EAST PARK ENERGY

East Park Energy

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Preliminary Environmental Information Report

Volume 1 – Main Report

Chapter 16: Other Environmental Topics

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Preliminary Environmental Information Report
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Chapter 16: Other Environmental Topics

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16.0 OTHER ENVIRONMENTAL TOPICS

16.1 Introduction

16.1.1 This Chapter of the PEIR presents the findings of a preliminary assessment of the likely effects of the Scheme with regard to:

- Human Health;
- Major Accidents and Disasters;
- Waste; and
- Electromagnetic Fields.

16.1.2 For each of these environmental topics, significant effects were not predicted at the EIA Scoping stage and the Planning Inspectorate confirmed that individual assessment chapters are not required. The purpose of this chapter is to present an overview of the likely impacts of the Scheme to confirm that effects would not be significant in EIA terms.

16.1.3 Baseline conditions have been established for each topic area through desk-based assessment, and the assessment methodologies are presented in the relevant sub-section.

16.2 Human Health

16.2.1 This section of the PEIR considers the potential impacts on human health (both physical health and mental wellbeing) arising from the Scheme, and how the design development and assessment process has strived to reduce the effects of adverse impacts, whilst maximising enhancements where impacts are likely to be beneficial. The Scoping Opinion issued by the Planning Inspectorate (see ***PEIR Volume 2 Appendix 4-1***) confirmed the assessment of likely significant effects in relation to human health does not require a standalone assessment chapter within this PEIR. An assessment of the Scheme's impacts on the established 'wider determinants of health' has been undertaken.

Legislative and Policy Context

16.2.2 Since the enactment of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017[1], there has been a legal requirement to consider the impacts on human health within the EIA process. Whilst the way in which human health is addressed within environmental impact assessment, and subsequently reported within the Environmental Statement, is dependent on the type and location of a proposed development, and the way in which it would interact with human receptors, health must be considered at an appropriate level.

16.2.3 With respect to how human health is promoted within UK planning policy, the key policy drivers are:

- Overarching National Policy Statement for Energy (EN-1)[2] – Section 4.4: Assessment Principles (Health);
- National Planning Policy Framework[3] – Section 8: Promoting healthy and safe local communities; and
- Relevant Local Plan / Neighbourhood Plan policies.

Overarching National Policy Statement for Energy (EN-1)

16.2.4 Paragraph 4.4.1 of EN-1 states that: *"Energy infrastructure has the potential to impact on the health and well-being ("health") of the population."* This statement is expanded upon as it is explained that whilst access to energy is beneficial to society and therefore health as a whole, the construction of energy infrastructure and the production and distribution of energy may have negative impacts on some people's health.

16.2.5 Paragraph 4.4.2 states that direct impacts on health may be associated with:

- increased traffic;
- pollution (air or water);
- dust and odour;
- hazardous waste and substances;
- noise;
- exposure to radiation; and
- increases in pests.

16.2.6 However, it is also noted at Paragraph 4.4.3 that energy infrastructure may affect the demographics of the local population and therefore may affect access to social infrastructure such as transport, open space and public health facilities.

16.2.7 Paragraphs 4.4.4 to 4.4.5 state that an Environmental Statement should assess, through consideration within the full EIA process, health effects for each element of a project, identifying adverse impacts and the mitigation measures to avoid, reduce or compensate for them. It is further noted that cumulative developments should be considered where relevant.

16.2.8 EN-1 also encourages (at paragraph 4.4.6) the taking of opportunities to mitigate indirect impacts by promoting local improvements to encourage health and wellbeing within affected populations. This is particularly appropriate for vulnerable groups and people with protected characteristics under the Equality Act 2010. Being vulnerable is defined as being in need of

special care, support, or protection because of age, disability, risk of abuse or neglect[4], whilst section 149 of the Equality Act 2010[5] refers to the public sector equality duty, which must be considered by a public authority when exercising its functions, with respect to persons sharing a relevant protected characteristic, those being: age, disability; gender reassignment, pregnancy and maternity, race, religion or belief, sex, and sexual orientation.

National Planning Policy Framework

16.2.9 Paragraph 8 of the NPPF identifies the three overarching objectives that apply to the planning system, that collectively will help achieve sustainable development. Paragraph 8(b) states that the 'social' objective is (emphasis added): "*to support strong, vibrant and* ***healthy communities****, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed, beautiful and safe places, with accessible services and open spaces that reflect current and future needs and support communities'* ***health, social and cultural well-being***."

16.2.10 Paragraph 96 states that planning policies and decisions should aim to achieve 'healthy, inclusive and safe places' that 'enable and support healthy life styles, especially where this would address identified local health and well-being needs.' To help achieve this, Paragraph 104 of the NPPF provides a clear intent to protect and enhance informal recreational provision, by requiring planning policies and decisions to protect and enhance public rights of way (PROW).

Local Development Plan Policies

16.2.11 Whilst the determination of the Scheme will ultimately be informed by national planning policy, specifically EN-1, it is important to recognise local planning policy when identifying health related impacts and effects, as local planning policy may often identify specific health related issues within the local area.

16.2.12 The Bedford Borough Local Plan 2030[6] was adopted in January 2020, with section 5 of the plan being dedicated to 'Health'. Policy 2S – Healthy Communities outlines the proposed approach to 'reduced health inequalities and promote healthier lifestyles.' The policy has been prepared for development management purposes outside of the DCO framework, therefore the explicit advocacy for Health Impact Assessment (HIA) for larger developments is not relevant for the Scheme, though the inclusion of this section in the PEIR with regard to Human Health, and any subsequent reporting of health impacts in an ES submitted with a DCO submission, are comparable. However, of note is item iii) of the policy which states that Bedfordshire Borough Council will:

> *iii) Require development to be designed to promote health, safety and active living for all age groups, including healthy living options for older people, active space for children and adults and encourage physically active lifestyles through the provision of sustainable modes of transport (e.g. walking and cycling)."*

16.2.13 Emphasising the importance health is being given in emerging local development plans, the Huntingdonshire Local Plan to 2036[7], adopted in May 2019, also includes specific reference to HIA with Policy LP 29 requiring different levels of HIA for differing scales of development, to support the overriding purpose of facilitating safe, health and inclusive communities. As per the comparative policy for Bedford identified in 16.2.12, the inclusion of Human Health within the EIA process is considered an appropriate mechanism for addressing the human health impacts for the Scheme.

Approach to assessment

16.2.14 The approach to identifying potential likely significant effects on human health associated with the Scheme has been derived from the following guidance published by the Institute of Environmental Management and Assessment (IEMA) in November 2022, and referred to by the Planning Inspectorate in its Scoping Opinion:

- IEMA Guide to: Effective Scoping of Human Health in Environmental Impact Assessment ('IEMA Scoping Guidance')[8]; and
- IEMA Guide to: Determining Significance for Human Health in Environmental Impact Assessment ('IEMA Assessment Guidance')[9].

16.2.15 The Scoping Opinion advised that cross-referencing should be provided from the EIA methodology chapter (of a PEIR or ES), to highlight where health related aspects have been included within EIA topic assessments. However, for greater clarity this cross-referencing is provided within Table 16.2 alongside the assessment of impacts on human health.

Assessment of potential impacts on human health

16.2.16 The IEMA Scoping Guidance refers to the 'wider determinants of health' that should be used to identify likely impacts and effects relating to health within the EIA process. Table 16.1 describes these wider determinants of health in more detail, and provides context as to how they can influence human health.

Table 16.1: The wider determinants of health (IEMA Scoping Guidance)

Categories	Wider determinants of health	Description
Health related issues	- physical activity - risk taking behaviour - diet and nutrition	The physical and mental health of a population, with respect to aspects such as food related habits, smoking / drinking / drug use, criminality, keeping active, and how stress is dealt with.
Social environment	- housing - relocation - open space, leisure and play - transport modes, access and connections - community safety - community identity, culture, resilience and influence - social participation, interaction and support	The social capital relationships between family, friends and community that can influence health outcomes; and the opportunities afforded by social mobility, where a person's socio-economic situation improves or declines relative to that of their parents, or throughout their own lifetime.

Categories	Wider determinants of health	Description
Economic environment	- education and training - employment and income	The employment status and skill set of individuals and communities, which, when enhanced, not only provides financial opportunities to access social infrastructure, but inherently benefits a range of mental health issues such as depression, anxiety and self-esteem
Bio-physical environment	- climate change mitigation and adaptation - air quality - water quality or availability - land quality - noise and vibration - radiation	The environmental factors that can detrimentally affect health, from both a sensory (commonly a visual, aural or olfactive interaction) and a natural perspective. These factors can influence both physical and mental health, even when pathways are only perceived, such as water vapour from a chimney stack being mistaken for smoke.
Institutional and built environment	- health and social care services - built environment - wider societal infrastructure and resources	The availability, and access to, social infrastructure such as community facilities, public transport, amenities and recreational opportunities (either formal or informal).

16.2.17 In assessing how the Scheme may impact the wider determinants of health identified above in Table 16.1, consideration has been given to the potential health pathways that could occur between the various development components of the Scheme and people. It is important to consider the impacts affecting vulnerable groups or those who share protected characteristics, particularly where other EIA topics have, under standard circumstances, concluded that the Scheme is unlikely to give rise to significant environmental effects.

16.2.18 Table 16.2 below provides a comprehensive assessment summary of how the Scheme could potentially impact human health during construction (to also incorporate any specific aspects of decommissioning) and operational phases of the Scheme. The assessment:

- Identifies the pathways that could exist between the Scheme and people, and how the health of these people may be affected;
- References where within the PEIR information relating to the wider determinants of health, including relevant assessment, effects and mitigation can be found;
- Identifies how the Scheme has responded to potential human health impacts and how further actions might be incorporated as design progresses; and
- States whether impacts on the wider determinants of health are likely to result in significant human health effects, and who might be affected.

Table 16.2: Assessment of potential impacts on human health

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
Health Related Beaviours				
Physical Activity	**Availability and accessibility of Public Rights of Way** The Scheme could require a temporary diversion to any of the 26 Public Rights of Way that either cross or pass within the vicinity of the Site. This would potentially reduce the health benefits associated with these routes, by limiting or discouraging access, by members of the public.	***PEIR Volume 1 Chapter 2: The Scheme:*** Confirms that access to all PRoW will be maintained during construction, and only temporary diversions will be required, which will be localised and short term (~4 weeks). Where construction traffic crosses PRoW, Banksmen will be provided to ensure the safety of PRoW users. An Outline PRoW Management Plan will be submitted with the application for development consent, which will set out the principles by which PRoW will be managed during the construction, operation and decommissioning phases. ***PEIR Volume 1 Chapter 14: Socio-Economics:*** Confirms that none of the PRoW are part of the National Cycle Network or National Long Distance Trails, and that no PRoW are likely to be used to access employment. Given the considerable network of PRoW in this	The Scheme has: - Limited where and how PRoW are affected, to temporary, focused diversions. - Considered the safety of recreational users by utilising banksmen where construction traffic is required to cross a PRoW. - Committed to a PRoW Management Plan to confirm how PRoWs would be managed during the various stages of the project. The Scheme could: - Commit to ways of publicising temporary PRoW closures that target likely users, e.g. the Ramblers / organisers of local Wellbeing Walks. - Ensure that temporary diversions of PRoW are programmed to avoid any	Given that the impacts on PRoW are predicted to be minimal and temporary in nature, largely due to the residual network of PRoW routes available at any given time, there are unlikely to be any significant health effects arising from the Scheme.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
		area, PRoW are considered of low sensitivity, with impacts being considered negligible and not significant.	cumulative impacts on more well used routes within the network.	
	Opportunities for recreational activity Solar farms can often provide opportunities to provide bespoke, informal recreation routes that can be used by a range of users.	***PEIR Volume 1 Chapter 2: The Scheme:*** Confirms that as part of Work No. 8, a network of permissive paths will be created within the Scheme. These are highlighted on the Illustrative Environmental Masterplan (***PEIR Volume 3 Figure 2-2***).	The Scheme has: - Included a number of new permissive paths to increase recreational opportunity within, and around, the Site. The Scheme could: - Seek to maximise the provision of new permissive paths where practicable to do so, in liaison with local user groups. This could include: o Additional permissive paths added to the proposed network. o Additional features included within the proposed network, such as seating, to encourage use by vulnerable groups and people that share protected characteristics.	The provision of new permissive paths is considered a positive aspect of the Scheme, providing an enhancement to existing recreational routes within the local area. However, given the scale of proposed permissive routes compared to the existing path network, there are unlikely to be any significant health effects arising from the Scheme.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
Risk Taking Behaviour	**Criminal Activity – onsite** Crime cost the agricultural industry £52.8M in 2023[10], a year-on-year increase of around 4.3%. Any development within rural areas can be at risk of crime during both construction and operation. Illegal access to construction and operational sites can present serious health and safety risks, with the potential to result in serious injury or death from a range of hazards.	***PEIR Volume 2 Appendix 2-3: Outline Construction Environmental Management Plan (oCEMP) & Appendix 2-5 Outline Decommissioning Environmental Management Plan (oDEMP):*** The Site will be secured by temporary fencing (such as Heras fencing) during the Construction Phase, with overall management of security resting with the Principal Contractor. All plant and materials will be secured to prevent theft or vandalism. Remote monitoring and intrusion detection is likely to be managed via the use of deterrent systems such as 'Armadillo' camera security units. ***PEIR Volume 2 Appendix 2-4: Outline Operational Environmental Management Plan (oOEMP):*** Throughout the operational life of the Scheme, the Site will be secured by security fencing, with overall management of security resting with the Site Owner / Operator. All plant and materials will be secured to prevent theft or vandalism. The Site will be monitored by pole mounted CCTV and ancillary systems, e.g.,	The Scheme has: - Included measures to ensure that construction sites are safe and secure, minimising their attractiveness to opportunistic crime. The Scheme could: - Ensure that the finalised CEMP includes robust safety and security measures that have been developed in liaison with Bedfordshire Police and Cambridgeshire Constabulary.	Whilst the Scheme represents a potential opportunity for criminal activity during all phases of development, the adoption and implementation of robust site safety and security measures will mean that health risks associated with crime are likely to be negligible. Therefore, there are unlikely to be any significant health effects arising from the Scheme.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
		weather stations. All security systems will be regularly inspected for integrity. ***PEIR Volume 1 Chapter 2: The Scheme:*** Confirms that as part of Work No. 6, that the Scheme will incorporate CCTV at intermittent locations. These locations are highlighted on the Illustrative Environmental Masterplan (***PEIR Volume 3 Figure 2-2***) and are subject to confirmation as part of the final design.		
	Criminal and anti-social activity –construction workforce behaviour Where there is a temporary influx of construction workers to a local population, there may often be a perception within the local community that there is potential for associated criminal and anti-social behaviour. This perception can include a range of activities including driving	***PEIR Volume 1 Chapter 2: The Scheme:*** There is no inclusion for construction worker accommodation as part of the temporary construction compounds. The construction programme is based on multiple work sites running concurrently, reducing the time for construction workers being required on site. Any temporary relocation of staff to the area is likely to be limited in terms of numbers and duration, and would make use of hospitality accommodation within a 30-minute drive of the Site.	The Scheme has: - Excluded any requirement for onsite worker accommodation. - Stated that the Considerate Contractors Scheme will be adopted. The Scheme could: - Ensure that a 'toolbox talk' on off-site behaviour is included in any programme of site briefings. - Explore volunteering opportunities within local communities where construction	Whilst the perception of construction workforce behaviour may result in anxiety and stress for local communities, this is likely to be limited. However, vulnerable groups and those sharing protected characteristics may be affected by this disproportionality. It is likely that effective implementation of the Considerate Contractors Scheme and other community liaison

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
	standards, the illegal disposal of waste, and alcohol related disorder. However, many of these experiences may more commonly be related to larger construction projects where construction worker accommodation is provided on, or near to construction sites and workers are temporarily embedded within the local communities.	***PEIR Volume 2 Appendix 2-3: Outline Construction Environmental Management Plan:*** The oCEMP confirms that the Considerate Constructors Scheme will be adopted for the Scheme. This standard includes best practice measures that go beyond statutory compliance, and thus will further reduce the potential for pollution and nuisance associated with the Scheme.	workers can interact and build relationships with local people, e.g., litter picks, community building maintenance, visits to schools / colleges.	programmes, would help reduce potential impacts so that there are unlikely to be any significant health effects arising from the Scheme.
Diet and Nutrition	No health pathway has been identified between the Scheme and this wider determinant of health.			
Social Environment				
Housing	**Impacts on rental accommodation from construction workforce.** The ability to access affordable rental accommodation is a widely known, and	***PEIR Volume 1 Chapter 2: The Scheme:*** There is no inclusion for construction worker accommodation as part of the temporary construction compounds. The construction programme is based on multiple work sites running	The Scheme has: - Proposed a construction programme that would limit the need for any temporary relocation by construction workers.	Given that that need for overnight stays within the local area is likely to be minimal, there is unlikely to be any tangible impact on the local rental market and therefore, there are unlikely to be any significant health

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
	increasingly common problem throughout the UK. Where there is a temporary influx of construction workers, and no bespoke worker accommodation site provided, there is potential for rental accommodation to be secured within the local market, which reduces supply for the local population. The potential demand for this type of rental accommodation, which could be secured at a premium rent, may also lead to the fear or in extreme cases the occurrence, of no-fault evictions so that properties may be rented out at a premium.	concurrently, reducing the time for construction workers being required on site. Any temporary relocation of staff to the area is likely to be limited in terms of numbers and duration. ***PEIR Volume 1 Chapter 14: Socio-Economics:*** Confirms that there is a negligible impact in terms of saturation of the local hospitality sector accommodation due to construction. Table 14.20 reports that throughout the construction period, rooms available after existing demand would not be reduced by more than 30% due to uptake by construction workforce. In absolute terms, it is assessed that there would always be at least 1,000 rooms available throughout the hospitality accommodation sector within a 30-minute drive to the Site. ***PEIR Volume 2 Appendix 9-1: Outline Construction Traffic Management Plan (oCTMP):*** The oCTMP confirms that on-site parking will be provided in construction compounds, but sustainable transport methods will also be promoted, such as using	- Confirmed that a range of transport options will be provided, including sustainable transport options, to facilitate site travel on a daily basis The Scheme could: - Ensure that where local overnight stays are required, construction workers use local hotels, bed and breakfasts and inns and that these are secured in advance where practicable to do so.	effects arising from the Scheme.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
		public transport, car sharing, and potentially staff minibuses from public transport hubs. This will benefit those construction workers that do not have access to a private vehicle and may otherwise choose to relocate to the area.		
Relocation	No health pathway has been identified between the Scheme and this wider determinant of health.			
Open space, leisure and play	No health pathway has been identified between the Scheme and this wider determinant of health.			
Transport modes, access and connections	**Impacts on local transport links and associated behaviours.** A daily influx of construction workers can often place a strain on local public transport services, particularly in rural areas, where services are not provided to the standard or frequency of urban areas.	***PEIR Volume 2 Appendix 9-1: Outline Construction Traffic Management Plan:*** The oCTMP confirms that onsite parking will be provided in construction compounds, but sustainable transport methods will also be promoted, such as using public transport, car sharing, and potentially staff minibuses from public transport hubs. This will ensure that anti-social parking is avoided, whilst encouraging more sustainable commuting methods.	The Scheme has: - Confirmed that a range of transport options will be provided, including sustainable transport options, to facilitate site travel on a daily basis. The Scheme could: - Ensure that monitoring of travel behaviours and patterns is included as a commitment within the CTMP, with provisions to adjust how sustainable transport	With the promotion and implementation of sustainable transport methods, to supplement parking provision within construction compounds, it is unlikely that construction workers traveling to Site, or using the local highway network to travel between sites, would significantly impact the ability for local people to access and use local transport infrastructure and services.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
	Furthermore, private car use can often lead to off-site parking, which can cause a nuisance for both local businesses and residents.		methods are implemented, based on observed data.	Therefore, there are unlikely to be any significant health effects arising from the Scheme.
Community safety	No health pathway has been identified between the Scheme and this wider determinant of health.			
Community identity, culture, resilience and influence	No health pathway has been identified between the Scheme and this wider determinant of health.			
Social participation, interaction and support	No health pathway has been identified between the Scheme and this wider determinant of health.			
Economic Environment				
Education and Training	**Apprenticeships and Up-Skilling**	***PEIR Volume 1 Chapter 14: Socio-Economics:***	The Scheme has: - Confirmed that training and apprenticeship programmes	Generally, apprenticeship and training opportunities would likely make a negligible, but positive

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
	The construction industry provides opportunities for life-long learning across a spectrum of development sectors. The Scheme has potential to support training and retraining within the local employment workforce. This market led approach offers a valuable supplementation of local, and often publicly funded, training programmes.	Confirms as part of the assessment of potential employment impacts, that there is an opportunity for the appointed contractors to employ trainees and apprentices as part of the construction workforce.	could be considered by the various contractors employed onsite. The Scheme could: - Ensure that supply chain contractors provide details of training / apprenticeship programmes as part of any procurement process. - Identify at an early stage, the demand for apprenticeship and training placements and the potential linkages with existing public / private training programmes.	overall impact on the local workforce, which would not be considered significant in EIA terms. However, there is potential for increased benefits if the goal for filling these opportunities, should they materialise, actively encouraged fulfilment by those in vulnerable groups, or persons sharing protected characteristics. If persons inherently affected by inequalities in health were to benefit, it is likely that significant beneficial health effects could result from the Scheme.
Employment and Income	**Temporary impacts on local employment / economy** The construction of solar developments, particularly of the scale of the Scheme, requires a range of technical skills relating to utilities, drainage, groundworks, fabrication and plant operations. In addition,	***PEIR Volume 1 Chapter 14: Socio-Economics:*** Construction related employment would be of a medium-term and temporary nature. Although these jobs are temporary, they represent a positive economic effect for a substantial period of approximately 2.5 years. It is estimated that the average number of workers on Site across the	The Scheme has: - Identified the direct local impact of construction employment. - Provided a potential benefit to the local economy of over £40m. The Scheme could: - Encourage and / or incentivise the hiring of local workers when considering potential suppliers.	Overall, construction of the Scheme would result in a positive, but not significant, impact in relation to the local, regional and national economies and comparative employment markets. However, there is potential for increased benefits if the procurement of services and associated employment, actively

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
	ancillary services are required in relation to facilities management, security and welfare. Whilst a large proportion of construction employment is time bound, lasting for the duration of the construction programme or elements of it, a steady source of income is a key factor in maintaining physical and mental health, particularly if it comes with opportunities to learn transferable skills or upskilling.	Construction Phase would be 496, with a peak workforce of 854 in Month 12 and a low of 30 in Month 1 as mobilisation takes place. These factors are based on experience of constructing other similar-scale installations across Europe. It is envisaged that around 48% of the construction workforce would be local (within a 90-minute travel to work catchment). it is estimated that construction will contribute approximately £92.7m to the economy, of which £41.9m would likely be within the local area.	- Identify how sole traders and SMEs within the local economy can be encouraged to participate within the procurement process for supply chain services.	encouraged fulfilment by those in vulnerable groups, or persons sharing protected characteristics. If persons inherently affected by inequalities in health were to benefit, it is likely that significant beneficial health effects could result from the Scheme.
	Permanent impacts on local employment / economy The 2019 Public Health England guidance document 'Health matters: health and work'[11] states that there is a clear evidential link between 'good work',	***PEIR Volume 1 Chapter 14: Socio-Economics:*** It is estimated that during the operational phase there would be 20 gross direct full time employee (FTE) equivalent roles resulting from the Scheme (12 in site maintenance; 5 in management and administration; and 3 in land management).	The Scheme has: - Identified the direct local impact of permanent employment during operation of the Scheme. - Provided a potential benefit to the local economy of nearly £20m. The Scheme could:	Overall, the ongoing operation of the Scheme would result in a positive, but not significant, impact in relation to the local, regional and national economies and comparative employment markets, due to the level of employment created. Given the scale of employment

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
	and protection against social exclusion through the provision of: - Income - Social Interaction - A core role - Identity and purpose Conversely, there is also evidence that unemployment is bad for your health and associated with an increased risk of mortality and morbidity including: - Limiting long-term illness - Cardiovascular disease - Poor mental health - Suicide - Health-harming behaviours	The overall effect on employment, taking account of additionality, is an estimate of 24 FTE net additional jobs resulting from the Scheme, of which 18 might be drawn from the local area.	- Encourage and / or incentivise the hiring of local employees for full time, permanent positions.	created, there are unlikely to be any significant health effects arising from the Scheme.
Bio-Physical Environment				

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
Climate Change Mitigation and Adaptation	No health pathway has been identified between the Scheme and this wider determinant of health.			
Air Quality	**Traffic generation** Construction vehicles have the potential to detrimentally affect local air quality through exhaust emissions, though this depends on many factors including the type, age and condition of construction vehicles, the current use of affected roads by similar vehicles, and the proximity and sensitivity of any affected receptors.	***PEIR Volume 1 Chapter 11: Air Quality:*** The predicted HGV and LDV movements on the local road network are below the Institute of Air Quality Management indicative thresholds where more detailed assessment would be expected, and there are no known concerns regarding air quality in the local area. Therefore, human health risks associated with construction traffic are considered unlikely and no further assessment was deemed necessary. The additional traffic that would be generated by the Scheme for a temporary period is not predicted to result in significant adverse impacts on local air quality. Potential effects on human health receptors from construction vehicle emissions are unlikely to be significant.	The Scheme has: - Identified there is unlikely to be a risk associated with construction traffic accessing and leaving the Site. The Scheme could: - Ensure that any procurement process for supply chain services and the provision of construction materials, positively considers the use by freight hauliers of EURO 6 diesel / electric HGVs and LDVs.	The impact on human health from construction traffic emissions has been assessed as not significant, though it should be noted that persons living along the affected road network that suffer from pre-existing cardiopulmonary illnesses, may be more susceptible to a minimal increase in HGV and LDV movements. However, given the level of construction traffic movements predicted, there are unlikely to be any significant health effects arising from the Scheme.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
	Construction Plant Emissions Construction activity, particularly the machinery and plant typically used across sites (known as Non-Road Mobile Machinery (NRMM)), has the potential to significantly contribute to air pollution and affect the health of residents and workers. Air pollution from construction plant and machinery can be exacerbated by: - Leaving equipment running longer than needed. - Poor maintenance of equipment - Inappropriate siting of equipment during operation.	***PEIR Volume 1 Chapter 11: Air Quality:*** Confirms that the use of NRMM across the Site, will give rise to combustion emissions, primarily CO, NO_x and PM_{10}, with potential resulting impacts on local air quality. However, as there would not be any continuous sources of NRMM emissions close to any human receptors, with power plant (generators) sited at the compounds over 200m from any human receptors. Therefore, the use of NRMM and on-site plant is not expected to result in significant adverse impacts at any location. Resulting effects would be not significant. ***PEIR Volume 2 Appendix 2-3: Outline Construction Environmental Management Plan:*** Confirms that all plant would have the appropriate certification and checks with copies held on file on site. All plant would be regularly inspected, and records of these inspections would also be held on file on site.	The Scheme has: - Located construction compounds away from sensitive receptors, minimising any likelihood of significant impacts from NRMM. - Included provisions for NRMM to be inspected and maintained to ensure that emissions are kept to a minimum. The Scheme could: - Consider the use of electric NRMM where practicable to do so. - Identify whether battery storage could be implemented on site to replace, or reduce reliance on, diesel generators. - Ensure that community liaison provides ongoing updates regarding construction, so people have advance warning of any construction activity occurring near to them. - Confirm a detailed process for dealing with pollution / odour	Site construction compounds have been located to minimise any air pollution impacts on residential and other sensitive receptors. It is therefore considered unlikely that there would be any direct significant health impacts from emissions, though people who are closest to construction activity may have perceptions of impacts that give rise to worry, stress or anxiety. Ensuring good communications with local residents to provide updates on the construction programme, whilst efficiently and compassionately addressing any amenity related complaints, would make it unlikely that there would be any significant health effects arising from the Scheme.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
			related complaints from members of the public.	
	Dust creation Construction can create dust in a number of ways and can be heavily influenced by local weather conditions. Dry, warm weather can create arid construction sites, where construction activity can disturb surface material, easily making it airborne. Conversely, wet conditions help to 'damp down' stored materials and bare ground, potentially reducing the risk of dust particles transferring off site. Windy conditions will result in a greater potential of dust particles being transferred off site. Construction dust can have serious health implications both for those within (construction	***PEIR Volume 1 Chapter 11: Air Quality:*** Reports that the Construction Dust Assessment, which incorporates standard best practice mitigation, concluded that whilst there is a high risk of dust soiling impacts arising from fugitive dust associated with earthworks, and a medium risk of dust soiling impacts associated with construction works and trackout, there is a low risk of PM_{10} human health impacts from the fugitive dust associated with these activities. Confirms that given the scale of the Scheme, enhanced mitigation measures would be employed to minimise the risk of adverse impacts. The measures to be employed are detailed in the oCEMP and are based on standard industry guidance ***PEIR Volume 2 Appendix 2-3: Outline Construction Environmental Management Plan:*** Confirms the mitigation referred to in ***PEIR Volume 1 Chapter 11*** and	The Scheme has: - Located construction compounds away from sensitive receptors, minimising any likelihood of significant impacts from dust. - Confirmed that a Dust Management Plan (DMP) would be developed and agreed with appropriate stakeholders and set out in the CEMP The Scheme could: - Ensure that community liaison provides ongoing updates regarding construction, so people have advance warning of any construction activity occurring near to them. - Confirm a detailed process for dealing with dust related complaints from members of the public.	Site construction compounds have been located to minimise any dust impacts on residential and other sensitive receptors. It is therefore considered unlikely that there would be any direct significant health impacts from emissions, though people who are closest to construction activity may have perceptions of impacts that give rise to worry, stress or anxiety. Ensuring good communications with local residents to provide updates on the construction programme, whilst efficiently and compassionately addressing any amenity related complaints, would make it unlikely that there would be any significant

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
	workers) and adjacent to (receptors) a construction site. Health issues that have been linked to construction dust are: - lung cancer; - silicosis; - chronic obstructive pulmonary disease (COPD); and - asthma.	commits to a Dust Management Plan being developed and agreed with relevant stakeholders. The Dust Management Plan would be implemented as agreed.		health effects arising from the Scheme.
Water Quality or Availability	**Access to potable water** Any development has the potential to affect access to potable water (water used for drinking, cooking and bathing) during both construction and operational phases. Construction activity has the potential to affect potable water through the potential contamination of ground water, or surface water features, that provide a water	***PEIR Volume 1 Chapter 8: Hydrology and Flood Risk:*** Confirms that whilst public water abstractions are regarded as having a very high sensitivity, the only public water abstraction of relevance is at Offord, which is located a considerable distance from the Site, meaning that no impacts are likely to arise. In terms of normal operation, there would be no potential impacts on groundwater from on-site processes. However, in an emergency situation, such as battery fire, a sluice, included as part of the surface water	The Scheme has: - Identified that public water abstractions are too far from the Scheme to be affected. - Demonstrated how potable and non-potable water for construction activity will not affect any existing supply. - Stated how utilities infrastructure will be protected during construction activity. - Included suitable provisions to safeguard public water supplies during an emergency event.	No significant impacts that could affect potable water have been identified through the assessment process. Therefore, it is unlikely that there would be any significant health effects arising from the Scheme.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
	source to public supplies, by placing significant demand on water supplies for construction activity, and the potential for accidental damage to public water infrastructure. Operational impacts are likely to result from pollution or excessive water use due to operational processes; water consumed by people could be contaminated, or the availability of water could be limited, or at times, restricted. The Scheme won't have a need for water use during operation and there are no ongoing processes onsite that under normal situations, would affect water supplies.	drainage, could be operated to isolate the retention basin and prevent any run-off for a period of time. This would allow the run-off to be collected and treated in an appropriate way. ***PEIR Volume 2 Appendix 2-3: Outline Construction Environmental Management Plan:*** States that ongoing engagement with utility companies will confirm the location of utilities infrastructure, including water mains. Where identified, suitable offsets will be established where suitable working practices should be undertaken, noting that the location of utilities infrastructure may vary slightly from recorded information. The use of a Water Tanker(s) within the sites will avoid any reliance on existing water supplies for construction activity. On site- potable water, required for welfare facilities, is also likely to be provided by separate supply.	The Scheme could: - Include details within the CEMP of how access to potable water will be maintained during any emergency disruption to public water supplies.	
Land Quality	**Impacts on Construction Workers**	***PEIR Volume 1 Chapter 12: Ground Conditions:***	The Scheme has:	Construction activities will be controlled by health and safety legislation, guided by

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
	and Neighbouring Properties The Health and Safety at Work Act 1974 requires employers to, as far as reasonably practicable, provide and maintain a safe working environment that is without risk to health, and includes adequate facilities and arrangements for welfare. The construction industry in the UK is one of the safest globally, with 2.4 deaths per 100,000 workers in 2024, compared to 9.6 deaths per 100,000 in the United States. However, the construction industry is annually responsible for the highest number of workplace deaths in the UK, with 51 deaths recorded from April 2023 to March 2024, representing 37% of all work place fatalities.[12] Whilst solar farms are relatively simple	Confirms that limited sources of potential contamination have been identified, with a historical gravel pit (likely to have been infilled) and demolition rubble in East Park Site A, and two former ponds in East Park Site B and East Park Site C. Whist it would be confirmed through detailed site investigation, it is unlikely that existing contamination would impact construction workers during construction activity, or pose a risk to modular office / welfare facilities located at each site. UXO risk has been assessed as low throughout the majority of the Site, with a medium risk of Luftwaffe and anti-aircraft ordnance in part of East Park Site B. Proposed mitigation includes UXO awareness training for all construction staff and UXO clearance in East Park B. ***PEIR Volume 2 Appendix 2-3: Outline Construction Environmental Management Plan:*** Commitment to prepare a UXO Management Plan to inform construction activity, particularly ground breaking work in East Park Site B. As part of this UXO	- Incorporated Tool Box talks to provide awareness training of contamination and UXO risks. - Included provision for welfare units as part of temporary construction compounds to ensure that suitable sanitary provision is available to all construction worker, at all times. The Scheme could: - Make provision for the UXO Management Plan includes, where necessary, measures to advise members of the public of any remedial action required due to the identification of UXO, such as controlled detonations.	a suite of relevant management plans, and managed by experienced and suitable skilled construction professionals. As such, it is likely that any significant risk to the health of construction workers would be fully mitigated. Therefore, it is unlikely that there would be any significant health effects arising from the Scheme. With respect to members of the public, it is unlikely that they would be exposed to the same on-site risks as construction workers. Any transfer of contaminants off-site should be negligible assuming that prescribed clean-up protocols are adhered to. If UXO is discovered and controlled detonations are required, suitable liaison with members of the public regarding impending actions will help prevent any emotional or psychological response to

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
	construction projects when compared to other forms of developments, there is still considerable risk of the four main causes of accidents: - Falls - Struck by - Trapped by - Contact with Of these risks, land quality is most closely related to 'Contact with' risks. Whilst this would predominantly relate to contamination, the Scheme, due to its location, has identified risks associated with unexploded ordinance (UXO). Whilst it would be rare for members of the public to be exposed to these same risks, any off-site transfer of contaminants or remedial action (such as a controlled detonation) required for	Management Plan, a UXO Specialist will be available at all times during the Construction Phase to monitor works as required using visual recognition and instrumentation, and respond to reports of suspicious objects.		explosions, which is particularly important for people who are neurodivergent, have anxiety issues, or who have an exaggerated startled response due to suffering with post-traumatic stress disorder (PTSD).

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
	UXO, could pose a risk in certain circumstances.			
Noise and Vibration	**Construction Traffic** A common concern for residents and other sensitive receptors in relation to construction is the noise and vibration impacts arising from additional vehicles, which are often HGVs, using public roads to access the construction site. Proximity to the construction site is not necessarily an indicator of level of impact and likely effects, as access routes could take construction vehicles past sensitive receptors and local communities where other impacts from the construction activity are not even perceptible. In extreme cases, this could lead to people and communities being excluded from	***PEIR Volume 1 Chapter 10: Noise and Vibration:*** The predicted construction traffic noise impacts, resulting from the use of the public roads to access site, has been assessed as not significant. The temporary nature of the impact and relatively short period of peak staff traffic flow, results in changes at receptors of less than 3dB, which is the level of perceptible change in the short term. Predicted construction noise is well within this level, with no receptor along affected roads likely to experience a change of more than 2dB.	The Scheme has: - Identified there is unlikely to be a risk associated with construction traffic accessing and leaving the Site. The Scheme could: - Ensure that any procurement process for supply chain services and the provision of construction materials, positively considers the use by freight hauliers of EURO 6 diesel / electric HGVs and LDVs.	The impact on human health from construction traffic emissions has been assessed as not significant, though it should be noted that persons living along the affected road network that suffer from pre-existing cardiovascular illnesses, may be more susceptible to a minimal increase in HGV and LDV movements. However, given the level and short-term nature of construction traffic movements predicted, there are unlikely to be any significant health effects arising from the Scheme. Direct potential effects on human health receptors from construction traffic noise are unlikely to be significant.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
	consultation exercises, which could lead to increased stress and anxiety, and in extreme cases (long-term exposure to road traffic noise over 65dB) an increased risk of cardiovascular disease[13].			
	Construction activity Construction activity, particularly the machinery and plant typically used across sites (known as Non-Road Mobile Machinery (NRMM)), has the potential to significantly contribute to noise pollution and affect the health of residents and workers. Noise pollution from construction plant and machinery can be exacerbated by: - Leaving equipment running longer than needed.	***PEIR Volume 1 Chapter 10: Noise and Vibration:*** Confirms that the use of NRMM across the Site, would vary from day to day and therefore could potentially result in short term impacts at specific locations. However, based on the type of plant likely to be deployed on site, all receptor locations are likely to be within the accepted threshold values for construction noise. Therefore, the levels of noise, as a result of construction, would range between negligible to slight impact at residential receptors and a negligible to minor effect, which are not significant.	The Scheme has: - Located construction compounds away from sensitive receptors, minimising any likelihood of significant impacts from NRMM. - Included provisions for NRMM to be inspected and maintained to ensure that they operate efficiently. The Scheme could: - Consider the use of electric NRMM where practicable to do so. - Identify whether battery storage could be implemented on site to replace, or reduce reliance on, diesel generators.	Site construction compounds have been located to minimise any noise pollution impacts on residential and other sensitive receptors. It is therefore considered unlikely that there would be any direct significant health impacts from noise sources, though people who are closest to construction activity may have perceptions of impacts that give rise to worry, stress or anxiety. Ensuring good communications with local residents to update them on the construction programme, whilst

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
	- Poor maintenance of equipment. - Inappropriate siting of equipment during operation.	***PEIR Volume 2 Appendix 2-3: Outline Construction Environmental Management Plan:*** Confirms that noise monitoring would be undertaken to ensure compliance with relevant threshold values for construction noise. The process for undertaking any programme of noise surveys during construction will be confirmed within the finalised CEMP.	- Ensure that community liaison provides ongoing updates regarding construction, so people have advance warning of any construction activity occurring near to them. - Confirm a detailed process for dealing with noise related complaints from members of the public.	efficiently and compassionately addressing any amenity related complaints, would mean that it is unlikely that there would be any significant health effects arising from the Scheme.
Radiation	No health pathway has been identified between the Scheme and this wider determinant of health.			
Institutional and Built Environment				
Health and Social Care Services	No health pathway has been identified between the Scheme and this wider determinant of health.			
Built Environment	No health pathway has been identified between the Scheme and this wider determinant of health.			
Wider Societal Infrastructure	No health pathway has been identified between the Scheme and this wider determinant of health.			

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the PEIR	How has / could the Scheme respond?	Are there likely to be significant health effects from the Scheme?
and Resources				

16.3 Waste

16.3.1 This section of the PEIR identifies the likely waste streams arising from the Scheme and whether these would result in any likely significant environmental effects.

16.3.2 Waste is defined by the Waste Framework Directive (Directive 2008/98/EC)[14] as: *"any substance or object which the holder discards or intends or is required to discard"*.

16.3.3 In practical terms, wastes include surplus spoil, scrap, recovered spills, unwanted surplus materials, packaging, office waste, wastewater, broken, worn-out, contaminated or otherwise spoiled plant, equipment and materials. Often, where waste is generated and subsequently disposed of, there is a potential for resources to be permanently lost and for indirect environmental impacts and associated effects to occur.

Legislation, Policy and Guidance

16.3.4 The Waste Framework Directive[15] provides the framework for the management of waste across the EU. The Waste (England and Wales) Regulations 2011 (as amended)[16] transposed the Waste Framework Directive into domestic law in England and Wales. The framework requires waste prevention programmes and waste management plans that apply the waste hierarchy. The waste hierarchy is shown below in Figure 16.1.

16.3.5 The waste hierarchy will be applied throughout the lifetime of the Scheme during construction, operation and decommissioning.

Figure 16.1 Waste Hierarchy

16.3.6 Paragraph 5.15.8 of the Overarching National Policy Statement for Energy (EN-1)2 states that: *"The applicant should set out the arrangements that are proposed for managing any waste produced and prepare a report that sets out the sustainable management of waste and use of resources throughout any relevant demolition, excavation and construction activities."* Paragraph 5.15.9 goes on to state that *"The arrangements described and a report setting out the sustainable management of waste and use of resources should include information on how re-use and recycling will be maximised in addition to the proposed waste recovery and disposal system for all waste generated by the development. They should also include an assessment of the impact of the waste arising from development on the capacity of waste management facilities to deal with other waste arising in the area for at least five years of operation."*

16.3.7 EN-1 further states that applicants should seek to minimise the volume of waste produced and the volume of waste sent for disposal. Construction best practices should be utilised in relation to storing of materials in an adequate and protected place on site to prevent waste.

Assessment Methodology

16.3.8 Waste streams and quantities have been estimated using industry standards, based on activities, material requirements and staff requirements during the construction, operation, and decommissioning phases.

Baseline Conditions

16.3.9 The waste carriers and landfill sites used will be determined by the Principal Contractor pre-construction. The closest authorised landfill to the Site is Buckden Landfill, located off Brampton Road, PE18 9UH.

Assessment of Potential Effects

16.3.10 Given the nature of the Scheme, significant quantities of waste are not anticipated. Expected waste streams during the construction, operation and decommissioning phases are discussed below.

16.3.11 An Outline Construction Environmental Management Plan (oCEMP) has been prepared for the Construction Phase and is provided at ***PEIR Volume 2 Appendix 2-3***.

16.3.12 An Outline Operational Environmental Management Plan (oOEMP) has been prepared for the Operational Phase and is provided at ***PEIR Volume 2 Appendix 2-4***.

16.3.13 An Outline Decommissioning Environmental Management Plan (oDEMP) has been prepared for the Decommissioning Phase and is provided at ***PEIR Volume 2 Appendix 2-5***.

16.3.14 Each of these documents include embedded mitigation measures to control and manage waste on-site. If the DCO is granted, the oCEMP, oOEMP and oDEMP will be developed into detailed management plans once a contractor is appointed and will be a requirement of the DCO with approval by the Local Planning Authorities (LPA) prior to construction and decommissioning.

Construction Phase

16.3.15 Many of the infrastructure elements would be prefabricated offsite i.e. PV panels, racks, inverters and transformers, battery energy storage system (BESS) units, substation components. As such, the generation of waste resulting from the construction of these elements will be minimal.

16.3.16 The types of wastes generated during construction are likely to comprise:

i) General waste from site offices and welfare facilities;
ii) Small quantities of waste from the maintenance of construction vehicles;
iii) Packaging waste from incoming materials; and
iv) Other waste from construction of fencing, access roads and other supporting infrastructure.

16.3.17 Waste streams are likely to include:

- Metals (iron and steel);
- Plastic;
- Paper and cardboard;
- Wood;
- Chemicals, fuels and oils; and
- Waste water.

16.3.18 There is likely to be a requirement for some earthworks on Site, and there would also be soil arisings resulting from the construction of underground cable trenches, piling operations or localised excavations for construction of foundations or placement of services. The CL:AIRE Code of Practice (CoP)[17] provides a framework which allows the re-use of excavated materials on-site or their transfer between sites. In the unlikely event that soil arisings are not used on-site then the contractor would look to reuse soils in accordance with the CoP, thereby minimising export of materials to landfill.

16.3.19 All waste transported off site will be delivered to the appropriately licenced receivers of such materials. Operators receiving any waste materials resulting from the Scheme will be subject to their own permitting and regulatory procedures.

16.3.20 Prior to construction, opportunities to minimise waste produced through the construction phase as far as possible will be explored. Possibilities to re-use or recycle materials will be explored before resorting to landfill options.

16.3.21 Re-usable waste includes soil excavated for trenches, roads, compound areas and foundations. These will be re-used on-site where possible.

16.3.22 Toxic and / or hazardous waste must be treated by an authorised operator. Transportation of hazardous waste will also require an authorised carrier. Materials are to be dealt with in accordance with the oCEMP which will be secured through a DCO Requirement. With these in place and the appropriate control measures followed, no significant effects are anticipated.

Operational Phase

16.3.23 During operation, waste arisings would be very limited and would include:

- Welfare facility waste;
- Equipment needing replacing;
- Waste metals; and
- General waste (paper, cardboard, wood, etc.).

16.3.24 Any arisings would be managed in accordance with the Waste Duty of Care Code of Practice[18], which implements the duty of care set out in Section 34(1) of the Environmental Protection Act 1990[19]. Wastes would be managed in accordance with the waste hierarchy as set out in the Waste (England and Wales) Regulations 2011, any waste capable of being recycled would be sent to an appropriate recycling waste management facility.

16.3.25 During the operational phase of the Scheme, waste arisings are expected to be minimal and are not anticipated to result in a significant effect.

Decommissioning Phase

16.3.26 During the decommissioning phase it is expected that a number of waste streams will be created. They are likely to include the following:

- Solar panels and mounting structures;
- Cables;
- Fencing;

- Waste materials from foundations;
- Electrical equipment;
- Energy storage i.e. batteries;
- Welfare facility waste;
- Waste chemicals, fuels and oils;
- Waste metals; and
- Waste water from dewatering of excavations and from cleaning activities (e.g. wheel wash).

16.3.27 The majority of the mounting structures, cabling and fencing are comprised of metal and are readily recyclable. PV panels comprise aluminium frames, laminated glass, silicon cells and polymer sheeting. PV panels would be dismantled and the panels separated into their component parts to allow the constituent elements to be recycled. At the point of decommissioning, all of the panels would be removed to a PV panel recycling facility. The resource value of the various components of the panels, along with the legislative requirements of the waste management regime, mean that the vast majority of the PV infrastructure would be recycled.

16.3.28 Other associated infrastructure, such as the transformers, will be removed from their concrete foundations and will be transported via HGV off site. The equipment will either be re-used or recycled where possible.

16.3.29 When removing the substation, the infrastructure will be loaded onto an abnormal indivisible load vehicle (AIL) and removed from site in much the same way as it was delivered to site. The area will be returned to its former condition and the substation likely to be refurbished and re-used on another site or taken to a recycling facility.

16.3.30 The inverter and transformer platforms and concrete foundations will be broken up and removed off site. The crushed foundations will be provided to a licensed waste transfer station for appropriate disposal or sold as recycled aggregate. Any uneven ground will be reinstated to its former condition.

16.3.31 All tracks will be restored to the previous condition. The aggregate used for the internal tracks will be recovered, loaded onto HGVs and transported off site for re-use at another site or to a recycling facility.

16.3.32 Underground cables will be disconnected from the local electricity network and removed from site, but with conduits and other material more than 1m below ground level left in-sity. .

16.3.33 The applicant is dedicated to ensuring that, where possible, as much of the equipment proposed is either re-used or recycled. As such, the quantum of non-recyclable waste will be limited. Any non-recyclable waste will be stored in a skip for regular removal to an appropriate landfill.

16.3.34 All waste transported off site will be delivered to appropriately licenced receivers of such materials. Operators receiving any waste materials resulting from the Scheme will be subject to their own consenting procedures. It is worth noting that it is not possible to forecast the capacity of the landfill sites for decommissioning at this stage due to potential change in waste generation and operators at that time.

16.3.35 Waste arisings will be prevented and designed out where possible. Opportunities to re-use material resources will be sought where practicable. Where re-use and prevention are not possible, waste arisings will be managed in line with the Waste Hierarchy.

Summary

16.3.36 The assessment has concluded that with the embedded mitigation measures incorporated as part of the Scheme, there would be no significant effects resulting from the Scheme.

16.4 Major Accidents and Disasters

Introduction

16.4.1 This section summarises the potential effects of the Scheme as a result of major accidents or disasters.

Legislation, Policy and Guidance

16.4.2 Schedule 4 paragraph 8 of the EIA Regulations requires that an ES includes a description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and / or disasters which are relevant to the project concerned. Further, that where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events and the approach to managing emergencies.

16.4.3 In relation to major accidents the EIA Regulations refer to Directive 2012/18/EU[20] (the control of major-accident hazards involving dangerous substances). This directive defines major accidents as:

> *"an occurrence such as a major emission, fire, or explosion resulting from uncontrolled developments in the course of the operation of any establishment covered by this Directive, and leading to serious danger to human health or the environment, immediate or delayed, inside or outside the establishment, and involving one or more dangerous substances."*

16.4.4 The reference to disasters is interpreted to relate to natural events, as indicated by the preamble to the 2014 Directive (2014/52/EU)[21] which states at paragraph 15:

> *"In order to ensure a high level of protection of the environment, precautionary actions need to be taken for certain projects which, because of their vulnerability to major accidents, and/or natural*

disasters (such as flooding, sea level rise, or earthquakes) are likely to have significant adverse effects on the environment".

16.4.5 Nonetheless, it is recognised that disasters can occur as a result of human intervention e.g., conflict and war, political influences etc.

16.4.6 The following relevant guidance has been considered as part of this assessment of major accidents and disasters:

- *Major Accidents and Disasters in EIA: A Primer*, produced by the Institute for Environmental Management and Assessment in 2020[22];
- *Grid Scale Energy Storage System Planning – Guidance for Fire and Rescue Services*, produced by the National Fire Chiefs Council (NFCC) in 2023[23]; and
- *Draft Grid Scale Energy Storage System Planning – Guidance for Fire and Rescue Services*, published for consultation by the NFCC in July 2024.

Approach

16.4.7 In general, major accidents or disasters, as they relate to the Scheme, fall into three categories:

- Events that could not realistically occur, due to the nature of the Scheme or its location;
- Events that could realistically occur, but for which the Project, and associated receptors, are no more vulnerable than any other development; and
- Events that could occur, and to which the Project is particularly vulnerable, or which the Project has a particular capacity to exacerbate. These events are considered within this assessment.

16.4.8 A shortlist has been drawn up of potential major accidents or disasters that could affect the Scheme with reference to the UK Risk Register and the approach taken on other comparable solar NSIPs.

16.4.9 The Scheme is located within a politically, geologically, and meteorologically stable part of Europe. Accordingly, the Scheme is not at material risk from, for example, civil unrest, war, earthquakes, or extreme weather conditions (hurricanes etc.). The shortlist is therefore as follows:

- Flood Risk
- Fire Risk
- Road Incidents
- Aircraft Incidents
- Utilities
- Unexploded Ordnance

Assessment of Potential Effects

Flood Risk

16.4.10 The impact of flooding and effects of the Scheme on flood risk have been assessed as part of the Hydrology and Flood Risk Assessment (***PEIR Volume 1 Chapter 8***) and the Flood Risk Assessment (***PEIR Volume 2 Appendix 8-1)***.

16.4.11 The Scheme has been designed to ensure that critical components of infrastructure would not be affected by extreme flood events and that the Scheme will not exacerbate flood risk elsewhere.

16.4.12 The flood risk assessment concludes that there would be no significant effects as a result of flood risk, including when accounting for future climate change. In the event of flooding there would be no significant environmental effects resulting from the Scheme.

Fire Risk

16.4.13 The Scheme includes the East Park BESS (Work No. 2). The battery storage units have the potential to generate heat and therefore there is a risk of a fire developing if the operator does not adopt sufficient management and control measures. The BESS would include cooling systems which are designed to

regulate temperatures to within safe conditions to minimise the risk of fire. The units would also contain fire detection and suppression systems.

16.4.14 The NFCC has published guidance in relation to grid scale battery energy storage systems that has informed the approach to establishing the design parameters for Work No. 2, with embedded mitigation measures including the spacing parameters required between battery storage units, the provision of water storage tanks, and the allowance for two points of access into the BESS.

16.4.15 The NFCC guidance for BESS notes that consideration should be given within the site design to the management of water run-off such that in an emergency situation where polluted water may run-off from the facility this can be safely contained and treated, rather than risking pollution of groundwater or local watercourses. To achieve this an impermeable surface would be required for the BESS, likely to be concrete, such that any run-off can be directed towards a retention basin. In normal operation the retention basin would allow rainwater to pass through and drain to a nearby watercourse (as set out in ***PEIR Volume 2 Appendix 8-2***), but in an emergency situation a sluice could be operated to isolate the retention basin and prevent any run-off for a period of time. This would allow the run-off to be collected and treated in an appropriate way. The retention basin would be secured by Work No. 6B as set out in ***PEIR Volume 1 Chapter 2***.

16.4.16 An Outline Battery Safety Management Plan (oBSMP) will be prepared and submitted with the application for development consent, with compliance secured by a requirement of the DCO. The oBSMP will detail the regulatory guidance reviewed to ensure that all safety concerns around the BESS element of the Scheme are addressed so far as is reasonably practicable such that likely significant effects would not arise.

16.4.17 If the DCO is granted, the, oSMP will be developed into a detailed management plan and will be a requirement of the DCO with approval by the Local Planning Authorities (LPA) prior to construction.

16.4.18 Following adoption of the above embedded mitigation measures, the risk resulting from fire would be low, and there would be no significant environmental effects resulting from the Scheme.

Road Incidents

16.4.19 The effects of the Scheme on highway accidents safety have been assessed as part of the Traffic and Transport Assessment (***PEIR Volume 1 Chapter 9***). The assessment concludes that there is no evidence the Scheme would exacerbate the frequency or severity of road incidents in the local area. An overall negligible effect is concluded, which is not significant.

16.4.20 Glint and glare impacts on local highway users are also considered in the Glint and Glare Assessment (***PEIR Volume 2 Appendix 5-6***). The assessment concludes that impacts are acceptable and not significant.

Aircraft Incidents

16.4.21 The potential for glint and glare impacts on aircraft using local airfields has been assessed in the Glint and Glare Assessment (***PEIR Volume 2 Appendix 5-6***). The assessment concludes that impacts on all aviation assets are acceptable and not significant.

Utilities

16.4.22 The Site is crossed by a number of utility corridors, including high pressure gas pipelines, water mains, and overhead electrical lines. The design of the Scheme will take into account the easement and separation distances required by the owners and operators of the various utilities. These buffers are, in part, designed to safeguard the utilities from damage or disruption. Where it is necessary to cross utilities, particularly during the Construction Phase, it will be necessary to agree safe working practices with the utility operators prior to undertaking works. All works would be undertaken in accordance with the Health and Safety at Work Act 1974[24], Management of Health and Safety at Work Regulations 1999[25], CDM Regulations 2015[26] and the Pipelines Safety Regulations 1996[27].

16.4.23 On the basis of the proposed approach to the design and the mitigation that would be implemented during construction, there would not be a significant likelihood of damage to utilities at the Site.

Unexploded Ordnance

16.4.24 An Unexploded Ordnance (UXO) Desk Based Risk Assessment (***PEIR Volume 2 Appendix 12-1***) undertaken by a specialist consultancy (First Line Defence) has identified the potential for UXO at the Site. The findings of the UXO Risk Assessment are:

- Risk of both German and anti-aircraft unexploded ordnance: Part of East Park Site B including the sections between Keysoe and Little Staughton, surrounding Lodge Farm and the former Kangaroo Inn, have been elevated to Medium Risk for UXO, whereas the remainder of the Site is attributed a Low Risk.
- Risk of Allied Ordnance: The Site is attributed as a Low Risk from the potential of such UXO.

16.4.25 The UXO specialist has therefore made the following recommendations:

- a UXO Risk Management Plan is prepared and adopted for the Site and site-specific UXO awareness briefings are given to all personnel involved in the development who will conduct intrusive works; and,
- Within the areas designated as a having a Medium Risk of UXO, there should be a UXO specialist on-site support wherever excavation is proposed and an intrusive downhole magnetometer survey should be undertaken where boreholes and piled foundations are proposed.

16.4.26 A UXO Management Plan will be a requirement of the DCO to be prepared prior to construction commencing. All works across the Site will be required to accord with the UXO Management Plan, and site-specific UXO Awareness Briefings will be given to all operatives undertaking intrusive works.

16.4.27 In certain areas identified by the UXO Management Plan, an Intrusive Magnetometer Survey of all pile locations and excavations will be undertaken down to the maximum bomb penetration depth.

16.4.28 A UXO Specialist will be available at all times during the Construction and Decommissioning Phases to monitor works as required using visual recognition and instrumentation, and respond to reports of suspicious objects.

16.4.29 Following adoption of the above embedded mitigation measures, the risk resulting from UXO would be low, and there would be no significant environmental effects resulting from the Scheme.

Summary

16.4.30 The assessment has concluded that with the embedded mitigation measures incorporated as part of the Scheme, the Scheme is at a low risk from major accidents and disasters, meaning that it is therefore unlikely that associated significant environmental effects would occur.

16.5 Electromagnetic Fields

16.5.1 The East Park Substation and the Grid Connection between the East Park Substation and the Eaton Socon Substation are rated at 400 kV and therefore in accordance with *DECC Power Lines: Demonstrating compliance with EMF public exposure guidelines, A Voluntary Code of Practice 2012*[28] have the potential to cause adverse impacts as a result of electromagnetic fields (EMFs).

16.5.2 National Policy Statement for Electricity Networks Infrastructure (EN-5)[29] states that:

> *EMFs comprise electric and magnetic fields. Electric fields are the result of voltages applied to electrical conductors and equipment. Fences, shrubs and buildings easily block electric fields. Magnetic fields are produced by the flow of electric current; however, unlike electric fields, most materials do not readily block magnetic fields. The intensity of both electric fields and magnetic fields diminishes with increasing distance from the source. (paragraph 2.9.45)*
>
> *All overhead power lines produce EMFs. These tend to be highest directly under a line and decrease to the sides at increasing distance. Although putting cables underground eliminates the electric field, they still produce magnetic fields, which are highest directly above the cable. EMFs can have both direct and indirect effects on human health, aquatic and terrestrial organisms. (paragraph 2.9.46)*
>
> *The levels of EMFs produced by power lines in normal operation are usually considerably lower than the ICNIRP 1998 reference levels. For electricity substations, the EMFs close to the sites tend to be dictated by the overhead lines and cables entering the installation, not the equipment within the site. (paragraph 2.9.51)*
>
> *In March 2004, the National Radiological Protection Board (now part of NIHP CRCE), published advice on limiting public exposure to*

electromagnetic fields. The advice recommended the adoption in the UK of the EMF exposure guidelines published by ICNIRP in 1998. (paragraph 2.9.54)

These guidelines also form the basis of the Control of Electromagnetic Fields at Work Regulations 2016. Resulting from these recommendations, government policy is that exposure of the public should comply with the ICNIRP 1998 guidelines. The electricity industry has agreed to follow this policy. Applications should show evidence of this compliance as specified in 2.10.11.

16.5.3 The 400 kV Grid Connection as part of the Scheme would be entirely underground. Electric field effects therefore cannot occur as the electric field is screened by the cable sheathing. For magnetic field effects, the UK has set out that exposure should comply with the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidance exposure limits, which is 360 microteslas (µT).

16.5.4 National Grid has produced a document '*Undergrounding High Voltage Electricity Transmission Lines: The Technical Issues*' which was issued in January 2015 and at Section 9 covers the potential for electromagnetic fields from underground cables. The document sets out the potential magnetic field from underground buried 400 kV cables, as per Table 16.3 below.

16.5.5 The National Grid guidance also notes that:

"As the source of a magnetic field is approached the field gets higher. Cables are typically installed 1m below ground, whereas the conductors of an overhead line are typically more than 10m above ground, so the magnetic field directly above such a cable is usually higher than that directly below the equivalent overhead line.

However, as the individual cables are installed much closer together than the conductors of an overhead line, this results in the magnetic field from cables falling more quickly with distance than the magnetic

field from overhead lines. Overall, then, directly above the cable and for a small distance to the sides, the cable produces the larger field; but at larger distances to the sides, the cable produces a lower field than the overhead line, as shown in the table below."

Table 16.3: Magnetic fields for buried underground cables

				Magnetic field in µT at distance from centreline			
				0m	5m	10m	20m
400kV Underground Cable	Trough	0.13m Spacing, 0.3m Depth	Max.	83	7	1.8	0.5
			Typical	21	2	0.5	0.1
	Direct Buried	0.5m Spacing, 0.9m Depth	Max.	96	13	3.6	0.9
			Typical	24	3	0.9	0.2
	Deep Bore Tunnel	25m Depth	Max.	0.11	0.10	0.09	0.05
			Typical	0.03	0.03	0.02	0.01

16.5.6 The above table demonstrates that the maximum magnetic field possible would be 96 µT, which is considerably lower than the UK exposure limit of 360 µT.

16.5.7 The above data demonstrates that 400 kV underground cables such as that proposed as part of the Scheme do not pose a significant risk to human health.

16.5.8 National Grid's 'Electric and Magnetic Fields' website states that "*underground cables will always produce magnetic fields that comply with the UK exposure guidelines*"[30].

16.5.9 Furthermore, NPS EN-5 states at paragraph 2.9.58 that:

"There is little evidence that exposure of crops, farm animals or natural ecosystems to transmission line EMFs has any agriculturally significant consequences."

16.5.10 It can therefore be reasonably concluded that there would be no significant effects as a result of electromagnetic fields, and that no further mitigation is required.

16.6 References

[1] HMSO (2017). Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. Available at: https://www.legislation.gov.uk/uksi/2017/572/introduction [Last Accessed: 11 September 2024]

[2] Department for Energy Security and Net Zero (2024). *Overarching National Policy Statement for energy (EN-1).* Available at: https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1 [Last Accessed: 20 September 2024]

[3] Department for Levelling Up, Housing and Communities (2023). *National Planning Policy Framework (NPPF).* Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2 [Last Accessed: 20 September 2024]

[4] Office for Health Improvement and Disparities (March 2022) Vulnerabilities: applying All Our Health. Available at: https://www.gov.uk/government/publications/vulnerabilities-applying-all-our-health/vulnerabilities-applying-all-our-health [Last Accessed: 20 September 2024]

[5] HMSO (2010). Equality Act 2010, (c.15), section 149. Available at: https://www.legislation.gov.uk/ukpga/2010/15 [Last Accessed: 20 September 2024]

[6] Bedford Borough Council (2020). Bedford Borough Local Plan 2030. Available at: https://www.bedford.gov.uk/planning-and-building-control/planning-policy/local-plan-2030/local-plan-2030-overview [Last Accessed: 11 September 2024]

[7] Huntingdonshire District Council (2019). Huntingdonshire Local Plan to 2036. Available at: https://huntingdonshire.gov.uk/planning/local-plan-to-2036/ [Last Accessed: 11 September 2024]

[8] Institute of Environmental Management and Assessment (2022) IEMA Guide to: Effective Scoping of Human Health in Environmental Impact Assessment. IEMA.

[9] Institute of Environmental Management and Assessment (2022) Guide to: Determining Significance for Human Health in Environmental Impact Assessment. IEMA.

[10] National Farmers Union (2024) NFU Mutual Rural Crime Report 2024. NFU

[11] Public Health England (2019) Health matters: health and work. Available at: https://www.gov.uk/government/publications/health-matters-health-and-work/health-matters-health-and-work [Last Accessed: 20 September 2024]

[12] HSE (July 2024) Work-related fatal injuries in Great Britain, 2024. Available at: https://www.hse.gov.uk/statistics/fatals.htm [Last Accessed: 20 September 2024]

[13] European Heart Journal, Volume 42, Issue 21, 1 June 2021, Pages 2072–2084

[14] EU (2008). Directive 2008/98/EC of the European Parliament and of the Council. Available at: https://www.legislation.gov.uk/eudr/2008/98 [Last Accessed: 20 September 2024]

[15] *Ibid*

[16] HMSO (2011) The Waste (England and Wales) Regulations 2011 (as amended). Available at: https://www.legislation.gov.uk/uksi/2011/988 [Last Accessed: 20 September 2024]

[17] CL:AIRE (March 2011). The Definition of Waste. Development Industry Code of Practice Version 2. Available at: https://claire.co.uk/projects-and-initiatives/dow-cop/28-framework-and-guidance/111-dow-cop-main-document [Last Accessed: 12 September 2024]

[18] Department for Environment Food & Rural Affairs (2018). Waste Duty of Care: Code of Practice. Available at: https://www.gov.uk/government/publications/waste-duty-of-care-code-of-practice/waste-duty-of-care-code-of-practice [Last Accessed: 20 September 2024]

[19] HMSO (1990). Environmental Protection Act 1990. Available at: https://www.legislation.gov.uk/ukpga/1990/43 [Last accessed 13 September 2024]

[20] EU (2012). Directive 2012/18/EU of the European Parliament and of the Council. Available at: https://www.legislation.gov.uk/eudr/2012/18/contents [Last accessed 13 September 2024]

[21] EU (2014). Directive 2014/52/EU of the European Parliament and of the Council. Available at: https://www.legislation.gov.uk/eudr/2014/52/contents [Last accessed 13 September 2024]

[22] Institute for Environmental Management and Assessment (2020) Major Accidents and Disasters in EIA: A Primer. Available at: https://www.iema.net/media/brbdeibt/j27374_iema_major_accidents__disasters_final-1.pdf [Last accessed 13 September 2024]

[23] National Fire Chiefs Council (2023). Grid Scale Energy Storage System Planning – Guidance for FRS. Available at: https://nfcc.org.uk/wp-content/uploads/2023/04/Grid-Scale-Battery-Energy-Storage-System-planning-%E2%80%93-Guidance-for-FRS-April-2023.pdf [Last accessed 13 September 2024]

[24] HMSO (1974). Health and Safety at Work etc. Act 1974. Available at: https://www.legislation.gov.uk/ukpga/1974/37 [Last accessed 13 September 2024]

[25] HMSO (1999). The Management of Health and Safety at Work Regulations 1999. Available at: https://www.legislation.gov.uk/uksi/1999/3242 [Last accessed 13 September 2024]

[26] HMSO (2015). The Construction (Design and Management) Regulations 2015. Available at: https://www.legislation.gov.uk/uksi/2015/51 [Last accessed 13 September 2024]

[27] HMSO (1996). The Pipelines Safety Regulations 1996. Available at: https://www.legislation.gov.uk/uksi/1996/825/made [Last accessed 13 September 2024]

[28] Department of Energy & Climate Change (2012). Demonstrating compliance with EMF public exposure guidelines: voluntary code of practice. Available at: https://www.gov.uk/government/publications/demonstrating-compliance-with-emf-public-exposure-guidelines-voluntary-code-of-practice [Last accessed 13 September 2024]

[29] Department of Energy and Climate Change (2023). National Policy Statement for Electricity Networks Infrastructure (EN-5). Available at: https://assets.publishing.service.gov.uk/media/65a78a5496a5ec000d731abb/nps-electricity-networks-infrastructure-en5.pdf [Last Accessed: 11 September 2024]

[30] National Gird (2024) Electricity systems and sources: Underground cables. Available at: https://www.emfs.info/electricity-system-and-sources/cables [Last Accessed: 20 September 2024]