

The Great Grid Upgrade

Eastern Green Link 5 (EGL 5)

Preliminary Environmental Information Report

Volume 1

Part 2

Chapter 14 Air Quality

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14. Air Quality

14.1 Introduction

- 14.1.1 This chapter presents the preliminary findings of the Environmental Impact Assessment (EIA) undertaken to date for the Eastern Green Link (EGL) 5 English Onshore Scheme, with respect to air quality. The preliminary assessment is based on information obtained to date. It should be read in conjunction with the description of the Project provided in **Volume 1, Part 1, Chapter 4: Description of the Project**.
- 14.1.2 This chapter describes the methodology used, the datasets that have informed the preliminary assessment, current baseline conditions, current environmental measures, and the preliminary air quality effects that could result from the English Onshore Scheme during the construction, operation (and maintenance), and decommissioning phases. Specifically, it relates to the English Onshore elements of the Scheme landward of Mean Low Water Springs (MLWS).
- 14.1.3 This chapter should be notably read in conjunction and considered alongside the following technical aspect chapters found in **Volume 1**:
- **Part 2, Chapter 6: Biodiversity** (with regards to potential impacts and effects on ecological receptors), and;
 - **Part 2, Chapter 12: Traffic and Transport** (with regards to the potential impacts and effects of road traffic associated with the English Onshore Scheme to Air Quality receptors).
- 14.1.4 This chapter is supported by the following figures in **Volume 3**:
- **Part 2, Figure 14-1 Air Quality Baseline**, and;
 - **Part 2, Figure 14-2 Air Quality Construction Dust Study Area**.
- 14.1.5 This chapter is supported by the following appendices in **Volume 2**:
- **Part 1, Appendix 2.A: Regulatory and Planning Context**;
 - **Part 1, Appendix 5.B: Outline Code of Construction Practice (CoCP)**;
 - **Part 2, Appendix 12.C: Construction Phase Traffic Flows**, and;
 - **Part 2, Appendix 14.A: Construction Dust Assessment and Methodology**.

Limitations

- 14.1.6 The information provided in this Preliminary Environmental Information Report (PEIR) is provisional and subject to change as the design evolves towards the information that will inform the Environmental Statement (ES) at the application phase. The final assessment of air quality effects will be reported in the ES. The PEIR has been produced to fulfil National Grid Electricity Transmission plc (NGET) consultation duties in accordance with Section 42 of the PA2008 and enable consultees to develop an informed view of the preliminary potential significant effects of the English Onshore Scheme.

- 14.1.7 It should be noted that the provisional construction phase traffic flows provided for screening at PEIR stage are subject to change and will be superseded at ES stage, therefore a detailed construction vehicle emissions assessment has not been undertaken. The finalised construction traffic data will be screened for detailed vehicle emissions assessment at ES stage.
- 14.1.8 At this stage there is limited detail available on the type, number, location and operational hours of Non-Road Mobile Machinery (NRMM) which will be required and deployed during the construction phase of the English Onshore Scheme. This information will be collated and reviewed prior to ES stage, in order that a detailed assessment can be undertaken within the ES to ensure all potential impacts are assessed and considered. Should detailed assessment be required then the significance of NRMM and construction plant emissions will be assessed following the same approach as vehicle emissions.
- 14.1.9 There is limited detail regarding decommissioning activities, therefore, effects associated with decommissioning activities are not discussed in this chapter; however, Section 4.8 in **Volume 1, Part 1, Chapter 4: Description of the Project** provides a high-level summary assessment of the likely significant effects associated with decommissioning. The potential effects on air quality associated with the decommissioning phase are considered to be no greater to those risks identified during the construction phase.

Preliminary significance conclusions

- 14.1.10 For ease of reference, a summary of the potentially significant effects from the preliminary air quality assessment is provided in **Table 14-1**. All other effects in relation to the air quality have been assessed as not significant (unless stated that a conclusion cannot be defined at this stage). Further details of the methodology behind the assessment, and a detailed narrative of the assessment itself are provided within the sections below.

Table 14-1 Preliminary summary of significance of effects

Receptor and summary of predicted effects	Sensitivity / importance / value of receptor	Magnitude of change	Significance	Summary rationale	
Construction Phase Vehicle Emissions: Human Receptors	High	Cannot be defined at this Stage.	Cannot be defined at this Stage.	Initial construction phase traffic data has been screened at PEIR stage to determine the likely study area for detailed assessment. Further work will be undertaken at ES stage (on review of the final construction phase traffic data) which will include air quality modelling of construction traffic routes that meet the relevant assessment criteria.	
Construction Phase Vehicle Emissions: Ecological Receptors	High	Cannot be defined at this Stage.	Cannot be defined at this Stage.	Initial construction phase traffic data has been screened at PEIR stage to determine the likely study area for detailed assessment. Further work will be undertaken at ES stage (on review of the final construction phase traffic data) which will include air quality modelling of construction traffic routes that meet the relevant assessment criteria.	
Construction Phase Dust: Human Receptors	High	Large	Not Significant.	It is expected that with the adoption of the control and management measures (as outlined within Volume 2, Part 1, Appendix 5.B: Outline Code of Construction Practice (CoCP)), residual effects on human receptors from construction dust would be considered Not Significant.	
Non-Road Machinery: Receptors	Mobile Human	High	Cannot be defined at this Stage.	Cannot be defined at this Stage.	At this stage there is limited detail available on the type, number, location and operational hours of NRMM which will be required during the construction, operation and maintenance phases of the English Onshore Scheme. Review of detailed information on NRMM would be undertaken in the ES.
Non-Road Machinery: Ecological Receptors	Mobile Human	High	Cannot be defined at this Stage.	Cannot be defined at this Stage.	At this stage there is limited detail available on the type, number, location and operational hours of NRMM which will be required during the construction, operation and maintenance phases of the English Onshore Scheme. Review of detailed information on NRMM would be undertaken in the ES.

14.2 Relevant Technical Guidance

Technical guidance

14.2.1 A summary of the technical guidance for the air quality is given in **Table 14-2**.

Table 14-2 Technical guidance relevant to the air quality assessment

Technical guidance document	Context
Ministry of Housing Communities and Local Government (2019) National Planning Practice Guidance (NPPG) (Ref 14.16)	Provides guidance on the relevant principles of air quality assessment; including the regulatory framework, the role of plan making, available air quality information, when assessment is required, what potential air quality issues require consideration, the level of detail required, and mitigation. The assessment follows the guidance which contains recommendations which may be relevant in undertaking air quality assessments to inform compliance with the 2024 National Planning Policy Framework (Ref 14.12) and the 2026 National Policy Statement for Energy (EN-1) (Ref 14.13).
Department for Environment, Food & Rural Affairs (Defra) (2022) Local Air Quality Management Technical Guidance (LAQM.TG22) (Ref 14.4)	Provides best practice principles for the technical assessment of local air quality including the use of monitoring data, selection of receptors and verification procedure. LAQM.TG22 also provides guidance for the application of Defra tools and resources used for the technical assessment of air quality.
Defra PM _{2.5} Targets: Interim Planning Guidance (2024) (Ref 14.5)	<p>Defra is developing guidance for applicants and Planning Authorities in England to demonstrate that they have appropriately considered the PM_{2.5} targets when making planning applications and planning decisions. In the meantime, the following interim guidance is provided:</p> <ol style="list-style-type: none"> How has exposure to PM_{2.5} been considered when selecting the development site? Applicants are advised to consider the following in their application: <ul style="list-style-type: none"> Site proximity to people (particularly large populations and / or vulnerable groups, e.g., schools, hospitals, care homes, areas of deprivation) and the impact of the development on these. Exposure and emissions during both construction and in-use. What actions and / or mitigations have been considered to reduce PM_{2.5} exposure at nearby receptors (houses, hospitals, schools etc.) and to reduce emissions of PM_{2.5} and its precursors? Applicants are advised to explain why each measure

was implemented, or why it was not proposed. Actions may include:

- Site layout;
- The development's design;
- Technology used in the construction or installed for use in the development; and
- Construction and future use of the development.

The Institute of Air Quality Management (IAQM) (2024) Provides a mechanism for the assessments to consider both the magnitude of emissions and sensitivity of an area to dust from demolition and construction (Ref 14.15)

Guidance on the assessment of dust from demolition and construction (Ref 14.15) defines the level of risk of dust soiling and human health impacts during the construction phase.

Defining the construction dust risk levels allows proportionate mitigation measures to be adopted. This guidance is referred to hereafter as the 'IAQM construction dust guidance'.

IAQM (2017) Land-Use Planning & Development Control: Planning for Air Quality (Ref 14.14)

Applicable in assessing the effect of changes in exposure of members of the public resulting from developments. It provides guidance on how to decide whether an air quality assessment is required, how to undertake a suitable assessment of air quality impacts and whether these are to be considered significant or not, and how to identify whether additional mitigation is required.

This guidance would be used to inform the assessment methodology for construction and operational phase vehicle emissions. This guidance is referred to hereafter as the 'IAQM development control guidance'.

National Highways (2024) Design Manual for Roads and Bridges (DMRB) LA 105 Air Quality (Ref 14.18)

Provides the relevant traffic screening criteria (as cited in IAQM guidance on the assessment of ecological sites) to evaluate requirement for assessment of designated ecological sites.

Air quality criteria

14.2.2 The Government has established a set of air quality standards and objectives to protect human health (Displayed in **Table 14-3**). The standards and objectives are set through the Air Quality Standards Regulations (2010) (Ref 14.11), Air Quality (England) Regulations (2000) (Ref 14.9) and the Air Quality (England) (Amendment) Regulations (2002) (Ref 14.11). The 'standards' are set as concentrations below which adverse health effects are unlikely even in sensitive population groups, or below which risks to public health would be exceedingly small. They are based purely upon the scientific and medical evidence of the effects of an individual pollutant. The 'objectives' set out the extent to which the Government expects the standards to be achieved by a certain date.

14.2.3 The air quality objectives only apply where members of the public are likely to be regularly present for the averaging time of the objective (i.e., where people will be exposed to pollutants). As detailed in Defra LAQM.TG22 (Ref 14.4), the annual mean objectives apply to all locations where members of the public might be regularly exposed; these include building façades of residential properties, schools, hospitals, care homes. The 24-hour mean objective applies to all locations where the annual mean objective would apply, together with hotels and gardens of residential properties. The one hour mean objective also applies at these locations as well as at any outdoor location where a member of the public might reasonably be expected to stay for one hour or more, such as shopping streets, parks and sports grounds, as well as bus stations and railway stations that are not fully enclosed.

14.2.4 **Table 14-3** presents the Air Quality Strategy (AQS) objectives for the protection of human health which are applicable to this assessment and provide context to the guidance and baseline data reported on within this chapter.

Table 14-3 Air quality criteria for relevant pollutants

Pollutant	Concentration ($\mu\text{g}/\text{m}^3$)	Averaging period
NO ₂	40	Annual mean
	200	1-hour mean; not to be exceeded more than 18 times a year.
PM ₁₀	40	Annual mean
	50	24-hour mean; not to be exceeded more than 35 times a year.
PM _{2.5}	20	Annual mean
	10	Annual mean to be achieved by 2030* interim target toward the statutory requirement to be achieved by 2040**.

*Interim PM_{2.5} targets have recently been set as per the 2025 Environment Improvement Plan (Ref 14.6). The interim annual mean concentration target of 10 $\mu\text{g}/\text{m}^3$ is to be achieved by 2030 with an interim exposure target of a 30% reduction in population exposure by 2030 (compared to a base year of 2018).

**As per the statutory Environment Act 2021 (Ref 14.3) target for PM_{2.5} (with an exposure reduction target of 35% reduction in population exposure by 2040 (compared to a base year of 2018)).

14.3 Consultation and Engagement

Overview

14.3.1 The assessment has been informed by consultation responses and ongoing stakeholder engagement. An overview of the approach to consultation is provided in Section 5.9 of **Volume 1, Part 1, Chapter 5: PEIR Approach and Methodology**.

Scoping Opinion

14.3.2 A Scoping Report was submitted on 2 September 2025 (Ref 14.19), and formal Scoping Opinion was adopted by the Secretary of State, administered by the Planning Inspectorate, received on 13 October 2025 (Ref 14.20). A summary of the relevant responses received in the Scoping Opinion in relation to the air quality, and confirmation of how these have been addressed within the assessment to date, is presented in **Table 14-4**.

Table 14-4 Summary of EIA scoping opinion responses for air quality assessment

Consultee	Consideration	How addressed in this PEIR
Planning Inspectorate (ID 3.9.1)	The Planning Inspectorate agrees that the Greater Wash SPA does not require further assessment of air quality effects.	No air quality assessment is required for Greater Wash SPA, scoped out of further assessment.
Planning Inspectorate (ID 3.9.2)	The Planning Inspectorate agrees that compliance risk assessment of Defra Pollution Climate Mapping (PCM) links can be scoped out of further assessment as existing PCM concentrations for A52 High Street are well below the limit values for compliance.	Limit Value compliance risk assessment of Defra PCM links has been scoped out of further assessment as stated in Table 14-14 .
Planning Inspectorate (ID 3.9.3)	The Planning Inspectorate agrees that <i>“provided that the ES confirms that operational vehicle types and numbers are below the relevant IAQM or DMRB LA105 screening criteria.”</i>	Table 14-14 states that the total vehicle movements associated with the operational and maintenance phase is below the relevant screening criteria, and is therefore scoped out of assessment. The ES will confirm this.
Planning Inspectorate (ID 3.9.4)	The Planning Inspectorate agrees that backup diesel generator emissions for the convertor station can be scoped out of further assessment. The ES should confirm that this type of plant would not be used at other onshore locations within 200 m of sensitive ecological receptors during operation.	Table 14-14 states that diesel generators will not be used at other onshore locations within 200 m of sensitive ecological receptors during operation. The ES will confirm this.

Consultee	Consideration	How addressed in this PEIR
Planning Inspectorate (ID 3.9.5)	Sea Bank Clay Pits SSSI to be outlined on relevant figures supporting the air quality assessment.	Volume 3, Part 2, Figure 14-2: Air Quality Construction Dust Study Area displays Sea Bank Clay Pits SSSI for information purposes but has been scoped out of further assessment as the SSSI does not fall within the study area for assessment.
Planning Inspectorate (ID 3.9.6)	The ES should justify the use of EGL 3 and EGL 4 monitoring where it is used, explaining why it is relevant to understanding the baseline for, and assessing the impacts of, the Project.	Monitoring data has been used to inform the baseline at PEIR stage as detailed in Section 14.5. This data will also be presented in the ES.
Planning Inspectorate (ID 3.9.7)	The ES should assess NRMM emissions during construction at all locations where these are proposed within 200 m of a sensitive receptor or set out information demonstrating agreement with relevant consultation bodies that significant effects are unlikely. The ES should describe any mitigation measures relied on to avoid likely significant effects and explain how delivery of these would be secured.	NRMM emissions remain scoped in for assessment. Information regarding type, number, location, operational hours and likely emissions have been requested for ES stage. Engagement to be undertaken for the ES to agree absence of likely significant effects and mitigation measures where required. The construction dust risk assessment undertaken for this PEIR has identified construction dust mitigation measures that would be secured through the Construction Environmental Management Plan (CEMP).
Planning Inspectorate (ID 3.9.8)	The air quality assessment should utilise Air Pollution Information Source (APIS) (Ref 14.1) as a data source to identify the sensitivity of habitats and features of designated sites.	APIS has been used as a baseline data source to identify the sensitivity of designated ecological sites as detailed in Table 14-5 .
Non-statutory consultation respondents	Concerns over air quality during the construction phase.	A construction dust assessment has been undertaken for this PEIR, as detailed in Volume 2, Part 2, Appendix 14.A: Construction Dust Assessment and Methodology , which identifies and assesses the likely impacts on air quality during the construction phase. Appropriate mitigation measures have been identified in Table 2-6 of Volume 2, Part 2, Appendix 14.A:

Consultee	Consideration	How addressed in this PEIR
		Construction Dust Assessment and Methodology , where required to reduce the potential effects to not significant.

Technical engagement

14.3.3 Engagement with consultees, such as Natural England, has been primarily through the EIA Scoping consultation. Technical engagement with consultees in relation to air quality is ongoing. Additional engagement with local authorities and key stakeholders to agree the scope and method of assessment will be undertaken and reported in the ES.

14.4 Data Gathering Methodology

Study area

14.4.1 The reporting of baseline conditions has been informed by a review of Defra background maps and available monitoring data within 2 km of the draft Order Limits and surrounding area of East Lindsey. The 2 km area reflects industry standard / good practice and is considered appropriate in order to understand the effects from local sources such as roads and industrial processes and to gather a suitably representative baseline monitoring dataset in lieu of final datasets to base formal study areas upon.

Desk study

14.4.2 A summary of the organisations that have supplied data, together with the nature of that data is outlined in **Table 14-5**.

Table 14-5 Data sources used to inform the air quality assessment

Organisation	Data source	Data provided
UK Centre for Ecology and Hydrology.	APIS website	Sensitivity of ecological sites and critical levels.
Defra	UK Air Website.	Predicted background concentrations for NO ₂ , PM ₁₀ and PM _{2.5} , Air Quality Management Areas (AQMAs) designated by local authorities.
Defra	Magic Maps Website.	Location and type of designated ecological sites.
East Lindsey District Council	2025 Annual Status Report (covering 2024 concentrations).	Local authority monitoring pollutant data.

Survey work

- 14.4.3 NO₂ diffusion tube monitoring surveys are being undertaken for nearby projects including Eastern Green Link 3 and 4 (EGL 3 and EGL 4) and Grimsby to Walpole. Relevant data from these monitoring surveys have been utilised for the EGL 5 as a means of adequately characterising the baseline for the surrounding area. On this basis no air quality monitoring survey work has been undertaken or is proposed specifically for EGL 5.

14.5 Overall Baseline

- 14.5.1 This section sets out the air quality information and data that will be relied upon to produce a detailed review of baseline conditions that will be contained within the ES.

Current baseline

- 14.5.2 As required by the Environment Act 1995 (Ref 14.8), the local authorities covering the study area have undertaken review and assessment of air quality within their area of jurisdiction, producing Annual Status Reports which appraise local air quality over the most recent full calendar year. This annual reporting regime informs the declaration or revocation of AQMAs, which are areas where monitoring has concluded that there are exceedances of AQS objectives (as detailed in **Table 14-3**).
- 14.5.3 Local authorities generally undertake and prioritise air quality monitoring in those areas where there are higher levels of exposure to higher pollutant concentrations (e.g., urban areas, transport corridors, near industrial installations). Rural areas such as those which comprise the bulk of the draft Order Limits are generally not monitored unless there is a specific reason to do so – for example a pollution hotspot such as an industrial process or congested road.
- 14.5.4 A review of the most recent available Annual Status Report published by East Lindsey District Council (published during 2025) (Ref 14.2) shows that only non-automatic (NO₂ diffusion tube) monitoring was undertaken in 2024. The monitoring data shows no exceedances of the AQS objectives and no AQMAs have been declared. All monitoring undertaken by East Lindsey District Council is located beyond 2 km of the draft Order Limits in the urban areas of Louth, Skegness and Horncastle. East Lindsey District Council did not monitor PM₁₀ and PM_{2.5} during 2024.
- 14.5.5 **Table 14-6** displays the monitoring data undertaken by East Lindsey District Council covering the air quality baseline data study area between 2019 and 2024. Locations of which are presented on **Volume 3, Part 2, Figure 14-1: Air Quality Baseline**.

Table 14-6 Local authority monitoring data

Diffusion tube ID	X	Y	Site type	Annual mean NO ₂ concentration (µg/m ³)					
				2019	2020	2021	2022	2023	2024
SK1, SK2, SK3	556355	363295	Roadside	28.7	21.5	23.3	24.2	23.5	22.3
SK4	556380	363363	Roadside	22.7	18.7	19.5	20.1	21.1	17.0
H1	526075	369545	Roadside	34.3	23.3	26.2	25.4	25.5	25.6
H2	526028	369528	Roadside	25.9	20.3	20.7	20.5	19.8	18.4
H3	526264	369723	Roadside	12.5	14	10.9	9.4	8.5	7.9
H4	526007	369585	Roadside	25	12.6	19.4	20.5	18.4	17.4
L1	533225	387190	Roadside	16.1	12.8	13.3	12.9	11.9	10.6
L2, L3, L4	533215	387353	Roadside	23.8	16.7	19.2	18.6	18	17.1
L5	533459	387475	Urban Background	12.9	10.1	10.1	9.6	8.4	8.2
L6	532693	387335	Roadside	25.5	19.3	20.1	21.2	19.6	19.1

14.5.6 A review of the available modelled background concentrations within the draft Order Limits plus a 2 km buffer has been carried out using Defra predicted annual mean background concentrations (Ref 14.7) provided in 1 km x 1 km grid squares. Due to the low density of air pollutant sources in rural and suburban areas, background pollutant concentrations are generally observed to be very low, and well below the relevant AQS objectives. **Table 14-7** summarises the minimum, maximum and average background concentrations for NO₂, PM₁₀ and PM_{2.5} across the draft Order Limits and surrounding area for the current year (2026).

Table 14-7 Summary of Defra 2026 background pollutant concentrations across the draft Order Limits and surrounding area (within 2 km)

	Predicted background concentration for 2026 (µg/m ³)		
	NO ₂	PM ₁₀	PM _{2.5}
Annual Mean AQS Objective	40	40	20
Minimum	5.1	8.9	5.0
Maximum	5.8	12.5	5.8
Average	5.4	12.0	5.4

14.5.7 **Table 14-7** above indicates that background pollutant concentrations modelled by Defra around the draft Order Limits and surrounding area are low, which is consistent with the largely rural nature of the location. When compared to the AQS objectives (as presented in **Table 14-3**, the background pollutant concentrations are very low.

14.5.8 A six-month diffusion tube monitoring survey has been undertaken for the nearby NGET EGL 3 and EGL 4 projects from June to December 2025 to determine baseline NO₂ concentrations. Monitoring was undertaken at nine triplicate diffusion tube locations, one of which was co-located at the Kings Lynn automatic monitoring station. The only monitoring location within 2 km of the draft Order Limits was EGL 3/4_8 located in Alford, as displayed on **Volume 3, Part 2, Figure 14-1: Air Quality Baseline**. The indicative results received to date are detailed in **Table 14-8** for the sites located within East Lindsey District. While the EGL 3 and EGL 4 monitoring locations are not primarily located close to the draft Order Limits, they provide useful baseline data for the ES for model verification purposes subject to determination of the modelled road network. It should be noted that the results have not yet been bias adjusted and annualised so are not representative of an annual mean concentration comparable to AQS objectives. Bias adjusted and annualised data will be presented in the ES.

Table 14-8 EGL 3 and EGL 4 Projects' raw monthly NO₂ monitoring survey results from sites within East Lindsey District

Diffusion tube ID	X	Y	Raw monthly monitored NO ₂ concentration (µg/m ³)						Raw six-month average
			1	2	3	4	5	6	
EGL3/4_6	539684	365109	17.5	14.8	18.7	17.7	16.5	15.9	16.9
EGL3/4_8	544860	375747	13.8	9.9	12.8	15.6	13.9	14.8	13.5

14.5.12 A diffusion tube monitoring survey is also being undertaken for the nearby Grimsby to Walpole project. Whilst none of the monitoring locations are within 2 km of the draft Order Limits, five of the sites are located within the East Lindsey District and could provide useful baseline information once results are available. The locations of the monitoring locations within East Lindsey are detailed in **Table 14-9** and presented on **Volume 3, Part 2, Figure 14-1: Air Quality Baseline**.

Table 14-9 Grimsby to Walpole diffusion tube monitoring locations within East Lindsey District

Diffusion tube ID	X	Y
G2W_4	530831	393440
G2W_5	535499	379526
G2W_6	538605	376699
G2W_7	545275	367410
G2W_8	534382	356647

14.5.13 The monitoring survey results for EGL 3 and EGL 4 and Grimsby to Walpole will be updated to reflect the final annual mean concentrations for the ES and will be used where appropriate.

Future baseline

14.5.14 Background pollutant concentrations are predicted to decrease in future years, as evidenced by trends observed from local authority monitoring data and future predicted Defra background map concentrations; however, the rate of decrease has slowed in recent years and is generally slower in rural areas where non-traffic sources are more prominent.

14.5.15 Traffic emissions from roads in the vicinity of the English Onshore Scheme will contribute to baseline air pollutant concentrations now and in the future. While vehicle numbers are likely to increase, vehicle emissions per vehicle are predicted to decrease over time due to new technology, increasingly stringent emission regulations and cleaner fuel formulations.

14.5.16 Consented or proposed developments which are later consented in the surrounding area may increase traffic flows in the vicinity of the English Onshore Scheme. This may therefore result in localised increases in air pollutant concentrations as compared to the existing baseline. In addition, construction of any consented developments may result in a temporary increase in particulate concentrations as a result of fugitive dust emissions during construction works, however experience demonstrates that cumulative dust impacts can be minimised or eliminated if sufficient dust management strategies and controls are implemented by each development.

14.5.17 The potential for cumulative effects will be considered according to the approach outlined within **Volume 1, Part 4, Chapter 27: Cumulative Effects**. A cumulative assessment to consider consented developments will be undertaken at ES stage when cumulative traffic data is available.

14.5.18 Future year background pollutant data for the grid squares within 2 km of the draft Order Limits were downloaded from the Defra website. **Table 14-10** summarises the minimum, maximum and average background concentrations for NO₂, PM₁₀ and PM_{2.5} across the draft Order Limits and surrounding area for 2030 or 2031 (anticipated peak construction traffic year).

Table 14-10 Summary of Defra 2031 background pollutant concentrations across the draft Order Limits and surrounding area (within 2 km)

	Predicted background concentration for 2031 (µg/m ³)		
	NO ₂	PM ₁₀	PM _{2.5}
Annual Mean AQS Objective	40	40	20
Minimum	4.3	8.5	4.7
Maximum	4.9	12.5	5.4
Average	4.6	11.7	5.1

14.5.19 **Table 14-10** above indicates that future background pollutant concentrations in 2031 around the draft Order Limits and surrounding area are low, which is consistent with the rural nature of the location. When compared to the AQS objectives (as presented in **Table 14-3**, the background pollutant concentrations are very low.

14.6 Environmental Measures

14.6.1 As set out in **Volume 1, Part 1, Chapter 5: PEIR Approach and Methodology**, the environmental measures are characterised as design measures or control and management measures. A range of environmental measures would be implemented as part of the English Onshore Scheme and will be secured in the DCO where relevant.

14.6.2 **Table 14-11** outlines how these design and control measures will influence the air quality assessment. In addition to the measures listed in **Table 14-11**, standard mitigation measures, comprising management activities and techniques, would be implemented during the construction of the Project to limit effects through adherence to good site practices and achieving legal compliance.

14.6.3 Measures listed in **Table 14-11** have been assigned ID references, for example (AQ01). These align with the references provided in **Volume 2, Part 1, Appendix 5.B: Outline Code of Construction Practice (CoCP)** for ease of cross-reference.

Table 14-11 Summary of environmental measures

Receptor	Potential changes and effects	Environmental measures	ID reference
Construction			
Human and / or ecological receptors within 200 m of the affected road network.	Increases in pollutant concentrations from vehicles associated with the Project.	Sensitive routing of construction vehicles to avoid sensitive receptors where practicable.	AQ01 (C)
Human receptors within 250 m of the draft Order Limits, ecological receptors within 50 m of construction vehicle routes.	Dust deposition and health impacts from elevated PM concentrations.	A range of measures will be adopted throughout the duration of the construction phase of the English Onshore Scheme. Measures relevant to air quality have been defined in the construction dust risk assessment. Environmental measures based on the calculated dust risk for the English Onshore Scheme is presented in Table 2-6 of Volume 2, Part 2, Appendix 14.A: Construction Dust Assessment and Methodology.	AQ02 (C) – AQ11 (C)

14.7 Scope of the Assessment

Spatial scope and study area

- 14.7.1 The spatial scope of the assessment of air quality covers the area of the English Onshore Scheme contained within the draft Order Limits, together with the study areas described below. Details regarding NRMM specifications were not available for assessment at PEIR stage and will be reviewed for ES.

Construction Phase Dust Assessment

- 14.7.2 The IAQM construction dust guidance (Ref 14.15), recommends the following study area for construction phase dust:
- Up to 250 m from the draft Order Limits for human receptors and up to 50 m for ecological receptors.
 - Up to 50 m from the route(s) used by construction vehicles, up to a distance of 250 m along the highway from the proposed bell mouths.
- 14.7.3 Natural England raised concerns with the Grimsby to Walpole project that the 50 m construction dust study area for ecological receptors advocated in the IAQM construction dust guidance was too limited. Following feedback and collaborative meetings with the Grimsby to Walpole project, NGET sought to adopt consistent approaches for the study area for the construction phase dust for the English Onshore Scheme as follows:
- Up to 250 m from the draft Order Limits for human receptors and up to 200 m from the draft Order Limits for ecological receptors.
 - For human receptors - Up to 50 m from the route(s) used by construction vehicles on the public highway, up to 250 m from the proposed bell mouths.
 - For ecological receptors - Up to 200 m from the route(s) used by construction vehicles on the public highway, up to 250 m from the proposed bell mouths.
- 14.7.4 Ecological designated sites and sensitive receptors (e.g., residential properties, hospitals, schools and care homes) within the above criteria form the study area.
- 14.7.5 The study areas detailed above are shown on **Volume 3, Part 2, Figure 14-2: Air Quality Construction Dust Study Area**.

Construction Phase Vehicle Emissions: Human Receptors

- 14.7.6 The IAQM development control guidance (Ref 14.14) details its own indicative traffic flow change criteria that, if met on a given road, may highlight the need for an assessment. The screening criteria for vehicle emissions assessment is as follows:
- A change in Light Duty Vehicle (LDV, <3.5 tonnes) flows of >100 Annual Average Daily Traffic (AADT) within or adjacent to an AQMA, or >500 AADT elsewhere.
 - A change in Heavy Duty Vehicle (HDV, ≥3.5 tonnes) flows of >25 AADT within or adjacent to an AQMA, or >100 AADT elsewhere.
 - Where a road is realigned by 5 m or more and is within an AQMA.
 - Where a junction is added or removed close to existing receptors.

- Where there are one or more substantial combustion processes where there is a risk of impacts at relevant receptors.

14.7.7 Human sensitive receptors (e.g., residential properties, hospitals, schools and care homes) within 200 m of any traffic links that meet the above traffic screening criteria, are therefore part of the study area. These are assessed in a proportionate manner; those receptors closest to the roads comprising the study area and / or those receptors in existing areas of poor air quality are assessed as representative receptors.

14.7.8 In addition to human sensitive receptors, local authority monitoring data within 200 m of any traffic links that meet the above IAQM traffic screening criteria, are included as part of the study area.

Construction Phase Vehicle Emissions: Ecological Receptors

14.7.9 Effects from vehicle emissions on ecological receptors are screened in if the flow change criteria set in National Highways DMRB LA105 Guidance (Ref 14.18) are met. Roads which meet any of the criteria below are collectively referred to as the Affected Road Network. The guidance states relevant designated sites of ecological importance within 200 m of roads meeting one or more of the following criteria should be assessed:

- A change in traffic flows $\geq 1,000$ vehicles per day;
- A change in HDV flows of ≥ 200 vehicles per day;
- A change in speed band; and
- A change in carriageway alignment by ≥ 5 m.

14.7.10 Ecological sites sensitive to impacts from air pollutants which fall within 200 m of roads meeting these criteria are assessed as part of the study area.

Non-Road Mobile Machinery Emissions

14.7.11 Details regarding NRMM specifications were not available for assessment at PEIR stage, therefore NRMM emissions assessment will be reviewed at ES stage. The extent and nature of the assessment would be dictated by the level of detail available at ES stage in terms of number, type, location, operating hours and power ratings of NRMM to be used on the Project.

14.7.12 No specific guidance exists on the definition of a study area for NRMM sources due to the large variation in the area of potential impact from different types of sources.

14.7.13 For the purposes of the ES assessment a study area of up to 200 m radius from likely long-term locations of NRMM is considered appropriate given the size and temporary nature of the operations. This approach is consistent with the approach adopted for NRMM on other NGET projects such as the Sea Link ES (Ref 14.17). Beyond this distance it is judged that the effect of any emissions on local air quality would not be significant.

Temporal scope

- 14.7.14 The temporal scope of the assessment of air quality is consistent with the period over which the English Onshore Scheme would be carried out. As detailed in **Volume 1, Part 1, Chapter 4: Description of the Project**, it covers the period 2029 – 2035 for construction, and the lifetime of the Project for operation (expected to operate for 40 years, although likely extended through replacement and repair). Air quality impacts associated with the operational and maintenance phases of the Project have been scoped out of assessment as detailed in **Table 14-14**.
- 14.7.15 The English Onshore Scheme is expected to have a minimum life span of approximately 40 years. If decommissioning is required at this point in time, then activities and effects associated with the decommissioning phase are expected to be of a similar level to those during the construction phase works, albeit with a lesser duration of two years. Acknowledging the complexities of completing a detailed assessment for decommissioning works up to 40 years in the future, it is considered that the significance of effects relating to the decommissioning phase would be no greater than those from the construction phase and decommissioning effects are not discussed in detail in this chapter; however, **Table 4-19 in Volume 1, Part 1, Chapter 4: Description of the Project** provides a high level summary assessment of the likely significant effects associated with decommissioning. Furthermore, should decommissioning take place it is expected that an assessment in accordance with the legislation and guidance at the time of decommissioning would be undertaken.

Identification of receptors

- 14.7.16 The principal air quality receptors that have been identified as being potentially subject to significant effects are summarised in **Table 14-12**.
- 14.7.17 It should be noted that not all receptors identified in **Table 14-12** have been assessed for this PEIR as limited details are available at this stage and will be assessed at ES stage.

Table 14-12 Air quality receptors subject to potential effects

Receptor	Reason for consideration
Construction phase dust emissions: Human and ecological receptors	There is potential for these receptors to be affected by dust deposition and health impacts from elevated PM concentrations associated with a range of construction activities during the build out of the English Onshore Scheme.
Construction phase vehicle emissions: Human receptors	There is potential for increases in NO ₂ , PM ₁₀ and PM _{2.5} concentrations from vehicle emissions to affect these receptors during the construction phase of the English Onshore Scheme.
Construction phase vehicle emissions: Ecological receptors	There is potential for increases in NO _x and NH ₃ concentrations and nitrogen deposition rates from vehicle exhaust emissions to affect these receptors during the construction phases of the English Onshore Scheme.

Receptor	Reason for consideration
Construction phase emissions from Non-Road Mobile Machinery: Human and ecological receptors	There is potential for increases in local air pollutant concentrations from NRMM point source emissions to affect these receptors during the construction phase of the English Onshore Scheme. For ecological receptors, this can lead to increases in nitrogen deposition which may affect site integrity.

Potential effects considered within this assessment

14.7.18 The effects on air quality receptors, which have the potential to be significant and have been taken forward for detailed assessment are summarised in **Table 14-13**.

Table 14-13 Air quality receptors scoped in for further assessment

Receptor	Likely significant effects
Construction phase dust emissions: Human and ecological receptors	<p>There is the potential for significant effects from dust deposition and health impacts from elevated PM concentrations, caused by construction activities if standard measures are not adopted or if the measures suggested in Table 14-10 are not stringent enough to the risk level that is established.</p> <p>There is the potential for significant effects on ecological function of a designated site caused by construction activities if standard measures are not adopted or if the measures suggested in Table 14-10 are not stringent enough to the risk level that is established. A Construction Dust Risk Assessment based on the information available at PEIR stage is therefore presented in Volume 2, Part 2, Appendix 14.A: Construction Dust Assessment and Methodology in order to define risk level and inform the selection of environmental measures which will form part of the Outline CoCP, submitted in support of the DCO application.</p>
Construction phase vehicle emissions: Human receptors	There is the potential for significant effects from increases in local air pollutant concentrations from vehicle emissions during the construction phase, as initial screening of construction traffic flows show vehicle trips exceed the IAQM development control guidance (Ref 14.14).
Construction phase vehicle emissions: Ecological receptors	There is the potential for significant effects from increases in local air pollutant concentrations and nitrogen deposition rates from vehicle emissions during the construction phase, as initial screening of construction traffic flows show vehicle trips exceed the National Highways DMRB LA105 Guidance (Ref 14.18) criteria.
Construction phase emissions from Non-Road Mobile Machinery: Human and ecological receptors	There is the potential for significant effects from increases in local air pollutant concentrations and nitrogen deposition rates from NRMM emissions during the construction phase of the English Onshore Scheme. This would be reviewed again in the ES when the location, type, operating regime and power rating of any NRMM is confirmed.

14.7.19 The receptors / effects detailed in Table 14-14 have been scoped out from being subject to further assessment because the potential effects are not considered likely to be significant.

Table 14-14 Summary of effects scoped out of the air quality assessment

Receptors / potential effects	Justification
Operational and maintenance phase vehicle emissions: Human and ecological receptors	The total vehicle movements associated with the operational and maintenance phase equates to approximately 20 Annual Average Daily Traffic (AADT) flows. These vehicle flows are below the IAQM and National Highways DMRB LA105 screening criteria (Ref 14.18). As the number of AADT flows does not meet the assessment threshold no further assessment is required and the assessment of operational and maintenance phase vehicle emissions is scoped out of the PEIR and subsequent ES.
Operational and maintenance phase emissions from diesel back-up generator use: Human and ecological receptors	There are no human receptors or sensitive ecological sites with statutory designations within 200 m of the proposed convertor station. Generators would not be used at other onshore locations within 200 m of sensitive ecological receptors during operation.
Defra PCM links compliance	Existing concentrations for Defra PCM links are well below the limit values for compliance therefore compliance risk assessment is scoped out of the PEIR and subsequent ES.
Greater Wash SPA	Due to its intertidal marine nature, the Greater Wash SPA is scoped out of further assessment of air quality effects.

14.8 Key Parameters for Assessment

Realistic worst-case design scenario

- 14.8.1 The assessment has followed the Rochdale Envelope approach as outlined in **Volume 1, Part 1, Chapter 4: Description of the Project** and **Volume 1, Part 1, Chapter 5: PEIR Approach and Methodology** of the PEIR. The assessment of effects has been based on the description of the Project and parameters outlined in **Volume 1, Part 1, Chapter 4: Description of the Project**. However, where there is uncertainty regarding a particular design parameter, the realistic worst-case design parameters are provided below with regards to air quality along with the reasons why these parameters are considered worst-case. The preliminary assessment for air quality has been undertaken on this basis. Effects of greater adverse significance are not likely to arise should any other development scenario, based on details within the Rochdale Envelope (e.g., different infrastructure layout within the draft Order Limits), to that assessed here be taken forward in the final design of the English Onshore Scheme.
- 14.8.2 In relation to air quality the following assumptions are made regarding the English Onshore Scheme design parameters in order to ensure a realistic worst-case assessment has been undertaken:

- With regards to construction activities leading to construction dust emissions it is assumed that these could take place anywhere within the draft Order Limits, including at the edge of the draft Order Limits. This is considered to be worst case as it reflects the shortest separation distance to the nearest sensitive receptors.
- It has been assumed that construction phase NRMM emissions would occur at the boundary of the indicative zone for construction compounds, owing to uncertainty and lack of information regarding the actual position and duration during the construction phase. It is assumed that emissions from construction phase NRMM would be temporary and transient in nature and as such, impacts and significance are provisionally deemed to be negligible. Defra LAQM.TG22 (Ref 14.4) States that *“Experience of assessing the exhaust emissions from on-site plant (NRMM) and site traffic suggests that, with suitable controls and site management, they are unlikely to make a significant impact on local air quality. In the vast majority of cases they will not need to be quantitatively assessed – qualitative consideration to the above points [list of NRMM mitigation measures] will likely provide sufficient screening.”* However, this will be confirmed in the ES once further information is available.

Consideration of construction scenarios

- 14.8.3 As detailed in **Volume 1, Part 1, Chapter 4: Description of the Project**, the timing of construction activities set out within this PEIR is indicative. It has been identified that elements of the Project could be constructed sequentially or concurrently.
- 14.8.4 It has been identified that elements of the Project could be constructed concurrently including civils works (e.g., indicative zone for construction compounds, haul roads) and works at the selected landfall or sequentially. Given that the previously described environmental measures associated with construction would be in place until commission and testing was complete, effects relating to construction dust risk are anticipated to be materially the same whether elements of the Project were constructed concurrently or sequentially.
- 14.8.5 In relation to the emissions from construction phase traffic, the peak traffic year of 2031 assumes a concurrent build out of the English Onshore Scheme.

Consideration of operational and maintenance phase

- 14.8.6 During the operational (and maintenance) phase, it is anticipated that the converter station will be operated by a small team (8-10 staff) and maintenance would be limited to routine activities. Occasional HGV and AIL access would be required. Assuming all converter station staff drive, this equates to 20 LGV trips per day (10 arrivals, 10 departures), plus occasional maintenance vehicles and visitors.
- 14.8.7 The total vehicle movements equate to approximately 20 AADT associated with the converter station during the operational (and maintenance) phase. On the basis of this information, no likely significant effects are expected as the volumes do not meet the traffic assessment criteria listed in DMRB LA105 (Ref 14.18) or in the IAQM Development Control guidance (Ref 14.14). Therefore, as set out in the Scoping Report (Ref 14.19), and confirmed by the Scoping Opinion (Ref 14.20), the operational (and maintenance) phase is scoped out of the PEIR and subsequent ES.

14.9 Assessment Methodology

Overview

- 14.9.1 The generic project-wide approach to the assessment methodology is set out in **Volume 1, Part 1, Chapter 5: PEIR Approach and Methodology**, and specifically in Sections 5.4 - 5.6. However, whilst this has informed the approach that has been used in this air quality assessment, it is necessary to set out how this methodology has been applied, and adapted as appropriate, to address the specific needs of this air quality assessment. Details are provided below.

Construction dust assessment

- 14.9.2 During the construction phase of the English Onshore Scheme there is the potential for fugitive dust emissions to occur as a result of construction phase activities. These have been assessed in accordance with the methodology outlined in the IAQM construction dust guidance. The methodology is summarised in the following paragraphs and detailed assessment steps are presented in **Volume 2, Part 2, Appendix 14.A: Construction Dust Assessment and Methodology**.
- 14.9.3 As per Paragraph 14.7.15, fugitive dust emissions associated with decommissioning activities are scoped out of assessment; however, Section 4.8 in **Volume 1, Part 1, Chapter 4: Description of the Project** provides a high-level summary assessment of the likely significant effects associated with decommissioning. Should decommissioning take place it is expected that an assessment in accordance with the legislation and guidance at the time of decommissioning would be undertaken.

Outline of method

- 14.9.4 The IAQM construction dust guidance (Ref 14.15) places an emphasis on the application of professional judgement based on available evidence. It prompts the practitioner to evaluate the unmitigated dust emission magnitude for construction, demolition, trackout and earthworks associated with a given development, tying this to the sensitivity of the area being assessed. This allows dust risk for each activity to be determined; these risk levels are then used as the basis for informing proportionate environmental measures which are to be adopted throughout the construction period.

Receptor sensitivity / value

- 14.9.5 The sensitivity of the area to dust impacts can be defined as low, medium, or high sensitivity, in accordance with IAQM construction dust guidance (Ref 14.15).
- 14.9.6 The IAQM construction dust guidance (Ref 14.15) defines a human receptor as “*any location where a person or property may experience the adverse effects of airborne dust or dust soiling, or exposure to PM over a time period relevant to the air quality objectives*”, as defined in Local Air Quality Management Technical Guidance (22) (Ref 14.4). In terms of annoyance effects, this will most commonly relate to dwellings but may also refer to other premises such as buildings housing cultural heritage collections (e.g., museums and galleries), vehicle showrooms, food manufacturers, electronics manufacturers, amenity areas and horticultural operations (e.g., salad or soft-fruit production).

14.9.7 An ecological receptor is defined as “*any sensitive habitat affected by dust soiling. This includes the direct impacts on vegetation or aquatic ecosystems of dust deposition, and the indirect impacts on fauna (e.g., on foraging habitats).*”

14.9.8 The influencing factors to define receptor sensitivity to dust impacts are as follows:

- High – where human receptors are expected to be present continuously for extended periods of time e.g., residential properties, hospitals, schools and care homes. Internationally or nationally designated ecological sites.
- Medium – where users would expect to enjoy a reasonable level of amenity and value could be diminished by dust soiling e.g., parks and places of work. Nationally designated ecological sites.
- Low – where enjoyment of amenity would not reasonably be expected and exposure would be for limited periods e.g., footpaths, shopping streets and car parks. Locally designated ecological sites.

Magnitude of impact

14.9.9 The scale and nature of the works determines the magnitude of dust arising as small, medium or large.

14.9.10 The relevant criteria to define the potential magnitude of dust emissions includes the factors listed below for each level of magnitude. Professional judgment should be applied to establish the dust emissions magnitude:

- Small – demolition volume under 12,000 m³, demolition activities less than 6 m above ground level, total site area less than 18,000 m², soil type with large grain size, total building volume less than 12,000 m³, construction material with low potential for dust release, less than 20 HDV trips per day, unpaved road length less than 50 m.
- Medium – demolition volume 12,000 m³ - 75,000 m³, demolition activities between 6 m - 12 m above ground level, total site area 18,000 m² - 110,000 m², moderately dusty soil type, potentially dusty construction material, total building volume 12,000 m³ - 75,000 m³, 20 - 50 HDV trips per day, unpaved road length 50 - 100 m.
- Large – on-site crushing and screening, demolition volume greater than 75,000 m³, demolition activities greater than 12 m above ground level, total site area greater than 110,000 m², more than 10 heavy earth moving vehicles active at any one-time, total building volume greater than 75,000 m³, on site concrete batching, sandblasting, more than 50 HDV trips per day, unpaved road length greater than 100 m.

Significance of effect

14.9.11 The IAQM construction dust guidance (Ref 14.15) categorises the unmitigated risk of dust impacts on human health and amenity (rather than ascribe a significance of effect) as a means of identifying the level of dust emissions mitigation required to ensure that residual effects are 'not significant'. The dust risk rating is based upon the magnitude of dust from construction activities and the sensitivity of the receiving environment. A higher dust risk rating requires more stringent environmental measures to limit or eliminate residual effects. The risk of dust impact categories is presented in **Table 1-6 to Table 1-8 in Volume 2, Part 2, Appendix 14.A: Construction Dust Assessment and Methodology**. A higher dust risk rating requires more stringent environmental measures to limit or eliminate residual effects.

14.9.12 The application of control and management measures within **Volume 2, Part 1, Appendix 5.B: Outline Code of Construction Practice (CoCP)**, to be submitted in support of the DCO application, would be applied in a proportionate manner based on the risk criteria set out in the IAQM construction dust guidance (Ref 14.15). For example, in areas where there are no receptors within 250 m of works there would be a much lower risk from dust impacts and as such the mitigation would be applied in a suitable manner based on risk.

Construction vehicle emissions assessment

14.9.13 At this stage, construction traffic flows are preliminary, limited in geographical extent, and will be subject to further change as the design evolves before it is finalised. As such analysis of the air quality impact from construction phase vehicle emissions was limited to calculating the likely air quality study area for further detailed assessment at ES stage. The construction phase traffic data has been screened against the screening criteria for each type of receptor:

- Effects on human receptors – IAQM development control guidance screening criteria (Ref 14.14); and
- Effects on ecological receptors – National Highways DMRB LA105 Guidance traffic screening criteria (Ref 14.18).

14.9.14 With the application of the screening criteria to the relevant receptors it is possible to establish the likely study areas for effects on human receptors and ecological receptors. The potential affected road networks identified through initial screening of construction traffic data for the anticipated peak construction year (2031) are discussed in Section 14.10.

Preliminary assessment of cumulative effects

14.9.15 At the current stage of the Project (PEIR stage), design information is insufficient to allow for a robust cumulative assessment to be undertaken.

14.9.16 Therefore, a cumulative assessment has not been undertaken at this stage; however, **Volume 1, Part 4, Chapter 27: Cumulative Effects** and **Volume 2, Part 4, Appendix 27.A Long List of other Developments** present the long and short lists of 'other developments' for the inter-project cumulative effects which will be considered at the ES stage (with updates as necessary), and the methodology which allowed for the identification of these other developments, to allow consultation bodies to form a view and provide comment on the other developments included. The long list will be reviewed and if necessary, updated, in the lead up to the ES, as the Project design further evolves and in response to any comments raised at statutory consultation.

14.9.17 Intra-project cumulative effects from vehicle emissions associated with the English Onshore Scheme would be considered as part of the ES through the inclusion of growth factors and committed development vehicle flows in the traffic data used for the ES. For more detail on this refer to **Volume 1, Part 2, Chapter 12: Traffic and Transport**.

14.10 Preliminary Assessment of Air Quality Effects

Construction dust assessment

14.10.1 The construction dust assessment and methodology are set out in **Volume 2, Part 2, Appendix 14.A: Construction Dust Assessment and Methodology**. The construction dust assessment has been undertaken in accordance with the IAQM construction dust guidance (Ref 14.15) and adopts a worst-case approach applying the highest sensitivity and risk classifications and assumes that construction activities could take place on the boundary of the draft Order Limits. In reality, there will be variation in the magnitude of dust emissions throughout the construction phase dependant on the specific construction activities being undertaken and variation in sensitivity of the environment across the draft Order Limits. Therefore, the risk of impacts to receptors would vary throughout the construction phase and as such the level of environmental measures would potentially differ to those recommended in the construction dust assessment. Resultingly, a precautionary approach to defining the environmental measures was adopted to ensure that dust would be adequately controlled. Specific measures are incorporated into **Volume 2, Part 1, Appendix 5.B: Outline Code of Construction Practice (CoCP)**.

Dust Emission Magnitudes

14.10.2 The potential dust emission magnitudes have been determined for the following construction activities, earthworks, construction and trackout. No demolition activities are proposed for the English Onshore Scheme; therefore, they have not been considered further in the assessment.

14.10.3 **Table 14-15** below summaries the dust emission magnitudes for earthworks, construction and trackout.

Table 14-15 Dust emission magnitude summary

Activity	Dust emission magnitude
Earthworks	Large
Construction	Medium
Trackout	Large

Receptor Sensitivity

14.10.4 Receptors sensitive to potential dust impacts during earthworks and construction activities, were approximated in a construction dust study area up to 250 m from the draft Order Limits. Those receptors sensitive to trackout were approximated in the construction dust study area within 50 m of the road, up to a distance of 250 m along the highway from the proposed bell mouths (those locations which connect the road network with the offline haul roads within the draft Order Limits). There are no designated ecological sites within 250 m of the draft Order Limits other than Greater Wash SPA which has been scoped out of air quality assessment (nitrogen deposition and NOx impacts) due to its intertidal marine nature. Therefore, ecological sites have not been assessed further.

14.10.5 Considering the number of receptors within the above areas and following the IAQM construction dust guidance, the sensitivity of the receiving environment to specific dust impacts have been determined. These are summarised in **Table 14-16**.

Table 14-16 Summary of the sensitivity of the area

Potential impact	Sensitivity of the surrounding area		
	Earthworks	Construction	Trackout
Dust Soiling	Medium	Medium	Medium
Human Health	Low	Low	Low

Dust Risk

14.10.6 The risk of effects in the absence of environmental measures was then defined based upon the interaction between the magnitude of emission and the highest level of area sensitivity for each dust generating activity. The (unmitigated) risk of dust effects was determined, as presented in **Table 14-17**.

Table 14-17 Summary of the risk of dust effects

Potential impact	Risk		
	Earthworks	Construction	Trackout
Dust Soiling	High Risk	High Risk	High Risk
Human Health	Low Risk	Low Risk	Low Risk

14.10.7 The IAQM construction dust guidance provides potential environmental measures to reduce impacts as a result of dust emissions during the construction phase. These have been adapted for the English Onshore Scheme based on the risk of dust effects and can be found in **Volume 2, Part 2, Appendix 14.A: Construction Dust Assessment and Methodology**. These measures have been included within **Volume 2, Part 1, Appendix 5.B: Outline Code of Construction Practice (CoCP)**.

14.10.8 It is expected that with the adoption of the control and management measures presented in **Table 2-6 in Volume 2, Part 2, Appendix 14.A: Construction Dust Assessment and Methodology**, residual effects from construction dust would be considered not significant. Examples of control and management measures will include:

- Site Management (logging of incidents / complaints);
- Monitoring (site inspections, compliance with Dust Management plan, etc);
- Preparing and Maintaining the site (locate dust causing activities away from receptors, barriers, cleaning, enclosed specific operations with high potential for dust production, cover stockpiles, etc);

- Operating vehicle / machinery and sustainable travel (comply with NRMM standards, no idling, use mains electricity, travel plan etc);
- Operations (employ dust suppression, use enclosed chutes, minimise drop heights, etc);
- Earthworks measures (revegetate promptly, use hessian mulches and cover with topsoil, etc);
- Construction measures (avoid scabbling, keep aggregates damp, ensure fine powder materials are delivered enclosed and stored in silos, ensure bags are sealed after use); and
- Trackout measures (wash access and local roads, avoid dry sweeping of large areas, ensure vehicle-borne materials are covered, install hard surface haul routes, wheel washing, etc).

Construction vehicle emissions

14.10.9 Annual average daily traffic data was provided for 20 road links across the extent of the English Onshore Scheme for each year of the construction phase, as detailed in **Volume 2, Part 2, Appendix 12.C: Construction Phase Traffic Flows**. These were screened against the IAQM development control screening criteria (applicable for human receptors) and the DMRB LA105 screening criteria (applicable for ecological receptors). Traffic flow screening has identified 8 of the 20 road links that exceed the relevant criteria for further detailed assessment of potential air quality impacts. The indicative affected road links are detailed in **Table 14-18** along with the preliminary construction traffic flows for the peak year 2031.

Table 14-18 Preliminary Construction Traffic Affected Road Network - 2031 AADT Flows

Road Link	2031 Construction Traffic AADT Flows	2031 HGV Construction Traffic AADT Flows
A157 Kenwick Hill	618	283
A16	697	283
A1104 Ulceby Cross - Alford	760	283
A1111 Alford Road	760	283
B1449 Thurlby Road	607	200
B1449 Long Lane	456	139
A52 Mumby Road	463	139
A52 Sutton Road	463	139

14.10.10 Detailed dispersion modelling to assess potential impacts on human and ecological receptors would be undertaken as part of the ES once finalised traffic data is available.

Non-Road Mobile Machinery

- 14.10.11 NRMM would be active across the construction phase of the English Onshore Scheme. Sensitive human and ecological receptors within a 200 m radius from likely long-term locations of NRMM will be considered at ES stage once detailed information on the type, number, location, power rating and operational hours of NRMM to be used is available.

14.11 Further Work to be Undertaken

- 14.11.1 The information provided in this PEIR is preliminary, the final assessment of potential significant effects will be reported in the ES. This section describes the further work to be undertaken to support the air quality assessment presented in the ES.

Baseline

- 14.11.2 Local authority monitoring data will be reviewed at ES stage to ensure that the baseline data is as up to date as possible. Project specific air quality monitoring results for the EGL 3 and EGL 4 project and the Grimsby to Walpole project will be updated and monitoring data will be utilised for assessment where applicable.
- 14.11.3 Ecological datasets will be reviewed so that any sites within the respective vehicle emissions and NRMM study areas can be screened to ascertain whether they contain features sensitive to air pollutants and require further detailed assessment.

Consultation

- 14.11.4 Consultation will be undertaken prior to ES with East Lindsey District Council and Lincolnshire County Council on the proposed methodology for detailed assessment and to agree absence of likely significant effects and mitigation measures where required.
- 14.11.5 Consultation will also be undertaken with Natural England, which will include discussion on the ES methodology for assessing potential impacts on ecological receptors should they be identified within the study area for vehicle emissions and NRMM assessment.
- 14.11.6 Key stakeholders and local communities would also be consulted during the ES stage.

Further environmental measures

- 14.11.7 Further consultation with relevant statutory consultees would be undertaken to define the scope and extents of the environmental measures set out in the assessment above. If, following stakeholder consultation feedback, further design refinement and further assessment, it is identified that additional measures are required, these will be detailed as part of the ES.
- 14.11.8 Finalised construction traffic flows will be reviewed prior to ES against the relevant screening criteria and detailed assessment will be undertaken at ES stage to determine potential human and ecological impacts.

Bibliography

Ref 14.1 Centre for Ecology and Hydrology (2026) Air Pollution Information System (APIS). [Online] Available at: <https://www.apis.ac.uk/> [Accessed 03 March 2026]

Ref 14.2 East Lindsey District Council (2025) 2024 Air Quality Annual Status Report. [Online] Available at: https://www.e-lindsey.gov.uk/media/28685/Air-Quality-Status-Report-2025/pdf/East_Lindsey_ASR_2025.pdf?m=1770391400467 [Accessed 03 March 2026]

Ref 14.3 Defra (2021) Environment Act 2021. [Online] Available at: <https://www.legislation.gov.uk/ukpga/2021/30/notes/division/1/index.htm> [Accessed 03 March 2026]

Ref 14.4 Defra (2022) Local Air Quality Management Technical Guidance (TG22). [Online] Available at: <https://laqm.defra.gov.uk/wp-content/uploads/2022/08/LAQM-TG22-August-22-v1.0.pdf>. [Accessed 03 March 2026]

Ref 14.5 Defra (2024) PM_{2.5} Targets: Interim Planning Guidance. [Online] Available at: <https://uk-air.defra.gov.uk/pm25targets/planning> [Accessed 03 March 2026]

Ref 14.6 Defra (2025) Environmental Improvement Plan (EIP) 2025. [Online] Available at: <https://www.gov.uk/government/publications/environmental-improvement-plan-2025/environmental-improvement-plan-eip-2025#foreword> [Accessed 03 March 2026]

Ref 14.7 Defra (2026) Defra Background Maps. [Online] Available at: <https://uk-air.defra.gov.uk/data/laqm-background-home> [Accessed 03 March 2026]

Ref 14.8 HMSO (1995) Environment Act 1995. [Online] Available at: <https://uk-legislation.com/environment-act-1995> [Accessed 03 March 2026]

Ref 14.9 HMSO (2000) The Air Quality (England) Regulations 2000. [Online] Available at: <https://www.legislation.gov.uk/uksi/2000/928/contents/made>. [Accessed 03 March 2026]

Ref 14.10 HMSO (2002) The Air Quality (England) (Amendment) Regulations 2002. [Online] Available at: <https://www.legislation.gov.uk/uksi/2002/3043/contents> [Accessed 03 March 2026]

Ref 14.11 HMSO (2010) The Air Quality Standards Regulations 2010, Statutory Instruments (SI) No, 19951001. [Online] Available at: <https://www.legislation.gov.uk/uksi/2010/1001/contents>. [Accessed 03 March 2026]

Ref 14.12 HMSO (2024) National Planning Policy Framework. [Online] Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> [Accessed 03 March 2026]

Ref 14.13 HMSO (2026) Overarching National Policy Statement for energy (EN-1). [Online] Available at: <https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025/overarching-national-policy-statement-for-energy-en-1-2025-accessible-webpage> [Accessed 03 March 2026]

Ref 14.14 IAQM (2017) and Environmental Protection UK (EPUK) Guidance on Land-Use Planning and Development Control: Planning for Air Quality. [Online] Available at: <https://www.iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf>. [Accessed 03 March 2026]

Ref 14.15 IAQM (2024) Guidance on the assessment of dust from demolition and construction. Version 2.2. [Online] Available at: <https://iaqm.co.uk/wp-content/uploads/2013/02/Construction-Dust-Guidance-Jan-2024.pdf> [Accessed 03 March 2026]

Ref 14.16 Ministry of Housing Communities and Local Government (2019). National Planning Policy Guidance (NPPG). [Online] Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> [Accessed 03 March 2026]

Ref 14.17 National Grid Electricity Transmission (2025) Sea Link Environmental Statement. [Online] Available at: <https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN020026> [Accessed 03 March 2026]

Ref 14.18 National Highways (2024) Design Manual for Roads and Bridges (DMRB) LA 105 Air Quality (Vertical Barriers) Guidance. [Online] Available at: <https://www.standardsforhighways.co.uk/search/html/af7f4cda-08f7-4f16-a89f-e30da703f3f4?standard=DMRB> [Accessed 03 March 2026]

Ref 14.19 National Grid Electricity Transmission (2025). Environmental Impact Assessment: Scoping Report: Volume 1 Main Text: Part 2 English Onshore Scheme. [Online] Available at: <https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN0210010-000042-Scoping%20Opinion.pdf> [Accessed 03 March 2026]

Ref 14.20 Planning Inspectorate (2025). Scoping Opinion: Proposed Eastern Green Link 5 [Online] Available at: <https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN0210010-000042-Scoping%20Opinion.pdf> [Accessed 03 March 2026]

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