EN0110033

September 2026

Environmental Statement

Interim Environmental Report (IER) Volume 1, Chapter 17: Materials and Waste

Document Reference

[AVS-ATKR-CONS-SITE-RPT-WAS-00001]

Contents

17 Materials and waste 2
17.1 Introduction 2
17.2 Scope of the assessment 2
17.3 Consultation 4
17.4 Legislation, policy and guidance 4
17.5 Method of assessment 5
17.6 Baseline conditions 9

List of tables

Table 17-1 Waste and resources as topics scoped in / out 2
Table 17-2 Summary of the consultation with stakeholders 4
Table 17-3 Criteria for determining receptor value 6
Table 17-4 Criteria for determining impact magnitude 7
Table 17-5 Effects threshold 8
Table 17-6 Effects significance 9
Table 17-7 Materials baseline 9
Table 17-8 Remaining Inert and non-hazardous waste landfill void capacity (m^3) 10
Table 17-9 Remaining hazardous landfill void capacity (m^3) 10
Table 17-10 Description of the key waste and resources as receptors that will be assessed 11

17 Materials and waste

17.1 Introduction

17.1.1 This chapter of the Environmental Statement (ES) presents the findings of the Environmental Impact Assessment (EIA) of effects on the environment with respect to waste and resources as a result of the Scheme.

17.1.2 This chapter identifies and proposes measures to address the potential impacts and likely significant effects on the environment with respect to materials and waste during the construction, operation and maintenance, and decommissioning phases.

17.1.3 The information presented within this chapter has been informed by the Scheme information and description provided in Volume 1, Chapter 2 Scheme description.

17.2 Scope of the assessment

17.2.1 Chapter 5, Section 5.2 of the Environmental Scoping Report[1] addresses the potential for the Scheme to result in significant effects on waste and resources for the construction, operational and decommissioning phases and consequently whether a standalone topic chapter is required in the ES. Table 17-1 provides a summary of the initial scoping assessment.

17.2.2 Through the adoption of the Scoping Opinion[2], the Secretary of State has confirmed that the waste and resources ES assessment must assess the scope set out in Table 17-1. No further comments were received from other stakeholders with regard to the Scoping Report.

Table 17-1 Waste and resources as topics scoped in / out

Topic	Scoped in / out			Justification
	Construction phase and panel/battery replacement	Operational phase (routine maintenance)	Decommissioning phase	
Permanent Removal of Materials from the Market - construction	Scoped out	Scoped out	Scoped out	When following the Institute of Sustainability and Environmental Professionals (ISEP) methodology and significance criteria, the predicted quantities of material use are not likely to exceed the thresholds, for significance when compared to the baseline. As required by the Scoping Opinion the ES will point towards a case study of a solar Nationally Significant Infrastructure Project (NSIP) promoted by the Applicant of a similar magnitude, where the estimated materials required are below the stated guidance thresholds. Following receipt of the Scoping Opinion, no further changes to the scope above are proposed.

[1] Arrow Valley Solar Limited (2026) Arrow Valley Solar. Environmental Impact Assessment Scoping Report. Volume I: Main Report (Document Reference AVS-ATR-GEN-AA-DOC-ENV-000001, Rev. A). Planning Inspectorate Reference EN0110033.
Available at: https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN0110033-000002-20260327%20Arrow%20Valley%20EIA%20Scoping%20Report%20Volume%201%20Main%20Report%20Rev.%20A.pdf.

[2] Planning Inspectorate (2026) Scoping Opinion: Proposed Arrow Valley Solar (Case Reference EN0110033). Adopted on behalf of the Secretary of State pursuant to Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, 7 May 2026.
Available at: https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN0110033-000010-Arrow%20Valley%20Solar%20Scoping%20Opinion.pdf

Topic	Scoped in / out			Justification
	Construction phase and panel/battery replacement	Operational phase (routine maintenance)	Decommissioning phase	
Generation of waste being diverted to landfill – all phases	Scoped in	Scoped in	Scoped in	In the Scoping Report this effect was proposed to be scoped out on the basis that applying the ISEP methodology and significance guidance indicated that, following adherence to the waste hierarchy, the predicted volume of waste requiring landfill disposal is not expected to exceed the thresholds for significance when compared to the baseline. This was based on waste generation from other solar NSIPs promoted by the Applicant of a similar magnitude. Following receipt of the Scoping Opinion these matters have now been scoped into the waste and resources assessment. As required by the Scoping Opinion, if waste estimates, by type and quantity, expected to be generated during all phases are available then this data will be used to complete the waste ES assessment. However, if this data is not available at the time of assessment then the waste ES assessment will be completed using waste data from a case study of a solar NSIP promoted by the Applicant of a similar magnitude, where estimated waste generation is below the stated guidance thresholds for all phases.
Sterilization of Mineral Resources - construction	Scoped out	Scoped out	Scoped out	Any minerals beneath the Order Limits will not be sterilised on a permanent basis during construction and would be available for exploitation in the future. In addition to this, it is understood that sand and gravel has already been extracted from a significant portion of sub-Site 2(d) and part of sub-Site 2(a). As required by the Scoping Opinion the ES will demonstrate that the relevant Mineral Planning Authorities have been consulted in respect of the proposed development's impacts on future ambitions for minerals extraction within the region. Following receipt of the Scoping Opinion, no further changes to the scope above are proposed.
Permanent Removal of Materials from the Market - operation	Scoped out	Scoped out	Scoped out	During the operation of the Scheme there is the requirement for periodic panel and/or battery replacement that will use materials. These quantities are expected to be below ISEP thresholds (compared to the baseline). As required by the Scoping Opinion the ES will point towards a case study of a solar NSIP promoted by the Applicant of a similar magnitude, where the estimated materials required are below the stated guidance thresholds. Following receipt of the Scoping Opinion, no further changes to the scope above are proposed.
Sterilization of Mineral Resources - operation	Scoped out	Scoped out	Scoped out	Any minerals beneath the Order Limits will not be sterilised on a permanent basis during operation and would be available for exploitation in the future. As required by the Scoping Opinion, the ES will demonstrate that the relevant Mineral Planning Authorities have been consulted in respect of the proposed development's impacts on future ambitions for minerals extraction within the region. Following receipt of the Scoping Opinion, no further changes to the scope above are proposed.

17.3 Consultation

Consultation to date

17.3.1 Table 17-2 provides a summary of all the consultation and engagement undertaken to date relevant to this assessment.

Table 17-2 Summary of the consultation with stakeholders

Stakeholder	**Date consulted**	Issue Consulted On	Addressed in the ES
Worcestershire County Council (Mineral Planning Authority)	October 2026 – meeting	Pre-application meeting to discuss the presence of mineral safeguarding areas within the project boundary.	To be updated following the meeting.
Warwickshire County Council (Mineral Planning Authority)	October 2026 – meeting		To be updated following the meeting.

17.4 Legislation, policy and guidance

Legislation

17.4.1 The below listed legislation has been taken into account in the waste and resources assessment. Volume 3, Appendix 17.1 Legislation and policy relevant to the materials and waste assessment provides further detail on how the below listed legislation has informed the waste and resources assessment:

- The Environmental Protection Act 1990[3];
- Clean Neighbourhoods and Environment Act 2005[4];
- Environment Act 2021[5];
- The Hazardous Waste (England and Wales) Regulations 2005 (SI 2005/894)[6];
- Waste Electrical and Electronic Equipment (WEEE) Regulations 2013 (SI 2013/3113)[7];
- The Environmental Permitting (England and Wales) Regulations 2016 (SI 2016/1154)[8];
- Waste Framework Directive 2008 – Article 2 (European Commission, 2008)[9]; as transposed into English and Welsh law by the Waste (England and Wales) Regulations 2011 (SI 2011/988)[10]; and
- Waste (England and Wales) Regulations 2011 (SI 2011/988)[11].

Policy

17.4.2 The below listed policy has been taken into account in the waste and resources assessment. Volume 3, Appendix 17.1 Legislation and policy relevant to the materials and waste assessment provides further detail on how the below listed policy has informed the waste and resources as assessment.

- Overarching National Policy Statement (NPS) for Energy (EN-1)[12];
- NPS for Renewable Energy Infrastructure (EN-3)[13];
- NPS for Electricity Networks Infrastructure (EN-5)[14];
- National Planning Policy Framework (NPPF) 2026[15];
- Waste Management Plan for England 2021 (Department for Environment, Food & Rural Affairs, 2021)[16];

[3] Environmental Protection Act 1990. Available at: https://www.legislation.gov.uk/ukpga/1990/43/contents
[4] Clean Neighbourhoods and Environment Act 2005. Available at: https://www.legislation.gov.uk/ukpga/2005/16/contents
[5] The Environment Act 2021. Available at: https://www.legislation.gov.uk/ukpga/2021/30/contents
[6] The Hazardous Waste (England and Wales) Regulations 2005. Available at: https://www.legislation.gov.uk/uksi/2005/894/contents
[7] The Waste Electrical and Electronic Equipment Regulations 2013. Available at: https://www.legislation.gov.uk/uksi/2013/3113/contents
[8] The Environmental Permitting (England and Wales) Regulations 2016. Available at: https://www.legislation.gov.uk/uksi/2016/1154/contents
[9] Directive 2008/98/EC of the European Parliament and of the Council. Available at: https://www.legislation.gov.uk/eudr/2008/98/article/2
[10] The Waste (England and Wales) Regulations 2011. Available at: https://www.legislation.gov.uk/uksi/2011/988/contents
[11] The Waste (England and Wales) Regulations 2011. Available at: https://www.legislation.gov.uk/uksi/2011/988/contents
[12] Department for Energy Security and Net Zero (2026) Overarching National Policy Statement for Energy (EN-1). Available at: https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025
[13] Department for Energy Security and Net Zero (2026) National Policy Statement for Renewable Energy Infrastructure (EN-3). Available at: https://www.gov.uk/government/publications/national-policy-statement-for-renewable-energy-infrastructure-en-3-2025
[14] Department for Energy Security and Net Zero (2026) National Policy Statement for Electricity Networks Infrastructure (EN-5). Available at: https://www.gov.uk/government/publications/national-policy-statement-for-electricity-networks-infrastructure-en-5-2025
[15] Ministry of Housing, Communities and Local Government (2026) National Planning Policy Framework. Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2
[16] Department for Environment Food and Rural Affairs (2021) Waste Management Plan for England. Available at: https://assets.publishing.service.gov.uk/media/60103f71d3bf7f05bc42d294/waste-management-plan-for-england-2021.pdf

- Resources and Waste Strategy for England 2018 (Department for Environment, Food & Rural Affairs, 2018)[17];
- Warwickshire Minerals Local Plan 2018-2032 (adopted 22 July)[18];
- Warwickshire Waste Core Strategy 2013-2028 (adopted 9 July 2013)[19];
- Worcestershire Minerals Local Plan 2018-2036 (adopted 14 July 2022)[20];
- Worcestershire Waste Core Strategy 2012-2027 (adopted 15 November 2012)[21] currently under development for updating;
- Worcestershire new Waste Plan (2026)[22];
- Environmental Improvement Plan 2023[23];
- A Green Future: Our 25 Year Plan to Improve the Environment 2018[24]; and
- The Waste Prevention Programme for England: Maximising Resources, Minimising Waste 2023[25].

Guidance documents

17.4.3 The waste and resources assessment has been undertaken in accordance with the following guidance documents:

- Planning Practice Guidance (PPG) (2024)[26];
- Mineral Resource Assessments Guidance Note 2024[27]; and
- Institute of Environmental Management and Assessment (now known as Institute of Sustainability and Environmental Professionals (ISEP)) guide to: Materials and Waste in Environmental Impact Assessment[28], herein referred to as ISEP Guidance.

17.5 Method of assessment

Establishing the baseline

Study Area

17.5.1 The study areas that are applicable to the Scheme (as defined in the ISEP Guidance) are:

- The development Study Area – this comprises the Order Limits and any areas required for temporary access, site compounds and other enabling activities (i.e. the Order Limits); and
- The expansive Study Area – this extends to the availability of construction materials and remaining landfill void within defined region(s).

17.5.2 Based on professional judgement and the availability of data, the expansive study area has been chosen as:

- The West Midlands region and, where necessary or especially where regional data areas are unavailable, the UK for materials;
- East Midlands, for hazardous waste, as there is no capacity for hazardous waste in West Midlands; and
- Worcestershire and Warwickshire for non-hazardous and inert waste as the Order Limits sit within both counties.

17.5.3 Receptors, with regards to waste and resources, are defined as:

- The regional (West Midlands) and national materials market;
- Regional and National landfill void capacity; and
- Local Mineral Safeguarding Areas (MSA) and peat resources.

[17] Department for Environment Food and Rural Affairs and Environment Agency (2018) Resources and Waste Strategy for England. Available at: https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england
[18] Warwickshire County Council (2022) Adoption of the Minerals Local Plan 2018-2032. Available at: https://www.warwickshire.gov.uk/mineral-waste-plans/minerals-development-framework/2
[19] Warwickshire County Council (2013) Warwickshire Waste Core Strategy Adopted Local Plan 2013-2028. Available at: https://api.warwickshire.gov.uk/documents/WCCC-680-279
[20] Worcestershire County Council (2022) Minerals Local Plan 2018-2036. Available at: https://www.worcestershire.gov.uk/sites/default/files/2022-11/Worcestershire_Minerals_Local_Plan__2018_2036_.pdf
[21] Worcestershire County Council (2012) Waste Core Strategy for Worcestershire Adopted Waste Local Plan 2012-2027. Available at: https://www.worcestershire.gov.uk/sites/default/files/2026-05/Waste%20Core%20Strategy%20-%20Adopted%20plus%20maps%20LO-RES.pdf
[22] Worcestershire County Council (2026) Preparation of a new Waste Plan. Available at: https://www.worcestershire.gov.uk/council-services/planning-and-developments/planning-policy-and-strategy/waste-planning-policy/preparation-new-waste-plan
[23] Defra (2023) Environmental Improvement Plan 2023. Available at: https://www.gov.uk/government/publications/environmental-improvement-plan
[24] Defra (2018) A Green Future: Our 25 Year Plan to Improve the Environment. Available at: https://www.gov.uk/government/publications/25-year-environment-plan
[25] Defra (2023) The Waste Prevention Programme for England: Maximising Resources, Minimising Waste. Available at: https://www.gov.uk/government/publications/waste-prevention-programme-for-england-maximising-resources-minimising-waste
[26] Ministry of Housing, Communities and Local Government (2016) Planning Practice Guidance. Available at: https://www.gov.uk/government/collections/planning-practice-guidance
[27] Worcestershire County Council (2024) Mineral Resource Assessments Guidance Note. Available at: https://www.worcestershire.gov.uk/sites/default/files/2024-07/MRA%20Guidance%20Final.pdf
[28] IEMA (2020) waste and resources as in Environmental Impact Assessment. Available at: https://www.iema.net/media/0t5fwyhj/iema-materials-and-waste-in-eia-march-2020.pdf

Desk study

17.5.4 The baseline environment has been established through a desk-based review of regional and national data, based on ISEP Guidance, from the following publicly available sources, which are the most up to date available:

- Environment Agency Remaining Landfill Capacity, 2023 – 2024[29];
- Mineral Products Association (MPA) Profile of the UK Minerals Products Industry, 2025[30];
- West Midlands Aggregate Working Party (WMAWP), Annual Monitoring Report, 2023[31];
- World Steel Association, World Steel in Figures 2026[32];
- Warwickshire Minerals Local Plan policies map[33];
- Warwickshire Minerals Local Plan 2018 – 2032[18];
- Worcestershire Minerals Local Plan 2018 – 2036[20]; and
- Worcestershire Minerals Local Plan Interactive Minerals Mapping Tool[34].

Surveys

17.5.5 No surveys were carried out for the assessment. This is because the assessment is concerned with resource flows and waste generation, rather than the physical characteristics of the environment itself.

Determining sensitivity

17.5.6 The sensitivity of a receptor for materials and the generation of waste has been determined using the sensitivity criteria in Table 17-3 which is taken from the ISEP Guidance[28].

Table 17-3 Criteria for determining receptor value

Value of receptor	Criteria (highest category applies where one or more criteria are met)
Very High	**Materials** Materials are known to be insufficient in terms of production, supply and/or stock; and/or comprise no sustainable features and benefits compared to industry-standard materials. **Waste** Inert and non-hazardous waste baseline landfill void capacity is expected to reduce very considerably (by >10%); end during construction or operation; is already known to be unavailable; or would require new capacity or infrastructure to be put in place to meet forecast demand. Hazardous waste baseline landfill void capacity is expected to reduce very considerably (by >1%); end during construction or operation; is already known to be unavailable; or would require new capacity or infrastructure to be put in place to meet forecast demand.
High	**Materials** Materials are forecast (through trend analysis and other information) to suffer from known issues regarding supply and stock; and/or comprise little or no sustainable features and benefits compared to industry-standard materials. **Waste** Inert and non-hazardous waste baseline landfill void capacity is expected to reduce considerably by 6-10% as a result of wastes forecast. Hazardous waste baseline landfill void capacity is expected to reduce considerably by 0.5-1% as a result of wastes forecast.

[29] Environment Agency (2025) Remaining Landfill Capacity. Available at: https://ckan.publishing.service.gov.uk/dataset/remaining-landfill-capacity1
[30] Mineral Products Association (2025) Profile of the UK Mineral Products Industry. Available at: https://mineralproducts.org/MPA/media/root/Publications/2025/Profile_of_the_UK_Mineral_Products_Industry_2025.pdf
[31] West Midlands Aggregates Working Party (2023) Annual Report 2023. Available at: https://assets.publishing.service.gov.uk/media/65c107e2704282000d752251/2022_-_WMAWP_Report.pdf
[32] World Steel Association (2026) World Steel in Figures 2026. Available at: https://worldsteel.org/data/world-steel-in-figures/world-steel-in-figures-2026/#major-steel-producing-countries-2024-and-2025
[33] Warwickshire County Council (2026) Minerals Local Plan policies map. Available at: https://www.warwickshire.gov.uk/minerals-local-plan-1
[34] Worcestershire County Council (2026) Worcestershire Minerals Local Plan. Available at: https://gis.worcestershire.gov.uk/Website/MineralsLocalPlan/

Value of receptor	Criteria (highest category applies where one or more criteria are met)
Medium	**Materials** Materials are forecast (through trend analysis and other information) to suffer from some potential issues regarding supply and stock; and/or are available comprising some sustainable features and benefits compared to industry-standard materials. **Waste** Inert and non-hazardous waste baseline landfill void capacity is expected to reduce by 1-5% as a result of wastes forecast. Hazardous waste baseline landfill void capacity is expected to reduce by 0.1- 0.5% as a result of wastes forecast.
Low	**Materials** Materials are forecast (through trend analysis and other information) to be generally free from known issues regarding supply and stock; and/or are available comprising a high proportion of sustainable features and benefits compared to industry-standard materials*. **Waste** Inert and non-hazardous waste baseline landfill void capacity is expected to reduce by <1% as a result of wastes forecast. Hazardous waste baseline landfill void capacity is expected to reduce by <0.1% as a result of wastes forecast.
Negligible	**Materials** Materials are forecast (through trend analysis and other information) to be free from known issues regarding supply and stock; and/or are available comprising a very high proportion of sustainable features and benefits compared to industry-standard materials*. **Waste** Inert and non-hazardous waste baseline landfill void capacity is expected to remain unchanged or is expected to increase through a committed change in capacity. Hazardous waste baseline landfill void capacity is expected to remain unchanged or is expected to increase through a committed change in capacity.
* Subject to supporting evidence, sustainable features and benefits could include, for example, materials or products that: comprise reused, secondary or recycled content (including excavated and other arisings); support the drive to a circular economy; or in some other way reduce lifetime environmental impacts. NOTE: If a receptor falls between the threshold of two categories (i.e. inert or non-hazardous waste baseline is reduced by 5.6%) then this receptor will be assigned into the higher category.	

Impact assessment

Determining impact magnitude

17.5.7 The magnitude impact of a receptor for materials and the generation of waste is determined using the impact severity criteria in Table 17-4 which is taken from the ISEP Guidance.

Table 17-4 Criteria for determining impact magnitude

Impact magnitude	Criteria (highest category applies where one or more criteria are met)
Major	**Materials** The consumption of one or more materials is >10% by volume of the regional baseline availability; and/or more than one allocated mineral site is substantially sterilised by the development rendering it inaccessible for future use. **Waste** Inert and non-hazardous waste generated by the development will reduce regional landfill void capacity baseline by >10%. Hazardous waste generated by the development will reduce national landfill void capacity baseline by >1%.

Impact magnitude	Criteria (highest category applies where one or more criteria are met)
Moderate	**Materials** The consumption of one or more materials is between 6-10% by volume of the regional baseline availability; and/or one allocated mineral site is substantially sterilised by the development rendering it inaccessible for future use. **Waste** Inert and non-hazardous waste generated by the development will reduce regional landfill void capacity baseline by 6-10%. Hazardous waste generated by the development will reduce national landfill void capacity baseline by <0.5-1%.
Minor	**Materials** The consumption of one or more materials is between 1-5% by volume of the regional baseline availability; and/or the development has the potential to adversely and substantially impact access to one or more allocated mineral site (in their entirety), placing their future use at risk. **Waste** Inert and non-hazardous waste generated by the development will reduce regional landfill void capacity baseline by 1-5%. Hazardous waste generated by the development will reduce national landfill void capacity baseline by <0.1-0.5%.
Negligible	**Materials** The consumption of no individual material type is equal to or greater than 1% by volume of the regional baseline availability. **Waste** Inert and non-hazardous waste generated by the development will reduce regional landfill void capacity baseline by <1%. Hazardous waste generated by the development will reduce national landfill void capacity baseline by <0.1%
No change	**Materials** The consumption of no materials is required. **Waste** Zero inert and non-hazardous waste generation and disposal from the development. Zero hazardous waste generation and disposal from development.

Impact magnitude	Criteria (highest category applies where one or more criteria are met)
Note: If a receptor falls between the threshold of two categories (i.e. inert or non-hazardous waste baseline is reduced by 5.5%) then this receptor will be assigned into the higher category.	

Determining effect significance

17.5.8 Effect significance has been determined by combining the receptor sensitivity with the impact magnitude to derive an overall effect significance as set out in Table 17-5 and Table 17-6. If the effects threshold is determined as Moderate or Slight and could therefore fall into either significant or not significant category then professional judgement will be used to determine significance and the justification behind this reasoning will be explained.

Table 17-5 Effects threshold

		Impact magnitude				
		Major	**Moderate**	**Minor**	**Negligible**	**No change**
Receptor value	**Very high**	Very large	Very large or Large	Large or Moderate	Slight	Neutral
	High	Very large or Large	Large or Moderate	Moderate or Slight	Slight	Neutral
	Medium	Large or Moderate	Moderate	Slight	Slight or Neutral	Neutral
	Low	Moderate or Slight	Slight	Slight or Neutral	Slight or Neutral	Neutral
	Negligible	Slight	Slight or neutral	Slight or neutral	Neutral	Neutral

Table 17-6 Effects significance

Effect	Materials	Waste
Neutral	Not Significant	Not Significant
Slight		
Moderate	Significant	Significant
Large		
Very Large		

17.6 Baseline conditions

Materials

17.6.1 Materials are defined in ISEP Guidance as "substances used in each lifecycle stage of a development, with a particular focus on the construction, operation and maintenance, and decommissioning or 'end of life' (deconstruction, demounting, demolition and disposal) phases". Materials are physical resources that are used across the lifecycle of a development such as concrete, aggregate, asphalt, bricks, mortar, glass and timber.

17.6.2 The regional breakdown of annual sales of materials for the West Midlands and national breakdown of annual production of materials for the UK are summarised in Table 17-7. Data for aggregates, crushed rock, and sand and gravel for the West Midlands region are taken from the West Midlands Aggregates Working Party (WMAWP) Annual Report, 2023[35]. All other data is taken from the Mineral Products Association (MPA) Profile of the UK Mineral Products Industry 2025[36]. Accurate data for regional recycled and secondary aggregates were not reported within the WMAWP Annual Report, therefore only national data is shown for this material. Regional data is not reported for steel, therefore steel production in the UK is taken from World Steel in Figures 2026[37].

17.6.3 The national dataset used to establish the materials assessment baseline has been updated since the scoping stage to reflect UK material production data. This change incorporates the most recent information available from the Mineral Products Association and the World Steel Association, replacing the 2023 data and 2025 data, respectively, that was used to inform scoping.

17.6.4 The materials listed in Table 17-7 represent the primary construction materials identified for the Scheme, based on professional experience and similar NSIP-scale solar projects including those promoted by the Applicant. Materials associated with prefabricated electrical equipment and photovoltaic modules (including glass, silicon, aluminium, copper and polymers) have not been separately quantified within the materials assessment, as these products are imported to site as finished manufactured components.

17.6.5 Given that construction activity varies from year to year in scale, type and volume, associated material demand also fluctuates. The data presented should therefore be regarded as representative of the construction industry at the time of writing.

Table 17-7 Materials baseline

Materials	Regional sales baseline – West Midlands (million tonnes per annum)	UK material production baseline (million tonnes per annum)
Primary aggregate - crushed rock	4.97	132.2
Primary aggregate - sand and gravel	7.99	54.1
Recycled and secondary aggregate	Not reported/provided	74.4
Asphalt	1.7	23.5
Ready-mixed concrete*	4.3	52.6
Steel	N/A	2.6
*cubic metres (m^3) have been converted to tonnes using a density of 2.4 tonnes/m^3 ((MPA), Profile of the UK Mineral Products Industry)		

[35] West Midlands Aggregates Working Party (WMAWP) (2023). Annual Monitoring Report 2022 (published December 2023). Department for Levelling Up, Housing and Communities. Available at: https://www.gov.uk/guidance/aggregates-working-parties-annual-reports
[36] Mineral Products Association (MPA) (2025). Profile of the UK Mineral Products Industry: 2025 Edition. Available at: https://www.mineralproducts.org/MPA/media/root/Publications/2025/Profile_of_the_UK_Mineral_Products_Industry_2025.pdf
[37] World Steel Association (2026). World Steel in Figures 2026. Available at: https://worldsteel.org/data/world-steel-in-figures/world-steel-in-figures-2026/

Waste

17.6.6 In line with the Waste Framework Directive[38] and as set out in the ISEP Guidance, waste is defined as "any substance or object which the holder discards or intends or is required to discard".

17.6.7 The remaining landfill capacity data in England is calculated by the Environment Agency. Table 17-8 summarises inert and non-hazardous landfill capacity for Worcestershire and Warwickshire for the years 2022-2024 to establish the baseline as the Order Limits sits within both counties.

17.6.8 Remaining landfill capacity has been reported separately since scoping, for inert and non-hazardous landfill facilities, to ensure the assessment reflects the specific landfill resource likely to be affected by the Scheme. This approach provides a more meaningful evaluation of the consumption of finite landfill void space, recognising that capacity availability, waste acceptance criteria and strategic importance differ between landfill classes. The separate assessment also supports consideration of resource efficiency and circular economy objectives in accordance with ISEP guidance.

Table 17-8 Remaining Inert and non-hazardous waste landfill void capacity (m³)

Landfill type	2022	2023	2024
Inert landfill void capacity (Warwickshire / Worcestershire)	3,831,012	3,009,041	4,272,246
Non-hazardous landfill void capacity (Warwickshire / Worcestershire)	12,196,836	11,538,908	11,744,400

17.6.9 For hazardous waste landfill capacity, the East Midlands has been adopted as the baseline. As shown in Table 17-9, as of 2024, East Midlands has approximately 1,783,450 m³ of remaining hazardous landfill void capacity and is considered representative of the facilities most likely to receive hazardous waste requiring disposal. This approach has been adopted because hazardous landfill provision within the West Midlands is limited to restricted hazardous landfill facilities operated by Severn Trent Water Ltd and Cemex UK Ltd that only receive hazardous waste from their own operations. Consequently, this capacity may not be available for the management of hazardous waste arising from the Scheme. The East Midlands hazardous landfill network is therefore considered to represent the most appropriate and realistic receptor for assessment purposes when establishing the hazardous landfill baseline.

Table 17-9 Remaining hazardous landfill void capacity (m³)

Landfill Type	2022	2023	2024
Hazardous landfill void (East Midlands)	2,000,000	657,200	1,783,450

Mineral Safeguarding Areas (MSA) and peat resources

17.6.10 Non-mineral development occurring within areas allocated for future mineral extraction have the potential to interrupt the supply of minerals and sterilise underlying mineral deposits by effectively preventing access for future exploitation.

17.6.11 As the Order Limits sit within both the counties of Worcestershire and Warwickshire, the MSA for both counties have been assessed to establish the baseline.

17.6.12 The key safeguarded mineral resources in Worcestershire are sand and gravel, brick clay, silica sand and salt. The key safeguarded mineral resources in Warwickshire are building stone, sand and gravel, crushed rock, clay and brick clay.

17.6.13 Both Worcestershire and Warwickshire Minerals Local Plans include safeguarding maps identifying safeguarded mineral deposits within the counties. As shown in Volume 2, Figure 17.2 Order Limits interactions with Mineral Safeguarding Areas, a section of Cable Route Corridor (CRC), CRC1 sits within an MSA for sand and gravel in Worcestershire and sections of CRC2 and CRC3 and land within sub-Sites 1(c) and 1(e) and sub-Sites 2(a), 2(b), 2(c), 2(d), 2(e) sit within an MSA for sand and gravel in Warwickshire.

17.6.14 As shown in Volume 2, Figure 17.1 Order Limits interactions with peat resources, there are no peat resources within the boundary of the Order Limits. There is an area of Lowland Fens within close proximity to the north-western extent of the Order Limits but it does not sit within the Order Limits.

Future baseline

17.6.15 In the absence of the Scheme, mineral resources within designated Mineral Safeguarding Areas would continue to be protected through planning policy, although cumulative regional development may contribute to increasing pressure on safeguarded resources.

[38] European Commission (2026) Waste Framework Directive. Available at: https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive_en

17.6.16 Demand for construction materials is expected to remain high driven by regional growth and development, notwithstanding continued improvements in material efficiency and recycled material use as the construction sector increasingly adopts circular economy principles.

17.6.17 Landfill void capacity (non-hazardous, inert and hazardous) is anticipated to decline over the assessment period as existing facilities reach capacity and waste management practices continue to move towards increased recycling and recovery in accordance with the waste hierarchy.

Embedded mitigation

17.6.18 The development of the materials and waste assessment for the Scheme has taken into consideration the embedded mitigation as defined in Volume 1, Chapter 2 Scheme description, Section 2.7, of this ES and design evolution outlined in Volume 1, Chapter 4 Consideration of alternatives of this ES. For materials and waste this includes:

- E-GEN.1 - Implementation of Outline Construction Environmental Plan (oCEMP);
- E-GEN.2 - Implementation of Landscape and Ecological Management Plan (LEMP);
- E-GEN.3 - Implementation of Outline Operational Environmental Management Plan (oOEMP);
- E-GEN.4 - Implementation of Outline Decommissioning Environmental Management Plan (oDEMP);
- E-HE.2 - Limit areas of excavation;
- E-LV.5 - Aligning cable route away from sensitive features; and
- E-WR.1 - The use of existing access tracks.

Receptors

17.6.19 The receptors which have been assessed in the waste and resources assessment are described in Table 17-10.

Table 17-10 Description of the key waste and resources as receptors that will be assessed

Name	Detail	Value
Landfill void capacity	The regional (Worcestershire & Warwickshire) landfill void capacity for inert waste is 4,272,246 m^3. The regional (Worcestershire & Warwickshire) landfill void capacity for non-hazardous waste is 11,744,400 m^3. The regional (East Midlands) landfill void capacity for hazardous waste is 1,783,450 m^3.	Medium

Arrow Valley Solar