



Cumberland and Westmorland & Furness Joint Waste Needs Assessment 2025/26

Management Requirements for Construction, Demolition and Excavation Waste to 2045

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Abbreviations

Abbreviation	Term
AD	Anaerobic Digestion
C & I	Commercial & Industrial Waste
C, D & E / CDEW	Construction, Demolition & Excavation Waste
DEFRA	Department for Environment, Food and Rural Affairs
EA	Environment Agency
EfW	Energy from Waste
EWG	European Waste Catalogue
HWRCs	Household Waste Recycling Centres
LACW	Local Authority Collected Waste
LAA	Local Aggregate Assessment
MRS	Metal Recycling Site
MRF	Material Recycling Facility
RDF	Refuse Derived Fuel
WDF	WasteDataFlow
WDI	Waste Data Interrogator
WIR	Waste Incinerator Returns
WNA	Waste Needs Assessment
WPA	Waste Planning Authority
WTS	Waste Transfer Station

Glossary of Terms

Term	Definition
Agricultural Waste	Waste produced on a 'farm' in the course of 'farming'. Agricultural waste takes both 'natural' (or organic) and 'non- natural' forms e.g. plastics and metal.
Anaerobic Digestion	A process to manage organic matter including green waste and food waste broken down by bacteria in the absence of air, producing a gas (biogas) and nutrient rich solid or liquid (digestate). The biogas can be used to generate energy either in a furnace, gas engine, turbine or to power vehicles, and digestate can be applied to land as a fertiliser.
Biodegradable waste	Waste that can break down over time due to natural biological action/processes, such as food, garden waste and paper.
Commercial Waste	Waste from factories or premises used for the purpose of trade or business, sport, recreation or entertainment
Controlled Waste	Waste subject to controls emanating from the EU Waste Framework Directive.
Construction, Demolition & Excavation Waste	Waste arising from the building process comprising demolition and site clearance waste and builders' waste from the construction/demolition of buildings and infrastructure. Includes masonry, rubble and timber.
Defra	The UK Government department responsible for developing national waste management policy.
Energy from Waste	The conversion of the calorific value of waste into energy, normally heat or electricity through applying thermal treatment of some sort. May also include the production of gas that can be used to generate energy.
Environment Agency	The body responsible for the regulation of waste management activities through issuing permits to control activities that handle or produce waste. It also provides up-to-date information on waste management matters and deals with other matters such as water issues including flood protection.
European Waste Catalogue (EWC)	Comprehensive listing of wastes divided into 20 chapters, most of which are industry-based, although some are based on materials and processes. Each waste type is assigned a unique six-digit code. Otherwise referred to as List of Waste (LoW).
Exemptions	Certain activities exempt from the need to obtain an environmental permit. Each exemption has specific limits and conditions that must be complied with to remain valid. Exemptions must be registered with the Environment Agency. Each registration lasts 3 years.
Green waste	Biodegradable plant waste from gardens and parks such as grass and hedge trimmings, from domestic and commercial sources suitable for composting.
Hazardous Waste Landfill	Sites where hazardous waste may be disposed by landfill. This can be a dedicated site or a single cell within a non-hazardous landfill, which has been specifically designed and designated for depositing hazardous waste.
Hazardous Waste	Waste requiring special management under the Hazardous Waste Regulations 2005 due to posing potential risk to public health or the environment (when improperly treated, stored, transported or disposed). This can be due to the quantity, concentration, or characteristics of the waste.
Incineration	The controlled combustion of waste. Energy may also be recovered in the form of heat (see Energy from Waste).
Industrial Waste	Waste arising from any factory and from any premises occupied by an industry (excluding mines and quarries).

Landfill (including land raising)	The permanent disposal of waste to land, by the filling of voids or similar features, or the construction of landforms above ground level (land-raising).
Local Aggregate Assessment	Annual local aggregate supply and demand assessment conducted by Mineral Planning Authorities which includes a survey of recycled aggregate producers within their particular Plan area.
Local Authority Collected Waste	Waste collected by or on behalf of a local authority. Includes household waste and business waste where collected by a local authority and non-municipal fractions such as construction and demolition waste delivered to HWRCs. LACW is the definition used in statistical publications, which previously referred to municipal waste.
Materials Recycling Facility (MRF)	A facility for sorting recyclable materials from the incoming waste stream.
Mass Balance	Method of assessing the quantity of waste that may be converted to recycled aggregate by comparing inputs and outputs for sites reporting through the WDI.
Mining Waste	Waste from extractive operations (i.e. waste from extraction and processing of mineral resources) including materials that must be removed to gain access to mineral resources, such as topsoil, overburden and waste rock, as well as tailings remaining after minerals have been extracted from the ore. Management subject to control through EU Directive 2006/21/EC.
Non-Hazardous Waste Landfill	A landfill permitted to accept non-inert (biodegradable) wastes e.g. municipal and commercial and industrial waste and other non-hazardous (including inert) wastes. May only accept hazardous waste if a special cell is constructed.
Recovery	Subjecting waste to processes that recover value including recycling, composting or thermal treatment to recover energy.
Recycling	The reprocessing of materials extracted from the waste stream either into the same product or a different one.
Refuse Derived Fuel	A fuel produced to a contract specification by processing the combustible fraction of waste.
Residual Waste	<i>The Environmental Targets (Residual Waste) (England) Regulations 2023</i> , defines residual waste as any waste other than excluded waste that is (a) sent to landfill in the United Kingdom; (b) put through incineration in the United Kingdom; (c) used in energy recovery in the United Kingdom; or (d) sent outside the United Kingdom for energy recovery.
The Plan area	The area subject to the Waste Local Plan to which this study relates. In this case the county of Cumbria.
Waste Planning Authority	The authority responsible for planning for waste within a specific administrative area. In this case Cumbria County Council.
Waste Transfer Station	A site to which waste is delivered for sorting or baling prior to transfer to another place for recycling, treatment or disposal.

1. Purpose

- 1.1 In 2022 BPP Consulting produced a Waste Needs Assessment (WNA) for Cumbria as a whole for Cumbria County Council, using data for 2020. In 2023, two unitary authorities Cumberland Council and Westmorland & Furness Council (W&F) were created to administer Cumbria, as a result the waste planning functions of Cumbria County Council are now performed by each of the above. This report forms part of a suite of documents that represents the Cumberland and Westmorland & Furness Joint Waste Needs Assessment (JWNA 2025) BPP Consulting was instructed to produce on behalf of both Councils acting as waste planning authority for their respective areas.
- 1.2 The JWNA 2025 consists of the following documents:
1. Local Authority Collected Waste Management Requirements to 2045;
 2. Commercial & Industrial Waste Management Requirements to 2045;
 3. Construction, Demolition & Excavation Waste Management Requirements to 2045;
 4. Hazardous Waste Management Requirements to 2045; and
 5. Scoping Review of Other Waste Management Requirements to 2045.
- 1.3 This report is concerned with generating a baseline for Construction, Demolition and Excavation (C, D & E) waste arising in Cumbria as a whole in 2023 and assessing its projected management requirements to 2045, with separate forecasts for each authority area where data allows.

Principal Data Sources

- 1.4 The principal data sources used to generate this WNA are as follows:

Waste Data Interrogator

- 1.5 Operators of all sites permitted to manage waste, submit returns reporting the quantities, types and origin of waste received and, where applicable, destination of waste removed at their sites. These returns are collated by the Environment Agency and are included in a national dataset known as the Waste Data Interrogator (WDI). The WDI is released approximately nine months after the end of the calendar year to which the data relates. The 2023 WDI (composed of data for the calendar year 2023) was the current version available at the time of writing.

Exemption Register

- 1.6 Some waste operations are exempt from needing an environmental permit, and do not submit returns to the Environment Agency (EA). the quantity of waste managed through these can be estimated by counting the number of exemptions registered in a Plan area from the EA held exemption register and applying an estimation of quantity of waste managed at different exemptions in a Government funded report produced in 2013.¹. Specific to C, D & E waste is the 'U1' exemption relating to the use of up to 1,000 tonnes of waste in construction.

¹ *Review of the Factors Causing Waste Soil To Be Sent To Landfill; 2007 to 2011 (WRAP 2013)*

Advice on Data

- 1.7 The principal source of advice with respect to the use of data to inform production of a waste plan evidence base is the national Planning Practice Guidance (nPPG) available at <https://www.gov.uk/guidance/waste>. This states that:

"Assessing waste management needs for Local Plan making is likely to involve:

- understanding waste arisings from within the planning authority area, including imports and exports*
- identifying the waste management capacity gaps in total and by particular waste streams*
- forecasting the waste arisings both at the end of the period that is being planned for and interim dates*
- assessing the waste management capacity required to deal with forecast arisings at the interim dates and end of the plan period."*

Paragraph: 022 Reference ID: 28-022-20141016

- 1.8 It includes a section entitled "Using data to monitor and forecast waste needs", which articulates the following principles should waste planning authorities adopt when using data to plan for waste management:

- Make clear assumptions on how data were handled, as well as their impact (including on forecasting)*
- Provide data to an appropriate level of significance, based on their explicit assumptions. In practice, data quoted to more than 2 or 3 significant figures will not be helpful and spurious accuracy stemming from precise figures should be avoided*
- Plan for a range of each type of waste rather than a specific single figure."*

Paragraph: 036 Reference ID: 28-036-20141016 Revision date: 16 10 2014

Data Presentation

- 1.9 In order to respect the need to avoid "spurious accuracy", the following approach has been taken:

- 1.Where actual tonnage data has been accessed, this has been used in the computations.
- 2.Where data has been subject to computation, this has been included to 3 significant figures.
- 3.Where percentages have been used to generate data, the percentages are presented as whole numbers, however the computations actually use the percentage inc decimals. This means that values presented may not always correspond to the values computed if the reader is seeking to replicate by applying the percentage value presented in this report.

Data Caveat

- 1.10 As the transition to unitary authority level occurred in 2023, the principal data source the WDI 2023 lacks granularity to provide breakdowns of waste origin by unitary authority in every case with significant tonnages recorded to former Cumbria. In order to provide desired data down to authority level, the datasets have been subject to various computations set out in this report. Each step of computation from the original dataset introduces a level of uncertainty as to the reliability of the data. Therefore the data in this report should be used with particular of care. Reference is made to 'Cumbria as a whole' where the data does not allow sufficient clarity to be gained.

2. Estimating C, D & E Waste Baseline Arisings

Introduction

- 2.1 This section of the report is concerned with estimating baseline arisings for Construction, Demolition and Excavation (C, D & E) waste in Cumbria as a whole, split down where possible to unitary level ie Cumberland and Westmorland & Furness, respectively. From this, future arisings can be forecast from which appropriate targets are proposed. The C, D & E waste management capacity profile is also assessed, with a view to identifying potential future capacity needs for which waste policies to be included in each authorities' emerging Local Plan may need to provide.

Context

- 2.2 The Cumbria Minerals and Waste Local Plan adopted in September 2017 remains the extant waste local plan for Cumberland and Westmorland & Furness. It defines C, D & E waste as follows:

“Arising from the construction, repair, maintenance and demolition of buildings and structures. It mostly includes brick, concrete, hardcore, subsoil and topsoil, but it can also include quantities of timber, metal and plastics. These wastes often arise with Excavation waste, in which case they are termed Construction, Demolition and Excavation (CD&E) wastes.” (Glossary)

- 2.3 Currently there is no requirement on businesses active in the construction or demolition sector to submit records of waste produced and hence estimating quantities of C, D & E waste arisings is a challenge. Two different approaches can be taken to estimate C, D & E waste as follows:
- **‘Point of production’** method which uses data based on the construction activity within an area and applying waste production factors (related to the different types of activity such as new build and refurbishment) derived from Site Waste Management Plans (SWMP). Construction activity statistics data is no longer produced at a sub-regional level and so it is not possible to reliably replicate this method.
 - **‘Point of management’** using data related to C, D & E waste managed. This relies on records of waste delivered to, and removed from, permitted waste management facilities. The Environment Agency (EA) collates this data submitted by operators in its ‘Waste Data Interrogator’ (WDI) on an annual (calendar year) basis. This data is supplemented by data for wastes managed at unpermitted sites that don’t report through the WDI, such as the Environment Agency’s exemption register and recycled aggregate producers.

Defra developed a national methodology for estimating annual waste generation from the Construction, Demolition and Excavation (C, D & E) Sectors for England² based on a point of management approach to measurement. This superseded a series of survey based estimates produced on behalf of the central Government Department responsible for Planning in the early 2000s.

² Methodology for estimating annual waste generation from the Construction, Demolition and Excavation (CD&E) Sectors in England Version 1 20th March 2012

- 2.4 The Cumbria WNA 2022 applied the ‘point of management’ approach based on a modified version of the national methodology. This generated a baseline arising estimate for Construction, Demolition and Excavation arising in Cumbria as a whole **in 2020 of c781,000 tonnes**. This report presents the outcome of replicating of this methodology down to unitary authority level where data allows, using the most current dataset available at the time the JWNA 2025 was commissioned, the WDI 2023.

3. Methodology

- 3.1 The national methodology for estimating annual waste generation from the Construction, Demolition and Excavation (C, D & E) Sectors for England (the ‘Point of Management’ method), uses information from four key management routes:
- 1) Waste managed at transfer and treatment facilities i.e. intermediate sites (reporting through Environment Agency WDI).
 - 2) Waste managed by landfill (reporting through Environment Agency WDI).
 - 3) Waste managed under certain exemptions from permitting.
 - 4) Waste recycled as aggregate (from a national estimate prepared by the Mineral Products Association)
- 3.2 In order to assess C, D & E waste arisings at Plan area level the national methodology has been modified to reflect local circumstances. In particular, the following modifications have been made:
- Values for Plan Area waste classed as C, D & E waste managed through permitted sites in 2023 as reported in the WDI with steps taken to avoid possible double counting and capture wastes that may have been reclassified as a consequence of processing through intermediate sites.
 - The population of exempt sites registered in Cumberland and Westmorland & Furness has been established through the Environment Agency held exemption register. Then the estimated value for the quantity of waste managed at the key exemption managing C, D & E waste (‘U1’) from a government funded study³ was applied.
- 3.3 The key steps in the methodology are:
- 1) Calculate inputs arising in Cumberland and Westmorland & Furness and Cumbria (if not attributed below), to all permitted facilities applying European Waste Catalogue (EWC) codes selected for their inclusion of C, D & E waste
 - 2) Deduct EWC codes relating to hazardous waste (this waste is accounted for in a separate report).
 - 3) Quantify waste going to its final fate or leaving each Plan area.
 - 4) Calculate the tonnage of C, D & E waste from each Plan Area treated within each Plan Area that may have been subject to reclassification following treatment.
 - 5) Add figure for recycled aggregate adjusted for % input arising from Cumberland and Westmorland & Furness.
 - 6) Calculate quantity of C, D & E waste managed at exempt sites.
 - 7) Quantify and apportion waste managed at sites within Cumberland and Westmorland & Furness but not attributed to an area below regional level within the WDI.
 - 8) Sum the above to gain an overall figure.

The detail of how this methodology has been applied is set out in the sections below.

³ Referred to footnote 2

C, D & E waste is taken to be comprised of wastes falling within the following List of Waste/European Waste Catalogue codes:

- Chapter 17 (Construction & Demolition Waste)
- 19 12 09 (minerals such as sand, stones)
- 20 02 02 (soil and stones).

As waste classified under EWC 19 13 02 includes remediated soils this should be included in the C, D & E waste arisings total so a check was undertaken for this but none was reported as arising from the Plan area in 2023.

3.4 The WDI 2023 attributes some waste to unitary authority level but also attributes substantial tonnages of waste as arising from 'Cumbria'. Where the origin unitary authority is specified in the WDI, waste has been attributed between Cumberland and Westmorland & Furness accordingly. Where waste is still reported as coming from Cumbria, the value has been split between the two unitary authorities by applying factors agreed with officers of each Council on the following basis:

- where the C,D & E waste identified as coming from Cumbria was managed at sites located within Cumbria as a whole the spatial distribution of each site relative to the boundaries of each unitary authority, and
- where it was managed at a site located outside former Cumbria using the relative split in construction activity between each Plan area.

Inputs to permitted waste management facilities

Step 1: Calculate the tonnage of C, D & E waste from Cumbria sent to permitted sites.

3.5 The total quantity of C, D & E waste arising in Cumbria as a whole reported in the WDI 2023 managed at permitted sites in 2023 was c1,082,077 tonnes. This value has been broken down to each unitary authority area using the methodology explained previously and the outcome by management routes is shown in Table 1 below.

Table 1: C, D & E Waste Arising from Cumberland and Westmorland & Furness (tonnes)

Source: WDI 2023 plus split values from Cumbria (see Appendix 1)

District		Landfill			Recovery to Land	Metal Recycling Sites	Transfer	Treatment	Grand Total
		Haz	Non-Inert	Inert					
Cumberland	Managed within Cumberland	0	27,385	0	110,630	125	54,781	168,984	361,905
	Managed within Westmorland & Furness	0	9,468	0	982	442	3,313	43,000	57,205
	Managed outside Cumbria	575	589	0	817	4,380	14,549	4,678	25,588
	Totals	575	37,442	0	112,429	4,948	72,642	216,663	444,699
Westmorland & Furness	Managed within Cumberland	0	5,959	0	3,798	125	20,119	31,791	61,572
	Managed within Westmorland & Furness	0	47,884	12,295	0	539	298,385	193,502	552,826
	Managed outside Cumbria	740	910	0	817	4,381	14,538	1,593	22,980
	Totals	740	54,753	12,295	4,615	5,046	333,042	226,886	637,378
Grand Total		1,315	92,196	12,295	117,044	9,994	405,684	443,549	1,082,077

Step 2: Deduct EWC codes relating to hazardous component of C, D & E waste

3.6 Requirements for management of hazardous waste arising in Cumbria as a whole are accounted for in a separate report⁴. Therefore, the hazardous waste component of total C, D & E waste arising is deducted to avoid double counting. Of the inputs shown in Table 1, a total of 24,364 tonnes was identified as hazardous in the WDI, which when deducted gives a revised running total of c1,057,500 tonnes. The revised values are shown in Table 2.

Table 2: C, D & E Waste Arising from Cumberland & Westmorland & Furness minus hazardous waste
Source: WDI 2023

District		Landfill		Recovery to Land	Metal Recycling Sites	Transfer	Treatment	Grand Total
		Non-Inert	Inert					
Cumberland	Managed within Cumberland	27,385	0	110,630	125	54,736	168,983	361,859
	Managed within W & Furness	9,468	0	982	442	3,285	43,000	57,178
	Managed outside Cumbria	472	0	817	4,356	4,945	3,193	13,784
	Totals	37,325	0	112,428	4,924	62,967	215,176	432,821
Westmorland & Furness	Managed within Cumberland	5,959	0	3,798	125	20,081	31,791	61,754
	Managed within W & Furness	47,884	12,295	0	539	297,981	193,502	552,202
	Managed outside Cumbria	641	0	817	4,381	4,944	153	10,936
	Totals	54,484	12,295	4,615	5,046	323,006	225,446	624,892
Grand Total		91,809	12,295	117,044	9,970	385,973	440,622	1,057,713

Step 3: Quantify waste going to its final fate or leaving each Plan area

Step 3a. C, D & E waste from Cumbria managed at permanent deposit sites.

3.7 As management at landfill and recovery to land sites involves the permanent deposit of the waste, they are regarded as final points of management, so these values are taken as final as follows: 104,104 (combined landfill values in Table 2 91,809+12,295) + 117,044 (recovery to land value from Table 2) = 221,148 tonnes (149,754 Cumberland and 71,394 Westmorland & Furness). Table 3 shows the initial running C, D & E arising tonnage as a cumulative value.

⁴ Joint WNA 2025 Hazardous Waste Management Requirements in Cumberland and Westmorland & Furness to 2045 (BPP Consulting 2025)

Table 3: Running Non-hazardous (including inert) C, D & E Waste from Cumberland & Westmorland & Furness for 2023– Step 3a

Source: WDI 2023

Component	Cumberland		Westmorland & Furness		Cumbria as a whole	
	Value	Cumulative Total	Value	Cumulative Total	Value	Cumulative Total
Permanent Deposit	149,754	149,754	71,394	71,394	221,148	221,148

Step 3b. C, D & E waste from Cumberland and Westmorland & Furness managed at intermediate sites outside Cumbria

3.8 As shown in Figure 1 below waste from Cumberland and Westmorland & Furness managed at intermediate sites outside Cumbria as a whole ceases to be identified as coming from either following receipt at the intermediate management facility ('next step' site). Hence the tonnage managed at intermediate sites outside Cumberland and Westmorland & Furness i.e. Cumbria as a whole shown in Table 1 is also taken to be a 'final value' as follows:

- 8,738 (out of Plan area MRS from Table 2) +
 - 9,890 (out of Plan area transfer from Table 2) +
 - 3,346 (out of Plan area treatment from Table 2)
- = 21,947 tonnes.

This is set out in Table 4.

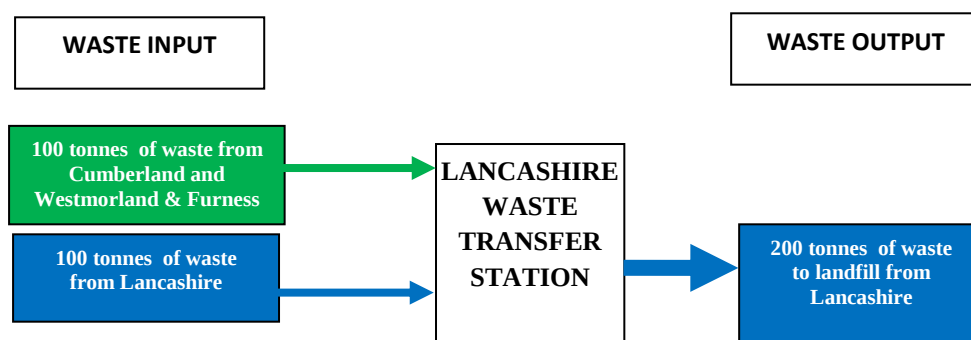


Figure 1: Schematic of how flows of Cumberland and Westmorland & Furness waste to sites outside Cumberland and Westmorland & Furness are reported in the WDI.

Table 4: Table 3 plus Cumberland & Westmorland & Furness waste managed at intermediate sites outside of Cumbria as a whole (tonnes) – Post Step 3b

Component	Cumberland		Westmorland & Furness		Cumbria as a whole	
	Value	Cumulative Total	Value	Cumulative Total	Value	Cumulative Total
Permanent Deposit	149,754	149,754	71,394	71,394	221,148	221,148
Managed out of Cumbria as a whole	12,495	162,249	9,479	80,873	21,974	243,122

Step 4: Calculate the tonnage of C, D & E waste from Cumbria treated in Cumbria that may have been subject to reclassification

3.9 Inputs to intermediate sites within Cumbria also need to be accounted for. These need to be further interrogated to ensure the values do not:

- 1) double count inputs to intermediate sites that subsequently get managed at a final fate site within Cumbria as a whole and hence overreport arisings; nor
- 2) misses C, D & E waste that may following processing through these steps have been classified under a non-C, D & E waste EWC code and hence underreport C,D & E waste arisings. This risk arises because waste leaving an intermediate site may be reclassified as a waste from a waste management process (under EWC chapter 19). This is explained by the following example:

Intermediate' Site 1 in the Plan Area receives 100 tonnes of Plan Area C, D & E waste. Following treatment e.g. sorting, the 100 tonnes gets split into:

- 25 tonnes of soil (classified as Chapter 17 waste) which is moved onto a Recovery to Land facility (Site 2). The 25 tonnes of soil is therefore also recorded at the point of input to the Recovery to Land site as waste arising from the Plan Area (regardless of whether Site 2 is within or outside the Plan Area).
- 50 tonnes of recycled aggregate is produced through crushing and this is sold as a product and hence not reported through the WDI.
- 25 tonnes of incoming C,D & E waste having been processed and then reclassified as waste from waste management processes under Chapter 19. This will be received at the 'next step' site as waste arising from Cumbria as a whole but because it is classed as Chapter 19 will not be identified as arising from C, D & E waste.

This is illustrated in Figure 2 below:

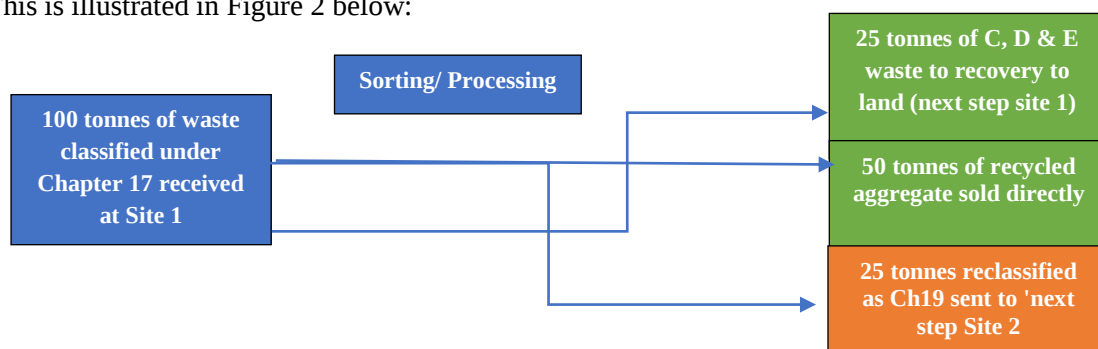


Figure 2: Schematic of intermediate site outputs to track Plan area C, D & E waste by fate.

3.10 Therefore, that element of Chapter 19 waste that came from intermediate sites located in either plan area that arose from C, D & E waste coming from either Plan Area needs to be estimated. This is done by identifying each intermediate site within either Plan Area that received C, D & E waste from either Plan Area that also reported Chapter 19 waste as an output. The proportion of the Chapter 19 output to be attributed to the input Plan Area C, D & E waste is determined as follows:

- 1) Did the site have a shortfall between the reportage tonnage of C, D & E waste received and that removed?
- 2) Did the site have outputs classed under Chapter 19?
- 3) If yes to both then the percentage of total inputs attributed to Cumberland and Westmorland & Furness is applied to the outputs of Chapter 19 to give a Chapter 19 'makeup' on the basis that the identified shortfall is due in part at least to incoming C,D&E waste being converted to Chapter 19 waste.

NB: Where the Ch 19 output is greater than the shortfall, only the shortfall value is used. Where the shortfall is less this may be taken to indicate that tonnages of C, D & E Waste were converted into recycled aggregate which is not generally declared on the permit waste returns as it has ceased to be waste.

3.11 Applying this method to the Intermediate sites (Metal Recycling Sites⁵, Waste Transfer Stations & Waste Treatment sites) identified as both receiving C, D & E waste from Cumberland or Westmorland & Furness and producing Chapter 19 waste in 2023 located in Cumbria as a whole yields the following:

- Q1: 21 intermediate waste sites identified as receiving C, D & E waste from either Plan Area and having a shortfall with reported C,D&E waste outputs of 500 tonnes or more⁶.
- Q2: Of these sites, 8 had outputs of waste classified as Chapter 19 as shown in Table 5.
- Q3: The percentage inputs from each Plan area has been applied to the Chapter 19 outputs to give a total Chapter 19 makeup of 282,186 tonnes (50,834 Cumberland + 231,353 Westmorland & Furness) to be added to the cumulative C, D & E arising value as shown in Table 5.

⁵ No shortfall over 500 tonnes between C,D & E waste inputs and outputs was found for any MRS sites in WDI 2023.

⁶ 500 tonnes is taken to be a tonnage regarded as significant for the purposes of this exercise.

Table 5: Intermediate sites within Cumberland or Westmorland & Furness with a shortfall between CDE inputs <500t also reporting output waste under Ch 19

WPA	Facility Type	Site	C,D & E waste input/output shortfall <500t+ (tonnes)	Net Ch 19 produced (tonnes) WDI 2023	% C, D & E waste input from either Plan area	Ch 19 make up (tonnes) (amber box in Fig 2)	
						(If net Ch 19>shortfall, then the shortfall value taken. If net Ch 19<shortfall then the net Ch 19 taken) % from PA*	
Cumberland	Treatment	Distington MRF	714	10,008	100%	714	
		Hespin Wood Landfill ⁷	14,425	10,404	100%	10,422	
		Hespin Woods MRF	1,381	14,053	100%	1,381	
	Transfer	North West Recycling Ltd, , Rockcliffe Estate	67,232	42,043	91%	38,317	
		Total					50,834
Westmorland & Furness	Treatment	Goldmire Quarry	1,509	16,435	100%	1,508	
		Roan Edge Aggregate Recycling Facility	64,750	7,825	95%	7,436	
	Transfer	Sandscale Park	278,971 ⁸	218,621	100%	218,621	
		Sinkfall Recycling	3,788	14,732	100%	3,788	
		Total					231,353
		Cumbria as whole Total					282,186

⁷ Site subject to SR2010 No12 : Treatment of waste to produce soil

⁸ Value may be anomalous but taken as correct.

Table 6: Table 4 plus Chapter 19 (Table 5) running totals (tonnes) – Post Step 4

Component	Cumberland		Westmorland & Furness		Cumbria as a whole	
	Value	Cumulative Total	Value	Cumulative Total	Value	Cumulative Total
Permanent Deposit	149,754	149,754	71,394	71,394	221,148	221,148
Managed out of Cumbria	12,495	162,248	9,479	80,873	21,974	243,121
Cumbria intermediate site Ch 19	50,834	213,082	231,353	312,226	282,187	525,308

Step 5: Account for C, D & E waste converted into Recycled Aggregate

3.12 This section sets out how the calculation accounts for the quantity of C, D & E waste arising in Cumberland and Westmorland & Furness used to produce recycled aggregate which if produced in accordance with the Aggregate Protocol⁹ is a product, not a waste, and as such is not reported as an output waste from intermediate sites reporting through the WDI. In the Cumbria WNA 2022 the recycled aggregate value was estimated to be 173,783 tonnes¹⁰.

3.13 To calculate the C, D & E waste arising converted into recycled aggregate in 2023 the 'mass balance' method included in the AWP *Recycled Aggregates Data: Guidance on Assessing Levels of Recycled Aggregates* (May 2022) was used. The 'mass balance' method assesses the quantity of waste that may have been converted into recycled aggregate by comparing the inputs and outputs of C, D & E waste from each Plan area intermediate sites reporting through the WDI. As recycled aggregate outputs from sites are not reported as waste, where:

- the site reported receiving sufficient tonnages of waste of a type suited for conversion into recycled aggregate; and
- a shortfall of more than 500 tonnes exists between the input and the output value; and
- that shortfall is not made up by processing residues (see Step 4 above), this shortfall was taken to represent the quantity of C, D & E waste converted to recycled aggregate.

3.14 The percentage inputs of C, D & E waste coming from each respective Plan area and Cumbria as a whole was then applied to the shortfall value to produce an estimate for recycled aggregate produced from C, D & E waste arising from Cumberland and Westmorland & Furness (accounting for any sites that also appeared as having a Ch 19 makeup as explained in the Step above) and Cumbria as a whole. Table 7 shows the results of applying the 'mass balance' method.

⁹ *Quality Protocol: Aggregates from inert waste*
https://assets.publishing.service.gov.uk/media/5a7c38bce5274a1f5cc769c8/LIT_8709_c60600.pdf

¹⁰ Of the 6 sites that responded to the LAA survey in 2020, 4 also reported through the WDI

Table 7: Recycled Aggregate Production Estimates using ‘mass balance’ method (tonnes)

	Site Category	Site	Shortfall (input minus output)
Cumberland	Treatment	Esk Quarry	12,343
		Hespin Wood Landfill	4,010
		Land at Kingmore Sidings	76,750
		Lawson's Recycling Centre	37,920
		Overby Quarry Aggregate Recycling	6,928
		Phillip Carruthers Ltd	33,204
		Tarnside Farm Aggregate Recycling Site	923
	Transfer	North West Recycling Ltd, Rockcliffe Est	26,353
		Unit C Cubby Construction Ltd	2,393
	Cumberland Total		200,825
Westmorland & Furness	Treatment	Diamond Yard	37,683
		Edenhall Inert Recycling	9,072
		Flusco Landfill Site	13,819
		Greenscoe Quarry	63,616
		Penningtons Quarry	21,002
		Roan Edge Aggregate Recycling Facility	54,465
	Transfer	Sandscale Park	60,350
		Westmorland & Furness Total	260,007
	Cumbria as a whole Total		460,832

3.15 Table 7 shows that c461,000 tonnes of the total C, D & E waste produced in Cumberland and Westmorland & Furness was estimated to have been converted into recycled aggregate, split as follows:

- c201,000 tonnes Cumberland and
- c260,000 tonnes Westmorland & Furness.

When the above values are added to the running C, D & E waste arising total it gives a total baseline arising of c986,000 tonnes (413,907 Cumberland + 572,233 Westmorland & Furness) tonnes as shown in Table 8 below:

Table 8: Table 7 plus Recycled Aggregate Estimate (tonnes) – Step 5

	Cumberland		Westmorland & Furness		Cumbria as a whole	
Component	Value	Cumulative Total	Value	Cumulative Total	Value	Cumulative Total
Permanent Deposit	149,754	149,754	71,394	71,394	221,148	221,148
Managed out of Cumbria	12,495	162,248	9,479	80,873	21,974	243,121
Cumbria intermediate site Ch 19	50,834	213,082	231,353	312,226	282,187	525,308
Recycled Aggregate	200,825	413,907	260,007	572,233	460,832	986,139

Step 6: Account for C, D & E waste managed at exempt sites

3.16 The national Planning Practice Guidance (nPPG) advises that: "...when forecasting construction and demolition waste arisings, the following may be relevant:

- the fact that a sizeable proportion of construction and demolition waste arisings are managed or re-used on-site, or exempt sites, so it is critical that some provision is made for unseen capacity in this way." (emphasis added)

Paragraph: 033 Reference ID: 28-033-20141016

3.17 Regulations were introduced in 2011 which dramatically reduced the maximum quantities of waste that could be managed by activities for which exemptions rather than environmental permits could be relied upon, and so the quantity of C, D & E waste managed through exempt activities has reduced substantially. However, as the quantification of waste going to certain exemptions is specifically referred to in the nPPG it is still considered appropriate to give consideration to the contribution some activities may make to management of this stream, and hence to the calculation of arisings, albeit in a substantially reduced quantity.

3.18 Activities registered as exempt under Paragraph U1 (use of waste in construction) potentially account for the management of the most significant quantities of C, D & E waste. A government funded report ¹¹ estimated a mean quantity of waste managed as 600 tonnes in total.

3.19 The following steps ensure that C, D & E waste managed by activities registered under U1 is taken into account in this assessment of C, D & E waste arisings. The number of U1 exemptions registered in Cumberland and Westmorland & Furness involving waste being used at a location other than a farm in 2023 was 24¹² (Cumberland 16 + Westmorland & Furness 8)

3.20 Applying the value of 600 tonnes per exemption, it is estimated that the total quantity of C, D & E waste managed in either Plan Area was 14,400 tonnes (9,600 Cumberland + 4,800 W&F) which when added to the running C, D & E waste baseline arising value shown in Table 9 below gives a total arising of c 1.0 Mt (split Cumberland 423,507t and Westmorland & Furness 577,033t):

¹¹ Review of the Factors Causing Waste Soil to be sent to Landfill; 2007 to 2011 (WRAP 2013)

¹² The exemption registration process asks if the activity is taking place "on a farm". It has been assumed that "on farm" U1 exemptions only involves agricultural waste and to verify this assumption a simple visual check was done whereby any exemptions that may have been registered by construction waste management companies might be identified. One site was apparent, so has been included.

Table 9: Table 8 plus Exemptions (tonnes)

Component	Cumberland		Westmorland & Furness		Cumbria as a whole	
	Value	Cumulative Total	Value	Cumulative Total	Value	Cumulative Total
Permanent Deposit	149,754	149,754	71,394	71,394	221,148	221,148
Managed out of Cumbria	12,495	162,248	9,479	80,873	21,974	243,121
Cumbria intermediate site Ch 19	50,834	213,082	231,353	312,226	282,187	525,308
Recycled Aggregate	200,825	413,907	260,007	572,233	460,832	986,139
Exemptions	9,600	423,507	4,800	577,033	14,400	1,000,540

Step 7: Account for C,D & E waste unattributed below regional level

3.21 The WDI 2023 only reports a single site¹³ having received 500 tonnes or more of C, D & E type waste not coded below regional level. This site is Hespin Wood (A.W. Jenkinson Woodwaste) which received 849 tonnes. A factor has been applied to the unattributed C, D & E waste based on the percentage of total C, D & E inputs already attributed to Cumbria received at this site, which was 58%. This leaves a derived value of 490 tonnes. This is added to the cumulative C, D & E arising value as shown in Table 10 below.

Table 10: Table 9 plus unattributed waste (tonnes)

Component	Cumberland		Westmorland & Furness		Cumbria as a whole	
	Value	Cumulative Total	Value	Cumulative Total	Value	Cumulative Total
Permanent Deposit	149,754	149,754	71,394	71,394	221,148	221,148
Managed out of Cumbria	12,495	162,248	9,479	80,873	21,974	243,121
Cumbria intermediate site Ch 19	50,834	213,082	231,353	312,226	282,186	525,308
Recycled Aggregate	200,825	413,907	260,007	572,233	460,832	986,139
Exemptions	9,600	423,507	4,800	577,033	14,400	1,000,539
Unattributed waste	490	423,997	0	577,033	490	1,001,029

Table 10 shows the baseline arisings value generated from this exercise is c424,000 tonnes for Cumberland and c577,000 tonnes for Westmorland & Furness respectively, **giving a total estimated arising of C,D & E waste in 2023 for Cumbria as a whole of c1,001,000 tonnes.**

¹³ No sites in W&F received non-codeable C, D & E waste.

Discussion of C, D & E Waste Arising Baseline Value

- 3.22 The baseline arising value of c1,001,000 tonnes generated for 2023, is 28% higher than that generated for 2020 presented in the Cumbria WNA 2022 of c781,000 tonnes. To triangulate the values obtained for 2020 and for 2023 to ensure that neither are anomalous; the above methodology has been applied to the WDI 2022 dataset as well. The resulting values are compared in Table 11 below.

Table 11: Cumbria C, D & E Waste arisings by component 2020, 2022, 2023 (tonnes)

Component	2020	2022	2023
Permanent Deposit	156,484	231,056	221,148
Managed Out of Cumbria	4,518	10,901	21,974
Cumbria intermediate site Ch 19	74,815	204,981	282,186
Recycled Aggregate Production	522,196	343,447	460,832
Input to U1 Exemptions	20,400	12,600	14,400
Unattributed Waste	1,687	2,110	490
Misattributed Waste	1,000	78	0
Total	781,100	805,173	1,001,029
% annual growth indicated		+3.1%	+24.3%

- 3.23 Table 11 shows that the amount of C, D & E waste produced in Cumbria as a whole increased by 3.1% in 2022 from the 2020 value and by 24.3% in 2023 from 2022. Having investigated this further, the large increase between 2022 and 2023 is largely due to a site called Sandscale Park located in Cumberland which reported receiving large amounts of waste soils and other construction and demolition waste (c282,000 tonnes). This value has boosted the Cumbria intermediate site Ch 19 value by c210,500 tonnes in 2023. It is understood, this import was unauthorised, and the operator (JJC Hire Ltd) has now been asked to remove this waste. However, this value has been retained in the C, D & E waste baseline figure as it still represents waste that was reported as arising in Cumbria as a whole in 2023.
- 3.24 Given that the baseline values presented in this report have been generated through the replication of a tried and tested methodology, the results are considered to be robust and to provide a value that can be used for forecasting with a degree of confidence. Given that arisings of C,D& E waste can vary significantly from year to year depending on the specific location and type of development taking place, in order to moderate such peaks and troughs it is proposed that the mean of the baseline arisings values obtained for 2020, 2022 and 2023 be used as the starting point from which future management requirements for C, D & E waste in Cumberland & Westmorland & Furness may be determined. This amounts to c862,500 tonnes.

4. Forecasting Future C, D & E Waste Growth

4.1 The nPPG states when looking to forecast C, D & E waste:

“Waste planning authorities should start from the basis that net arisings of construction and demolition waste will remain constant over time as there is likely to be a reduced evidence base on which forward projections can be based for construction and demolition wastes.”

4.2 Hence the starting point for any assessment is that there will be no growth in arisings in the forecast period. While C, D & E arisings are indicated to have increased over the period 2020 to 2023, arisings generally vary from year to year depending on what development projects progress, and the type of waste according to whether projects are located on previously developed (involving demolition) or greenfield land (excavation). The previous WNA 2022 used a zero-growth rate. Given the primary source of the increase was due to the significant amount of unauthorised waste received at the Sandscale Park site it is considered that a zero-growth rate as per nPPG advice is appropriate.

5. Profiling Existing C, D & E Management

- 5.1 To set realistic future management targets which then informs the assessment of future capacity requirements it is first necessary to understand how the C, D & E waste produced in Cumberland and Westmorland & Furness was managed most recently.

Backfilling of mineral workings

- 5.2 The WDI allocates tonnages to sites by permit category granted by the Environment Agency. Where a site involving the permanent deposit of waste to land has been determined by the Agency under its guidance to not qualify for a recovery to land environmental permit, it will be classed as a landfill in the WDI. In that situation, inputs to sites involving backfilling of mineral workings are listed as going to landfill in the WDI. Given that activities such as backfilling of mineral workings are classed as recovery according to Government guidance on the waste hierarchy, this creates a mismatch between the values shown as having gone to landfill and the activity based targets that may be set out in the waste section of the respective Local Plans.
- 5.3 Table 12 sets out how the datasets for those sites have been disaggregated to distinguish a disposal to landfill value and a recovered (through use) value. This is on the basis that all deposits of inert waste to landfill including backfilling of a mineral working will be either used in restoration or to meet operational needs and either case do not represent disposals. This assumption is supported by the fact that inert waste will attract a relatively low gate fee compared to non-inert waste, and any rational operator would seek to maximise return on void in a site, all other things being equal.

Table 12: Allocation of Cumbria C, D & E Waste to Management Methods 2023

	Non Inert Landfill (Table 2)		Inert Landfill (Table 2)	Recovery to Land (Table 2)	Exemptions (Table 8)
Cumberland	<i>Non-inert</i>	<i>Inert</i>	0	112,428	9,600
	2	37,323			
	Disposed to Landfill	Assumed to be Recovered			
Westmorland & Furness	<i>Non-inert</i>	<i>Inert</i>	12,295	4,615	4,800
	986	53,498			
	Disposed to Landfill	Assumed to be Recovered			
Cumbria as a whole	<i>Non-inert</i>	<i>Inert</i>	12,295	117,044	14,400
	988	90,821			
	Disposed to Landfill	Assumed to be Recovered			

- 5.4 Table 12 shows that the vast majority of Cumberland and Westmorland & Furness C,D & E waste received at non-inert landfill was in fact inert material; and further investigation shows it consisted mainly of soils and stones classed under EWC 17 05 04.
- 5.5 Table 13 presents the management profile arrived at, using the baseline value of c1,001,000 tonnes of C, D & E waste produced in Cumberland and Westmorland & Furness in 2023.

Table 13: C, D & E Waste Management Profile Actual Data 2023

Route	Purpose	Cumberland	% of Cumberland	Westmorland & Furness	% of Westmorland & Furness	Total Tonnes	% of Cumbria as a whole
Recycling & Reuse	Recycled Aggregate (Table 8)	200,825	47%	260,007	45%	460,832	46%
Recovery	Exemptions	9,600	38%	4,800	13%	14,400	23%
	Use of Waste/ Recovery to Land	112,428		4,615		117,044	
	Inert LF + inert waste to non-inert LF	37,323		65,793		103,116	
	Subtotal	159,352		75,208		234,560	
Non-Inert Landfill	Disposals to non-inert landfill	2	6%	986	25%	988	16%
	Chapter 19 outputs (65% to landfill + % 19 12 12 CDE)	23,658		140,454		164,112	
	Subtotal	23,660		141,440		165,100	
Unknown	Treatment (remainder)	40,160	9%	100,377	17%	140,537	14%
	Total	423,996		577,033		1,001,029	

5.6 Table 13 gives the following management profile for C, D & E waste arising in Cumbria as a whole in 2023 (unitary values follow):

- 46% in total was re-used and recycled (48% Cumberland, 45% W&F);
- 23% in total was recovered in some other way (38% Cumberland, 13% W&F);
- 16% in total was disposed to landfilled (6% Cumberland, 25% W&F);
- 14% in total was treated (unknown), (9% Cumberland, 17% W&F)

C, D & E Waste Composition

5.7 The principal distinction in the C, D & E waste stream in terms of management routes (and so targets) is between inert and non-inert materials, with a further possible distinction between hard and soft inert materials. By considering what type of material would be suitable for which element of the management profile shown in Table 13 above, it is possible to arrive at an indicative breakdown by material type shown in Table 14. This can inform the setting of appropriate targets as some types of material are only suited to some types of management method. For example, only hard inert material can be converted into recycled aggregate, and generally material used to backfill mineral workings will be soils and sub-soils. Where outputs have gone on for further 'Treatment' they have been assumed to consist of non-inert waste (requiring separation) and all Chapter 19 outputs are also assumed to be non-inert even if they might qualify as inactive waste under the Landfill Tax Qualifying Materials Order 2015¹⁴, the term 'inactive' being different to 'inert' in terms of material behaviour, and hence suitability for management by certain methods.

¹⁴ The Landfill Tax (Qualifying Fines) (No. 2) Order 2015 SI1385

Table 14: C, D & E Waste Composition from Management Profile Actual Data 2023

Hierarchy Tier	Cumberland				Westmorland & Furness			Cumbria as a whole		
	Management Route	Inert		Non Inert/ Mixed	Inert		Non Inert/ Mixed	Inert		Non Inert/ Mixed
		Hard	Soft		Hard	Soft		Hard	Soft	
Recycling/ Reuse	Recycled Aggregate	200,825	0	0	260,007	0	0	460,832	0	0
Other Recovery	Exemptions	0	9,600	0	0	4,800	0	0	14,400	0
	Use of Waste/ Recovery to Land	0	112,428	0	0	4,615	0	0	117,044	0
	Inert Landfill + inert waste to non-inert landfill	0	37,323	0	0	65,793	0	0	103,116	0
Disposal	Non-Inert Landfill	0	0	2	0	0	986	0	0	988
	Chapter 19 outputs	0	0	23,658	0	0	140,454	0	0	164,112
Unknown	Treatment	0	0	40,160	0	0	100,377	0	0	140,537
Totals		200,825	159,352	63,820	260,007	75,208	241,817	460,832	234,560	305,637
Breakdown		47%	38%	15%	45%	13%	42%	46%	23%	31%

5.8 Table 14 shows the following:

- C,D&E waste from Cumbria as a whole had a inert content of c69%, with 46% being hard materials, 23% being soft inert materials and the remainder 31% being classed as non-inert; of this
- Cumberland had an overall inert content of 85% with 47% being hard materials and 38% being soft materials and the remainder of 15% being classed as non inert; and
- Westmorland & Furness had an overall inert content of 58% with 45% being hard materials and only 13% being soft materials and the remainder of 42% being classed as non inert.

The Westmorland & Furness split is distorted both by the small amount of soft inert material going to Recovery to Land plus the creation of processing residues at the Bennett Bank Landfill site located in Westmorland & Furness that were subsequently landfilled at the site, all of which was reported as originating from Westmorland & Furness.

6. Management Targets

- 6.1 The revised retained EU Waste Framework Directive set a minimum target of 70% by weight of non-hazardous for Construction & Demolition waste prepared for re-use, recycling and other material recovery by 2020¹⁵.
- 6.2 The Routemap for Zero Avoidable Waste in Construction was launched in 2021¹⁶. To achieve zero avoidable waste production by sector by 2050, this includes the following targets:
- By 2040 eliminate all but hazardous C&D waste entering landfill.
 - By 2040 reduce soil to landfill by 75% based on 2020 level and reduce to zero by 2050 unless required for landfill operation purposes.
- Other targets may be set for construction waste reduction and recovery including cost reduction through designing out waste and material optimisation.
- 6.3 The WNA 2022 showed an inert recycling rate of 90% for Cumbria as a whole, with a target of 85% to 2037. The profile arrived at for 2023 has been taken to apply to 2025 (Yr 0) in Table 15 below and this shows that a 85/% recycling, reuse and other recovery rate was already achieved in Cumberland but for Westmorland & Furness only a rate of 55% was achieved. This suggests that in Cumberland a target of 85% is achievable over its Plan period. For Westmorland & Furness, a less ambitious 70% re-use, recycling and other recovery C, D & E waste management target is set through to 2045.
- 6.4 The WNA 2022 also showed disposal to landfill starting at 8% in 2022 in Cumbria as a whole, reducing to 2% in 2037. The profile arrived at for 2023 has been taken to apply to 2025 (Yr 0) in Table 15 below and this shows Cumberland is currently at 6% so this has been taken to reduce to 2% by 2045. Westmorland & Furness starts at a much higher level of 26% but has also been taken to reduce to 2% by 2045, albeit at a faster rate. The remainder is shown to be managed through treatment that may for example reduce the quantity of inert material present in trommel fines currently disposed to landfill and increasing the tonnage of inert material recovered for recycling accordingly. Hence treatment is an intermediate step between recovery, and disposal to landfill, increasing over time to contribute towards rising recycling rates.

¹⁵ The UK Government has committed to achieving targets set in the revised Waste Framework Directive even though the UK has now left the EU.

¹⁶ <https://www.constructionleadershipcouncil.co.uk/news/zero-avoidable-waste-routemap-launch/>

Table 15: Proposed targets for C, D & E Waste Management arising in Cumberland and Westmorland & Furness

	Component		Yr0 (2025)	Yr5 (2030)	Yr10 (2035)	Yr15 (2040)	Yr20 (2045)
Cumberland	Inert	Recycled Aggregate	85%	≥85%	≥85%	≥85%	≥85%
		Recovery to Land inc exemptions and inert landfill					
	Non-inert	Treatment	9%	10%	11%	12%	13%
		Remainder to Landfill	6%	≤5%	≤4%	≤3%	≤2%
	Component		Yr0 (2025)	Yr5 (2030)	Yr10 (2035)	Yr15 (2040)	Yr20 (2045)
Westmorland & Furness	Inert	Recycled Aggregate	58%	≥70%	≥70%	≥70%	≥70%
		Recovery to Land inc exemptions and inert landfill					
	Non-inert	Treatment	17%	10%	15%	20%	28%
		Remainder to Landfill	25%	≤20%	≤15%	≤10%	≤2%

Projected Management Requirement for Cumberland and Westmorland & Furness C, D & E Waste

6.5 Applying the management targets in Table 15 to the mean baseline values of c365,500 tonnes and c497,000 tonnes respectively¹⁷, gives the predicted management requirement at each of the respective Plan Milestone years shown in Table 16. For example, the non-inert management target in Table 15 for 2040 of 12% has been applied to the Cumberland mean baseline value to estimate c44,000 tonnes of non-inert C, D & E waste will require treatment at that year.

Table 16: C, D & E Waste Targets Applied to Forecast Arisings at Plan Milestone years (tonnes)

	Component	2025	2030	2035	2040	2045	Diff
Cumberland	Inert Recovered	310,499	≥310,500	≥310,500	≥310,500	≥310,500	0
	Non-inert Treatment	32,876	36,500	40,000	44,000	47,500	+14,500
	Remainder to Landfill	22,918	≤18,500	≤14,500	≤11,000	≤7,500	-14,500
Westmorland & Furness	Inert Recovered	288,260	≥348,000	≥348,000	≥348,000	≥348,000	+59,500
	Non-inert Treatment	84,490	49,500	74,500	99,500	139,000	+54,500
	Remainder to Landfill	124,250	≤99,500	≤74,500	≤49,500	≤10,000	-114,500

¹⁷ Derived from the mean total baseline value of 862,500 tonnes - see paragraph 3.26

6.6 Table 16 shows management capacity for inert waste in Cumbria as a whole (in the form of recycled aggregate production capacity for hard inert waste and/or recovery capacity for soils) will need to be at least c658,500 tonnes (c310,500 Cumberland + c348,000 Westmorland & Furness) over each Plan period for the proposed targets to be met, while capacity to treat c186,500 (c47,500 Cumberland + c139,000 Westmorland & Furness) of non-inert C, D & E waste will need be needed at 2045. If the residual component of the C, D & E waste stream is disposed to landfill in accordance with the targets or ceiling, this represents a cumulative non-hazardous landfill requirement of c2,092,000 tonnes (c347,000 Cumberland + c1,745,500 Westmorland & Furness) to the end of each Plan period as shown in Table 17 below. It should be noted that the Westmorland & Furness value is distorted by a cumulative c524,500 tonnes of non-inert waste taken to be trommel fines. This material is less suited to diversion to EfW due its low combustibility but is suited to pre-treatment through washing to reduce its quantity over time. This currently benefits from disposal to landfill at the inactive rate of landfill tax providing it meets the loss on ignition test.

Table 17: Projected Residual C, D & E Waste Non Haz Landfill Requirement (tonnes)

Year	Cumberland		Westmorland & Furness		Total	
	Tpa	Tonnes Cumulative	Tpa	Tonnes Cumulative	Tpa	Tonnes Cumulative
2023	21,918	21,918	124,285	124,285	146,203	146,203
2024	21,396	43,313	120,734	245,020	142,130	288,333
2025	20,874	64,187	117,183	362,203	138,057	426,390
2026	20,352	84,539	113,632	475,835	133,984	560,374
2027	19,830	104,369	110,081	585,917	129,911	690,286
2028	19,308	123,678	106,530	692,447	125,839	816,125
2029	18,786	142,464	102,979	795,426	121,766	937,890
2030	18,265	160,729	99,428	894,854	117,693	1,055,583
2031	17,534	178,263	94,457	989,311	111,991	1,167,574
2032	16,803	195,066	89,485	1,078,797	106,289	1,273,863
2033	16,073	211,139	84,514	1,163,311	100,587	1,374,450
2034	15,342	226,482	79,543	1,242,853	94,885	1,469,335
2035	14,612	241,093	74,571	1,317,424	89,183	1,558,518
2036	13,881	254,975	69,600	1,387,024	83,481	1,641,999
2037	13,151	268,125	64,628	1,451,653	77,779	1,719,778
2038	12,420	280,545	59,657	1,511,309	72,077	1,791,855
2039	11,689	292,234	54,686	1,565,995	66,375	1,858,229
2040	10,959	303,193	49,714	1,615,709	60,673	1,918,902
2041	10,228	313,421	41,760	1,657,469	51,988	1,970,890
2042	9,498	322,919	33,806	1,691,275	43,303	2,014,194
2043	8,767	331,686	25,851	1,717,126	34,618	2,048,812
2044	8,036	339,723	17,897	1,735,023	25,934	2,074,746
2045	7,306	347,028	9,943	1,744,966	17,249	2,091,994

Appendix 1: Table showing how Cumbria values were apportioned between Cumberland and Westmorland & Furness WDI Data in Table 1

	Origin WPA		Landfill			Recovery to Land	Metal Recycling Sites	Transfer	Treatment	Grand Total
			Haz	Non-Inert	Inert					
Actuals in WDI	Cumberland	Managed within Cumberland	0	11,717	0	68,379	0	49,474	125,409	254,979
		Managed within W & F	0	0	0	982	0	0	153	1,134
		Managed outside Cumbria	86	0	0	0	54	49	3,211	3,400
		Totals	86	11,717	0	69,360	54	49,523	128,773	259,513
	Westmorland & Furness	Managed within Cumberland	0	24	0	3,578	0	14,811	1,313	19,727
		Managed within W & F	0	923	923	0	97	295,073	144,191	441,206
		Managed outside Cumbria	251	321	0	0	56	39	125	791
		Totals	251	1,268	923	3,578	153	309,922	145,629	461,724
Cumbria waste going to central Cumberland and Westmorland & Furness Sites (WDI)	Cumberland	Managed within Cumberland	0	9,733	0	42,031	0	0	13,096	64,860
		Managed within W & F	0	0	0	0	0	0	0	0
		Managed outside Cumbria	0	0	0	0	0	0	0	0
		Totals	0	9,733	0	42,031	0	0	13,096	64,860
	Westmorland & Furness	Managed within Cumberland	0	0	0	0	0	0	0	0
		Managed within W & F	0	37,493	11,372	0	0	0	6,463	55,328
		Managed outside Cumbria	0	0	0	0	0	0	0	0
		Totals	0	37,493	11,372	0	0	0	6,463	55,328
Cumbria waste managed at sites outside central areas	Cumbria	Managed within Cumberland	0	11,869	0	440	251	10,615	60,957	84,132
		Managed within W & F	0	18,937	0	0	885	6,625	85,696	112,142
		Managed outside Cumbria	978	1,179	0	1,634	8,652	28,999	2,936	44,377
		Totals	978	31,985	0	2,074	9,787	46,240	149,588	240,651
Outcome of Remaining Cumbria Value 50:50 Split	Cumberland	Managed within Cumberland	0	5,935	0	220	125	5,308	30,478	42,066
		Managed within W & F	0	9,468	0	0	442	3,313	42,848	56,071
		Managed outside Cumbria	489	589	0	817	4,326	14,500	1,468	22,189
		Totals	489	15,992	0	1,037	4,894	23,120	74,794	120,326
	Westmorland & Furness	Managed within Cumberland	0	5,935	0	220	125	5,308	30,478	42,066
		Managed within W & F	0	9,468	0	0	442	3,313	42,848	56,071
		Managed outside Cumbria	489	589	0	817	4,326	14,500	1,468	22,189
		Totals	489	15,992	0	1,037	4,894	23,120	74,794	120,326