

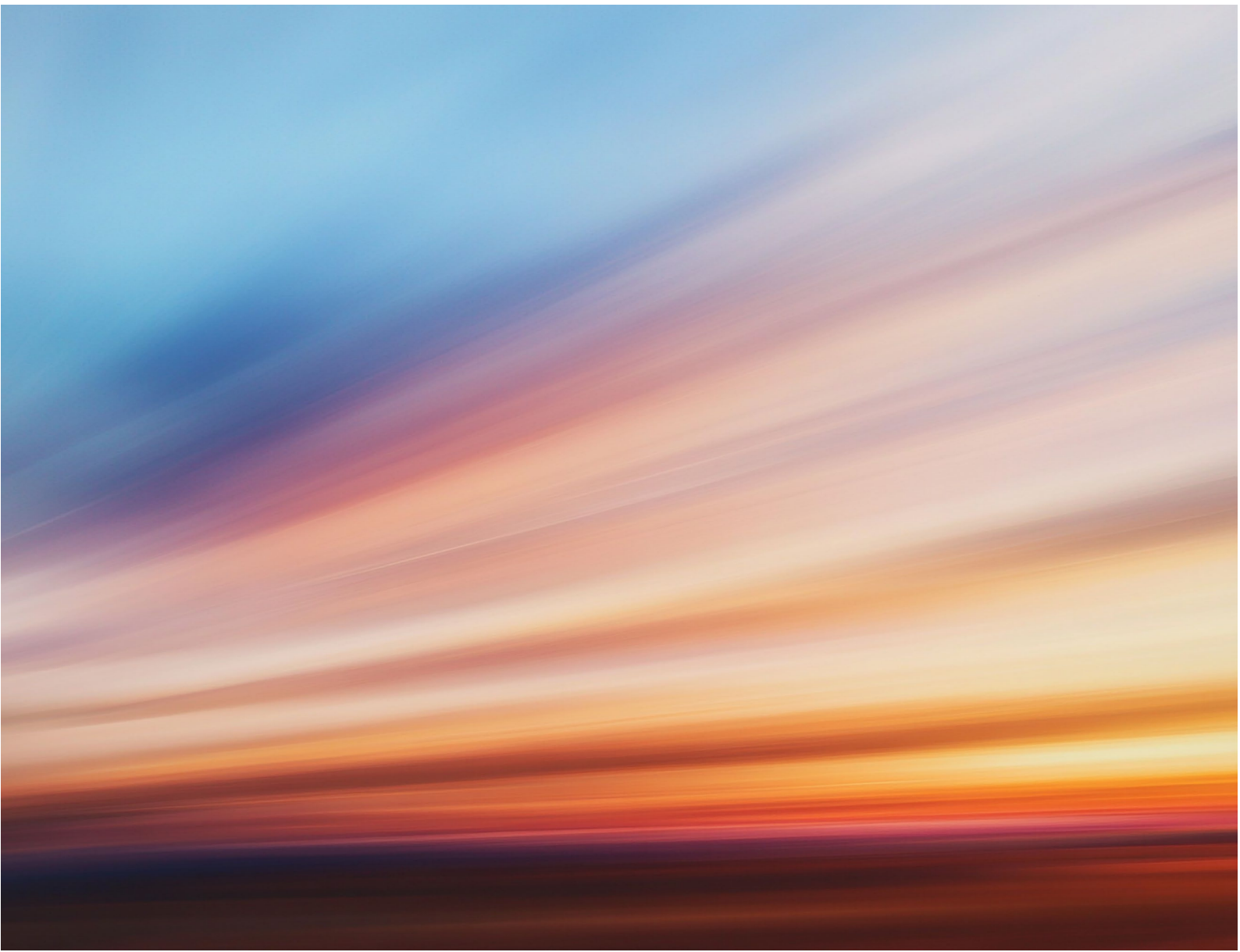
Mysten Leah Solar Farm

Preliminary Environmental Information Report (PEIR)

Volume 1

Chapter 6: Air Quality

April 2026



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6. Air Quality

6.1 Introduction

- 6.1.1 This chapter presents a preliminary assessment of the likely significant effects arising on air quality during the construction, operation and decommissioning phases of Mylen Leah Solar Farm.
- 6.1.2 This chapter should be read in conjunction with the following chapter in **Volume 1** and with the following figures in **Volume 2**:
- **Chapter 7: Biodiversity;**
 - **Chapter 14: Transport and Access;**
 - **Figure 6.1: Demolition/Earthworks/Construction Activities Study Area;**
 - **Figures 6.2a – 6.2e: Trackout Activities Study Area; and**
 - **Figures 6.3a – 6.3b: Location of Sensitive Air Quality Receptors.**
- 6.1.3 Following the EIA scoping process, the following receptors/matters have not been considered within this preliminary assessment:
- Dust and particulate matter emissions during operation.

6.2 How have we engaged with others about air quality so far?

- 6.2.1 **Table 6.1** provides a summary of the engagement undertaken to date to inform this preliminary assessment, outside of the EIA Scoping process.

Table 6.1: Summary of engagement undertaken to date in relation to air quality

Consultee	Date of engagement	Summary of engagement
East Riding of Yorkshire Council (ERYC) Environmental Control Principal Officer	19 March 2025	A method statement detailing the proposed air quality assessment scope and methodology was submitted to ERYC to seek agreement on the proposed approach to the air quality assessment. An email response was received from ERYC on 20 March 2025, stating acceptance of the proposed assessment approach.

6.3 What legislation, planning policy and guidance is relevant to air quality?

- 6.3.1 The general legislation and planning policy context for Mylen Leah Solar Farm is provided in **Section 1.4 of Chapter 1: Introducing Mylen Leah Solar Farm** in **Volume 1**. Legislation, planning policy and guidance relevant to this preliminary air quality assessment is detailed below:

Legislation

- Environment Act 1995;¹
- Air Quality (England) Regulations 2000 (as amended);²
- Directive 2008/50/EC of the European Parliament and of the Council of 21st May 2008 on Ambient Air Quality and Cleaner Air for Europe;³
- Air Quality Standards Regulations 2010 (as amended);⁴
- Environment Act 2021;⁵ and
- Environmental Targets (Fine Particulate Matter) (England) Regulations 2023.⁶

National planning policy

- Overarching National Policy Statement for Energy (EN-1) (December 2025, published January 2026). Part 5 outlines the planning policy for air quality, including guidance on undertaking relevant parts of the EIA;⁷ and
- National Planning Policy Framework (NPPF) (2024). Paragraph 199 presents several requirements and considerations related to air quality. These provisions aim to guide local authorities and developers in addressing air quality issues within the planning process.⁸

Local planning policy

- East Riding Local Plan Update 2020-2039 (adopted April 2025), specifically Policy EC5 'Supporting the renewable and low carbon energy sector'.⁹

Guidance

- The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (Volume 1);¹⁰
- The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (Volume 2);¹¹
- Land-Use Planning and Development Control: Planning for Air Quality (Environmental Protection UK and IAQM, 2017);¹²
- Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (Natural England, 2018);¹³
- Clean Air Strategy 2019;¹⁴
- A guide to the assessment of air quality impacts on designated nature conservation sites (IAQM, 2020);¹⁵
- Local Air Quality Management (LAQM) Technical Guidance (TG22) (Department for Environment, Food and Rural Affairs (Defra), 2022);¹⁶
- Guidance of the Assessment of Dust from Demolition and Construction v2.2 (Institute of Air Quality Management (IAQM), 2024);¹⁷

- Design Manual for Roads and Bridges LA 105 Air Quality (National Highways, 2024);¹⁸
- Non-Road Mobile Machinery Practical Guide (Greater London Authority, 2024);¹⁹
- Interim Planning Guidance on the consideration of the Environment Act PM_{2.5} targets in planning decisions (Defra, 2024);²⁰ and
- Environmental Improvement Plan (EIP) 2025 (Defra, 2025).²¹

6.4 What study area has been used for air quality?

- 6.4.1 Based on the IAQM Guidance of the Assessment of Dust from Demolition and Construction v2.2, the study area for sensitive human receptors for demolition (during the decommissioning phase only), earthworks and general construction activities is up to 250m from the draft Order Limits (as shown in **Figure 6.1: Demolition/Earthwork/Construction Activities Study Area in Volume 2**); 20m, 50m, 100m, and 250m study areas have been considered in this preliminary assessment, as per the IAQM Guidance of the Assessment of Dust from Demolition and Construction v2.2. For trackout activities, which is defined as the transport of dust and dirt from the construction/demolition sites onto public road network, the study area for sensitive human receptors is up to 50m from the edge of the roads likely to be affected by trackout (as shown in **Figure 6.2: Trackout Activities Study Area in Volume 2**); 20m and 50m study areas have been considered in this preliminary assessment, as per the IAQM Guidance of the Assessment of Dust from Demolition and Construction v2.2.
- 6.4.2 The study area for designated nature conservation sites (i.e. Ramsar site, Special Protection Area (SPA), Special Area of Conservation (SAC), Site of Special Scientific Interest (SSSI), Local Nature Reserve (LNR), Local Wildlife Site (LWS), Local Nature Conservation Site, Site of Importance for Nature Conservation (SINC), National Nature Reserve (NNR) and ancient woodland) receptors for demolition (during the decommissioning phase only), earthworks, general construction and trackout activities is 200m from the draft Order Limits and proposed trackout route, as per Natural England's request in the Scoping Opinion adopted by the Planning Inspectorate (on behalf of the Secretary of State) on 18 February 2025.²²
- 6.4.3 The study area for the assessment of road traffic exhaust emissions is determined by the receptors close to roads predicted by the traffic assessment as likely to experience a significant change in traffic flows, as per the Environmental Protection UK and IAQM Land-Use Planning and Development Control: Planning for Air Quality. Designated nature conservation sites within 200m of roads predicted to experience an increase in road traffic associated with Mylen Leah Solar Farm have been included in the air quality traffic assessment, as per the IAQM guide to the assessment of air quality impacts on designated nature conservation sites, Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations and National Highways Design Manual for Roads and Bridges LA 105 Air Quality.

6.4.4 There is no proposed operational phase study area for air quality. As stated in **paragraph 6.1.3** above, the operational phase has not been considered within this preliminary air quality assessment (and neither will it be considered within the ES), as there will be no Site activities resulting in significant dust and particulate matter emissions to air, and only limited vehicle movements to the Site for operation and maintenance. However, operational phase traffic data have been presented in this preliminary assessment (and will be presented within the ES), as per request in the Scoping Opinion adopted by the Planning Inspectorate (on behalf of the Secretary of State) on 18 February 2025, to confirm the operational traffic is below the relevant guidance thresholds.

6.5 How have existing air quality conditions been understood?

Data sources to inform the EIA baseline characterisation

6.5.1 The following data sources have been used to understand the existing air quality baseline conditions:

- East Riding of Yorkshire Council 2025 Air Quality Annual Status Report;²³
- Estimated background air quality data from United Kingdom-Air Information Resource (UK-AIR) website operated by Defra²⁴;
- The Magic Map application website online from the Defra website²⁵; and
- North and East Yorkshire Ecological Data Centre Background Data Search reports (refer to **Chapter 7: Biodiversity in Volume 1**).

Site visits/surveys

6.5.2 Latest local air quality monitoring data is publicly available and therefore no on-Site air quality monitoring, survey or site visits have been undertaken to inform the baseline characterisation.

6.6 What are the air quality conditions within the study area?

Existing baseline

6.6.1 Mylen Leah Solar Farm is located within the administrative area of ERYC. There are currently no Air Quality Management Areas (AQMAs) declared within this administrative area.

6.6.2 According to the East Riding of Yorkshire Council 2025 Air Quality Annual Status Report, ERYC undertook non-automatic nitrogen dioxide (NO₂) diffusion tube monitoring at 50 locations during 2024.

6.6.3 The nearest monitoring location is a roadside NO₂ diffusion tube location (ERYC reference: S3) on Main Street in Sutton Upon Derwent, situated approximately 6.1km north-west from Mylen Leah Solar Farm. The measured annual average NO₂ concentration at this diffusion tube site was 10.5µg/m³ in 2024, which was well below the annual mean NO₂ air quality objective of 40µg/m³. Estimated background air quality data from Defra's website have been reviewed to further characterise the baseline air quality at the Site.

- 6.6.4 Estimated background air quality data are available from the United Kingdom-Air Information Resource (UK-AIR) website operated by Defra. The website provides estimated annual average background concentrations of NO₂ and Particulate Matter (PM₁₀ and PM_{2.5}) on a 1km² grid basis from Local Air Quality Management background maps. It is noted that estimated 2025 annual average background NO₂, PM₁₀ and PM_{2.5} concentrations at the Site are 4.2µg/m³, 11.2µg/m³ and 5.2µg/m³ respectively, which are below the relevant air quality objectives (NO₂ air quality objective is 40µg/m³; PM₁₀ air quality objective is 40µg/m³; and PM_{2.5} air quality objective is 20µg/m³). Overall, air quality is considered to be good within the study area.

Future baseline

- 6.6.5 Based on the UK-AIR website operated by Defra, the estimated 2030 (proposed construction commencement) annual average background NO₂, PM₁₀ and PM_{2.5} concentrations at the Site are 3.6µg/m³, 10.9µg/m³ and 4.9µg/m³ respectively and the estimated 2032 (proposed commissioning commencement) annual average background NO₂, PM₁₀ and PM_{2.5} concentrations at the Site are 3.4µg/m³, 10.8µg/m³ and 4.8µg/m³ respectively, which are below the relevant air quality objectives (NO₂ air quality objective is 40µg/m³; PM₁₀ air quality objective is 40µg/m³; and PM_{2.5} air quality objective is 20µg/m³). Background concentrations are in general predicted to fall with time, because of the reduction in emissions to air resulting from newer technology vehicles (for example, improved engine performance, electric vehicles and improvement in fuel quality). Therefore, background concentrations in future years are not expected to exceed their respective annual mean objectives. Air quality across the study area in the absence of Mylen Leah Solar Farm is anticipated to remain largely unchanged from the levels in the current baseline conditions.

6.7 How have the likely effects been assessed for air quality?

Approach to design flexibility

- 6.7.1 The preliminary design parameters, as outlined in **Tables 3.3 – Table 3-9 in Chapter 3: What will Mylen Leah Solar Farm Comprise?** in **Volume 1**, set out the reasonable 'worst-case' parameters for Mylen Leah Solar Farm.

Assessment assumptions

- 6.7.2 The dust risk assessment is based on the area of construction and types of activity and is not reliant on the solar panel type (i.e. tracker or fixed) and inverter type (i.e. string or central) design parameters.
- 6.7.3 At this preliminary assessment stage, construction and decommissioning equipment lists have not been defined, and details to inform an assessment of dust and exhaust emissions from construction and decommissioning activities and equipment are therefore not yet available to quantify impacts and their significance. A full assessment will be conducted and reported in the ES with reference to the Greater London Authority Non-Road Mobile Machinery Practical Guide.
- 6.7.4 It is expected that the decommissioning phase will be similar in nature to the construction phase, albeit of a slightly shorter duration, with fewer road traffic movements and on-Site equipment. The decommissioning phase is therefore

likely to cause a lesser impact than the construction phase. As such, the construction phase is considered to be the worst-case scenario for this preliminary air quality assessment.

- 6.7.5 The location of construction accesses to the Site is yet to be finalised and it is assumed that construction accesses will be taken from existing field accesses, where reasonably practicable. Final construction accesses will be confirmed in the ES.
- 6.7.6 It is assumed that construction will commence in 2030 and is estimated to last 36 months. The assumed peak of construction traffic will occur in the early phases of construction (Month 11).

Assessment methodology and criteria

Dust and particulate matter emissions during construction and decommissioning

- 6.7.7 Construction works have the potential to release dust and impact on nearby sensitive human receptors and designated nature conservation sites. The potential sources of dust emissions are demolition (during the decommissioning phase only), earthworks, construction and trackout activities.
- 6.7.8 For this preliminary assessment, the potential effects of construction works dust emission impacts as a result of Mylen Leah Solar Farm are reported based on a qualitative assessment, together with initial consideration of whether the effect is likely to be significant or not.
- 6.7.9 A qualitative assessment of the likely significant effects of construction phase dust and particulate matter at sensitive receptors has been undertaken following the IAQM Guidance of the Assessment of Dust from Demolition and Construction v2.2. Three separate potential dust impacts have been considered:
- Annoyance due to dust soiling;
 - The risk of health effects due to an increase in exposure to PM₁₀; and
 - Harm to ecological receptors.

Sensitivity of the area

- 6.7.10 The sensitivity of the area takes into account a number of factors, comprising;
- The specific sensitivities of receptors in the area;
 - The proximity and number of those receptors;
 - In the case of PM₁₀, the local background concentration; and
 - Site-specific factors, such as whether there are natural shelters, such as trees, to reduce the risk of wind-blown dust.
- 6.7.11 **Table 6.2** sets out the general principles as presented in IAQM Guidance of the Assessment of Dust from Demolition and Construction V2.2, along with professional judgement, that are considered to determine the scale of sensitivity to areas identified and considered within the dust assessment.

6.7.12 **Table 6.3, Table 6.4 and Table 6.5** below are derived from IAQM Guidance of the Assessment of Dust from Demolition and Construction v2.2 and show how the sensitivity of the area may be determined for dust soiling, human health, and ecological impacts respectively. These tables take account of a number of factors which may influence the sensitivity of the area when determining dust impacts during the construction and decommissioning phases.

Table 6.2: Scale of receptor sensitivity

Sensitivity of receptor	Dust soiling	Human receptors	Ecological receptors
High	<p>Users can reasonably expect an enjoyment of a high level of amenity.</p> <p>The appearance, aesthetics or value of their property would be diminished by soiling.</p> <p>The people or property would reasonably be expected to be present continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land.</p> <p>Examples include dwellings, museums and other culturally important collections, medium and long term car parks and car showrooms.</p>	<p>Locations where members of the public are exposed over a time period relevant to the air quality objective for PM₁₀ (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day).</p> <p>Examples include residential properties, hospitals, schools and residential care homes should also be considered as having equal sensitivity to residential areas for the purposes of this assessment.</p>	<p>Locations with an international or national designation and the designated features may be affected by dust soiling.</p> <p>Locations where there is a community of a particularly dust sensitive species such as vascular species included in the Red Data List For Great Britain published by Joint Nature Conservation Committee.²⁶</p> <p>Examples include a SAC designated for acid heathlands or a local site designated for lichens adjacent to the demolition of a large site containing concrete (alkali) buildings.</p>
Medium	<p>Users would expect to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home.</p> <p>The appearance, aesthetics or value of their property could be diminished by soiling.</p>	<p>Locations where the people exposed are workers and exposure is over a time period relevant to the air quality objective for PM₁₀ (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day).</p>	<p>Locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown.</p> <p>Locations with a national designation where the features may be affected by dust deposition.</p>

Sensitivity of receptor	Dust soiling	Human receptors	Ecological receptors
	The people or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land. Examples include parks and places of work.	Examples include office and shop workers, but will generally not include workers occupationally exposed to PM ₁₀ , as protection is covered by Health and Safety at Work legislation. ²⁷	Example is a SSSI with dust sensitive features.
Low	The enjoyment of amenity would not reasonably be expected. Property would not reasonably be expected to be diminished in appearance, aesthetics or value by soiling. There is transient exposure, where the people or property would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use of the land. Examples include playing fields, farmland (unless commercially-sensitive horticultural), footpaths, short term car parks and roads.	Locations where human exposure is transient. Examples include public footpaths, playing fields, parks and shopping streets.	Locations with a local designation where the features may be affected by dust deposition. Example is a LNR with dust sensitive features.

Table 6.3: Sensitivity of the area to dust soiling effects on people and property

Receptor sensitivity	Number of receptors	Distance from the source (m)			
		<20	<100	<100	<250
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

Receptor sensitivity	Number of receptors	Distance from the source (m)			
		<20	<100	<100	<250
Notes: ¹					
<i>The sensitivity of the area should be derived for each of the four activities: demolition, construction, earthworks and trackout.</i>					
<i>Estimate the total number of receptors within the stated distance. Only the highest level of area sensitivity from the table needs to be considered. For example, if there are 7 high sensitivity receptors <20 m of the source and 95 high sensitivity receptors between 20 and 50m, then the total of number of receptors <50m is 102. The sensitivity of the area in this case would be high.</i>					
<i>For trackout, the distances should be measured from the side of the roads used by construction traffic. The impact declines with distance from the Site, and it is only necessary to consider trackout impacts up to 50m from the edge of the road.</i>					

Table 6.4: Sensitivity of the area to human health impacts

Receptor sensitivity	Annual mean PM ₁₀ concentration	Number of receptors	Distance from the source (m)			
			<20	<100	<100	<250
High	>32µg/m ³	>100	High	High	High	Medium
		10-100	High	High	Medium	Low
		1-10	High	Medium	Low	Low
	28-32µg/m ³	>100	High	High	Medium	Low
		10-100	High	Medium	Low	Low
		1-10	High	Medium	Low	Low
	24-28µg/m ³	>100	High	Medium	Low	Low
		10-100	High	Medium	Low	Low
		1-10	Medium	Low	Low	Low
	<24µg/m ³	>100	Medium	Low	Low	Low
		10-100	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Medium	>32µg/m ³	>10	High	Medium	Low	Low
		1-10	Medium	Low	Low	Low
	28-32µg/m ³	>10	Medium	Low	Low	Low
		1-10	Low	Low	Low	Low
	24-28µg/m ³	>10	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
	<24µg/m ³	>10	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Low	-	≥1	Low	Low	Low	Low
Notes: ²						

¹ Notes are derived from Institute of Air Quality Management Guidance of the Assessment of Dust from Demolition and Construction v2.2 and explain how the sensitivity of the area to dust soiling effects on people and property is determined.

² Notes are derived from Institute of Air Quality Management Guidance of the Assessment of Dust from Demolition and Construction v2.2 and explain how the sensitivity of the area to human health impacts is determined.

Receptor sensitivity	Annual mean PM ₁₀ concentration	Number of receptors	Distance from the source (m)			
			<20	<100	<100	<250
<p><i>The sensitivity of the area should be derived for each of the four activities: demolition, construction, earthworks and trackout.</i></p> <p><i>Estimate the total within the stated distance (e.g. the total within 250 m and not the number between 100 and 250m), noting that only the highest level of area sensitivity from the table needs to be considered. For example, if there are 7 high sensitivity receptors <20m of the source and 95 high sensitivity receptors between 20 and 50m, then the total of number of receptors <50m is 102. If the annual mean PM₁₀ concentration is 29µg/m³, the sensitivity of the area would be high.</i></p> <p><i>Most straightforwardly taken from the national background maps, but should also take account of local sources. The values are based on 32µg/m³ being the annual mean concentration at which an exceedance of the 24-hour objective is likely in England, Wales and Northern Ireland. In Scotland there is an annual mean objective of 18µg/m³.</i></p> <p><i>In the case of high sensitivity receptors with high occupancy (such as schools or hospitals) approximate the number of people likely to be present. In the case of residential dwellings, just include the number of properties.</i></p> <p><i>For trackout, the distances should be measured from the side of the roads used by construction traffic. The impact declines with distance from the Site, and it is only necessary to consider trackout impacts up to 50m from the edge of the road.</i></p>						

Table 6.5: Sensitivity of the area to ecological impacts

Receptor sensitivity	Distance from the source (m)	
	<20	<50
High	High	Medium
Medium	Medium	Low
Low	Low	Low
<p>Notes:³</p> <p><i>The sensitivity of the area should be derived for each of the four activities: demolition, construction, earthworks and trackout and for each designated site.</i></p> <p><i>Only the highest level of area sensitivity from the table needs to be considered.</i></p> <p><i>For trackout, the distances should be measured from the side of the roads used by construction traffic. The impact declines with distance from the site.</i></p>		

Dust emission magnitude

6.7.13 **Table 6.6** presents the potential magnitude of change for dust emissions that is used in undertaking the dust assessment. The descriptors included in this table are based upon the IAQM Guidance of the Assessment of Dust from Demolition and Construction v2.2.

³ Notes are derived from Institute of Air Quality Management Guidance of the Assessment of Dust from Demolition and Construction v2.2 and explain how the sensitivity of the area to ecological impacts is determined.

Table 6.6: Scale of magnitude for dust emission impacts

Activity	Dust emissions magnitude	Description
Demolition	Large	Total building volume >75,000m ³ , potentially dusty construction material (e.g. concrete), on-site crushing and screening, demolition activities >12m above ground level.
	Medium	Total building volume 12,000m ³ – 75,000m ³ , potentially dusty construction material, demolition activities 6-12m above ground level.
	Small	Total building volume <12,000m ³ , construction material with low potential for dust release (e.g. metal cladding or timber), demolition activities <6m above ground, demolition during wetter months.
Earthworks	Large	Total site area >110,000m ² , potentially dusty soil type (e.g. clay), >10 heavy earth moving vehicles active at any one time, formation of bunds >6m in height.
	Medium	Total site area 18,000m ² – 110,000m ² , moderately dusty soil type (e.g. silt), 5 – 10 heavy earth moving vehicles active at any one time, formation of bunds 3 – 6m in height.
	Small	Total site area <18,000m ² , soil type with large grain size (e.g. sand), <5 heavy earth moving vehicles active at any one time, formation of bunds <3m in height.
Construction	Large	Total building volume >75,000m ³ , on site concrete batching, sandblasting.
	Medium	Total building volume 12,000m ³ – 75,000m ³ , potentially dusty construction material (e.g. concrete), on site concrete batching.
	Small	Total building volume <12,000m ³ , construction material with low potential for dust release (e.g. metal cladding or timber).
Trackout	Large	>50 Heavy Duty Vehicle (>3.5t) outward movements in any one day, potentially dusty surface material (e.g. high clay content), unpaved road length >100m.
	Medium	20 – 50 Heavy Duty Vehicle (>3.5t) outward movements in any one day, moderately dusty surface material (e.g. high clay content), unpaved road length 50m – 100m.
	Small	<20 Heavy Duty Vehicle (>3.5t) outward movements in any one day, surface material with low potential for dust release, unpaved road length <50m.

Significance of effect

- 6.7.14 The dust risk assessment for the construction and decommissioning phases has taken into account the sensitivity of the areas being assessed (as shown in **Table 6.3**, **Table 6.4** and **Table 6.5**), the nature and scale of the activities undertaken for each source (i.e. demolition, earthworks, construction and trackout activities) (as shown in **Table 6.6**) to assign a level of risk. Dust risks are described in terms of ‘high’, ‘medium’, ‘low’ or ‘negligible’, as shown in **Table 6.7** below and are derived from Institute of Air Quality Management Guidance on the Assessment of Dust from Demolition and Construction v2.2. Institute of Air Quality Management Guidance on the Assessment of Dust from Demolition and Construction v2.2 suggests that significance is only assigned to the effects after considering the construction activities with mitigation. Therefore, only the level of dust risk is presented for pre-additional mitigation effects (refer to **Section 6.9**), and significance criteria is applied and significance is assigned for residual (post-additional mitigation) effects (refer to **Section 6.11**). The determination of the risk category determines the level of mitigation that must be applied. For those cases where the risk category is ‘negligible’, no mitigation measures beyond those required by legislation will be required.
- 6.7.15 Institute of Air Quality Management Guidance on the Assessment of Dust from Demolition and Construction v2.2 makes reference to the use of professional judgement when assessing the significance of the effects of dust impacts from construction and decommissioning activities. ‘High risk’ is considered to be **significant** and ‘medium risk’, ‘low risk’ and ‘negligible’ are considered to be **not significant**.

Table 6.7: Risk of dust impacts

Activity	Sensitivity of the area	Dust emission magnitude		
		Large	Medium	Small
Demolition	High	High risk	Medium risk	Medium risk
	Medium	High risk	Medium risk	Low risk
	Low	Medium risk	Low risk	Negligible
Earthworks	High	High risk	Medium risk	Low risk
	Medium	Medium risk	Medium risk	Low risk
	Low	Low risk	Low risk	Negligible
Construction	High	High risk	Medium risk	Low risk
	Medium	Medium risk	Medium risk	Low risk
	Low	Low risk	Low risk	Negligible
Trackout	High	High risk	Medium risk	Low risk
	Medium	Medium risk	Medium risk	Low risk
	Low	Low risk	Low risk	Negligible

Road traffic exhaust emissions during construction, operation and decommissioning

- 6.7.16 NO₂, PM₁₀ and PM_{2.5} are generally regarded as the most significant air pollutants released by vehicular combustion processes or subsequently

generated by vehicle emissions in the atmosphere through chemical reactions. Construction, operation and decommissioning traffic will comprise haulage/construction vehicles, maintenance vehicles and vehicles used for workers' trips to and from the Site. The greatest impact on air quality due to emissions from construction, operation and decommissioning phase vehicles will be in areas adjacent to the Site accesses and nearby road network.

- 6.7.17 For this preliminary assessment, the potential effects of construction, operation and decommissioning traffic impacts on air quality as a result of Mylen Leah Solar Farm are reported based on a qualitative assessment, together with initial consideration of whether the effect is likely to be significant or not.
- 6.7.18 A screening level qualitative assessment for construction, operation and decommissioning traffic exhaust emissions has been undertaken as part of this preliminary assessment with reference to EPUK and IAQM Land-Use Planning and Development Control: Planning for Air Quality guidance, using professional judgement and by considering the following information that will form part of the final design of Mylen Leah Solar Farm, where available:
- The number of road traffic vehicles likely to be generated;
 - The number and proximity of sensitive receptors to the Site and along the likely routes to be used by construction vehicles; and
 - The likely duration and the nature of the construction activities undertaken.
- 6.7.19 National Highways Design Manual for Roads and Bridges LA 105 Air Quality traffic screening criteria is used to assess construction, operation and decommissioning traffic impacts on designated nature conservation sites.

Sensitivity of the receptor

- 6.7.20 Matrices for determining the sensitivity of the receptor are not available in Environmental Protection UK and IAQM Land-Use Planning and Development Control: Planning for Air Quality guidance, and therefore matrices from IAQM Guidance of the Assessment of Dust from Demolition and Construction v2.2 as shown in **Table 6.2** are used.

Magnitude of change

- 6.7.21 **Table 6.8** below presents the EPUK-IAQM Land-Use Planning and Development Control: Planning for Air Quality guidance and the National Highways Design Manual for Roads and Bridges LA 105 Air Quality screening criteria that have been used for the preliminary assessment of construction, operation and decommissioning road traffic exhaust emissions.

Table 6.8: Indicative criteria for requiring an air quality assessment

Air quality screening criteria from EPUK-IAQM Land-Use Planning and Development Control: Planning for Air Quality guidance	
The development will:	Indicative criteria to proceed to an air quality assessment
Cause a significant change in Light Duty Vehicle traffic flows on local roads with relevant receptors	A change of Light Duty Vehicle flows of: <ul style="list-style-type: none"> - more than 100 Annual Average Daily Traffic within or adjacent to an Air Quality Management Area - more than 500 Annual Average Daily Traffic elsewhere.
Cause a significant change in Heavy Duty Vehicle flows on local roads with relevant receptors	A Change of Heavy Duty Vehicle flows of: <ul style="list-style-type: none"> - more than 25 Annual Average Daily Traffic within or adjacent to an Air Quality Management Area - more than 100 Annual Average Daily Traffic elsewhere.
Air quality screening criteria from National Highways Design Manual for Roads and Bridges LA 105 Air Quality	
<ul style="list-style-type: none"> - Daily traffic flow changes of 1,000 Annual Average Daily Traffic or more; or - Heavy Duty Vehicle flow changes of 200 or more. <p>* Internationally, nationally and locally designated sites of ecological conservation importance on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity (known as designated habitats) within 200m of the affected road network shall be included in the air quality assessment.</p>	

Significance of effect

- 6.7.22 The Environmental Protection UK and IAQM Land-Use Planning and Development Control: Planning for Air Quality guidance and National Highways Design Manual for Road and Bridges LA 105 Air Quality make reference to the use of professional judgement when assessing the significance of the effects of road traffic exhaust emissions during the construction and decommissioning phases.
- 6.7.23 The Environmental Protection UK and IAQM Land-Use Planning and Development Control: Planning for Air Quality guidance recommends that the following factors should be taken into account when making judgement on the overall significance of effect of a development:
- The existing and future air quality in the absence of the development;
 - The extent of current and future population exposure to the impacts; and
 - The influence and validity of any assumptions adopted when undertaking the prediction of impacts.

6.8 How has air quality informed the design so far?

- 6.8.1 This preliminary assessment has been based on the principle that certain mitigation measures have been ‘embedded’ into the design of Mylen Leah

Solar Farm to minimise likely significant effects as far as reasonably practicable at this stage of the design process, for example by the considered placement of infrastructure. Embedded (primary) environmental mitigation measures relevant to this preliminary air quality assessment are presented in **Table 6.9**.

Table 6.9: Embedded mitigation measures relevant to air quality

Embedded mitigation measures relevant to air quality	Function
A minimum 20m offset distance from solar PV development within Land Parcels A to E to locally designated wildlife sites.	To minimise the dust and exhaust emission impacts from Mylen Leah Solar Farm to any locally designated wildlife site.
Other than access tracks, Mylen Leah Solar Farm will incorporate a minimum offset distance of 15m from any ancient and veteran trees (from the edge of the canopy).	To minimise the dust and exhaust emission impacts from Mylen Leah Solar Farm to any existing woodland.
A minimum 100m offset from solar PV development to residential properties.	To minimise the dust and exhaust emission impacts from Mylen Leah Solar Farm to residential properties.

6.9 What are the likely effects of Mylen Leah Solar Farm on air quality?

Dust and particulate matter emissions during construction and decommissioning

6.9.1 The construction and decommissioning activities anticipated as part of Mylen Leah Solar Farm that are often the most significant potential sources of dust emissions are:

- Demolition (during the decommissioning phase only);
- Earthworks comprising of levelling, construction of foundations, haulage, tipping, stockpiling and landscaping;
- Construction of Mylen Leah Solar Farm and hard landscaped areas; and
- Trackout, involving the movement of vehicles over surfaces where muddy materials have been transferred off-Site.

Sensitivity of the area

6.9.2 Consideration has been given to human receptors and designated nature conservation sites; distances are calculated from the draft Order Limits and trackout route proposed. **Table 6.12** presents the determined sensitivity of the area and **Figure 6.1: Demolition/Earthworks/Construction Activities Study Area** in **Volume 2** shows the locations of the sensitive air quality receptors. Locations of LWSs are shown in **Figure 7.1: Designated Sites' Zone of Influence and Environmental Mitigation and Enhancement Areas** in **Volume 2**.

6.9.3 The human receptors listed in **Table 6.10** have been identified within the draft Order Limits and within 250m of the draft Order Limits:

Table 6.10: Human receptors within the study area

Human receptors within the draft Order Limits	Human receptors within 250m of the draft Order Limits
<ul style="list-style-type: none"> - Ryedale House (R3); - Melbourne Lodge (R5); - Shenandoah (R11); - Ivy Cottage (R29); - East Farm (R31); - Meriford Grange (R40); - South Farm (R42); - Rose Thorpe Park (R47); - Green Acres (R49); - Kirton House (R54); - Broomfield (R79); - Mill House Farm (R86); and - Thornton Lodge – R90. 	<ul style="list-style-type: none"> - Paradise Lakeside Lodges (R1); - Birchtree Cottage (R2); - Melrose House (R4); - Breckstreet Farm (R6); - Acorn Cottage (R7); - Oaktree Cottage (R8); - Bridge Farm (R9); - East Common Farm (R10); - Walbut Mill Farm (R12); - Manor Farm Barns (R13); - Danum (R14); - Bowland House (R15); - Manor Farm (R16); - Hawkwood (R17); - Alders (R18); - South Ross Farm (R19); - North Ross Farm (R20); - Sandiacre (R21); - Old Mill Cottages (R22); - Bethell House (R23); - Spring House Farm (R24); - The Bungalow (R25); - The Bothy (R26); - White Farm (R27); - Breckstreet Court (R28); - South View (R30); - Melbridge House (R32); - Blue Slates Farm (R33); - Mallard Grange (R34); - Wayside (R35); - Dovecote (R36); - Oak Field Farm (R37); - Whixley Lodge (R38); - Walbut House Farm (R39); - Blackberry Farm (R41); - Park Farm (R43); - Holly Cottage (R44); - Hall Park Bungalow (R45); - Dial Farm (R46); - Boundary Cottage (R48); - Fox Covert Farm (R50); - Four Oaks (R51); - Millfield (R52); - Lynwood House (R53); - Brooklands Farm (R55); - Acre Farm (R56);

Human receptors within the draft Order Limits	Human receptors within 250m of the draft Order Limits
	<ul style="list-style-type: none"> - Laytham Park Annexe (R57); - Green Lea (R58); - The Hideaway (R59); - Shaldon (R60); - Laytham Park (R61); - Meadow Croft (R62); - Fir Croft (R63); - Cherry Links (R64); - South Acre Farm (R65); - Millstones (R66); - Park Cottages (R67); - Blue Turtle Barn (R68); - Bibbill Farm (R69); - Rossmoor Lodge (R70); - Willow Glade Farm (R71); - Rossmoor Lodge Bungalow (R72); - Rossmoor Park Farm (R73); - Viewlands (R74); - Tivoli Lodge (R75); - Private Woodlands Caravan (R76); - Brickyard Farm (R77); - Old Mills (R78); - Laytham Green Farm (R80); - Lincoln Cottage (R81); - Wellington House (R82); - North Cote (R83); - Lysander Cottage (R84); - Lancaster House (R85); - Tithe Barn Cottages (R87); - Woodlands (R88); - North View Cottage (R89); - Byholme Farm (R91); - Eastfield Farm (R92); - Hawthorne Farm (R93); - Pinewood House (R94); - Pinewood Farm (R95); - Willow Tree Farm Lodge (R96); - Willow Tree Farm (R97); - Tara (R98); and - Oakland Farm (R99).

6.9.4 The following designated nature conservation sites listed in **Table 6.11** have been identified within the draft Order Limits and within 200m of the draft Order Limits and affected road network:

Table 6.11: Designated nature conservation sites within the study area

Designated nature conservation sites within the draft Order Limits	Designated nature conservation sites within 200m of the draft Order Limits and affected road network
<ul style="list-style-type: none"> - Pocklington Canal SSSI; - Ruddings Wood Historic LWS; and - Hedge, Sand Lane, East Moor Designated LWS. 	<ul style="list-style-type: none"> - Lower Derwent Valley Ramsar/SPA/SAC; - Melbourne and Thornton Ings SSSI; - Derwent Ings SSSI (within 200m of affected road network); - River Derwent SSSI/SAC (within 200m of affected road network); - Lower Derwent Valley NNR (within 200m of affected road network); - Kidd Lane, Rossmoor Designated and Candidate LWS; - Intakes Lane, Rossmoor Designated and Candidate LWS; - Breckstreet Farm Disused Airfield Designated and Candidate LWS; - Bracepits Wood, Melbourne Historic LWS; - Brickyard Farm Wood & Ponds Historic LWS; - Farm Wood, New Covert and Park Wood Designated and Candidate LWS; and - Quaker's Wood, Storwood Historic LWS.

Table 6.12: Sensitivity of the area

Potential impact		Sensitivity of the area			
		Demolition (during the decommissioning phase only)	Earthworks	Construction	Trackout
Dust soiling	Receptor sensitivity	High	High	High	High
	Number of receptors	10-100	10-100	10-100	1-10
	Distance from the source	<20m	<20m	<20m	<20m
	Sensitivity of the area	High	High	High	Medium
Human health	Receptor sensitivity	High	High	High	High
	Annual mean PM ₁₀ concentration	<24µg/m ³	<24µg/m ³	<24µg/m ³	<24µg/m ³

Potential impact		Sensitivity of the area			
		Demolition (during the decommissioning phase only)	Earthworks	Construction	Trackout
	Number of receptors	10-100	10-100	10-100	1-10
	Distance from the source	<20m	<20m	<20m	<20m
	Sensitivity of the area	Low	Low	Low	Low
Ecological	Receptor sensitivity*	High	High	High	High
	Distance from the source	<20m	<20m	<20m	>50m
	Sensitivity of the area	High	High	High	Low

*Lower Derwent Valley Ramsar/SPA/SAC is considered to have a high sensitivity to dust deposition; Melbourne and Thornton Ings SSSI and Pocklington Canal SSSI are considered to have a medium sensitivity to dust deposition; All LWSs listed in **Table 6.11** above are considered to have a low sensitivity to dust deposition. However, high receptor sensitivity has been applied to all ecological receptors identified in this preliminary assessment as a worst-case scenario.

Dust emissions magnitude

6.9.5 With reference to the IAQM Guidance on the Assessment of Dust from Demolition and Construction v2.2, the dust emissions magnitude for demolition (during the decommissioning phase only), earthworks, construction and trackout activities before additional mitigation are summarised in **Table 6.13**.

Table 6.13: Summary of dust emissions magnitude (before additional mitigation)

Activity	Evaluation of the effects	Dust emission magnitude
Demolition (during the decommissioning phase only)	<ul style="list-style-type: none"> - The total building volume to be demolished is assumed to be <12,000m². - No on-Site crushing and screening is proposed. 	Small
Earthworks	<ul style="list-style-type: none"> - Total Site area is 18,000-110,000m². - The number of heavy earthmoving vehicles active at any one time is expected to be >10. - The height of stockpiled materials is assumed to be <3m. 	Large
Construction	<ul style="list-style-type: none"> - Total building volume is estimated to be <12,000m³. - No on-Site concrete batching and sandblasting is proposed. 	Medium

Activity	Evaluation of the effects	Dust emission magnitude
	- Construction materials are considered to be potentially dusty.	
Trackout	<ul style="list-style-type: none"> - The number of Heavy Duty Vehicle outward movements in any one day is estimated to be 20-50. - Main trunk road will be sealed. All other roads will be typical stone/gravel roads. - The extent as to which vehicles are to travel on unpaved roads is assumed to be >100m. 	Large

Risk of dust impacts

- 6.9.6 The dust emission magnitude (refer to **Table 6.13**) is combined with the sensitivity of the area (refer to **Table 6.12**) to determine the risk of dust impacts of construction activities before additional mitigation; these are evaluated based on risk categories of each activity presented in **Table 6.7**.
- 6.9.7 The risk of dust impacts from construction activities is identified in **Table 6.14**.

Table 6.14: Summary of the dust risk from construction activities

Potential impact	Dust risk impact			
	Demolition (during the decommissioning phase only)	Earthworks	Construction	Trackout
Dust soiling	Medium risk	High risk	Medium risk	Medium risk
Human health	Negligible	Low risk	Low risk	Low risk
Ecological	Medium risk	High risk	Medium risk	Low risk

Road traffic exhaust emissions during construction

- 6.9.8 The assumed peak of construction traffic will occur in the early phases of construction (Month 11), during which the construction of Mylen Leah Solar Farm is expected to generate 194 Light Duty Vehicle trips and 96 Heavy Duty Vehicle trips.
- 6.9.9 The construction of Mylen Leah Solar Farm is not predicted to generate Light Duty Vehicle and Heavy Duty Vehicle movements exceeding the EPUK-IAQM Land-Use Planning and Development Control: Planning for Air Quality guidance (i.e. a change of Light Duty Vehicle flows of more than 500 Annual Average Daily Traffic or a change of Heavy Duty Vehicle flows of more than 100 Annual Average Daily Traffic) and the National Highways Design Manual for Roads and Bridges LA 105 Air Quality screening criteria (refer to **Table 6.8**).

- 6.9.10 The traffic effects during construction would be limited to a relatively short period for each construction phase of Mylen Leah Solar Farm and would be along traffic routes employed by haulage/construction vehicles and workers. Baseline air quality is likely to be good and the annual mean NO₂ concentration within the study area is expected to be well below the air quality objective. Therefore, it is considered unlikely that the additional construction phase traffic emissions as a result of Mylen Leah Solar Farm will cause a significant adverse effect on local air quality or nearby human receptors and designated nature conservation sites.

Road traffic exhaust emissions during operation

- 6.9.11 There will be minimal traffic to the Site for daily operational and maintenance visits during operation. Mylen Leah Solar Farm is expected to generate less than 16 Light Duty Vehicle trips and 12 Heavy Duty Vehicle trips per day during operation.
- 6.9.12 The operation of Mylen Leah Solar Farm is not predicted to generate traffic exceeding the EPUK-IAQM Land-Use Planning and Development Control: Planning for Air Quality guidance and the National Highways Design Manual for Roads and Bridges LA 105 Air Quality screening criteria, and therefore, it is considered that further assessment of operation phase traffic emissions is not required. The increased road traffic emissions resulting from the operation of Mylen Leah Solar Farm are expected to have a negligible impact on local air quality and nearby human receptors and designated nature conservation sites.

Road traffic exhaust emissions during decommissioning

- 6.9.13 Vehicle trip generation for Mylen Leah Solar Farm during decommissioning is anticipated to be lower than the peak of construction traffic.
- 6.9.14 The decommissioning of Mylen Leah Solar Farm is not predicted to generate traffic exceeding the EPUK-IAQM Land-Use Planning and Development Control: Planning for Air Quality guidance and the National Highways Design Manual for Roads and Bridges LA 105 Air Quality screening criteria.
- 6.9.15 Based on the temporary nature of the decommissioning activities and low background pollutant concentrations in the vicinity of the Site, it is considered that road traffic exhaust emissions during the decommissioning phase would not result in a significant adverse effect on local air quality or nearby human receptors and designated nature conservation sites.

6.10 What additional mitigation is proposed to avoid, prevent, reduce or offset likely effects on air quality?

Dust and particulate matter emissions during construction and decommissioning

- 6.10.1 Dust emissions during construction and decommissioning phases can be effectively controlled by appropriate dust control measures and any adverse effects can be greatly reduced or eliminated. The additional mitigation measures described in **Table 6.15** will be used to control potential dust and particulate matter emissions during the construction and decommissioning phases. Such mitigation measures will be documented within and secured by

the Outline Construction Environmental Management Plan (Outline CEMP) and the Outline Decommissioning Environmental Management Plan (Outline DEMP).

- 6.10.2 The dust risk categories identified in **Table 6.14** above have been used to define appropriate, Site-specific additional mitigation measures for Mylen Leah Solar Farm which are divided into general measures and measures specific to demolition (during the decommissioning phase only), earthworks, construction and trackout. Depending on the level of risk, different additional mitigation measures are assigned, in accordance with the IAQM Guidance of the Assessment of Dust from Demolition and Construction v2.2. For general mitigation measures, the highest risk assessed has been applied.

Table 6.15: Dust emissions additional mitigation measures

Communications
<ul style="list-style-type: none"> - Develop and implement a stakeholder communications plan that includes community engagement before work commences on Site. - Display the name and contact details of people accountable for air quality and dust issues with respect to Mylen Leah Solar Farm. This may be the environment manager/engineer or the Site manager. - Display the head or regional office contact information. - Develop and implement a detailed CEMP, which includes measures to control all emissions, to be approved by ERYC.
Site management
<ul style="list-style-type: none"> - Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. - Make the complaints log available to ERYC when asked. - Record any exceptional incidents that cause dust and/or air emissions, either on-Site or off-Site, and the action taken to resolve the situation in the log book. - Hold regular liaison meetings with other high risk construction sites within 250m of the draft Order Limits, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised.
Monitoring
<ul style="list-style-type: none"> - Undertake regular on-Site and off-Site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to ERYC when asked. Monitoring will, where possible, include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100m of the draft Order Limits in agreement with the relevant homeowners/landowners. - Carry out regular Site inspections to monitor compliance with the detailed CEMP, record inspection results, and make an inspection log available to ERYC when asked. - Increase the frequency of Site inspections by the person accountable for air quality and dust issues on Site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions. - During the construction and decommissioning phases, agree dust deposition, dust flux, or real-time PM₁₀ continuous monitoring locations with ERYC. Where possible commence monitoring at least three months before work commences on Site.

Preparing and maintaining the Site
<ul style="list-style-type: none"> - Plan Site layout so that machinery and dust causing activities are located away from sensitive receptors, as far as is reasonably possible. - Erect solid screens or barriers around dusty activities or the draft Order Limits. - Fully enclose Site or specific operations where there is a high potential for dust production and the Site is active for an extensive period. - Avoid runoff of water or mud from the Site. - Keep Site fencing, barriers and scaffolding clean using wet methods. - Remove materials that have a potential to produce dust from Site as soon as possible, unless being re-used on Site. If they are being re-used on-Site cover as described below. - Cover, seed or fence stockpiles to prevent wind whipping.
Operating vehicle/machinery and sustainable travel
<ul style="list-style-type: none"> - Ensure all vehicles switch off engines when stationary - no idling vehicles. - Impose and signpost a maximum speed limit of 10mph on unsurfaced haul roads and work areas. - Produce a Construction Traffic Management Plan (CTMP) to manage the sustainable delivery of goods and materials. - Implement a Staff Travel Plan (as part of the CTMP) that supports and encourages sustainable travel.
Construction operations
<ul style="list-style-type: none"> - Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction. - Ensure an adequate water supply on the Site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate. - Use enclosed chutes and conveyors and covered skips. - Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate. - Ensure equipment is readily available on Site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.
Waste management
<ul style="list-style-type: none"> - Avoid bonfires or burning of waste material.
Measures specific to demolition (during the decommissioning phase only)
<ul style="list-style-type: none"> - Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust). - Ensure effective water suppression is used during demolition operations. - Avoid explosive blasting, using appropriate manual or mechanical alternatives. - Bag and remove any biological debris or damp down such material before demolition.
Measures specific to earthworks
<ul style="list-style-type: none"> - Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable. - Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as possible. - Only remove the cover in stages during work and not all at once.
Measures specific to construction

- Avoid scabbling (roughening of concrete surfaces) if possible.
- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
- Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.
- For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.

Measures specific to workout

- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the Site.
- Avoid any dry sweeping of large areas.
- Ensure vehicles entering and leaving Site are covered to prevent escape of materials during transport.
- Inspect on-Site haul routes for integrity and instigate necessary repairs to the surface.
- Record all inspections of haul routes and any subsequent action in a Site logbook.
- Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.
- Implement a wheel washing system.
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the Site exit.
- Access gates to be located at least 10m from sensitive receptors.

Road traffic exhaust emissions during construction and decommissioning

- 6.10.3 Any effects from traffic emissions on air quality during construction and decommissioning phases would be temporary and can be suitably controlled by the employment of appropriate additional mitigation measures. Proposed additional mitigation measures will be documented within and secured by the Outline Construction Traffic Management Plan (Outline CTMP) (refer to **Appendix 14.2: Outline Construction Traffic Management Plan in Volume 3**), and a Decommissioning Traffic Management Plan (DTMP) will be included in the Outline DEMP, produced for the decommissioning phase.

Road traffic exhaust emissions during operation

- 6.10.4 No specific additional mitigation measures are required. Nevertheless, best practice mitigation measures (described in **Table 6.14** above) can be considered to further reduce any residual effects on air quality. Such measures will be documented within and secured by the Outline Operational Environmental Management Plan (Outline OEMP).

6.11 What likely effects would remain for air quality following additional mitigation?

Dust and particulate matter emissions during construction and decommissioning

- 6.11.1 The sensitivity of the area to dust soiling effects on people and property is **high** during demolition (during the decommissioning phase only), earthworks and construction activities and **medium** during trackout activities. The dust emission magnitude (presented in **Table 6.13**), following additional mitigation, is small for every activity. Therefore, there is likely to be a **medium** risk of dust emission impacts from demolition activities (during the decommissioning phase only) and a **low** risk of dust emission impacts from earthworks, construction and trackout activities. The residual effect of dust soiling following the implementation of additional mitigation measures is **not significant**.
- 6.11.2 The sensitivity of the area to human health impacts is **low** for every activity: demolition (during the decommissioning phase only), earthworks, construction and trackout. The dust emission magnitude (presented in **Table 6.13**), following additional mitigation, is small for every activity. Therefore, there is likely to be a **negligible** risk of dust emission impacts for every activity. The residual effect on human health following the implementation of additional mitigation measures is **not significant**.
- 6.11.3 The sensitivity of the area to ecological impacts is **high** during demolition (during the decommissioning phase only), earthworks and construction activities and **low** during trackout activities. The dust emission magnitude (presented in **Table 6.13**), following additional mitigation, is small for every activity. Therefore, there is likely to be a **medium** risk of dust emission impacts from demolition activities (during the decommissioning phase only), a **low** risk of dust emission impacts from earthworks and construction activities and **negligible** risk of dust emission impacts from trackout activities. The residual effect on designated nature conservation sites following the implementation of additional mitigation measures is **not significant**.

Road traffic exhaust emissions during construction and decommissioning

- 6.11.4 The sensitivity of the human receptors is **high** and the magnitude of change, following additional mitigation, is below the EPUK-IAQM Land-Use Planning and Development Control: Planning for Air Quality guidance screening criteria. Therefore, the residual effect on human receptors following the implementation of additional mitigation measures is **not significant**.
- 6.11.5 The sensitivity of the designated nature conservation sites is **high** and the magnitude of change, following additional mitigation, is below the National Highways Design Manual for Roads and Bridges LA 105 Air Quality screening criteria. Therefore, the residual effect on designated nature conservation sites following the implementation of additional mitigation measures is **not significant**.

Road traffic exhaust emissions during operation

- 6.11.6 The sensitivity of the human receptors is **high** and the magnitude of change, following additional mitigation, is below the EPUK-IAQM Land-Use Planning and Development Control: Planning for Air Quality guidance screening criteria. Therefore, the residual effect on human receptors following the implementation of additional mitigation measures is **not significant**.
- 6.11.7 The sensitivity of the designated nature conservation sites is **high** and the magnitude of change, following additional mitigation, is below the National Highways Design Manual for Roads and Bridges LA 105 Air Quality screening criteria. Therefore, the residual effect on designated nature conservation sites following the implementation of additional mitigation measures is **not significant**.

6.12 What opportunities are there for environmental enhancement?

- 6.12.1 Mylen Leah Solar Farm will produce energy from the sun, which is a clean, sustainable source of energy. It will help to reduce the energy requirements from fossil fuels which emit harmful air emissions, such as carbon dioxide, nitrogen dioxide, sulphur dioxide, and particulate matter. Mylen Leah Solar Farm will contribute towards the transition to clean energy on a national scale and the reduction in harmful air emissions would be possible through phasing out fossil fuels uses (also refer to **Chapter 8: Climate in Volume 1**).

6.13 What difficulties and uncertainties have been encountered in this preliminary air quality assessment?

- 6.13.1 The information provided in this PEIR is preliminary and is based on the information available at the time of writing. A full assessment of likely significant effects of Mylen Leah Solar Farm will be reported in the ES.
- 6.13.2 Details of plant/equipment during the construction and decommissioning phases of Mylen Leah Solar Farm have not been defined and therefore an assessment of the dust and particulate matter emissions from the operation of equipment during construction and decommissioning has not been presented within this preliminary assessment. The plant selection and programme will be defined during the preparation of the ES, as further information becomes available.

6.14 What further work is required to inform the full air quality assessment in the DCO application?

- 6.14.1 This preliminary assessment has undertaken based on design of Mylen Leah Solar Farm to date and construction and traffic data available at this point in time. The full ES will be based upon more accurate project data once the design has been finalised.

¹ Environment Act 1995. Available online: [Environment Act 1995](#)

² Air Quality (England) Regulations 2000. Available online: [The Air Quality \(England\) Regulations 2000](#)

³ Directive 2008/50/EC. [eur80016.pdf](#)

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- ⁴ Air Quality Standards Regulations 2010. Available online: [The Air Quality Standards Regulations 2010](#)
- ⁵ Environment Act 2021. Available online: [Environment Act 2021](#)
- ⁶ Environmental Targets (Fine Particulate Matter) (England) Regulations 2023. Available online: [The Environmental Targets \(Fine Particulate Matter\) \(England\) Regulations 2023](#)
- ⁷ Department for Energy Security and Net Zero (December 2025, published January 2026). Overarching National Policy Statement for Energy (NPS EN-1). Available online: [Overarching National Policy Statement for energy \(EN-1\), 2025 - GOV.UK](#)
- ⁸ Ministry of Housing, Communities & Local Government (2024) National Planning Policy Framework. Available online: [National Planning Policy Framework - GOV.UK](#)
- ⁹ East Riding of Yorkshire Council (2025). East Riding Local Plan Update. Available online: [LPU - Allocations Document Update Adopted 2025.pdf](#)
- ¹⁰ Department for Environment, Food and Rural Affairs (2007). The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (Volume 1). Available online: [Air Quality Strategy Vol 1](#)
- ¹¹ Department for Environment, Food and Rural Affairs (2007). The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (Volume 2). Available online: [Air Quality Strategy 2007 Vol 2](#)
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- ¹³ Natural England (2018). Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations. Available online: [Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations - NEA001](#)
- ¹⁴ Department for Energy Security and Net Zero, Department for Environment, Food and Rural Affairs, Department for Transport, Department of Health and Social Care and Ministry of Housing, Communities and Local Government (2019). Clean Air Strategy 2019. Available online: [Clean Air Strategy 2019 - GOV.UK](#)
- ¹⁵ Institute of Air Quality Management (2020). A guide to the assessment of air quality impacts on designated nature conservation sites. Available online: [air-quality-impacts-on-nature-sites-2020.pdf](#)
- ¹⁶ Department for Environment, Food and Rural Affairs (2025). Local Air Quality Management (LAQM) Technical Guidance (TG22). Available online: [LAQM-TG22-May-25-v2.1.pdf](#)
- ¹⁷ Institute of Air Quality Management (2024). Guidance of the Assessment of Dust from Demolition and Construction (Version 2.2). Available online: [Construction-Dust-Guidance-Jan-2024.pdf](#)
- ¹⁸ National Highways (2024). Design Manual for Roads and Bridges LA 105 Air Quality. Available online: [LA 105 - Air quality](#)
- ¹⁹ Greater London Authority (2024). Non-Road Mobile Machinery Practical Guide. Available online: [Non-Road Mobile Machinery \(NRMM\) Practical Guide v6, January 2024](#)
- ²⁰ Department for Environment, Food and Rural Affairs (2024). Interim Planning Guidance on the consideration of the Environment Act PM2.5 targets in planning

decisions. Available online: [PM^{2.5} Targets: Interim Planning Guidance - DEFRA UK Air - GOV.UK](#)

²¹ Department for Environment, Food and Rural Affairs (2025). Environmental Improvement Plan (EIP) 2025. Available online: [Environmental Improvement Plan \(EIP\) 2025 - GOV.UK](#)

²² Scoping Opinion adopted by the Planning Inspectorate (on behalf of the Secretary of State) on 18 February 2025. Available online: [EN0110002-000035-Secretary of State Scoping Opinion - Proposed Mylen Leah Solar Farm 18 February 2025.pdf](#)

²³ East Riding of Yorkshire Council (2025). 2025 Air Quality Annual Status Report (ASR). Available online: [Microsoft Word - ERYC ASR 2025 signed](#)

²⁴ Department for Environment, Food and Rural Affairs (2021). Background Mapping data for local authorities – 2021. Available online: [Background Mapping data for local authorities - 2021 - DEFRA UK Air - GOV.UK](#)

²⁵ Department for Environment, Food and Rural Affairs (2025). Magic map. Available online: [MAGIC](#)

²⁶ Joint Nature Conservation Committee (2020). Red Data List For Great Britain. Available online: [Red lists in Great Britain | Advisor to Government on Nature Conservation | JNCC](#)

²⁷ Health and Safety at Work etc Act 1974. Available online: [Health and Safety at Work etc. Act 1974](#)