environmental changes for specific environmental receptors. For example, with respect to bats, the loss of roosting sites or foraging areas could affect the bats' population size; with regard to people, an increase in noise levels could affect people's amenity.

3.2.3 This PEIR is concerned with assessing the significance of the environmental effects of the Project, rather than the activities or changes that cause them. However, this requires these activities to be understood and the resultant changes identified and quantified, often based on predictive assessment work.

3.2.4 Paragraph 5 of Schedule 4 of the EIA Regulations¹ states that "*The description of the likely significant effects on the factors specified in regulation 5(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.*" Where appropriate, this PEIR considers all these types of effects where they are relevant to different environmental topic chapters.

Direct effects

3.2.5 Direct effects are those that result directly from a project. For example, where a machine disturbs an area of habitat; the associated physical activity could result in a change to the receptor.

Indirect and secondary effects

3.2.6 Indirect and secondary effects are those that result from consequential change caused by the Project. As such they would normally occur later in time or at locations farther away than direct effects. An example would be where water or gas pipes are damaged as a result of the Project, and the consequence of that damage is fire or flood risk to other receptors.

Transboundary effects

3.2.7 Transboundary effects are those that would affect the environment in another state within the European Economic Area (EEA)³.

³ The UK consists of England, Scotland, Wales and Northern Ireland, and forms a single EEA State.

Cumulative effects

- 3.2.8 There are two types of cumulative effect, intra-project effects and inter-project effects (see **Section 3.9**). The former occurs as a result of two or more Project impacts acting together (i.e. combined), to result in a new or changed effect on a single receptor. The latter arise as a result of the Project in combination with other developments or projects.

3.3 The EIA process

- 3.3.1 The EIA Regulations set out the procedures to be followed in relation to EIAs undertaken for Nationally Significant Infrastructure Projects (NSIPs) in England and Wales. The environmental information for a DCO is reported formally in two stages:
- the PEIR (to inform the consultation with the public and other stakeholders of preliminary findings); and
 - the ES (to accompany the DCO application).
- 3.3.2 The EIA undertaken to date has, and will continue to, focus on aspects and matters where a likely significant effect may occur. This approach ensures that the EIA process is proportionate, in line with best practice and focuses effort in those areas where significant effects are likely, as required by Regulation 14(2)(b) of the EIA Regulations¹.
- 3.3.3 Regulation 12 of the EIA Regulations¹ defines preliminary environmental information as information referred to in Regulation 14(2) which:
- *“has been compiled by the applicant; and*
 - *is reasonably required for the consultation bodies to develop an informed view of the likely significant environmental effects of the development and any associated development”.*
- 3.3.4 In line with the EIA Regulations¹ and Advice Note 7: Environmental Impact Assessment – Preliminary Environmental Information, Screening and Scoping⁴, the PEIR presents a level of preliminary assessment appropriate to enable consultees to develop an informed view of likely significant environmental effects of the Project and help inform their consultation responses during the statutory consultations as part of the pre-application stage. This will then enable both the design of the Project and the EIA to take into consideration comments received through consultation.
- 3.3.5 The findings presented in this PEIR are based on a preliminary assessment and reflect the current stage in the design process of the Project and understanding of

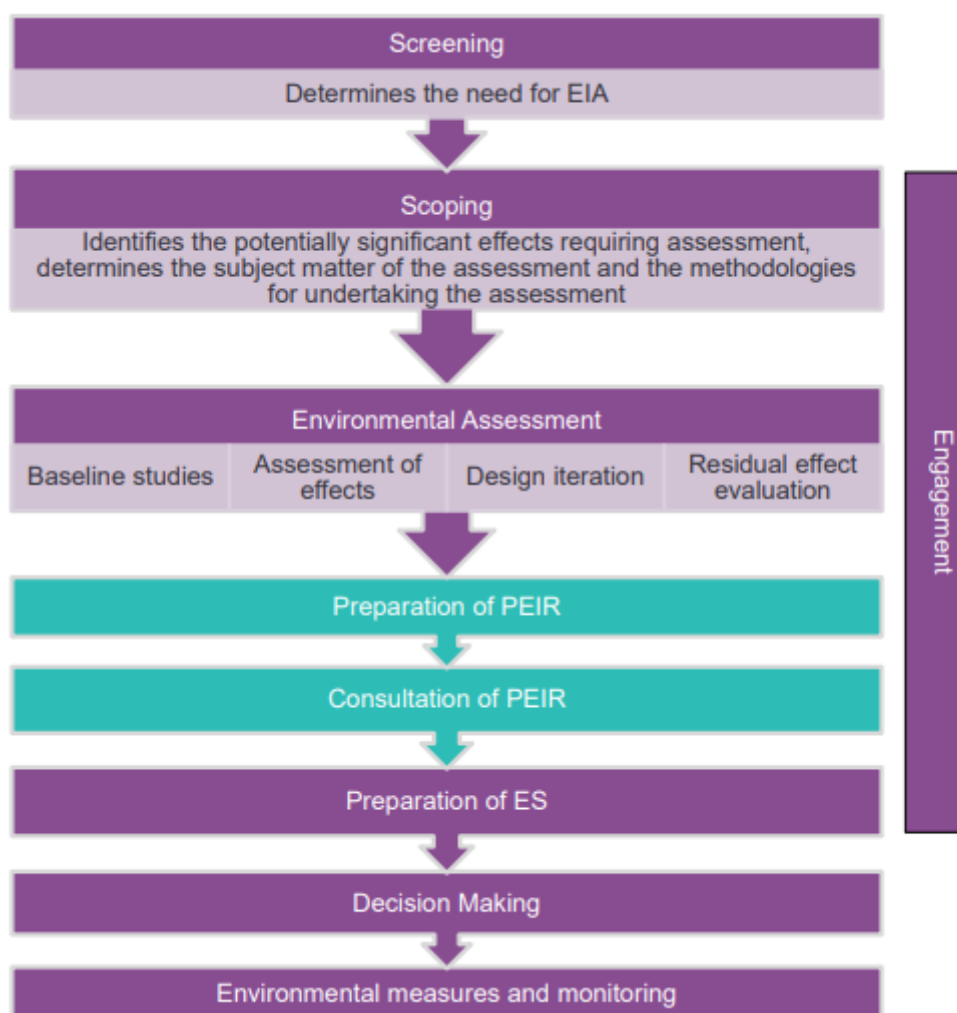
⁴ The Planning Inspectorate (2020). Advice Note Seven: Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping (version 7). (online) Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-seven-environmental-impact-assessment-process-preliminary-environmental-information-and-environmental-statements/> (Accessed August 2022).

baseline conditions, allowing for conclusions as to the likely significant effects to be drawn.

3.3.6 Where the design is still evolving or further information on baseline conditions is still to be obtained, a precautionary approach is applied to ensure that a likely worst-case is assessed in the PEIR. In using this precautionary approach to the assessment, the level of effect may be overstated and subsequently reduced in the ES that would accompany the DCO application. Each environmental topic chapter (**Chapters 5 to 18**) provides commentary on the appropriate reasonable worst-case scenario adopted for the individual assessments, as applicable.

3.3.7 The EIA process is summarised in **Graphic 3.1**. The remainder of this chapter provides further detail around the key stages in this process with a focus on those stages most relevant to this preliminary stage of the assessment.

Graphic 3.1 The EIA process



3.4 EIA scoping

3.4.1 Scoping is an important procedure, which sets the context for the EIA process. It is intended to inform a proportional and robust approach to assessment through

initial evaluation and reporting of identified likely significant effects in a Scoping Report. **Graphic 3.2** highlights some of the key inputs into the scoping process.

Graphic 3.2 Inputs to the scoping process



3.4.2 At the Scoping Report stage, the conclusion made on whether an effect should be considered significant was based upon professional judgement, with reference to the Project description, and available information about:

- the magnitude and other characteristics of the potential changes that are expected to be caused by the Project;
- the sensitivity of receptors to these changes;
- the value of receptors (where relevant); and
- the effects of these changes on relevant receptors.

3.4.3 If the information that was available at the Scoping Report stage did not enable a robust conclusion to be reached that an effect was not likely to be significant, the effect was proposed to be taken forward for further assessment.

3.4.4 The Scoping Report for the Project was submitted to the Secretary of State, administered by the Planning Inspectorate, requesting a Scoping Opinion, on 26 January 2022.

3.4.5 A Scoping Opinion was subsequently adopted on 08 March 2022. The Scoping Opinion and the statutory consultee responses have subsequently informed the assessment work and further design evolution undertaken to date. Given the

preliminary nature of the PEIR, any comments that are pending a full response are identified, with next steps clarified plus the identification of any actions to be concluded within the ES. Further discussion with respect to the Scoping Opinion can be found in **Section 3.5**.

3.5 Consultation and engagement

- 3.5.1 As noted in paragraph 3.4.5, a Scoping Opinion was adopted on 08 March 2022. The Scoping Opinion and the statutory consultee responses have subsequently informed the assessment work and further design evolution undertaken to date. Responses to the Scoping Opinion comments, detailing how they have been addressed within this PEIR, are provided within **Chapters 5 to 18** and **Appendix 3A** (where they are not topic specific). The Applicant has held, and will continue to hold, informal engagement with the key prescribed consultees, as appropriate, to refine the Project and the EIA, and to assist in the development of any required mitigation.
- 3.5.2 Specific information on any feedback received is presented in the individual environmental topic chapters (**Chapters 5 to 18**) which include a 'Consultation and Engagement' section. This section provides a record of all relevant comments received in relation to that topic from:
- the Scoping Opinion;
 - the non-statutory consultation feedback report; and
 - ongoing technical engagement with relevant prescribed consultees, including the host Local Planning Authorities.

3.6 Determining the scope of the assessment

Technical scope

- 3.6.1 The technical scope of assessment for each environmental topic is detailed in **Chapters 5 to 18** and this covers the scoping in and out of impacts/ effects to be assessed as part of the EIA. Justification is provided for the individual approach and scoping of matters to be considered in the assessment for each environmental topic. The technical scope also details the approach to baseline data collection and assessment methodologies.

Spatial scope

- 3.6.2 The spatial scope for each environmental topic (i.e. the area over which changes to the environment are predicted to occur as a consequence of the Project), will depend on the nature of the potential effects and the location of receptors that could be affected. It takes account of:
- the physical area of the Project;
 - the nature of the baseline environment; and
 - the manner and extent to which environmental effects may occur.

- 3.6.3 Each of the environmental topic chapters (**Chapters 5 to 18**) describe the Study Area to be considered, providing a clear explanation as to why the Study Area has been adopted. The spatial scope of each assessment has taken account of comments received from stakeholders and the Scoping Opinion. In response to these comments the Scoping red line boundary used as the basis of the Scoping Report has been refined as discussed in **Chapter 2: The Project**. The Preliminary Order Limits and associated Study Areas may be refined for the ES in response to comments from consultees or further design and assessment work.

Temporal scope

- 3.6.4 The temporal scope covers the time period over which changes to the environment and the resultant effects are predicted to occur, and are typically defined as either being temporary or permanent:
- permanent – these are effects that will remain even when the Project is complete, although these effects may be caused by environmental changes that are permanent or temporary; and
 - temporary – these are effects that are related to environmental changes associated with a particular activity and that will cease when that activity finishes.
- 3.6.5 The assessment will have regard to the Project programme and will evaluate the environmental effects of the Project during construction, operation and decommissioning. These effects will be compared to the situation prevailing before the Project is commenced (the current baseline), and to the situation that would prevail in the future without the Project (the projected future baseline).
- 3.6.6 The future baseline is the theoretical situation that would exist in the absence of the Project. This is based upon extrapolating the current baseline using technical knowledge of likely changes to predict this (e.g. predictable changes such as climate change, changes that can be predicted based on reasonable assumptions and modelling calculations, information about other relevant developments etc.).
- 3.6.7 Each environmental topic chapter will define the baseline (current or future or both) against which changes potentially caused by the Project will be compared. The baseline taken forward for assessment varies from topic to topic; for example, for transport, there will be traffic growth based on regional or national trends, and this would normally be applied consistently across all road transport-related receptors. The baseline conditions to be assessed for each environmental topic are outlined in **Chapters 5 to 18** of this PEIR. Where relevant, environmental topic chapters provide further information on the time elements within the Project programme that will be considered for their assessment.

Design envelope

- 3.6.8 As described in **Section 3.4**, the PEIR adopts a parameter-based design envelope approach, known as the Rochdale Envelope approach. Assessing using a parameter-based design envelope approach means that the assessment will consider a design scenario which represents the worst-case for each topic whilst allowing the flexibility to make improvements in the future in ways that cannot be

predicted at the time of submission of the DCO Application. Development permitted by the DCO will not extend beyond the clearly defined parameters assessed in the ES. The maximum assessment assumptions for the Project are defined in **Chapter 2: The Project**.

3.7 Assessment of effects and determining significance

Overview

- 3.7.1 For consistency, and to allow comparison between aspects, the methodology described in this section will be applied when preparing the ES. This methodology is designed to consider whether impacts of the Project would have an effect on any environmental receptors. Assessments broadly consider the magnitude of impacts and the sensitivity of resources or receptors that could be affected to classify the significance of effects.
- 3.7.2 The conclusion that is made on whether an effect should be considered significant is based upon professional judgement, with reference to the description of the Project in **Chapter 2: The Project**, and available information about:
- the magnitude and other characteristics of the potential changes (impacts) that are expected to be caused by the Project;
 - the sensitivity of receptors to these changes;
 - the effects of these changes on relevant receptors; and
 - the value of receptors (where relevant).
- 3.7.3 For each environmental topic, the categories of resource or receptor sensitivity and magnitude of impact will be described or defined. The following sections therefore provide the generic criteria for the definition of resource or receptor sensitivity, magnitude of change and classification of effect.
- 3.7.4 The environmental topic chapters (**Chapters 5 to 18**) provide greater detail on the approach to the assessment and specific guidelines for the definition of impact magnitude and resource or receptor sensitivity. The approach to the assessment undertaken by each environmental topic will broadly follow the approach set out in the following sections. Variations from this approach may be applicable to specific environmental topics whereby professional judgment in the application of standards mandated by professional bodies (for example the Institute of Ecology and Environmental Management (IEEM) or the Landscape Institute) is applied. Where this is the case, further detail and justification will be provided.

Resource and receptor sensitivity

- 3.7.5 The sensitivity or value of a receptor is largely a product of the importance of an asset, as informed by legislation and policy, and as qualified by professional judgement. For example, higher value receptors for landscape, biodiversity or the historic environment may be defined as being of international or national importance; lower value resources may be designated as being sensitive or important at a county or district level.

- 3.7.6 The use of a receptor also plays a part in its classification. For example, when considering visual amenity, a receptor which is residential in nature may be valued more than a place of work as the environmental quality of the residential receptor is more likely to be an important part of that receptor's use.
- 3.7.7 **Table 3.1** sets out the generic guidelines for the assessment of sensitivity of a resource or receptor.

Table 3.1 Generic guidelines for the assessment of sensitivity

Value or Sensitivity	Guidelines
High	Value: Feature or receptor possesses key characteristics which contribute significantly to the distinctiveness, rarity and character of the site or receptor (for example designated features of international or national importance). Sensitivity: Feature or receptor has little to no capacity to accommodate the proposed form of change
Medium	Value: Feature or receptor possesses key characteristics which contribute significantly to the distinctiveness and character of the site or feature (for example designated features of regional or county importance). Sensitivity: Feature or receptor has a low capacity to accommodate the proposed form of change.
Low	Value: Feature or receptor only possesses characteristics which are locally significant. Feature or receptor not designated or designated only at a local or district level. Sensitivity: Feature or receptor has some tolerance to accommodate the proposed change.
Very low	Value: Feature or receptor characteristics do not make a significant contribution to local distinctiveness and not designated. Sensitivity: Feature or receptor is generally tolerant and can accommodate the proposed change.

Magnitude of change

- 3.7.8 The magnitude of change affecting a receptor that would result from the Project will be identified on a scale from minor alterations or change, up to major changes or the total or substantial loss of the receptor. For certain environmental topics, the magnitude of change will be related to guidance on levels of acceptability (for example, for air quality or noise), and is therefore based on numerical parameters. For others it will be a matter of professional judgement to determine the magnitude of change, using descriptive terminology.

3.7.9 **Table 3.2** sets out the generic guidelines of the assessment of the magnitude of change.

Table 3.2 Generic guidelines for the assessment of magnitude

Magnitude	Guidelines
High	Large scale changes over the whole Project area and potentially beyond to key characteristics or features of the particular environmental topic's character or distinctiveness.
Medium	Medium scale changes over the majority of the Project area and potentially beyond to key characteristics or features of the particular environmental topic's character or distinctiveness.
Low	Noticeable but small-scale changes over part of the Project area and potentially beyond to key characteristics or features of the particular environmental topic's character or distinctiveness.
Very low	Noticeable but very small-scale change or barely discernible changes over a small part of the Project area and potentially beyond, to key characteristics or features of the particular environmental topic's character or distinctiveness.

Determination of significance

- 3.7.10 The significance of effects relates to information about the nature of the Project, the sensitivity or value of receptors that could be affected, together with the magnitudes of change that are likely to occur.
- 3.7.11 For many environmental topics, significance can be determined by using a matrix. Variations to this matrix approach are detailed within the respective chapters (**Chapters 5 to 18**), along with descriptions of receptor sensitivity, magnitude of change and levels of effect that are considered significant. Definitions of how the categories used in the matrix are derived for each environmental topic are also set out.
- 3.7.12 In addition, professional judgement is applied in the assessment, as the boundaries between the sensitivities or magnitudes of change may not be clearly defined and the resulting assessment conclusions may need clarifying.
- 3.7.13 The overarching significance matrix that will be used for the EIA is shown in **Table 3.3**. The generic definitions that will be used to determine the level of significance are shown in **Table 3.4**. Reference is made to:
- 'Major' effects, which will always be determined as being significant.
 - 'Moderate' effects can be significant, or not significant, based on specific scenarios and professional judgement.
 - 'Minor' or 'negligible' effects, which will always be deemed as 'not significant'.
- 3.7.14 Effects can be either beneficial or adverse.

Table 3.3 Significance evaluation matrix

		Magnitude of change			
		High	Medium	Low	Very low
Sensitivity or value	High	Major (significant)	Major (significant)	Moderate (potentially significant)	Minor (not significant)
	Medium	Major (significant)	Moderate (potentially significant)	Minor (not significant)	Minor (not significant)
	Low	Moderate (potentially significant)	Minor (not significant)	Minor (not significant)	Negligible (not significant)
	Very low	Minor (not significant)	Minor (not significant)	Negligible (not significant)	Negligible (not significant)

Table 3.4 Generic classification of effect definitions

Magnitude	Guidelines
Major	Very large or large change in environmental or socio-economic conditions. Effects, both negative and positive, which are likely to be important considerations at a national to regional level because they contribute to achieving national or regional objectives, or which are likely to result in exceedance of statutory objectives or breaches of legislation.
Moderate	Intermediate change in environmental or socio-economic conditions. Effects that are likely to be important considerations at a regional or local level.
Minor	Small change in environmental or socio-economic conditions.
Negligible	No discernible change in environmental or socio-economic conditions. An effect that is likely to have a neutral or negligible influence.

3.8 Environmental measures

- 3.8.1 In accordance with Regulation 14(2)(c) of the EIA Regulations, the environmental topic chapters (**Chapters 5 to 18**) within the PEIR include a description of the “*measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment*”. For each environmental topic, the EIA process will systematically identify impacts and effects, taking into consideration environmental measures that the Project will adopt. These environmental measures include avoidance, best practice and design

commitments, which are classified into primary or tertiary measures in accordance with the Institute of Environmental Management and Assessment's (IEMA) Guide to Delivering Quality Development⁵ definitions as follows.

- primary (inherent): Referred to as 'embedded measures', are modifications to the location, design or operation of the Project made during the pre-application phase that are an inherent part of the Project, and do not require additional action to be taken;
- secondary (foreseeable): Actions that will require further activity in order to achieve the anticipated outcome and are referred to as 'additional measures'; and
- tertiary (inexorable): Actions that would occur with or without input from the EIA feeding into the development process. These include actions that will be undertaken to meet other existing legislative requirements or actions that are considered to be standard practice used to manage commonly occurring environmental effects. These are referred to as 'good practice measures' and are also embedded within the design of the Project,. Examples include construction management measures implemented to minimise the risk of nuisance or pollution effects, set out in a Code of Construction Practice and associated plans such as a Construction Environmental Management Plan, Materials Management Plan or Drainage Management Plan, and secured via a DCO requirement.

3.8.2 Opportunities for embedded design measures will be identified throughout the evolution of the design of the Project and the EIA process, whereby potential significant adverse environmental effects will be fed back into the design process to verify whether they can be avoided or otherwise mitigated in accordance with the hierarchy. Alongside this, good practice measures will be identified with reference to legislative requirements and measures of standard practice to manage commonly occurring effects. These design measures and good practice measures will be included within the Project plans and drawings and thus are integrated into the overall design strategy as embedded measures.

3.8.3 Following the application of embedded measures, where the potential for a significant environmental effect remains, 'additional measures' will be considered to avoid, reduce or compensate this effect. If required, the ES will report on the anticipated effects of the Project following the implementation of all mitigation to determine the 'residual effects'. A clear statement will be made as to whether the residual effects are significant or not significant in EIA terms.

Monitoring measures

3.8.4 Monitoring measures may be required in relation to any significant negative effects on the environment caused by the Project and imposed as a DCO requirement. Whilst the need for and type of monitoring is still evolving as part of the iterative design process, any monitoring proposed at this stage with respect to significant

⁵ IEMA (2016). Environmental Impact Assessment Guide to: Delivering Quality Development (online). Available at: <https://www.iema.net/document-download/7014> (Accessed 06 April 2021).

adverse effects is identified in the environmental topic chapters (**Chapters 5 to 18**).

3.9 Assessment of cumulative effects

3.9.1 This section sets out the approach to the Cumulative Effects Assessment (CEA) to support consultation being undertaken under Sections 42 and 47 of the Planning Act 2008².

3.9.2 Two types of effects are considered:

- inter-project (combined with other development) effects: effects resulting from the Project combining with the same topic-related effects generated by other developments to affect a common receptor. For example, where the effects from traffic flows during the construction of the Project combine with traffic flows from other development undergoing construction nearby to result in significant effects on a local resident; and
- intra-project (within the Project) effects: individual environmental topic effects resulting from the Project, which are not significant in their own right, but could combine with other environmental topic effects from the same development to create effects that are significant. For example, where changes in visual amenity and noise, dust and traffic related effects from the Project construction works combine to result in significant effects on a local resident.

3.9.3 This section presents the inter-project assessment methodology, with the results of a screening exercise to identify projects and plans for inclusion in the inter-project CEA provided in **Appendix 3B**. A detailed assessment will be included within each of the environmental topic chapters of the ES, and where appropriate will take account of other development identified by relevant stakeholders following statutory consultation in addition to those considered in the preliminary assessment.

Inter-project effects methodology

3.9.4 Inter-project effects concern the identification and assessment of effects of the Project combined with effects of other reasonably foreseeable proposed development, for example development for which consent has been applied for or granted or for which a local authority has allocated land for. These are referred to as 'other development'. Such effects can be additive, synergistic or more rarely, antagonistic and the EIA will have regard for the potential for all three types of effect. These terms are explained below:

- Additive effects are where the cumulative effect is equal to the sum of the interaction of a number of individual effects. For example, the loss of two separate areas of woodland of 1ha each from two separate developments results in a cumulative loss of 2ha of woodland.
- Synergistic effects are where the cumulative effect is greater than, or different from, the sum of the individual effects. For example, noise emissions from two separate developments combine to have a significant effect on a receptor when individually each development would not result in a significant effect.

- Antagonistic effects are when the interaction of a number of impacts counteract or neutralize each other so are less than the sum of the individual. For example, warming can offset ocean acidification by decreasing the solubility of carbon dioxide.

3.9.5 Whilst there is no standard approach to the CEA, the Planning Inspectorate has published Advice Note Seventeen⁶ which provides useful guidance in setting out a process for the identification and assessment of 'other development'. Hence, the EIA will follow the methodology as defined in Advice Note Seventeen⁶. This is a four-stage approach, as follows:

- Stage 1 – establish the Zone of Influence (Zoi) for the Project and identify a 'long list' of 'other development';
- Stage 2 – identify a 'shortlist' of 'other development' for the CEA;
- Stage 3 – gather information; and
- Stage 4 – undertake assessment.

3.9.6 For the purposes of this PEIR, Stage 1 and 2 have been completed to agree the short-list of 'other developments' to be taken forward for assessment in the ES. Once this list is finalised, Stages 3 and 4 will be completed, with a detailed CEA included as part of the ES.

Stage 1: Project Zoi and long list of 'other development'

3.9.7 The Zoi of the Project, within which any potential effects of the Project may combine with the effects arising from other development, will be defined by the environmental topic specialists and combined into a single area within which other development will be identified, based on professional judgment. A summary of each Zoi is shown in **Table 3.5**. Comments on the Zois received from relevant consultees during statutory consultation will be taken into account, as appropriate, in the detailed CEA to be reported in the ES.

3.9.8 Advice Note Seventeen⁶ acknowledges that certain assessments, such as transport and associated operational assessments of vehicular emissions (including air and noise) may inherently be cumulative assessments. This is because they may incorporate modelled traffic data growth for future traffic flows. Where these assessments are comprehensive and include a worst-case within the defined assessment parameters, no additional cumulative assessment of these topics is required. This is reflected in **Table 3.5**. This position will be kept under review in the event that 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).

⁶ The Planning Inspectorate (2019). Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects. Version 2. (Online) Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-17/> (Accessed February 2022).

Table 3.5 Environmental topic Zols for CEA

Topic	Zol	Justification
Historic Environment	1km	Reflects the likely maximum geographical extent for significant effects arising from other development that may overlap with the Project.
Landscape and Visual	2km	Reflects the likely maximum geographical extent for significant effects arising from other development that may overlap with the Project.
Air Quality	500m	Spatial scope identified in line with IAQM guidance with respect to dust emissions and road traffic emissions.
Noise and Vibration	1km	Based on the way noise and vibration will propagate from its source and attenuation of distance to receiver.
Ground Conditions	1km	Reasonable maximum extent over which the Project could potentially contribute to cumulative effects in relation to contamination migration (e.g. groundwater, ground gas), considering the nature of the development activities associated with the Project. This Zol is consistent with the Study Area of 500 m i.e. matches the maximum extent at which the Study Area could overlap with a 500 m buffer from other development.
Agricultural and Soils	Draft Order Limits	For agricultural land, consideration is given to the loss of Best and Most Versatile land within the boundary of the Project. For soils, the effect is only deemed cumulative if the same soil is disturbed twice and therefore is limited to land within the boundary of the Project.
Land Use	1km	Based on other chapter Zols and potential effects that may affect land use receptors.
People and Communities	2km	Based on other chapter Zols and potential effects that may affect socio-economic receptors.
Major Accidents and Disasters	1km	Based upon a worst-case estimate of potential effects of hydrogen gas releases.
Water Environment	2.5km	Maximum zone in which any direct effects of the Project on the water environment likely to occur. Zol extends further downstream (2.5km)

Topic	Zol	Justification
		than upstream (500m) as potential effects will be transferred downstream in the direction of flow more readily than upstream.
Biodiversity	2km	Internationally and nationally designated sites (non-ornithological)
	10km	Bats and nationally designated sites (ornithological)
	2km	Protected habitats and species (with the exception of bats) and non-designated sites
	20km	Internationally designated sites (ornithological)

- 3.9.9 The largest Zol relates to potential effects on internationally designated sites for ornithology (up to 20km from the draft Order Limits). The total linear extent of the draft Order Limits is up to 125km in length and applying a 20km buffer around the draft Order Limits, results in a potential search area of approximately 2,500km². In order to undertake a proportionate approach to identifying potential other development and allocated sites which could interact with the Project the maximum Zol has been refined as follows.
- 3.9.10 The Habitats Regulations Assessment Screening Report identified six SPAs, three SACs and four Ramsar Sites within 10km of the Project. There are a further four SPAs and three Ramsar Sites (designated for ornithological features) within 20km of the Project. At the time of writing, it was identified that no likely significant effects were predicted on designated sites between 10km – 20km and that no pathways of effect exist. As there are no pathways for any effects from the Project, a cumulative effect cannot occur. Therefore, the biodiversity Zol has been refined to 10km; other development and allocations which would fall within the 10-20km buffer are screened out of further assessment.

Criteria for identifying other development

- 3.9.11 Planning Inspectorate Advice Note Seventeen⁶ acknowledges that the approach to defining which ‘other developments’ to include in the CEA depends on the availability of information necessary to conduct a CEA. This will partly depend on the status of the relevant ‘other developments’ and therefore the guidance consequently groups ‘other developments’ 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 3.6**.

Table 3.6 Criteria for identifying other developments

Hierarchy of other developments	Proposed criteria of other developments	
Tier 1	Under construction	Decreasing level of detail likely to be available
	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.	
Tier 2	Projects on the Planning Inspectorate's Programme of Projects, 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	Projects on the Planning Inspectorate's Programme of Projects, and/or the subject of pre-application discussion with a relevant 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. 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.	

3.9.12

Information on 'other developments' has been gathered from the following sources:

- Local Authority planning portals;
- relevant Local Plans;
- Planning Inspectorate's programme of projects; and

- developer/project websites, where available.

Temporal scope

- 3.9.13 The criteria have been applied to all planning and development consent applications submitted (and which are either consented or pending determination) in the last five years over the maximum extent of all topic Zols (i.e. the widest topic Zol area). 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 development consent orders which have been made and which apply within the Zol area.
- 3.9.14 For the purpose of producing the long list of ‘other developments’, the 5-year period runs from March 2018 to the end of March 2023. For the PEIR, consideration has been given to the period March 2018 to end of April 2022; the long list will be reviewed prior to the DCO submission and any additional Tier 1 – 3 developments will be included in the ES as appropriate.
- 3.9.15 Where the construction of ‘other developments’ is expected to be completed before construction of the Project commences, and the effects of those projects are fully determined, effects arising from them are considered as part of the future baseline and therefore as part of the assessment of both the construction and operational phases. The ES will therefore clearly distinguish between projects forming part of the future baseline and those in the CEA.

Stage 2: Short-list of ‘other development’

- 3.9.16 Following the compilation of the long list in Stage 1, the results have been filtered for Stage 2 to identify those other development which are proposed to be taken forward for assessment. In compiling this shortlist, as identified in paragraph 3.9.11, a minimum level of information is necessary. For the purposes of this assessment, only those other development with at least a Scoping Report, PEIR or ES have been considered for shortlisting.
- 3.9.17 Stage 2 involved a high-level information gathering exercise in order to determine:
- **The scale and nature of ‘other development’:** whether the scale and nature of the other development identified in the Zol was likely to interact with the Project;
 - **The temporal scope of ‘other development’:** whether the other development had overlapping construction, operational and/or decommissioning phases with the Project; and
 - **Any other relevant factors:** 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; and
 - **Consultation:** requests from relevant stakeholders for the inclusion of specific projects and/or plans within the CEA.
- 3.9.18 Information was therefore captured about the other developments including the proposed programme of consenting, construction, operation and decommissioning to determine whether there is overlap and any potential for interaction with the

Project. Consideration was given to the scale and nature of the other developments identified in the ZoI, to determine whether they were likely to interact with the Project and to result in a cumulative effect.

3.9.19 Professional judgement was used to avoid excluding 'other development' that was close to the threshold limits but had 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' was considered to not give rise to discernible effects.

3.9.20 Other developments were also scoped-out on the basis that the development:

- was understood to have already undergone construction or that it will be complete and operational before construction of the Project. Such projects therefore form part of the current or future baseline conditions and have been considered on that basis; or
- was of sufficient distance from the Project that significant cumulative effects are not likely to occur.

3.9.21 **Appendix 3B** sets out the short list of other development which will be taken forward into the assessment for the ES and identified, at this preliminary stage, for which environmental topics there could be significant effects. The long list of the 'other developments' identified using the search criteria are also included as **Appendix 3B**.

Stage 3: Information gathering

3.9.22 Further information on the short-listed developments will be gathered to inform the detailed CEA based on publicly available information such as that submitted in support of applications for consent. This includes:

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

Stage 4: Assessment of other development

3.9.23 Stage 4 of the assessment which will be progressed and reported in the ES will accord with the methodology presented in Advice Note Seventeen⁶. 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.

3.9.24 All short-listed Tier 1 and Tier 2 other development will be assessed. The assessment for Tier 3 other development will be high level in comparison to Tier 1 and 2, owing to the information which will be available. The significance criteria used to identify likely significant effects will be consistent with the criteria presented in **Section 3.7**.

3.10 Transboundary effects

- 3.10.1 Transboundary effects are those that would affect the environment in another state within the European Economic Area (EEA). The EIA Regulations require an ES to consider the transboundary effects of a development (paragraph 5 of Schedule 4). Given the nature of the Project and its proposed location significant transboundary effects are unlikely. However, the transboundary screening matrix⁷ will be completed as detailed in the Planning Inspectorate's Advice Note Twelve⁸ and included within the ES.

3.11 Assumptions and limitations

- 3.11.1 Assumptions and limitations are addressed under each environmental topic as identified in the appropriate chapters (**Chapter 5 to 18**).

3.12 COVID-19 implications

- 3.12.1 The restrictions imposed during the COVID-19 pandemic have potential implications for the Project, in particular with regard to normal consultation activities and conducting site surveys. The following measures are being taken by the project team to achieve as much as possible during the EIA programme whilst working fully within the restrictions, and being mindful of and managing any potential implications:
- EIA surveys that do require land access are planned to proceed within appropriate seasons this calendar year (2022) where possible, whilst applying social distancing measures to keep surveyors and members of the public safe. A watching brief will be maintained on the progress of data collection throughout the EIA, and progress will be shared with appropriate stakeholders.
 - EIA surveys that may not require land access but rely on the baseline environment to reflect the normal situation such as noise and traffic surveys or that are significantly hindered this calendar year because of the restrictions imposed by the pandemic will be planned for a time when survey results will reflect a more normal pattern. Flexibility where needed will be sought from stakeholders regarding the timely completion of surveys and the provision of this information.
 - In accordance with the Planning Inspectorate's Advice Note Seven⁴, the Applicant is conducting early targeted consultation with some stakeholders. The purpose of this engagement is to share and seek agreement on

⁷ The Transboundary Screening Matrix is a proforma template (long and short available) that an applicant populates and subsequently submits to PINS. The template contains the relevant criteria and considerations that PINS take account of in determining the potential for significant effects arising from a project in EEA states.

⁸ Planning Inspectorate (2020). Advice Note Twelve: Transboundary Impacts and Process, Version 6 (online). Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-twelve-transboundary-impacts-and-process/> (Accessed 06 April 2021).

assessment approaches and to obtain as much relevant environmental information as possible in advance of key project milestones. As recognised in Advice Note Seven, the Planning Inspectorate expects consultation bodies to work with applicants in finding suitable approaches to aid the robust preparation of applications, and the Applicant will continue to engage with stakeholders on this basis.

3.12.2

The project team is keeping abreast of the advice issued with regard to site surveys and consultation activities such as that issued by the National Infrastructure Planning Association, Natural England, Chartered Institute of Ecology and Environmental Management (CIEEM) and the Planning Inspectorate. In addition, all activity will follow Government guidance on COVID-19.

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