



Joint Cumbria Waste Needs Assessment

**Cumbria County Council
and
Lake District National Park Authority**

October 2019

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Executive Summary

1. This 2019 Waste Needs Assessment (WNA) has been conducted jointly by Cumbria County Council (CCC) and the Lake District National Park Authority (LDNPA), and covers the entire area of the county of Cumbria, including any areas within the Lake District National Park (LDNP) and the Yorkshire Dales National Park (YDNP).
2. Data is from the Environment Agency's 2017 Waste Data Interrogator (WDI) and 2017 Hazardous Waste Data Interrogator (HWDI) which reflect the calendar year 2017. Data on Local Authority Collected Waste (LACW) – i.e. municipal waste - is provided by Cumbria County Council as the waste disposal authority.
3. The assessment focuses initially on the waste arisings (i.e. –is there enough capacity for the amount of waste that will be produced in Cumbria) in order to plan for net self-sufficiency as far as is practicable. However, the effect of exports and imports is also taken into account so that capacity can also be calculated against the actual amount of waste managed within Cumbria. When calculating waste arisings the figures have been adjusted to reflect any double-counting in the WDI (i.e. where the same waste has moved from one facility to another within Cumbria).
4. During 2017 Cumbria imported more waste than it exported, managing around 67,700 tonnes more waste in total than it produced. This takes the county close to net self-sufficiency in terms of the amount of waste managed. (i. e. the amount of waste handled at facilities within Cumbria). The table below summarises the effect of exports, imports and double-counting on the amount of waste arisings produced in Cumbria and the actual amount of waste managed in Cumbria.

Tonnes	Total Arisings Cumbria	Less Exports	Plus Imports	Total received across all facilities in Cumbria	Less waste double counted at WTS	Actual amount of waste Managed	Net difference between amount Managed and Arisings	Intervention required?
LACW	269,707	-	-	269,707	-	269,707	-	NO
Commercial waste	292,192	18,567	25,762	308,090	8,704	299,387	+ 7195	NO
Industrial waste	640,728	284,750	176,105	581,286	49,203	532,083	-108,645	NO
Construction& Demolition waste	203,617	18,451	168,545	375,336	21,625	353,711	+150,094	NO
Excavation waste	587,523	6,640	24,674	627,013	21,456	605,557	+18,034	NO
Total all streams exc Hazardous	1,993,767	328,408	395,086	2,161,432	100,988	2,060,445	+ 66,678	
Hazardous waste	39,497	29,526	30,551	40,522	-	40,522	+1,025	NO
Total Imports/Exports	-	357,934	425,637	-			+67,703	
Total Arisings/ Managed	2,033,264	-	-	2,201,954		2,100,967	+67,703	

Table 1 – Waste Arisings and Managed by waste stream

Source: CCC; 2017 WDI and 2017 HWDI

- Predicted waste arisings across all waste streams have been forecast using growth models based on Office for National Statistics (ONS) population projections and the Cambridge Econometrics Local Economy Forecasting Model (LEFM). A range of scenarios for capacity have been calculated including baseline jobs growth, no growth and district housing targets being

fully met. Changes to the baseline mix of management methods to achieve EU and UK government recycling targets have also been factored in.

6. The preferred scenario to plan for is Growth/Recycling, where baseline jobs growth is assumed and changes to management methods are introduced to meet recycling targets. This will ensure that CCC and the LDNPA can plan for sufficient waste management infrastructure to support some economic growth within their Plan periods without risking over-provision based on a growth scenario that is too high.
7. The following table shows the predicted waste arisings across all waste streams under the Growth/Recycling scenario:

Year	2017	2020	2025	2030	2035
LACW	269,856	273,480	280,544	287,044	294,561
Commercial waste	292,192	293,531	295,919	299,482	304,615
Industrial waste	640,728	617,633	594,468	568,463	551,941
C&D waste	203,617	206,448	208,967	211,596	215,521
Excavation waste	587,523	587,523	587,523	587,523	587,523
Hazardous	39,497	39,497	39,497	39,497	39,497

Table 2: Forecast waste arisings - baseline jobs growth

(source:Cumbria County Council)

8. There are UK recycling targets for certain waste streams that have been factored into the models to ensure there is sufficient capacity to achieve these. The table below sets out current performance based on the management mix identified from the 2017 WDI and how this compares to the targets.

	Current rates at 2017	UK recycling targets for municipal waste
Local authority collected waste (LACW)	71% recycling/recovery	50% diverted from landfill by 2020 55% recycling by 2025; 60% by 2030; 65% by 2035
	13% landfill	Max. 10% to landfill by 2030
Construction & Demolition (CD)	66% recycling/recovery	70% recycling by 2020
	3% landfill	
Excavation (E)	83% recycling/recovery	No specific target for this waste stream
	14% landfill	
Commercial (C)	64% recycling/recovery	No specific target for this waste stream
	12% landfill	
Industrial (I)	72% recycling/recovery	No specific target for this waste stream
	13% landfill	

Table 3: Recycling/recovery rates

9. The future requirement for waste management facilities in Cumbria is calculated by comparing the predicted growth in waste arisings against the known capacity of current waste management facilities, using the different growth scenarios. This indicates whether there is likely to be a 'capacity gap' (i.e. a deficit in capacity has been identified) for a particular waste stream or management method during the Plan period. Details of these calculations can be found in the waste management capacity models at **Appendix 2**.
10. Under the preferred scenario of Growth/Recycling there is capacity across all management methods to accommodate predicted waste arisings in all waste streams throughout the CMWLP period (up to 2030) with capacity remaining beyond 2035. **No capacity gaps are identified.** There would still be sufficient capacity to manage this waste even if changes were not made to the management mix to achieve recycling targets.

11. At this time, Cumbria has sufficient landfill and recycling/treatment capacity to accommodate predicted levels of waste arisings and waste managed throughout the CMWLP period and beyond.
12. Some Household Waste & Recycling Centres (HWRCs) are due to close within the CMWLP period. Policy SAP1 of the CMWLP allocates sites to replace the HWRC facilities at Workington and Frizington (AL37 – Lillyhall) and at Kendal (SL1B – land adjacent Kendal Fell Quarry).
13. Under the preferred scenario of Growth/Recycling, when assessing capacity against total waste managed in Cumbria there is a capacity gap identified in waste transfer stations (WTS). WTS facilities receive materials from most waste streams, in particular CD and E, LACW and C. If WTS facilities in Cumbria are importing waste from outside the county that is a business decision led by market conditions, rather than a capacity requirement for Cumbria. There is no capacity gap identified when assessed on the basis of waste arisings in Cumbria.
14. The role of transfer stations and treatment facilities is discussed in detail in Chapter 7 as both these facilities are particularly relevant to managing CD and E waste. The capacity models show there will be a surplus of management capacity in mixed recycling/treatment facilities, many of which will receive CD waste. Recent planning permissions have been granted for processing inert (CD&E) waste into recycled aggregate which will increase capacity by 125,000 tonnes per annum.
15. It is not considered that intervention is required to plan for additional WTS facilities. Provision of additional capacity is likely to be market-led. Policy DC9 (criteria for waste management facilities) of the Cumbria Minerals and Waste Local Plan 2015- 2030 (CMWLP) supports this type of facility in appropriate locations should there be demand.
16. Overall, the WNA shows **there is sufficient capacity to accommodate predicted waste arisings and achieve appropriate recycling targets throughout the CMWLP period** with capacity remaining at 2035.

1. Introduction and Context

- 1.1. This 2019 Waste Needs Assessment (WNA) has been conducted jointly by Cumbria County Council and the Lake District National Park Authority (LDNPA). It covers the entire area of the county of Cumbria, including any areas within the Lake District National Park (LDNP) and the Yorkshire Dales National Park (YDNP).
- 1.2. It forms part of the evidence base for work on monitoring and review of the adopted Cumbria Minerals and Waste Local Plan (CMWLP) prepared by the county council and also work on the Lake District Local Plan (LDLP) prepared by the LDNPA.
- 1.3. The WNA is designed to enable both Waste Planning Authorities to identify any need for additional waste infrastructure, to identify sites where required, and meet the Duty to Co-operate, both with each other and with other planning authorities in England. There is also a duty to co-operate with authorities in Scotland and Wales if waste is exported to their areas; however, the same duty does not currently apply to the Scottish and Welsh authorities.
- 1.4. The county council is also the Waste Disposal Authority for the whole of the county of Cumbria, and the six constituent district local authorities are the Waste Collection Authorities for Cumbria, including all areas within both National Parks.
- 1.5. The county council commissioned a Waste Needs Assessment in 2014, based on 2013 Environment Agency (EA) data and a 2009 survey of Commercial and Industrial (C&I) Waste in the North West of England. A subsequent 2015 WNA provided an update, particularly in relation to inert and C&I waste, but only a very minor update was required for the hazardous, agricultural and waste water streams, for which the data indicated very little change.
- 1.5. The main data source used for analysing waste facilities and waste movements in the WNA is taken from the Environment Agency's Waste Data Interrogator (WDI) and Hazardous Waste Data Interrogator (HWDI).

- 1.6 The WDI is a Microsoft Access database that records the waste movements (site details and tonnages) to and from licenced sites with EA waste permits in England. Scotland and Wales are only covered in as much as they may be the origin or destination of waste that arises or is exported from England. The HWDI provides details of hazardous waste movements (tonnages and authority only), but does not provide the name of the site at which the waste was managed, so it is harder to identify which facilities are managing this waste stream from this information.
- 1.7 The WDI and HWDI are published around September each year , providing data from the previous calendar year. So the 2014 WNA was based on data from 2013, and the 2015 WNA based on data from 2014.
- 1.8 The county council aims to update the WNA every two years to ensure that monitoring of waste management policies is based on robust evidence. This WNA has been prepared using the 2017 WDI and HWDI, analysing data from 2017 (published September 2018).
- 1.9 The waste movements have been split into the key waste streams, using the simplest categorisation capable of identifying the need for new waste facilities.
- 1.10 The key split is “inert”, “non-inert” and “hazardous”. Although the EA WDI has a hazardous waste category, the figures in the HWDI are much more accurate, and all hazardous data in the WNA derives from the HWDI.
- 1.11 The basic category of inert can be further split into Construction and Demolition (CD), and Excavation (E) waste. The landfill versus recovery ratios are very different for these two streams, and their growth profiles may also be different.
- 1.12 In the WDI, the non-inert category is called Household Industrial and Commercial (HIC) and includes Commercial, Industrial and Local Authority Collected Waste (LACW). These have been separated using European Waste Classification (EWC) chapter headings. Chapter 1 and 7 wastes are CD and E streams. Chapter 20 is LACW and Commercial waste. The WNA uses data from the council’s waste management team for LACW waste; this

amount is then deducted to leave the remaining waste in Chapter 20 identified as Commercial. All the other Chapters will be Industrial waste.

- 1.13 This simple criterion was considered adequate for the WNA, even though a number of categories within Chapter 19 may in fact be household wastes. The most significant category is refuse derived fuel (RDF), which has an EWC code of 191210, but within Cumbria is entirely derived from household waste.

2. Policy Development

2.1 This chapter provides a brief overview of the relevant European , national and local policy developments that may have implications on preparation of this Waste Needs Assessment.

2.2 The **EU Circular Economy Package**. Launched in 2015, this is comprised of four new EU Directives which came into force in July 2018, amending six existing Directives on waste management; landfill; packaging and packaging waste; end-of-life vehicles; waste batteries, and waste electrical & electronic equipment.

2.3 **Waste Framework Directive 2018/851** amends Waste Framework Directive 2008/98 which provides the legislative framework for the collection, transport, recovery and disposal of waste. This directive brings a number of recycling and waste reduction targets. In Spring 2018, the UK government pledged to adopt these targets post-Brexit:

- Recycling 55% of their municipal waste by 2025, raising to 60% by 2030 and 65% 2035 (with a target of 50% for household waste by 2020 and 70% for Construction & Demolition waste by 2020)
- a maximum of 10% of municipal waste to landfill by 2030
- overall recycling of product packaging to reach 65% by 2025, rising to 70% 2030 (there are individual targets set for specific materials – 30% for wood; 55% for plastic; 75% for glass, and 85% for paper by 2030)

2.4 Other Directives in the Circular Economy Package include new rules on the treatment of old cars, used batteries, and waste electrical and electronic equipment, as well as a non-binding target to halve the amount of food waste across Europe by 2030.

2.5 **Resources and Waste Strategy for England** (December 2018) (RWS). The first significant government statement on waste management since the 2011 Waste Review and subsequent Waste Prevention Programme 2013 for England. The document refers to five strategic ambitions:

- To work towards all plastic packaging placed on the market being recyclable, reusable or compostable by 2025;
- To work towards eliminating food waste to landfill by 2030;

- To eliminate avoidable plastic waste over the lifetime of the 25 Year Environment Plan
- To double resource productivity by 2050; and
- To eliminate avoidable waste of all kinds by 2050

2.6 The RWS refers to the following recycling targets from the EU's Circular Economy Package:

- No more than 10% waste to landfill by 2035
- Municipal waste recycling 55% by 2025; 60% by 2030; 65% by 2035
- Packaging waste recycling targets at 65% by 2025; 70% by 2030

2.7 The document states that in delivering the RWS government will explore whether targets over and above those proposed by the EU can be developed that will deliver a more effective approach to recycling. There are a number of suggestions within the RWS that will require further consultation before being implemented as new targets.

2.8 The **Waste Management Plan for England** (December 2013) promotes high-quality recycling to support the development of a circular economy and paves the way for regulations to improve the quality of recyclates produced by MRFs. It is a high level document that provides analysis of the waste management situation in England and evaluates how it will support implementation of the revised Waste Framework Directives. It is a requirement of the EU Waste Framework Directive that Member States ensure their competent authorities establish one or more waste management plans covering all of their territory.

2.9 The **National Planning Policy for Waste (PPW)** (October 2014) sets out the responsibility of waste planning authorities to identify the need for waste management facilities within their area and to monitor and report on the

stock of waste management facilities and their capacity; waste arisings, and the amounts of waste being recycled, recovered or going for disposal. Technical guidance in the **National Planning Practice Guidance (PPG)** was also updated in October 2014 and provides further detail on how waste management needs should be assessed for Local Plan making.

- 2.10 National planning strategy for managing radioactive wastes is found in the **UK Low Level Radioactive Waste Strategy** (February 2016) and the Nuclear Decommissioning Authority (NDA) **Radioactive Waste Strategy** (September 2019).
- 2.11 The **National Infrastructure Delivery Plan** (2016) includes a chapter on Water and Waste. This reiterates the UK government's commitment to a circular economy and reports on progress bringing forward any significant new waste infrastructure to help meet EU targets on recycling and landfill. It reports that England is currently on target to meet the existing landfill diversion target of 50% for municipal waste by 2020.
- 2.12 The **Cumbria Minerals and Waste Local Plan 2015 – 2030 (CMWLP)** was adopted in September 2017. The 2014 and 2015 Waste Need Assessments formed part of the Evidence base for the Plan. The adopted Plan includes seven site allocations under Policy SAP2 to accommodate a need for three additional waste management facilities during the Plan period. The sites may be required for mixed recycling, materials recovery, transfer stations or thermal treatments (Energy from Waste). A need for non-inert landfill capacity over the Plan period was identified which could be met by the remaining capacity in existing facilities as long as planning permissions for time extensions were forthcoming.
- 2.13 The **Lake District National Park Local Plan Part Two – Allocations of Land** was adopted in November 2013. It allocates land at Kendal Fell Quarry for the purpose of a waste management facility. The Local Plan is being reviewed and the **Lake District Local Plan 2020 – 2035 (LDLP)** has

been submitted to the Secretary of State for examination (August 2019). This no longer allocates land for a waste management facility. Instead, Policy 28 (Waste Management) supports new waste development where it is of a scale and type appropriate to its location; manages and accommodates waste arising from the immediate area; provides opportunity to diversify the local economy, and does not have adverse impacts on residential amenity.

- 2.14 The **Cumbria Infrastructure Plan** (2016) sets out a number of significant development proposals that will potentially have an impact on waste arisings and waste management over the next 5 – 10 years. These include regeneration schemes at Barrow waterfront and Whitehaven town centre; development at the Port of Workington; major road schemes (including the Carlisle Southern Link Road) as well as major housing developments across the county.
- 2.15 The six district councils currently have commitments to deliver over 30,000 new homes through their Local Plans, with an annual provision target of 1,663 across the county. The Cumbria Infrastructure Plan identifies a number of strategic housing sites from these plans, including St Cuthbert's Garden Village, south of Carlisle as well as sites in Ulverston, Barrow, Workington and Penrith. In total these sites could accommodate around 12,350 homes.
- 2.16 Cumbria Strategic Waste Partnership (comprised of Cumbria County Council, the six district councils and the Environment Agency) produced a **Joint Municipal Waste Management Strategy 2008 -2020** which identified the following key objectives to be pursued with both public and private sector partners –
- Adopt a Cumbria-wide common method of kerbside collection of dry recyclables and garden waste as far as reasonably practicable
 - Optimise the number of recycle points and Household Waste Recycling Centres, linking provision to the expansion of kerbside services and waste prevention initiatives
 - Enhanced commercial waste recycling – targeting biodegradable materials

- Reducing municipal waste produced by 1% per year through waste prevention
- Maximise the benefits of recycling and composting to the local and regional economy
- Increase treatment capacity to minimise landfill of municipal waste and accommodate third party wastes

2.17 As part of implementing this Strategy, the County Council appointed Shanks Group Plc – now Renewi Plc- to operate a long term municipal waste (LACW) management contract. Renewi Plc now operate two MBT plants, each with a capacity of 75,000 tonnes per annum - one at Hespin Wood near Carlisle and one at Sowerby Woods, Barrow-in-Furness - which commenced operation in 2012 and 2013 respectively. The county's HWRCs are also managed within this contract.

3. Baseline waste arisings and operational capacity

- 3.1 The 2017 WDI provides data for the 2017 calendar year confirming that the total arisings was 2,094,754 tonnes, of which 1,776,346 tonnes was managed in Cumbria and 328,408 tonnes was managed outside of the county. In addition, the 2017 HWDI shows that in 2017 there was 39,497 tonnes of hazardous waste arising in Cumbria, bringing the total waste arisings across all waste streams in 2017 to 2,134,252 tonnes.
- 3.2 Table 4 below shows the tonnages of waste arising in Cumbria. The LACW stream is accurately measured without any double counting using data from the county's waste management team. The other streams have been adjusted to reflect double counting at transfer and treatment facilities in Cumbria (i.e. where the same waste is being received at more than one facility within Cumbria). Further analysis of imports/exports and waste management fates is provided in the separate chapter for each waste stream.

Waste Stream	Tonnes
Local Authority Collected Waste	269,707
Commercial Waste (300,896 less 8,704)	292,192
Industrial Waste (689,931 less 49,203)	640,728
Construction and Demolition Waste (225,242 less 21,625)	203,617
Excavation Waste (608,979 less 21,456)	587,523
Hazardous Waste	39,497
TOTAL (2,134,252 before adjustments)	2,033,264¹

Table 4: Total waste arising in Cumbria (source: 2017 WDI and HWDI; Cumbria County Council)

¹ Minor discrepancy in Total figure due to rounding of numbers to calculate totals for each waste stream

3.3 Table 5 below shows the historic data for waste arisings and waste managed across different waste streams between 2015 and 2017.

	2015		2016		2017	
	Arisings	Managed	Arisings	Managed	Arisings	Managed
LACW	267,987	267,987 ²	275,594	275,594	269,707	269,707
Commercial	331,886	308,781	318,796	305,089	292,192	308,090
Industrial	735,632	463,751	657,780	490,610	640,728	581,286
Construction & Demolition	196,660	429,661	210,379	201,594	203,617	375,336
Excavation	546,872	569,811	522,778	747,071	587,523	627,013
Totals exc Hazardous	2,079,037	2,039,991	1,985,327	2,019,958 ³	1,993,767	2,161,432
Hazardous (HWDI)	22,805	21,751	23,788	26,482	39,497	40,522
Total Arisings/Managed	2,101,842	2,061,742	2,009,115	2,046,440	2,033,264	2,201,954

Table 5: Historic waste arisings and managed by waste stream (Source: CCC; WDI, HWDI)

3.4 Table 6 below shows the current operating capacity of the different types of waste management facility within the county. This is calculated from the throughput tonnage figures reported in the 2017 WDI (for the calendar year 2017). This table shows the total amounts of waste managed within Cumbria, including any imports. The throughput for the previous years since the last WNA is included for comparison.

3.5 The amount of waste managed shown in Tables 5 and 6 is taken from the 2017 WDI based on the amount of waste received at each facility. This includes some waste that is received at more than one facility in Cumbria

² For WNA is assumed that LACW arisings is same as LACW managed

³ 2016 WDI shows 2,023,908 total annual throughput for waste managed

(the 'double-counting' referred to above). This gives a higher figure than the actual amount of waste being managed in the county. In the subsequent chapters dealing with individual waste streams, the amount of waste identified a double-counting is deducted from both waste arising and waste managed to give an accurate reflection of the difference between the two. For the purposes of assessing waste management capacity, the higher figure is appropriate because it indicates the amount of waste than can be received at different facilities within the county.

- 3.6 Overall, there was a 6.79% increase in the amount of waste received through facilities in Cumbria in 2017 compared to the previous year.
- 3.7 Trends to note are the increase in waste received at car breakers and vehicle depollution facilities. The 2017 WDI lists 15 facilities with permits for vehicle dismantling and/or vehicle depollution, compared to 9 such facilities listed in the 2015 WDI which suggests there is market demand for more facilities within Cumbria, thus increasing capacity.
- 3.8 There is also a steady increase in the amount of waste going to composting, although no increase in the number of facilities. This suggests it is the drive to increase recycling rates and divert from landfill that is having a positive influence on the amount of composting taking place in Cumbria. Hespin Wood continues to receive the most and it is noted this facility receives significant amounts from outside the county, with strategic movements of imported waste recorded from authorities including Lancashire, Middlesbrough, Scotland and London. (Strategic waste movements are discussed in Chapter 12 with details provided in Appendix 7).
- 3.9 There is a significant drop in the amount of waste going to inert landfill. This reflects the fact that facilities at Derwent Howe closed in 2016, leaving Roan Edge as the only inert landfill facility available during 2017. This corresponds with a marked increase in the amount recorded as deposit of waste to land (recovery). It is recognised that land recovery makes a significant contribution to management of inert waste within Cumbria; this is discussed further in Chapter 7.

Facility Type	Throughput in tonnes (2015)	Throughput in tonnes (2016)	Throughput in tonnes (2017)
Anaerobic digestion	4,788	11,574.06	18,158
Biological Treatment	206,379	185,684.34	195,755
CA Site	48,498	53,004.05	52,836
Car Breaker	6,343	30,520.32	32,694
Composting	103,317	112,082.68	120,783
Construction	34,200	25,966	-
Deposit of waste to land (recovery)	80,185	124,617.55	202,112
Hazardous Waste Transfer	88,688	90,010.72	93,213
Hazardous Waste Transfer/Treatment	93,170	87,885.87	94,090
Inert LF	27,699	71.4	648
Inert Waste Transfer/Treatment	236,197	232,766.35	180,290
Materials Recycling Facility (MRF)	52,900	72,788.07	110,247
Metal Recycling	27,723	10,360.74	13,825
Non Hazardous (SNRHW) landfill (LF)	96,489	88,485.53	79,973
Non Hazardous LF	175,381	154,323.13	158,785
Non-Hazardous Waste Transfer	160,447	170,801.23	211,389
Non-Hazardous Waste Transfer/Treatment	54,609	59,327.45	63,821
Physical Treatment	402,396	448,257.01	487,620
Physical-Chemical Treatment	14,394	10,997	29,907
Reclamation	122,113	48,866.84	-
Vehicle Depollution Facility	2,544	3,594.64	14,063
WEEE treatment facility	1,531	1,922.703	1,224
Total throughput	2,039,991	2,023,908	2,161,432

Table 6: Waste managed in Cumbria by facility type (source: 2015 - 2017 WDI)

3.10 The higher amount of waste going to Inert Waste Transfer/Treatment during 2015 and 2016 is likely attributable to the storm damage of December 2015.

- 3.11 Based on the 2017 annual throughput figures as set out in Table 6 above, the current capacity for the following waste management options is as follows:

Treatment	1,205,711
Transfer	357,438
Recycling/Recovery	156,766
Deposit on Land	202,112
Landfill	239,406
<i>Total Managed</i>	<i>2,161,433</i>

- 3.12 Table 7 below shows the current capacity of the various types of waste management facility and the different waste streams they accept, based on the 2017 throughput figures but also taking into account known factors including the remaining capacity available in landfill sites and at the two MBT plants (which are currently operating below their maximum permitted capacity of 75,000 tonnes per annum) and also the extent to which some transfer stations provide a recycling/treatment facility on site.

Waste Category	Facility Type	2017
CD and E	Physical Treatment	367,102
CD and E	Non-Hazardous Transfer/ Treatment	35,902
CD and E	Inert waste transfer/ treatment	180,290
	CD & E Recycling/Treatment	583,294
CD & E	Deposit of waste to land (Recovery)	202,112
	CD & E Recovery/Re-use	202,112
CD & E	Inert Landfill	2,176,800
	CD&E Landfill	2,176,800
LACW only	HWRC (CA Site)	52,836
LACW,C&I, CD	Non-Hazardous Transfer/ Treatment	107,934
LACW, Haz,C&I, CD	Hazardous waste transfer/ treatment	138,209
LACW, Haz,C&I,CD	Materials Recycling Facility (MRF)	110,247
LACW,C&I	Anaerobic digestion	18,158
LACW,C&I	Biological Treatment	195,755
LACW,C&I	Composting	120,783
LACW,C&I	Physical/chemical Treatment	181,284
	Mixed Recycling/Treatment	925,206
Haz,C&I	Car Breaker	32,694
LACW,C&I, Haz	Vehicle Depollution	14,063
LACW,C&I, Haz	WEEE Facility	1,224
LACW,C&I,Haz	Metal Recycling	13,825
	Metal Recycling	61,806
LACW,C&I,CD	Non-Hazardous Landfill (SNRHW)	2,078,510
LACW,C&I,CD	Non-Hazardous Landfill	2,389,467
LLW Haz (Lillyhall cell)	Non-Inert Landfill (LLW)	585,000
	Landfill excluding LLW cell	4,467,977
LACW,C&I	Non-Hazardous Transfer	7,762
LACW, Haz,C&I, CD	Hazardous Waste Transfer	49,094
LACW,C&I, CD	Non-Hazardous Transfer	195,609
	Transfer only	252,465

Table 7: Capacity of waste management facilities by waste stream
(source: 2017 WDI; CCC)

4. Predicting future requirements

- 4.1 This WNA assesses future waste growth and capacity requirements for the Plan period using an Excel model running different scenarios based on predicted levels of growth and also taking into account targets for recycling.

Data source and methodology

- 4.2 Cumbria Intelligence Observatory produces local population projections based on Office for National Statistics (ONS) population projections and using Popgroup demographic modelling software. In association with Cumbria Local Enterprise Partnership (LEP), the Observatory also produced economic projections utilising the Cambridge Econometrics' Local Economy Forecasting Model (LEFM). These projections are used to assist in all forward planning matters, including the calculation of housing demand scenarios which are shared with the district councils. The most recent population projection scenarios were produced in 2018 using data from the latest ONS 2016 Subnational Population Projections (SNPPs).
- 4.3 The economic growth projections are derived from data supplied by Cambridge Econometrics, based on their regional forecasts from May 2018. Cumbria Intelligence Observatory then applies local adjustments to take account of future workplace data provided by key employers. The relationship between workplace employment and resident labour force is then analysed to estimate the number of jobs that could be supported if the ONS population projections were to arise.
- 4.4 For this WNA growth projections over the 20 year period of 2016 – 2036 have been used to predict future requirements throughout and beyond the current Plan period. These are reported starting with the baseline year 2017, then moving to 5 yearly intervals within the CMWLP period (ending in 2030) and up to 2035.

- 4.5 The population growth projection has been used to predict the growth in LACW by calculating the amount of waste per household - based on Ministry of Housing, Communities & Local Government (CLG) 2014 household formation rates- from the 2017 WDI returns, and using that figure to estimate the total amount of waste that could be generated over each of the following years.
- 4.6 The economic growth projections provide estimated job numbers across a range of employment sectors (e.g. construction, warehouse and retail, transport and storage, accommodation and food services, financial and business). It is possible to categorise these different sectors according to which waste stream they will contribute to (i.e. Commercial, Industrial, Construction& Demolition; Excavation), therefore splitting the number of jobs estimated each year between the different waste streams. Based on the 2017 WDI returns, the amount of waste per employee has been calculated for each of the waste streams and that figure has been used to estimate the amount of waste that could be generated within each waste stream over the following years.
- 4.7 Figures for the predicted growth across each waste stream, based on these population and economic growth forecasts, can be found in **Appendix 1**.

Growth scenarios

- 4.8 The ONS SNPPs provide the baseline data for projecting population change arising from economic growth. From this baseline, combined with the LEFM economic projections, a series of other growth scenarios have been calculated and this WNA estimates the growth in each waste stream under each of these scenarios. The different scenarios which have been considered are explained below:

ONS Population Projections
Uses future UK economic activity rates (applied to local Census 2011 rates) to estimate the labour force (population) that could arise from the ONS 2016 SNPPs. Uses the relationship between workplace employment and resident labour force to estimate the jobs that could be supported if the ONS population projection were to arise.
Baseline jobs growth
Uses the relationship between workplace employment and resident labour force to estimate the labour force (population) required to support the projected jobs. Uses the number of jobs projected in the LEFM model if the historical sector relationships between local areas and the UK are maintained, taking into account Cambridge Econometrics' UK sector forecasts and locally adjusted to take account of future workforce data supplied by key employers.
Jobs growth 2% above baseline by end of 2036
Assumes that total employment in each district will grow by 2% above the baseline level by 2036. Uses the relationship between workplace employment and resident labour force to estimate the population (labour force) required to support the projected jobs.
Jobs growth equals UK growth by the end of 2036
Assumes that total employment in each district will grow at a rate equal to UK projected growth by 2036 (5.7%) Uses the 5 year average relationship between workplace employment and resident labour force to estimate the labour force (population) required to support the projected jobs.
Housing targets fully met
Uses the CLG 2014 household formation rates to derive the population that could be supported if the district housing targets were met in full. Uses the population estimated to be associated with district housing plans to estimate the labour force (number of jobs) that population could support
Zero jobs growth
Assumes that total employment will be unchanged from 2017 levels. Uses the relationship between workplace employment and resident labour force to estimate the labour force (population) required to support the projected jobs.

Assumptions

- 4.9 The 2015 WNA took into account economic (GVA) data for predicting growth of inert wastes and also considered the potential for waste growth to be reduced over the Plan period if more waste was diverted from landfill as a result of increased recycling. It was considered that applying the GVA predictions did not represent a realistic scenario as it was too high for the zero growth recommended by the National Planning Practice Guidance (PPG) but too low to reflect the projected waste arising from planned major infrastructure projects in the county.
- 4.10 The advice in the PPG to plan for zero waste growth is still a material consideration. However, given the potential for significant infrastructure projects to be delivered within the Plan period, and also the current and longer term major housing developments planned across the districts, for this WNA to be a robust planning tool it needs to consider a scenario for growth.
- 4.11 The six district councils currently have commitments to deliver over 30,000 new homes through their Local Plans, with an annual provision target of 1,663 across the county. The Cumbria Infrastructure Plan identifies a number of strategic housing sites from these plans, including St Cuthbert's Garden Village, south of Carlisle as well as sites in Ulverston, Barrow, Workington and Penrith. In total these sites could accommodate around 12,350 homes.
- 4.12 Consideration has been given previously to the proposed new nuclear power station at Moorside and the associated Coastal Connections project. However, after a number of delays, this project faced a further setback in December 2018 when Toshiba withdrew from the project and proceeded to wind down NuGen. Initial work on planning St. Cuthbert's Garden Village and associated Southern Carlisle Link Road has commenced but delivery of this scheme would extend beyond 2030.
- 4.13 The potential impact of the new Moorside station and St.Cuthbert's Garden Village has not been factored into the growth forecasts provided by the Cumbria Intelligence Observatory due to the uncertainties and long term nature of their delivery. The highest growth model forecast is based on the

current Local Plan commitments for housing delivery. It is appropriate for this WNA to model the 'Housing Targets Fully Met' scenario in order to address the waste management needs for that scenario. However, there is a degree of uncertainty as to whether those housing targets will be fully met within the CMWLP period (ie before 2030) taking into account the current decommissioning of Sellafield and the uncertainty over delivery of the new Moorside project. It is therefore not considered to be a realistic scenario to plan for in terms of waste management at the current time.

- 4.14 All the scenarios showing growth are based on an assumption that jobs growth will be achieved through inward migration. However, in reality some is likely to come from within the resident population and significant economic growth could be constrained by lack of labour. Baseline Jobs Growth is considered to be the realistic scenario to plan for across all waste streams at the current time.
- 4.15 The 2015 WNA did not incorporate any assumptions on diversion of waste from landfill in the high and low growth scenarios. This more cautious approach to forecasting was due to the fact there were few legislative drivers in place at the time to implement such a change. Reduction in the percentage of waste going to landfill was factored into the realistic scenario based on dialogue with operators confirming that financial drivers for diverting waste from landfill were strong (e.g. landfill tax and increased gate prices).
- 4.16 There are now clear government targets for recycling and reduction in landfill as set out in EU Waste Framework Directives and subsequent UK government guidance (see Chapter 2 of this WNA). This WNA incorporates achievement of these targets into the growth scenarios being modelled.

Waste management capacity models

- 4.17 The following scenarios have been modelled in order to predict waste arisings and identify whether there will be sufficient capacity across the different management methods for each waste stream.

Growth/Recycling	Waste arisings calculated using baseline jobs growth with changes to the management mix introduced to meet recycling targets.
Growth/No Recycling	Waste arisings calculated using baseline jobs growth but no changes introduced to meet recycling targets.
No Growth/Recycling	Waste arisings calculated using zero jobs growth with changes to the management mix introduced to meet recycling targets.
No Growth/No Recycling	Waste arisings calculated using zero jobs growth but no changes introduced to meet recycling targets.
Housing Targets Met/ Recycling	Waste arisings calculated based on housing targets being fully met with changes to the management mix introduced to meet recycling targets.
Housing Targets Met/ No Recycling	Waste arisings calculated based on housing targets being fully met but no changes introduced to meet recycling targets.

- 4.18 The future requirement for waste management facilities in Cumbria is calculated by comparing the predicted growth in waste arisings against the known capacity of current waste management facilities, using the different scenarios outlined above. This indicates whether there is likely to be a

‘capacity gap’ (i.e. a deficit in capacity has been identified) for a particular waste stream or management method during the Plan period.

- 4.19 **The preferred scenario to plan for is Growth/Recycling.** This will ensure the council can plan for sufficient waste management infrastructure to achieve recycling targets and support some economic growth within the CMWLP period without risking over-provision based on a growth scenario that is too high.
- 4.20 This WNA has been written to assess the future waste management requirements for the Growth/Recycling scenario. Details of waste management capacity calculations for all of the scenarios considered can be found in *Appendix 2*.

5. Local Authority Collected Waste

- 5.1 Local Authority Collected Waste (LACW) is all waste collected by the local authorities. This is predominantly household waste (either collected from the kerbside or taken to HWRCs and smaller facilities such as bottle banks) but also includes trade waste from small businesses and other non-household waste such as street sweepings and collections from litter bins. In Cumbria, the six district councils provide the LACW collection service. Disposal of the LACW is the responsibility of Cumbria County Council and this service is currently operated on behalf of the council by Renewi plc (formerly Shanks Group) under a long term municipal waste contract.

Baseline arisings and waste managed

- 5.2 The table below shows the figures for LACW arisings in Cumbria for the calendar year 2017 as provided by Cumbria County Council.

	Initial destination	Recycled or composted		Treated		Landfilled
		Recycled	Composted	RDF/in cinerati on	Process Losses	
Household Waste (HH):						
to MBTs	110,929	5,996	6,954	57,156	38,469	2,354
other destination	132,878	51,868	45,637	5,123	346	29,903
Total HH	243,807	57,865	52,591	62,279	38,815	32,257
Non-Household:						
to MBTs	8,277	392	406	3,331	4,011	137
to other destinations	1,577	1,293	0	1	215	67
to C&D facilities	16,046	13,368	0	0	0	2,678
Total non HH	25,900	15,053	406	3,332	4,226	2,882
SUMMARY LACW:						
to MBTs	119,206	6,388	7,360	60,486	42,480	2,491
to other destinations	134,455	53,162	45,637	5,125	561	29,970
to C&D facilities	16,046	13,368	0	0	0	2,678
TOTAL LACW	269,707	72,918	52,997	65,611	43,041	35,140

Table 8: LACW waste arisings in Cumbria and management fate 2017 (tonnes) (source:Cumbria County Council)

- 5.3 A total of 269,707 tonnes arose in Cumbria in 2017. Table 8 also provides a breakdown of how this waste was managed and this is split between household and business (non-household) waste.
- 5.4 This shows that during 2017, 13% of LACW went to landfill; 27% was recycled; 20% composted; 24% was used to produce RDF or sent for incineration outside the county, with 16% lost in processing (for example, liquid escaping, waste mass reducing in storage).

Forecast arisings

- 5.5 Table 9 shows the forecast LACW arisings based on household numbers in line with ONS population projections compared to baseline jobs growth. Full details of the forecast arisings for all waste streams under different growth scenarios can be found in **Appendix 1**.

Year	2017	2020	2025	2030	2035
ONS population projections	269,920	271,652	275,599	278,687	281,834
Baseline jobs growth	269,856	273,480	280,544	287,044	294,561

Table 9: LACW forecast waste arisings (source:Cumbria County Council)

Operating capacity

- 5.6 In addition to the kerbside collection services run by the district councils there are 14 Household Waste Recycling Centres (HWRCs) across the county where residents can take their own waste to be sorted for recycling or disposal. Waste from the HWRCs is collected by the county council and is therefore also part of the LACW waste stream. The HWRCs are managed by Cumbria Waste Management (a wholly owned subsidiary of the county council) who also operate two non-inert landfills (Hespin Wood and Distington) as well as a number of waste transfer and materials recovery/recycling facilities across the county.
- 5.7 There are two Mechanical Biological Treatment (MBT) plants operated by Shanks Group plc (now Renewi plc) as part of the municipal waste contract – Hespin Wood at Carlisle and Sowerby Woods at Barrow - which receive a significant proportion of the LACW in Cumbria. The MBT plants each have

an annual capacity of 75,000 tonnes per annum (tpa), in excess of the 119,139 tonnes of LACW recorded for 2017.


- 5.8 The capacity of the various types of waste facility in the county and the different waste streams they accept can be found in Table 7 in Chapter 3. Many of the facilities permitted to accept LACW will also accept other waste streams such as C, I and CD. It is therefore difficult to provide a wholly accurate figure for the total operating capacity for LACW.
- 5.9 A significant proportion of LACW (24%) is used in the production of refuse-derived fuel (RDF). As the fuel is not produced within Cumbria it cannot be classed as *recovery/re-use*. Instead the waste is *treated* in Cumbria then sent to facilities outside the county where it is processed to produce the fuel. The majority of waste treated in this way is sent to Envirofuel (SRF) Ltd at Hapton Valley Transfer Station in Lancashire.
- 5.10 If an Energy from Waste facility was operational within Cumbria then this waste could be managed within the county and recovered/re-used for fuel. There is planning permission for an Energy from Waste facility at Kingmoor Park, Carlisle (1/18/9012) which has not yet been implemented and will expire in January 2022. At the time of the original permission being granted, it was understood the plant would take the RDF output from the two MBT plants as well as other C & I waste from the Carlisle area that would not be managed under the municipal waste contract with Renewi plc.

Predicted waste management capacity

- 5.11 The predicted waste management capacity for different waste streams is calculated against a number of different growth scenarios. Full details of these calculations can be found in the waste management capacity models at **Appendix 2**. The table in **Appendix 12** sets out the capacity issues across all waste streams identified for each scenario. The preferred scenario to plan for is Growth/Recycling.

5.12 Under the preferred scenario of Growth/Recycling **there would be sufficient capacity across all waste management methods taking LACW waste to accommodate predicted arisings throughout the CMWLP period up to 2030, with capacity still remaining at 2035.** This takes into account any changes to the management mix required to achieve recycling targets.

5.13 Under the preferred scenario of Growth/Recycling, when assessing capacity against total waste managed in Cumbria there is a capacity gap identified in waste transfer stations (WTS). WTS facilities receive materials from most waste streams, in particular CD and E, LACW and C. If WTS facilities in Cumbria are importing waste from outside the county that is a business decision led by market conditions, rather than a capacity requirement for Cumbria. There is no capacity gap identified when assessed on the basis of waste arisings in Cumbria. Unlike other waste streams, where the amount of waste managed in the county may be different to the amount of waste arisings, LACW is recorded solely as waste arisings in Cumbria.

Summary for LACW waste stream under Preferred Scenario of Growth/Recycling	
2017 waste arisings (tonnes)	269,707
Trend compared to previous year (2016)	
Sufficient capacity for predicted waste arisings to end of CMWLP period (2030) and LDLP period (2035)	YES
Capacity for waste managed	n/a
Intervention required	NO

6. Commercial and Industrial Waste

- 6.1 A distinction is made between Commercial waste - generated from retailing and wholesaling; leisure, business and domestic services; and all parts of the public sector - and Industrial waste from other sectors of manufacturing, publishing, food production and the utilities sector.
- 6.2 Data for the Commercial and Industrial streams is taken from the 2017 WDI. Commercial waste is entered on the WDI under EWC 20 which also includes all LACW waste. The LACW figures have been deducted from the EWC20 total to arrive at the C waste figures reported in this chapter. Although the LACW figures in Table 8 (Chapter 5) are separated into household and non-household waste (most of which would be classed as Commercial as it is produced by small businesses), the non-household waste within LACW has not been added to the figures reported in this chapter, to avoid double counting. Given that most treatment facilities handling LACW will also accept some Commercial waste, this is not considered to unduly affect the assessment of need for management facilities for these waste streams. Furthermore, the amount of non-household LACW waste identified in Table 8 is not considered significant at 25,900 tonnes, compared to the total Commercial waste identified in the WDI.

Baseline arisings and waste managed

- 6.3 A total of 570,603 tonnes of waste arising in Cumbria is identified under EWC20. After deducting the 2017 LACW figures from the total WDI amount, this gives 300,896 tonnes of Commercial waste arising in Cumbria in 2017. Deducting the amount identified as double-counting (i.e. the amount of Commercial waste passing through more than one transfer facility in Cumbria) **the actual amount of Commercial waste produced in Cumbria is 292,192 tonnes, of which 18,567 tonnes is exported out of the county.**
- 6.4 In addition, 25,762 tonnes of imported waste is recorded. The total amount of Commercial waste managed across all facilities in the county is recorded in the WDI as 308,090 tonnes. Deducting the amount identified as double-counting, the net amount of Commercial waste being managed within Cumbria is 299,387 tonnes. ***This means that in 2017 Cumbria managed 2.5% (7,194***

tonnes) more Commercial waste than it produced. Table 10 below shows the effect of exports, imports and double-counting on the total waste arisings and waste managed for the Commercial and Industrial waste streams.

6.5 A total of 689,931 tonnes of Industrial waste arisings is reported in the WDI. Deducting the amount shown as double-counting **the actual amount of Industrial waste produced in Cumbria is 640,728, of which 284,750 tonnes is exported out of the county.**

6.6 In addition, 176,105 tonnes of imported Industrial waste is recorded. The total amount of Industrial waste managed across all facilities in the county is recorded in the WDI as 581,286 tonnes. Deducting the amount identified as double-counting, the net amount of Industrial waste being managed within Cumbria is 532,083 tonnes. ***This means that in 2017 Cumbria managed 17% (108, 645 tonnes) less Industrial waste than it produced.***

Tonnes	Total Arisings Cumbria	Less Exports	Plus Imports	Total received across all facilities in Cumbria	Less waste double counted at WTS	Actual amount of waste Managed	Net difference between amount Managed and Arisings
Commercial waste	292,192	18,567	25,762	308,090	8,704	299,387	+ 7195
Industrial waste	640,728	284,750	176,105	581,286	49,203	532,083	-108,645

Table 10 – Commercial and Industrial waste Arisings and Managed

Source: 2017 WDI

- 6.7 Looking at all Commercial (C) and Industrial (I) waste managed within Cumbria , the WDI shows the following mix of management methods for the calendar year 2017.

Management Method	Commercial	Industrial
Recovery/Re-use	0%	12.45%
Recycling/Treatment		
Treatment	41.27%	48.35%
CA Site	8.03%	0.46%
Composting	8.85%	3.29%
MRF	2.25%	2.49%
Metal Recycling	3.52%	5.18%
Landfill		
Non-Hazardous	12.13%	13%
Hazardous	0%	0.29%
Inert	0%	0.04%
Transfer	23.94%	14.13%

Table 11 – Management methods for Commercial and Industrial waste

Source: 2017 WDI

Forecast arisings

- 6.8 Table 12 shows the forecast C and I waste arisings based on population and economic growth projections assuming baseline jobs growth. Details of the forecast arisings under different growth scenarios can be found in **Appendix 1**.

Year	2017	2020	2025	2030	2035
Commercial waste	292,192	293,531	295,919	299,482	304,615
Industrial waste	640,728	617,633	594,468	568,463	551,941

Table 12: C & I forecast waste arisings - baseline jobs growth

(source:Cumbria County Council)


Operating capacity

- 6.9 The 2014 WNA reported a need for more recycling facilities for C and I waste as analysis had shown an apparent capacity gap for mixed recycling for C and I wastes, but a very large over capacity for mixed recycling facilities for LACW. However, this was reviewed in the 2015 WNA which noted that in practice most of the county's largest mixed recycling sites accept both waste streams and therefore concluded there was no current pressure for additional facilities.
- 6.10 However, it should also be noted that the 2014 WNA did not use the Environment Agency's WDI for commercial waste due to problems at the time with how data for that waste stream was being reported. Data for commercial waste was taken from figures in a DEFRA survey carried out in 2009, with arisings for the period 2009 – 2013 estimated based on growth projections.
- 6.11 The capturing of commercial waste data in the WDI is now more accurate and we are also able to verify the LACW waste figures from the council's own waste management team and deduct these to reflect the actual amount of commercial waste arisings.
- 6.12 There are a number of recycling and treatment facilities which receive C and I waste alongside CD, E, LACW and Hazardous waste. Non-hazardous landfill also takes a significant proportion of C and I waste (12- 13%). Overall, there is currently a substantial and varied capacity for managing C and I waste, according to the annual throughput information in the 2017 WDI.

Predicted waste management capacity

- 6.13 The predicted waste management capacity for different waste streams is calculated against a number of different growth scenarios. Details of these calculations can be found in the waste management capacity models at **Appendix 2**. The table in **Appendix 12** sets out the capacity issues across all waste streams identified for each scenario. The preferred scenario to plan for is Growth/Recycling.
- 6.14 With the exception of HWRC sites which only take LACW waste, all other facility types identified as receiving LACW waste will also receive C and I waste. When running the capacity models to produce the figures in Appendix 2, the predicted arisings for C and I were deducted following the deduction of LACW arisings. Therefore the capacity recorded does take into account the impact of all three waste streams when determining whether there is a deficit or surplus in a particular management method.
- 6.15 Under the Growth/Recycling scenario, **there would be sufficient capacity across all waste management methods taking C and I waste to accommodate the predicted arisings throughout the Plan period up to 2030, with capacity still remaining at 2035.**
- 6.16 As noted above, the effect of imports and exports of waste means that Cumbria manages slightly more (2.5%) commercial waste than it produces and substantially less (17%) industrial waste than it produces. Therefore when considering scenarios based on waste managed, under baseline jobs growth there is sufficient capacity across all waste management methods up to 2030 with capacity still remaining at 2035, with the exception of WTS where an immediate deficit is identified.
- 6.17 WTS facilities receive materials from most waste streams, in particular CD and E, LACW and C. If WTS facilities in Cumbria are importing waste from outside the county that is a business decision led by market conditions, rather than a capacity requirement for Cumbria. There is no capacity gap identified when assessed on the basis of waste arisings in Cumbria.

- 6.18 Provision of additional capacity for transfer and treatment facilities is likely to be market-led. Policy DC9 (criteria for waste management facilities) of the Cumbria Minerals and Waste Local Plan 2015- 2030 (CMWLP) supports this type of facility in appropriate locations should there be demand.
- 6.19 Agricultural waste also needs to be accounted for within the C and I waste streams. There is more than sufficient capacity of mixed recycling/treatment facilities that receive C and I waste to accommodate the additional 25,000 tonnes per annum from agriculture identified as needing to be managed within the county (see Chapter 9).

Summary for C&I waste streams under Preferred Scenario of Growth/Recycling		
	Commercial	Industrial
2017 waste arisings (tonnes)	292,192	640,728
Trend compared to previous year (2016)		
Sufficient capacity for predicted waste arisings to end of CMWLP period (2030) and LDLP period (2035)	YES	YES
Waste managed compared to arisings	Managing 2.5% (7,194 tonnes) <u>more</u> than we produce	Managing 17% (108,645 tonnes) <u>less</u> than we produce
Capacity for waste managed	Some deficit in WTS identified	
Intervention required	NO – already supported by Policy DC9 of the CMWLP	

7. Construction, Demolition and Excavation Waste

- 7.1 Waste materials generated from construction, demolition and excavation (CD&E) operations include various surplus waste materials as well as those generated by the demolition of old buildings and soils and sub-soils from excavation. Most of these materials are classed as inert waste although some, such as wood, are biodegradable while asbestos would be classified as Hazardous waste.
- 7.2 Data for the CD & E streams is taken from the 2017 WDI which includes throughputs from all waste management sites with a permit for receiving this form of waste. The Substance Oriented Classification (SOC) level 2 headings embedded in the WDI have been used to separate out waste types into the CD and E streams for analysis in this WNA.

Construction and Demolition	Excavation
Construction and demolition wastes	Dredging spoil
Glass wastes	Soils
Plastic wastes	Waste from waste treatment
Metal wastes, ferrous	Various mineral wastes
Metal wastes, mixed ferrous and non ferrous	Waste of naturally occurring minerals
Metal wastes, non ferrous	
Wood wastes	

Table 13: Waste types (SOC) within CD and E streams

Baseline arisings and waste managed

- 7.3 A total of 225,242 tonnes of Construction & Demolition waste arisings is reported in the WDI. Deducting the amount identified as double-counting (i.e. passing through more than one facility within Cumbria) **the actual amount of CD waste produced in Cumbria is 203,617 tonnes, of which 18,451 tonnes is exported out of the county.**
- 7.4 In addition, 168,545 tonnes of imported CD waste is recorded. The total amount of CD waste managed across all facilities in the county is recorded as 375,336 tonnes in the WDI. Deducting the amount identified as double-counting, the actual amount managed is 353,711 tonnes. ***This means that***

in 2017 Cumbria managed 74 % (150,094 tonnes) more CD waste than it produced. Table 14 below shows the effect of exports, imports and double-counting on the total waste arisings and waste managed for the CD and E waste streams.

7.5 A total of 608,979 tonnes of Excavation (E) waste arisings is reported in the WDI. Deducting the amount identified as double-counting **the actual amount of E waste produced in Cumbria is 587,523 tonnes of which 6,640 tonnes is exported out of the county.**

7.6 In addition, 24,674 tonnes of imported E waste is recorded. The total amount of E waste managed across all facilities in the county is recorded as 627,013 tonnes in the WDI. Deducting the amount identified as double-counting, the actual amount managed is 605,557 tonnes. ***This means that in 2017 Cumbria managed 3% (18,034 tonnes) more E waste than it produced.***

Tonnes	Total Arisings Cumbria	Less Exports	Plus Imports	Total received across all facilities in Cumbria	Less waste double counted at WTS	Actual amount of waste Managed	Net difference between amount Managed and Arisings
Construction& Demolition waste	203,617	18,451	168,545	375,336	21,625	353,711	+150,094
Excavation waste	587,523	6,640	24,674	627,013	21,456	605,557	+18,034

Table 14 – CD & E waste Arisings and Managed

Source: 2017 WDI

7.7 Looking at all CD & E waste managed within Cumbria , the WDI shows the following mix of management methods for the calendar year 2017.

Management Method	CD	E
Recovery/Re-use (Deposit to land)	0.2%	30.84%
Recycling/Treatment		
Treatment	58.63%	51.94%
CA Site	3.03%	0%
Composting	0.86%	0%
MRF	1.37%	0.03%
Metal Recycling	2%	0%
Landfill		
Non-Hazardous	2.41%	12.79%
Hazardous	0.31%	0.61%
Inert	0%	0.11%
Transfer	31.19%	3.68%

Table 15 – Management methods for CD & E

Source: 2017 WDI

Forecast arisings

- 7.8 Table 16 shows the forecast CD and E waste arisings based on population and economic growth projections assuming Baseline Jobs Growth. Details of the forecast arisings under different growth scenarios can be found in **Appendix 1**.

Year	2017	2020	2025	2030	2035
C&D waste	203,617	206,448	208,967	211,596	215,521
Excavation waste	587,523	587,523	587,523	587,523	587,523

Table 16: CD & E forecast waste arisings - baseline jobs growth

(source:Cumbria County Council)

- 7.9 The level of excavation waste remains unchanged because it is known to be less responsive to population/growth changes. PPG also suggests that CD waste can remain constant at the baseline level when preparing WNAs unless local circumstances indicate otherwise.
- 7.10 In this WNA an increase in CD waste arisings has been modelled in all scenarios to reflect aspirations for growth. This is considered to be an appropriate approach to ensure that requirements for waste management capacity can be identified at an early stage if the pace of new development picks up. Excavation waste arisings have been kept unchanged, except in the highest growth models of housing targets fully met where an increase in arisings has been factored in.

Operating capacity

- 7.11 There are a number of treatment facilities which receive only CD or CD & E waste. CD waste is also received at some other facilities, including MRFs, in addition to the LACW, C&I waste they receive. As Table 15 above indicates, currently over 50% of both CD & E wastes are managed at treatment facilities. Over 30% of CD waste is recorded as going to transfer facilities, many of which will in fact provide treatment and recycling facilities on site. Landfill also has a role to play with over 12% of E waste going to landfill. Only a small proportion (0.11%) actually goes into Inert landfill, with the majority going into non-inert Non-Hazardous landfill. Overall, there is currently a substantial and varied capacity for managing CD & E waste, according to the annual throughput information in the 2017 WDI.
- 7.12 In addition there are a number of exempted sites within the county that will receive CD and E waste and these will make a contribution to the capacity for managing these waste streams. These are sites where an operator or the landowner has a 3 year permit from the Environment Agency to deposit inert material on land without needing a waste operator's licence. Typical sites would be landraising to improve agricultural land or implement a landscaping scheme.

7.13 Table 17 below lists the additional inert waste disposal sites with environmental permits for restoration or recovery which are recorded as receiving waste during 2017, according to the WDI 2017. These projects are for construction, restoration of old quarries, agricultural improvement or landscape schemes, and indicate that approximately 200,000 tonnes of inert waste has been disposed of in this manner during 2017. Of this 181,192 tonnes was E waste and just 407 tonnes CD waste. This equates to over 30% of the total E waste arisings in Cumbria. Deposit of waste to land via these permitted sites therefore makes a significant contribution to the management of E waste in the county.

Site	Quantity received in 2017 (tonnes)
Distington Golf Club	47,038
Silvertop Quarry	24,222
Whitehaven Golf Course	9,200
Faugh no 2 Quarry	570
Overby Quarry	41,447
Rose Garth, Long Marton (subsidence infill)	2,614
Cooper House Farm, Selside	18,831
Dixon Hill Quarry	1622
Field 3771, Nr Maryport	15,969
Moss Flood Embankment, North of Carlisle	15,693
Kendal Auction Mart (J36)	18,143
Raven Crag, Newbiggin, Penrith	6762
Total recorded Inert CD & E waste to land recovery	202,212

Table 17 : EA permitted disposal sites receiving CD & E waste during 2017

7.14 However, for the purposes of this WNA exemptions have not been included in the assessed future waste management capacity for the following reasons:

- Exemptions last only for a 3 year period
- Exemptions provide a maximum amount that can be deposited, but do not indicate the actual amount – therefore, an over estimation of capacity can be made that would skew the figures
- There is no requirement to provide information on how the waste managed through exemptions will be brought on site. There is, therefore no accurate information on annual capacity and the time frame in which waste will be managed. It could be that the full exemption is reached in the first month, or never achieved over the 3 years.

7.15 It is still assumed that significant amounts of CD & E waste will continue to be managed through exemptions, in line with past usage. These waste streams tend to manage themselves, without the need for spurious accuracy, which the National Planning Policy for Waste states is not to be aimed for. The role of waste exemptions in managing both CD & E waste will be monitored annually using the WDI throughput figures when published each year.



Predicted waste management capacity

- 7.16 The predicted waste management capacity for different waste streams is calculated against a number of different growth scenarios. Details of these calculations can be found in the waste management capacity models at **Appendix 2**. The table in **Appendix 12** sets out the capacity issues across all waste streams identified for each scenario. The preferred scenario to plan for is Growth/Recycling.
- 7.17 **Under the preferred scenario of Growth/Recycling, there would be sufficient capacity across all waste management methods taking CD and E waste to accommodate the predicted arisings throughout the Plan period up to 2030, with capacity still remaining at 2035.**
- 7.18 As noted above, the effect of imports and exports of waste means that Cumbria manages substantially more (74%) CD waste than it produces and

slightly more (3%) E waste than it produces. Therefore when considering scenarios based on waste managed, under baseline jobs growth there is sufficient capacity across most waste management methods up to 2030 with capacity still remaining at 2035, with the exception of WTS where an immediate deficit is identified.

- 7.19 WTS facilities receive materials from most waste streams, in particular CD and E, LACW and C. If WTS facilities in Cumbria are importing waste from outside the county that is a business decision led by market conditions, rather than a capacity requirement for Cumbria. There is no capacity gap identified when assessed on the basis of waste arisings in Cumbria.
- 7.20 Provision of additional capacity for transfer and treatment facilities is likely to be market-led. Policy DC9 (criteria for waste management facilities) of the CMWLP supports this type of facility in appropriate locations should there be demand.
- 7.21 Many WTS in Cumbria do in fact provide a recycling/treatment facility for CD and E waste. The capacity models have been adjusted to reflect this, with 80,016 tonnes non-hazardous capacity and 44,119 tonnes hazardous capacity reclassified as mixed recycling/treatment rather than transfer only. A list of the WTS and treatment facilities that treat CD & E waste can be found in **Appendix 3**.
- 7.22 The capacity models show there will be a surplus of management capacity in mixed recycling/treatment facilities, many of which will receive CD waste. Recent planning permissions were granted for production of recycled aggregate from inert waste (CD & E) imported on to sites including Overby sand quarry, near Silloth (2/18/9001) receiving up to 75,000 tpa, Stoneraise Quarry, near Penrith (3/18/9006) receiving up to 25,000 tpa, and Kendal Fell Quarry (7/2018/5467) receiving up to 25,000 tpa. There is also more than sufficient inert landfill capacity to accommodate CD and E waste throughout the Plan period.

- 7.23 In Cumbria there will also be capacity in the longer term for deposit of CD and E waste as part of further quarry restoration schemes. During the CMWLP period (up to 2030) there a number of quarrying permissions due to expire which will create further opportunity for deposit of waste. Whilst often classed as landfill, these inert landfill sites on former quarries are in effect providing a recovery/re-use management route for the waste as it is used to restore the landscape. Details of quarries in Cumbria with permissions due to expire and restoration schemes due within the CMWLP period can be found in **Appendix 13**.

Summary for CD & E waste streams under Preferred Scenario of Growth/Recycling		
	CD	E
2017 waste arisings (tonnes)	203,617	587,523
Trend compared to previous year (2016)		
Sufficient capacity for predicted waste arisings to end of CMWLP period (2030) and LDLP period (2035)	YES	YES
Waste managed compared to arisings	Managing 74% (150,094 tonnes) <u>more</u> than we produce	Managing 3% (18,034 tonnes) <u>more</u> than we produce
Capacity for waste managed	Some deficit in WTS identified	
Intervention required	NO – already supported by Policy DC9 of the CMWLP	

8. Hazardous Waste

- 8.1 Hazardous waste is waste that is reactive, toxic, corrosive or otherwise harmful to human health or to the environment, either immediately or over an extended period of time. The LACW, C & I and CD & E waste streams will all include an element of waste that is recorded in the WDI as hazardous. For example, Commercial waste could include batteries, electrical equipment, paint/varnish; CD waste could include asbestos or materials such as wood plastic and glass that have been contaminated with dangerous substances.
- 8.2 In this WNA hazardous waste recorded in the WDI remains in the totals recorded for that particular waste stream. A total of 41,126 tonnes of waste managed at facilities in Cumbria across these waste streams is recorded as hazardous. Approximately half of this (21,376 tonnes) is recorded as originating in Cumbria.
- 8.3 The EA also produce separate data in the Hazardous Waste Data Interrogator (HWDI) and it is these figures that are used to assess hazardous waste management.

Baseline arisings and waste managed

- 8.4 The 2017 HWDI shows that **39,497 tonnes of hazardous waste is produced in Cumbria, of which 29,526 tonnes is exported out of the county.**
- 8.5 An additional 30,551 tonnes was received as imports (predominantly from Scotland, the North East and the North West) making the total amount of waste managed 40,522 tonnes. ***This means that in 2017 Cumbria managed 2.5 % (1,025 tonnes) more hazardous waste than it produced.***

	Total Arisings Cumbria	Less Exports	Plus Imports	Net difference by waste stream	Total Managed across facilities in Cumbria
Hazardous waste	39,497	29,526	30,551	+1,025	40,522

Table 18 – Hazardous waste Arisings and Managed

Source: 2017 HWDI

- 8.6 Looking at all Hazardous waste managed within Cumbria , the HWDI shows the following mix of management methods for the calendar year 2017.

Management Method	Hazardous
Recovery/Re-use	16.17%
Hazardous Landfill	1.13%
Transfer	82.59%
“Rejected”	0.3%

Table 19 – Management methods for Hazardous waste

Source: 2017 HWDI

Forecast arisings


- 8.7 No change in Hazardous waste arisings (as recorded in the HWDI) is projected in this WNA so the 2017 arisings will be used to calculate management capacity during the Plan period.

Operating capacity

- 8.8 The total amount of hazardous waste received at management facilities in Cumbria in 2017 was 40,522 tonnes. 9972 tonnes (25%) arose in Cumbria, with the remaining 30,551 tonnes (75%) received as imports, predominantly from Scotland, the North East and the North West, with smaller amounts received from Worcestershire and Warwickshire.

Predicted waste management capacity

- 8.9 The predicted waste management capacity for different waste streams is calculated against a number of different growth scenarios. Details of these calculations can be found in the waste management capacity models at **Appendix 2**. The table in **Appendix 12** sets out the capacity issues across all waste streams identified for each scenario. The preferred scenario to plan for is Growth/Recycling.
- 8.10 **Under the preferred scenario of baseline jobs growth with recycling targets met, there would be sufficient capacity across each of the waste management methods accommodating hazardous waste throughout the plan period to 2030 with capacity remaining at 2035.** This would also be the case if no changes were made to the management mix to achieve recycling targets.
- 8.11 As noted above, the effect of imports and exports of waste means that Cumbria manages slightly more (2.5%) hazardous waste than it produces. When considering scenarios based on waste managed, under baseline jobs growth there is sufficient capacity across all waste management methods up to 2030 with capacity still remaining at 2035, with the exception of WTS where an immediate deficit is identified.
- 8.12 WTS facilities receive materials from most waste streams, in particular CD and E, LACW and C. If WTS facilities in Cumbria are importing waste from outside the county that is a business decision led by market conditions, rather than a capacity requirement for Cumbria. There is no capacity gap identified when assessed on the basis of waste arisings in Cumbria.
- 8.13 Given that over 75% of the hazardous waste managed in Cumbria was imported and that the total amount managed is greater than the total hazardous waste arisings there is no concern at this time that additional facilities are required to accommodate the hazardous waste arisings/produced in Cumbria.

Summary for Hazardous waste stream under Preferred Scenario of Growth/Recycling	
2017 waste arisings (tonnes)	39,497
Trend compared to previous year (2016)	
Sufficient capacity for predicted waste arisings to end of CMWLP period (2030) and LDLP period (2035)	YES
Waste managed compared to arisings	Managing 2.5% (1,025 tonnes) <u>more</u> than we produce
Capacity for waste managed	Some deficit in WTS identified
Intervention required	NO – already supported by Policy DC9 of the CMWLP

9. Agricultural Waste

- 9.1 Within the Industrial waste stream, EWC 02 refers to 'Agriculture and food processing'. The 2017 WDI records 21,247 tonnes arising and managed in Cumbria. The waste descriptions under this code include a wide range of products/processes related to agriculture/food production including waste metal, animal and vegetable tissue waste, as well as waste plastics. Code 020106 is 'animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site'. This accounts for 11,994 tonnes of the total recorded. This data could relate to a range of non-agricultural commercial/industrial activities (eg. abattoir, butchers, riding schools/stables; food processing) and in this WNA the figures remain recorded under these waste streams.
- 9.2 Agricultural premises are defined in the Agriculture Act 1947 as land use for : horticulture , fruit growing, dairy farming, livestock breeding and keeping, grazing land, meadow land, osier land (willow growing), market gardens and nursery grounds. It also includes woodlands where that use is ancillary to the use of land for other agricultural purposes. As such agricultural waste can be made up of the following substances:
- Compostable and digestible materials (farm yard manure, slurry, vegetables)
 - Combustable materials (straw, various plastics - silage wrap, bale twine and netting, fertiliser and feed bags, tree guards – paper and card – feed bags and other packaging)
 - Hazardous waste (chemicals from silage effluent, pesticide, sheep dip; various plastic, glass, rubber, metal from veterinary/animal health products)
 - Other wastes (eg. waste milk)
- 9.3 Some of these materials can also be defined as agricultural by-products and are not defined as wastes when applied to the land as fertiliser for agricultural improvement or put to some other beneficial use on the farm.

Data sources

9.4 To analyse the amount of agricultural waste not captured through the WDI the following data sources are used –

- DEFRA's annual agricultural census. The most recently published (2018) provides local authority data on the number of commercial farm holdings in 2016 by local authority area⁴
- Environment Agency report published in 2001" Towards Sustainable Agricultural Waste Management" which provides estimated figures on arisings by region for different types of agricultural waste based on 1998 survey data ⁵

9.5 Comparing these two sets of data allows for a reasonable assumption to be made on the amount of agricultural waste being generated within the county that would not be picked up from examining the WDI.

Baseline arisings and waste fates

9.6 The DEFRA agricultural census provides figures confirming that in 2016 there were 12,592 commercial farm holdings across the North West region, of which 5,134 are within Cumbria.

9.7 The EA data on estimated agricultural arisings is provided by region. By dividing the figures by the total number of holdings in the region (12,592) we can calculate the estimated arisings per holding. Multiplying this by the number of holdings in Cumbria (5,134) gives an estimate of the agricultural arisings for the county. Table 20 below shows the regional and county figures for the different type of agricultural waste.

⁴ <https://www.gov.uk/government/statistical-data-sets/structure-of-the-agricultural-industry-in-england-and-the-uk-at-june>

⁵ <https://www.gov.uk/government/publications/towards-sustainable-agricultural-waste-management>

Waste type	North West total (tonnes) – 12,592 holdings	Cumbria Total (tonnes) – 5,134 holdings	Potential Waste Management Route
Plastic packaging	2,079	848	Recycling/Landfill
Cardboard and paper packaging	681	278	Composting on site/Recycling/Landfill
Metal, glass, wood and rubber packaging	131	53	Recycling/Landfill
Other non-packaging plastics	8,092	3,299	Recycling/Landfill
Agrochemicals	3,084	1,257	Treatment/Incineration
Animal health products	11,210	4,571	Incineration
Machinery waste (oils, batteries, tyres, redundant machinery)	6,086	2,481	Recycling/Treatment
CD & E waste (asbestos cement bonded roof sheeting)	1,768	721	Hazardous Landfill
Organic by-products waste (slurry, waste milk, straw)	8,261,467	3,368,359	Composting/Land recovery/Treatment on site
Animal by-products	28,201	11,498	Specialised treatment
Total Arisings	8,322,799	3,393,365	

Table 20: Estimated agricultural waste arisings in the North West and Cumbria

(source: DEFRA, 2013; ;Environment Agency, 2001)

- 9.8 Table 20 above also indicates the potential waste management route for the various waste types arising on farmholdings. Table 21 below summarises the total amount of waste that can be managed by each route, distinguishing between that which can be managed on the farm and that which needs to be managed off the farm.

Waste Management Route	Tonnage
<i>Management on the holding</i>	
Composting on site/land recovery/treatment on site	3,368,637
<i>Management off-site</i>	
Recycling	4,200
Treatment plant/Incineration	8,309
Animal by-products by Incineration	11,498
Landfill	0
Hazardous Landfill	721
Total management off-site	24,728
Total Arisings	3,393,365

Table 21 – Potential waste management options for agricultural arisings in Cumbria

- 9.9 If we assume that the preferred routes in the waste hierarchy will be followed (i.e. all materials that can be will be recycled/reused and not disposed of to landfill) we can see that the majority of agricultural waste (3,368,673 tonnes; 99%) is capable of being managed on the farmholding. The most significant waste type – Organic by-products- , for example would typically be spread back on the land. This leaves an amount of 24,728 tonnes (around 1%) which will require management off-site.

- 9.10 For the purposes of the WNA it is this amount (approx. 25,000 tonnes) that needs to be taken into account when planning for waste management facilities. It would be managed as part of the Commercial and Industrial waste streams so this amount needs to be included in the projected C and I arisings that will need to be managed within the county.

Forecast arisings

- 9.11 Calculating agricultural waste arisings can only ever be an estimate. The number of farmholdings is based on commercial farm holdings and this number is not updated on every annual agricultural census. The latest farm holding numbers available are for the calendar year 2016. It is unlikely that the number of farm holdings will increase, given the industry trend is for numbers to decrease as land is sold and holdings merge.
- 9.12 Also, the waste arisings are estimated based on regional figures published in 2001, and broken down proportionally to the number of farmholdings within Cumbria. Based on the waste management options available for each waste type an assumption has to be made on the extent to which the preferred option (ie recycle/recover rather than disposal) will be taken. The majority of the farm waste will continue to be re-used on the farm holding (eg. muck spreading and composting) and it is likely that recycling of farm plastic could increase through raised awareness and greater take-up of silage recycling facilities available within the county.
- 9.13 For the purpose of this WNA it is assumed that full potential for recycling/recovery will be achieved within this particular waste stream and that the amount of agricultural waste requiring management off-site will not increase significantly. Therefore a figure of 25,000 tonnes agricultural waste, in addition to the C and I waste reported elsewhere, will be included in the calculations for waste management needs in Cumbria.
- 9.14 As a rural county, the amount of agricultural waste arisings is significantly higher than for many other authorities in the North West. The figures from the Environment Agency report (2001) show that Cumbria's agricultural waste arisings represent 40% of the total amount for the North West region.

However, the 25,000 tonnes that needs to be managed off-site is not a significant amount compared to the 292,192 tonnes of Commercial and 640,728 tonnes of Industrial waste arisings already recorded within the county.

Operating capacity

- 9.15 Looking at the predicted management capacity for C and I waste there would be sufficient capacity across all management methods to accommodate predicted C and I waste arisings throughout the Plan period up to 2030 with capacity remaining at 2035. There would be more than sufficient surplus capacity to accommodate the additional 25,000 tonnes of agricultural waste within the management of these waste streams.

Summary for Agricultural waste stream under Preferred Scenario of Growth/Recycling	
<p>The majority of agricultural waste is capable of being managed on the farmholding. This leaves approximately 25,000 tonnes per annum (tpa) which requires management off-site.</p> <p>Agricultural waste will be managed as part of the C&I waste streams. There is sufficient capacity to accommodate an additional 25,000 tpa within these waste streams throughout the relevant Plan periods.</p>	
Sufficient capacity for predicted waste arisings to end of CMWLP period (2030) and LDLP period (2035)	YES
Intervention required	NO

10. Low Level Radioactive Waste

Background

- 10.1 Radioactive wastes are produced in the UK as a result of: the generation of electricity in nuclear power stations and from the associated production and processing of the nuclear fuel (including decommissioning of plant); from the use of radioactive materials in industry; from the extraction and processing of minerals, which may include some naturally occurring radioactive materials (NORM); from medicine; from academic research; and from military nuclear programmes (such as the nuclear-powered fleet of submarines).
- 10.2 Radioactive waste is divided into three categories according to how much radioactivity it contains and the heat that this radioactivity produces. The categories identified are: High (HLW), Intermediate (ILW) and Low Level Waste (LLW). Very Low Level Waste (VLLW) is a sub-category of LLW, and together they are often termed 'lower activity wastes'. HLW and ILW together, are often termed 'higher activity wastes'.
- 10.3 Most (98%) of the Low Level Waste (LLW) in the UK arises from the operation of nuclear power stations, nuclear fuel reprocessing facilities, and also from the decommissioning and clean-up of nuclear sites. The remaining 2% is produced by non-nuclear industry users of radioactivity. This is often referred to as Low Level Non-nuclear industry Radioactive Waste (LLNRW).
- 10.4 As pioneers of nuclear technology, the UK has accumulated a substantial legacy of radioactive waste from a variety of different civil land defence-related nuclear programmes. Some of this waste is already in storage but most of it still forms part of existing facilities and will only become waste over the next century or so as these plants are shut down, decommissioned and cleaned up.

- 10.5 Cumbria holds a unique position in the UK in generating and receiving significant quantities of LLW waste from sources in the nuclear, defence and industrial sectors, in addition to the smaller amounts of LLNRW associated with medical and research facilities that all waste planning authorities will deal with.
- 10.6 Sellafield nuclear power station, located in west Cumbria, is the only site in the UK which produces HLW and that is also treated and stored there. It is no longer power generating but processes spent fuel; HLW is the residue created by this process. This site processes around 74% of all the UK's LLW. Cumbria also hosts the Low Level Waste Repository (LLWR), the UK's LLW disposal facility, near to the Sellafield site at Drigg.
- 10.7 Other LLW sites in Cumbria include the three hospitals and BAE Systems Marine Ltd in Barrow. Details of all the sites and organisations associated with radioactive waste in Cumbria can be found in **Appendix 4**.
- 10.8 The key issues for managing radioactive waste in Cumbria are the safe and efficient decommissioning and demolition of existing nuclear facilities (decommissioning of Sellafield is due to start in December 2020); ongoing storage and management of radioactive wastes from all sources received from across the UK, and also the proposed new nuclear power station at Moorside.⁶
- 10.9 The Environment Agency regulate how users of radioactive substances dispose of their LLW waste. They do this by granting permits that place limits on disposal of solid waste to land and on discharges to water and air.
- 10.10 In February 2016, the UK Government published an updated "UK Strategy for the Management of Solid Low Level Waste from the Nuclear Industry" which sets out the need to apply the waste hierarchy, make best use of existing LLW management assets and the need for new fit-for-purpose waste management routes for LLW waste.

⁶ The Moorside project has stalled in recent years with a further setback at the end of 2018 when Toshiba withdrew from the project and proceeded to wind down NuGen

- 10.11 In September 2019 the Nuclear Decommissioning Authority (NDA) published a new Integrated Radioactive Waste Strategy which will apply to all the radioactive waste generated within the NDA estate, which includes Sellafield nuclear power station. The document makes reference to the need for interim storage and retrieval measures to be considered to improve the current situation there and also considers the option of making radioactive waste management facilities at the NDA sites available to the wider nuclear sector where appropriate.
- 10.12 Previously, the NDA had individual strategies for each waste type (low, intermediate, and high) based solely on the level of radioactivity and not considering other properties that could affect decisions on how to manage it. It replaces the NDA's previous Higher Activity Waste Strategy (May 2016) and is consistent with the UK Low Level Waste Strategy (February 2016) which remains the overarching, strategic document for the management of LLW.
- 10.13 There is currently no final disposal route for HLW and ILW. However, current practice is for HLW canisters to be stored for at least 50 years before disposal. This allows the amount of heat produced by the waste to fall, making it easier to transport and dispose.
- 10.14 There is ongoing dialogue within the industry, including recent government consultations, on the need to plan for a permanent Geological Disposal Facility (GDF) for final disposal of the UK's HLW radioactive waste and the need to consider in-situ disposal where appropriate on decommissioning of existing nuclear power stations – including Sellafield. These are very long term proposals (50 – 100 year plus) so there is ongoing dialogue in the meantime on how to improve the current facilities for treatment, storage and retrieval of the existing radioactive wastes stored at Sellafield.
- 10.15 Such considerations are outside the scope of this WNA which is focussed on the need to plan for management of the VLLW within the county, typically generated by non-nuclear industries that can be managed at facilities outside the nuclear industry. This non-nuclear radioactive waste is often referred to in waste management planning as Low Level Non-Nuclear Radioactive Waste (LLNRW).

Baseline arisings and waste fates

- 10.16 The Radioactive Waste Inventory (RWI) is produced by the NDA every three years. This provides an estimate on the current and predicted arisings for radioactive waste that will be generated by the NDA. The latest published version is the 2016 RWI.
- 10.17 A LLW National Waste Programme provides the main vehicle for driving sustainable LLW management across the UK. This helps to ensure there is sufficient capacity in the LLWR in Cumbria for waste that cannot be managed using other options. Currently over 85% of LLW across the UK is diverted away from the LLWR by using more sustainable waste management routes.
- 10.18 Some LLW can be processed in the metals recycling facility at Workington in Cumbria, which uses size reduction and shot-blasting techniques to minimise quantities of LLW metal sent for disposal. The clean material can then be released back into the scrap metals market. Some material, predominantly rubble and soil with relatively low radioactivity, can be routed to permitted landfill sites. Most LLW that is unsuitable for re-use, recycling, incineration or landfill disposal is sent to the LLWR disposal facility.
- 10.19 VLLW is very lightly contaminated with radioactivity. Small amounts, principally from hospitals and universities, can be safely disposed with municipal, commercial or industrial waste (either directly or by incineration). These wastes are not included in the RWI. Larger amounts of VLLW from nuclear sites are produced during facilities demolition and site clean-up operations. These wastes are mainly building materials and soil and can be disposed off at appropriately permitted landfill facilities. Information on these wastes is included in the RWI.
- 10.20 There are four commercial incinerators in the UK that are permitted to accept radioactive waste (Grundon at Colnbrook, Berkshire; Tradebe at Fawley, Hampshire; Veolia, Ellesmere Port, Cheshire; SRCL Ltd, Ashford, Kent).
- 10.21 There is an on-site landfill disposal facility at Sellafield, Calder Landfill Extension Segregated Area (CLESA) , which receives only waste arising at Sellafield.

- 10.22 There are currently three commercially operated landfills capable of accepting VLLW: the FCC Environment Site at Lillyhall; Clifton Marsh in Lancashire, and King's Cliff in Northamptonshire. The planning permission at Lillyhall allows disposal at the site until 2029, with limits to the volume of radioactive waste that can be disposed there of 390,000 cu m in total (approx.. 585,000 tonnes) and 26,000 cu m annually. The site is permitted to accept VLLW of up to 4 Becquerels/gram.
- 10.23 To date, no VLLW has been disposed of at the Lillyhall facility. The Environment Agency Pollution Inventory 2017 provides data relating to radioactive waste permits. This shows that the radioactive waste being disposed of outside of Sellafield and LLWR is being discharged primarily as wastewater with some to air and controlled waters. This includes waste from the three main hospitals, BAE Systems, NT Nuclear Services laboratory at Westlakes science and technology park, and Cyclife UK Ltd at Lillyhall. Details from the Pollution Inventory are attached as **Appendix 5** for reference.

Forecast arisings and management capacity

- 10.24 Over the next 100 years large quantities of LLW and VLLW from nuclear plant decommissioning and site restoration will have to be managed. The UK strategy for managing LLW and VLLW from the nuclear industry is to move away from reliance on disposal at the LLWR (recognising this is an important resource for future waste arising following decommissioning). There is now greater emphasis on using alternative management and disposal facilities (e.g. incineration, metal treatment and recycling; authorised landfill sites). Also, improved characterisation of radioactive waste is expected to lead to more ILW being categorised as LLW and more LLW being categorised as VLLW. This will also have implications for LLW management capacity.

- 10.25 According to the 2016 RWI there is greater certainty on how lower activity wastes will be managed in the near term and forecasts are given for the next five years (2016 – 2020 inclusive). About 21% of reported volume is expected to be disposed of at the LLWR. All other LLW is expected to be diverted to the on-site disposal facility at Dounreay, appropriately permitted landfill sites or incineration. All VLLW in this period is expected to be disposed of at appropriately permitted landfill sites.
- 10.26 Sellafield and LLWR each published their latest Joint Waste Management Plan in March 2019. These include forecast arisings for the 5-year period 2019/20 to 2023/24.
- 10.27 In terms of capacity for accommodating LLW within the county, planning permission 4/15/9012 was granted in 2016 to provide additional capacity at the LLWR (construction of new Vaults 9a, 10 and 11 for disposal of LLW and also higher stacking permitted within existing Vault 9).
- 10.28 The CLESA facility at Sellafield , which can only accept the site's own VLLW, has a total capacity of 120,000 cu m. At the end of 2016 it had a remaining capacity of 63,000 cu m and was estimated to be full by 2025. There is potential to develop additional specialist landfill capacity at Sellafield (CLESA -2) and provision is made for this in Site Allocations CO32 and CO36 of the adopted CMWLP.
- 10.29 The 390,000 cu m capacity at Lillyhall remains available and, as with all privately operated facilities, there is a risk that facilities could close earlier or withdraw from particular market sectors if they are no longer financially viable.
- 10.30 There is no new HLW to be generated by Sellafield but the proposed development of a new nuclear power station at Moorside would generate additional HLW and LLW, with significant amounts of LLW arising further down the line when that facility is decommissioned. However, the proposals to build at Moorside are currently stalled as Toshiba withdrew from the project at the end of 2018 and proceeded to wind down NuGen.

- 10.31 It is also necessary to consider the potential for LLW arising in association with any shale gas or oil proposals that may occur within Cumbria. The hydraulic fracturing process involved generates flowback or produced water from the well. This water will contain Naturally Occurring Radioactive Materials (NORMs). Similar arisings may also occur from drilling for coal-bed methane. The level of radioactivity in these NORMs can vary but some could be classified as VLLW and so require specialist treatment.
- 10.32 There is currently only one Petroleum Exploration and Development Licence (PEDL) still extant in Cumbria, at Barrow. This does relate to shale gas but to date no applications or enquiries in relation to exploration work have been received. The operator has until 2021 to begin some exploratory work otherwise the licence will be relinquished. Previous PEDL licences in the county in relation to coal bed methane have since been relinquished.
- 10.33 There are many uncertainties about predicting the likely arisings of LLW and VLLW that will need to be accommodated in the long term (beyond the current Plan period of 2015-2030). Factors include changes in categorisation and management priorities of the LLW currently managed at Sellafield and in the LLWR; development of the Sellafield Decommissioning Strategy, and the availability of existing privately run commercial facilities for treating VLLW in other locations, either in Cumbria or out of county.
- 10.34 **There is no known shortfall in capacity at this time to manage the VLLW arising in the county.** The capacity at Lillyhall remains available and there are Site Allocations in the adopted CMWLP, including CO32 – land adjacent Sellafield - which has potential for storage of construction and demolition waste arising from Sellafield's decommissioning, as well as accommodating CLESA -2 to provide additional specialist on-site landfill. Other Site Allocations for radioactive waste are CO35 – the LLWR - and CO36 – land within the Sellafield complex.

Summary for Low Level Radioactive Waste	
<p>There is ongoing debate about a long term disposal solution for higher level radioactive waste. The scope of this WNA is limited to management of LLW and VLLW, principally from non-nuclear industries such as hospitals.</p> <p>Over the next 100 years there will be large quantities of LLW and VLLW from nuclear decommissioning and site restoration. Decommissioning at Sellafield is currently scheduled to begin around 2020.</p> <p>There is existing capacity to manage LLW and VLLW in the county and provision is made in the CMWLP for safeguarding of existing facilities and potential for additional capacity at Sellafield and the LLWR.</p> <p>There is no known shortfall in capacity at this time. Dialogue with the industry will continue, in particular as the implications of site decommissioning and interim storage requirements become clearer.</p>	
Sufficient capacity for predicted waste arisings to end of CMWLP period (2030) and LDLP period (2035)	YES
Intervention required	NO – Site Allocations in CMWLP

11. Wastewater and sewage sludge

- 11.1 United Utilities is responsible for operating wastewater treatment works (WwTW) within Cumbria. Water companies plan operations in 5 –year cycles, known as an Asset Management Period (AMP). The current AMP runs from 2015-2020 and water companies will already be preparing for the AMP7 which runs from 2020-2025.
- 11.2 On a more strategic level, the water companies will produce a Water Resources Management Plan (WRMP) covering a 25 year period of planning to maintain sufficient water supply for their customers whilst ensuring enough water remains in the environment to achieve environmental targets.
- 11.3 United Utilities current WRMP covers the period 2015-2040 and they have recently consulted on their 2019 WRMP for the period 2020-2045. Key issues in these documents have been to maintain an adequate water supply for customers in West Cumbria whilst safeguarding the environmental quality of the water environment for protected species. The effects of recent storms and flood events are noted as affecting a number of treatment works and pumping stations and additional investment is earmarked to improve the resilience of waste water infrastructure and an overall reduction in sewer flooding.

Baseline arisings and waste fates

- 11.4 Within the Industrial waste stream, EWC code 19 refers to 'Waste and Water Treatment Waste' . The 2017 WDI records 300,505 tonnes arising and managed in Cumbria. The waste descriptions under this code include a wide range of waste products including various materials (metal, paper and cardboard, rubber and plastic) and also minerals. There is also a waste description of 'sludges from treatment of urban waste water' (code 190805) and this accounts for 100,977 tonnes of the waste and water treatment waste recorded as arising and managed within Cumbria.

Forecast arisings and operating capacity

- 11.5 A review of the Draft 2019 WRMP indicates that, whilst the 2015 WRMP identified a future shortfall in water supply to West Cumbria, this is now being addressed through the construction of a new water treatment works and pipeline from Thirlmere Reservoir into West Cumbria. The 2019 WRMP forecast a surplus over the 20 years from 2020 to 2040, with a small deficit from 2041 to 2045. As well as addressing this shortfall, the plan includes other proposals to address demand reductions, levels of service, water supply resilience and potential for water trading.
- 11.6 New to the 2019 WRMP is the need to consider resilience against hazards other than drought and this includes considering the risk of raw water contamination and asset failure at water treatment works, regional aqueduct system and trunk mains. Around £200 million investment is already being spent on targeted resilience improvements during the current 2015 – 2020 period , including installation of generators at Carlisle WwTW to reduce the risk of pollution in a flood event.
- 11.7 Since 2015, planning permission has been granted for a number of schemes to increase capacity of WwTW sites in Cumbria in order to accommodate population growth, as well as to improve water quality. Work has also commenced on the Thirlmere pipeline project in Summer 2018, anticipated for completion in 2020.
- 11.8 United Utilities were contacted in March 2019 regarding their future infrastructure capacity during the next Asset Management Period (AMP 7, 2020-2025) and beyond. The response advised they are not in a position to give an outlook for the entire county over the coming years. Information on draft and adopted future development allocations from Local Planning Authorities is passed to their Asset Management team who then model impact on infrastructure. This exercise is carried out regularly and any potential infrastructure needs are identified and planned for, subject to funding. A copy of the correspondence with United Utilities is included as **Appendix 6**.

- 11.9 There are currently no known requirements for additional waste water treatment facilities during the CMWLP period of 2015 – 2030. United Utilities will be consulted at the appropriate stage of any future local plan preparation and/or review.**

12. Imports and exports of waste

- 12.1 The amounts of waste imports and exports for Cumbria across the different waste streams are set out in the table below. LACW waste stream is all waste arising and managed within Cumbria so imports and exports are not recorded for this waste stream.

	Exports	Imports	Net difference by waste stream
Commercial waste	18,567	25,762	+ 7195
Industrial waste	284,750	176,105	-108,645
Construction& Demolition waste	18,451	168,545	+150,094
Excavation waste	6,640	24,674	+18,034
Total all streams exc Hazardous	328,408	395,086	+ 66,668
Hazardous waste	29,526	30,551	+1,025
Total Imports/Exports	357,934	425,637	+67,703

Table 22 – Exports and Imports by waste stream

Source: CCC; 2017 WDI and 2017 HWDI

Net self-sufficiency

- 12.2 As shown in Table 22 above, during 2017 Cumbria imported more waste than it exported, managing around 67,700 tonnes more waste in total than it produced. This takes the county close to net self-sufficiency in terms of the amount of waste managed (i. e. the amount of waste handled at facilities within Cumbria).

Strategic movements - Waste (2017 WDI data)

- 12.3 In this WNA strategic movements of waste are identified as amounts over 100 tonnes for hazardous waste and 1,000 tonnes for waste, taken from the data interrogators using the 'waste removed' search facility. Some WPAs may work to different thresholds depending on their local circumstances. For Cumbria, a threshold of 1,000 tonnes is considered appropriate. This means that any movement of over 1,000 tonnes per annum (or 100 tonnes for hazardous waste) to a facility in Cumbria from outside the area would be considered significant for Cumbria.
- 12.4 These strategic movements are shown in the tables at **Appendix 7** and the relevant Waste Planning Authorities will be contacted as part of ongoing Duty to Cooperate arrangements to establish whether a) the amount of imported waste is likely to continue at the same level and b) whether receiving facilities for exported waste will continue to be available.
- 12.5 The majority of strategic waste imports are from Lancashire, Northumberland and Scotland. Several strategic movements are received by Agriorganics Ltd MRF at Silloth and by Jenkinson Woodwaste Ltd at Hespin Wood.
- 12.6 A number of strategic waste exports are recorded, the majority being to Lancashire and the North East. These are mainly to treatment or transfer facilities with some movements to landfill identified.
- 12.7 Enquiries under Duty to Cooperate to date have not identified any anticipated lack of capacity at these receiving facilities. Blaydon Quarry in Gateshead is due to close in 2026. This will not be an issue for Cumbria as we have sufficient capacity of Non-Hazardous landfill within the county. Cumbria does not anticipate any issues regarding operational capacity of the facilities receiving strategic movements of imported waste.

- 12.8 A total of 83,544 tonnes is exported to Scotland. A detailed breakdown by destination waste planning authority is shown at **Appendix 8**. This identifies strategic movements (over 1,000 tonnes) as being mainly to car breakers and metal recycling or sending waste and water treatment wastes to composting facilities.

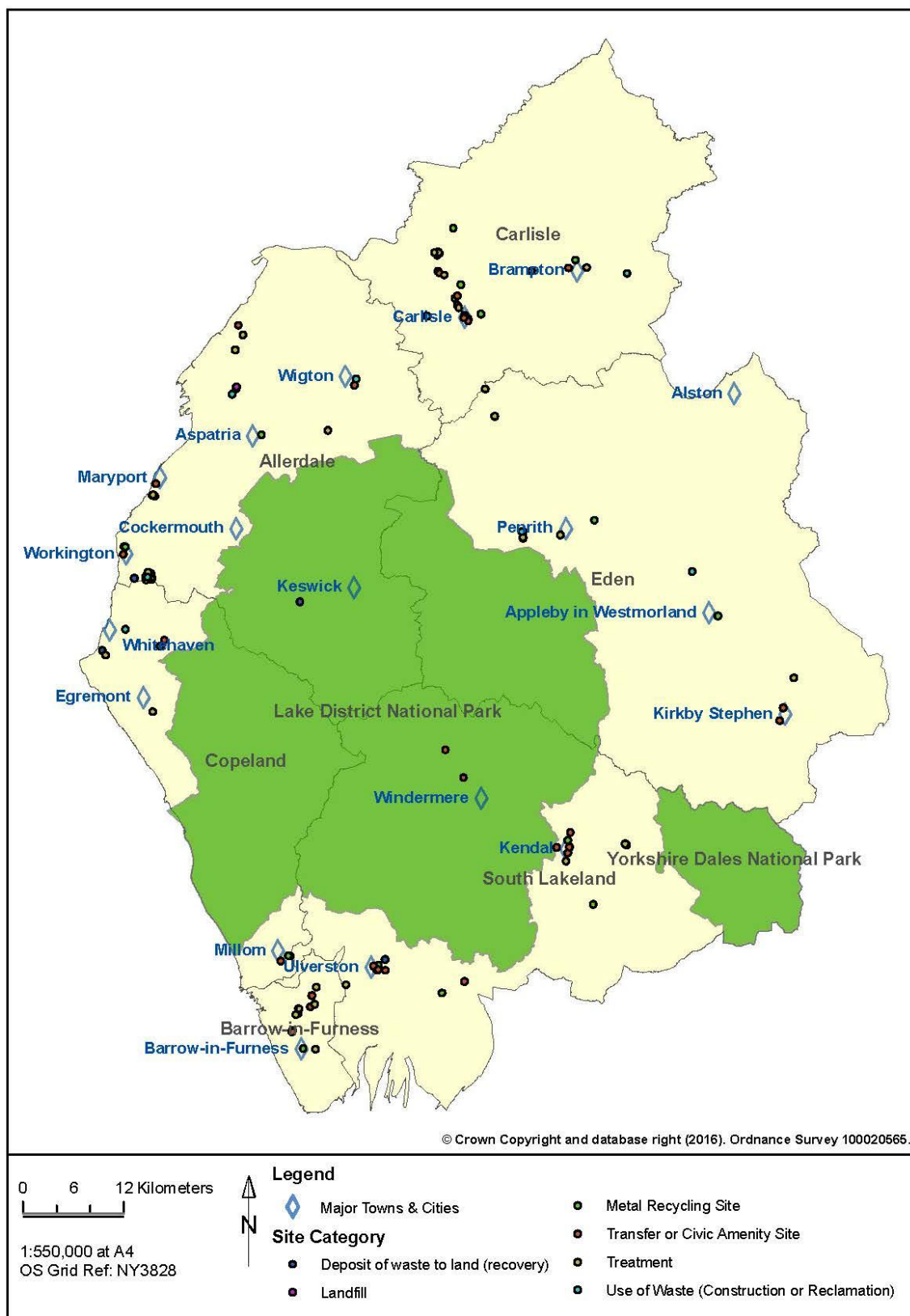
Strategic movements - Hazardous waste (2017 HWDI data)

- 12.9 Strategic movements of hazardous waste (as taken from the 2017 HWDI) are shown in the tables at **Appendix 7**. The HWDI does not provide site details of the management facilities but simply records the amount and type of waste moving between WPAs.
- 12.10 Of the 30,168 tonnes strategic imports received, just over 15,000 te comes from Warwickshire, with the remainder coming predominantly from Scotland and the North East.
- 12.11 Hazardous waste exports from Cumbria are predominantly to WPAs in Lancashire, the North East and the North West.
- 12.12 Enquiries under Duty to Cooperate to date have not identified any concerns regarding operational capacity of facilities receiving hazardous waste either as imports to or exports from the county.

13. Summary of future waste management requirements

- 13.1 A list of waste facilities situated in Cumbria, including the Lake District National Park, which received waste during 2017 is included in **Appendix 9**. Plan 1 overleaf gives a broad indication of where key facilities are located across the county.⁷
- 13.2 The future capacity of waste management facilities in Cumbria is shown in **Appendix 10** based on the 2017 throughput figures and known factors such as expiry of planning permissions and/or closure of facilities.
- 13.3 The future requirements for waste management facilities is calculated by comparing the predicted growth in waste arisings against the known capacity of current waste management facilities, using the different scenarios outlined in Chapter 4 of this WNA. This indicates whether there is likely to be a 'capacity gap' (i.e. a deficit in capacity has been identified) for a particular waste stream or management method during the Plan period.
- 13.4 Tables showing the detailed capacity analysis for these scenarios are included as **Appendix 2**. **Appendix 12** shows the capacity gaps identified in each scenario, for both Waste Arisings (the amount generated in Cumbria) and Waste Managed (the amount actually managed taking into account imports and exports).

⁷ Map produced for previous WNA. Not every facility will be shown and the recent National Park boundary extensions are not incorporated.



Plan 1: Location of waste management facilities in Cumbria

- 13.5 **Under the preferred scenario of Growth/Recycling there is capacity across all management methods to accommodate predicted waste arisings in all waste streams throughout the CMWLP period (upto 2030) with capacity remaining beyond 2035.** There would still be sufficient capacity to manage this waste even if changes were not made to the management mix to achieve recycling targets.
- 13.6 National planning practice guidance requires WPAs to plan for management capacity based on waste arisings from within the local authority area, including imports and exports. Whilst net self-sufficiency should be the aim, there is no expectation that each local planning authority should deal solely with its own waste to meet the requirements of the self-sufficiency and proximity principle⁸. It is therefore prudent to check the growth scenarios against the predicted waste managed (ie taking into account exports and imports).
- 13.7 Under the preferred scenario of Growth/Recycling, when assessing capacity against total waste managed in Cumbria there is a capacity gap identified in WTS. There is sufficient capacity across all other management methods to accommodate the predicted levels of waste to be managed.
- 13.8 Overall, Cumbria manages more waste than it produces. Of particular significance is the CD waste stream where over 150,000 te more is managed than actually produced. It is only the Industrial waste stream where the level of export from Cumbria is higher and we manage significantly less waste than we produce.

⁸ PPG para 007 – Ref ID 28-007-20141016

Landfill capacity

- 13.9 The remaining available landfill capacity within Cumbria at the end of 2017 is set out in Table 23 below. For the WNA capacity is expressed in tonnes; this is calculated from Environment Agency data on remaining permitted voidspace (cubic metres). Full details on the landfill capacity can be found in **Appendix 11**.

Available capacity end of 2017	Additional capacity approved 2017/2018	Total capacity
Non-Inert Landfill		
4,167,977	300,000	4,467,978
Inert Landfill		
292,800	1,884,000	2,176,800

Table 23 – Remaining landfill capacity in Cumbria (tonnes)

Non-inert landfill

- 13.10 Bennett Bank planning permission will expire in 2019. Hespian Wood had planning permission granted in 2018 allowing for an additional 300,000 cubic metres void space. The planning permission for Hespian Wood currently runs until 2039. The planning permission at Lillyhall includes provision to take for LLW waste (approx. 585,000 tonnes capacity).
- 13.11 The figures in Table 23 have taken the above factors into account. When calculating capacity for non-inert waste it should be noted that the EA has previously advised that up to 25% of the non-inert permitted void space is likely to be utilised by inert waste. This waste input is required for daily cap and cover of the non-inert (i.e. biodegradable) waste and in final restoration of landfill sites, once non-hazardous waste inputs cease. In practice, the percentage of void space required for cap and cover and restoration varies between landfills, and may depend on the level of inputs and the phasing of the landfill. For the purpose of this WNA we have not deducted an

amount for cap and fill when calculating available capacity; however, it is acknowledged that some non-inert waste capacity will be taken up in this manner. This is consistent with the approach taken by other waste planning authorities within the North West region. It is also the case that non-inert sites can receive inert material in any case so there is no guarantee that all the non-inert capacity will be used for non-inert waste only.

- 13.12 Non-Hazardous Landfill with SNRHW will run out of capacity in 2033 but capacity in other Non-Hazardous landfill facilities will remain. There is 585,000 tonnes capacity at Lillyhall reserved for Low Level Radioactive Waste (LLW) and this cell is not yet operational. As the end date of planning permission for Lillyhall is 2029 this capacity for LLW to landfill will cease in 2030.

- 13.13 **At this time, Cumbria has sufficient landfill capacity to accommodate predicted levels of waste arising and of waste managed throughout the CMWLP period and beyond, under the preferred scenario of Growth/Recycling.**

Inert landfill

- 13.14 Roan Edge landfill had estimated capacity of 292,800 tonnes at the end of 2017. Planning permission was granted in 2017 that would create capacity for an additional 609,000 tonnes of inert waste; however prior extraction of aggregates from the site is required first. Goldmire was granted planning permission in 2012 with capacity to receive 1,275,000 tonnes but only started receiving waste at the end of 2018. Annual throughput at this stage is unknown so it is difficult to predict at what rate this capacity will be released.
- 13.15 The figures in Table 23 have taken the above factors into account. In addition to Roan Edge and Goldmire, there are also a large number of sites receiving inert waste under permits from the Environment Agency.

- 13.16 As explained in Chapter 7 of this WNA, these 'exempted sites' are not taken into account when planning for inert landfill capacity due to the uncertainties over the amount and rate and which they reach their permitted capacity. However, it is acknowledged that waste management via exemptions will continue to happen and does provide a management option for inert waste. Based on 2017 data this could be around 200,000 tonnes a year.
- 13.17 The 2015 WNA provided a very detailed analysis of inert and non-inert landfill for managing the CD and E waste streams in particular. At that time, several key facilities in Cumbria were due to close during the Plan period. With the recent time extensions at Hespin Wood and Roan Edge, plus the new facility at Goldmire, there is no current concern regarding landfill capacity. However, landfill capacity will continue to be kept under review as the annual throughput figures for these new sites become established and trends in CD and E waste arisings and recycling rates are monitored.

Recycling and Treatment Facilities

- 13.18 There are a variety of recycling and treatment facilities within the county including Materials Recovery (MRF), biological treatment (including the 2 MBT plants operated by Renewi); anaerobic digestion and composting; as well as metal recycling facilities such as car breakers, vehicle depollution and WEEE facilities.
- 13.19 With the exception of HWRC (Civic Amenity) sites which only take LACW waste, most of these facilities will take a mixture of LACW, Commercial and Industrial wastes, with some MRF and transfer/treatment facilities also taking CD waste. Vehicle depollution, WEEE and metal recycling sites (with the exception of car breakers) will also take small amounts of LACW waste.

- 13.20 **At this time, Cumbria has sufficient recycling/treatment capacity to accommodate predicted levels of waste arising and of waste managed throughout the CMWLP period and beyond, under the preferred scenario of Growth/Recycling.**

Mixed recycling

- 13.21 The two MBT plants at Carlisle and Barrow continue to operate with Renewi plc under contracts that will expire in 2033. The current planning permissions for each facility will expire in 2039.
- 13.22 Recent planning permissions to increase capacity at recycling/treatment facilities include extension to Flusco MRF (3/16/9018); extension to Hespin Wood MRF (1/17/9006); extension of operating hours at Hespin Wood MRF; and retention of Thackwood MRF (3/18/9002).

Inert (CD and E) waste recycling

- 13.23 Details of the WTS and treatment facilities which are receiving CD and E waste are included in **Appendix 3**. The capacity models identify those facilities which receive only CD and E waste. The models show there will be a surplus of management capacity in mixed recycling facilities, many of which also receive CD waste. Any future capacity gap identified could be met by the surplus in these mixed facilities (for CD waste). Recent planning permissions have been granted for production of recycled aggregate from inert waste imported on to sites including Overby sand quarry, near Silloth (2/18/9001); Stoneraise Quarry, near Penrith (3/18/9006), and Kendal Fell Quarry (7/2018/5467) which will provide additional capacity of up to 125,000 tpa for recycling inert waste.
- 13.24 There are a number of sites for re-use of inert waste as land recovery. As Table 17 shows, the 2017 WDI records over 200,000 tonnes of inert CD & E waste being used in this way and this capacity is not formally included in the WNA for the reasons stated. The role of land recovery in accommodating inert waste is acknowledged and it is anticipated will continue to provide ongoing capacity as similar schemes come forward during the Plan periods.

Composting

- 13.25 Two composting facilities which initially had temporary planning permission (expiring in 2021 and 2019) have now had planning permission granted until the end of the CMWLP period.
- 13.26 The larger facility, processing 75,000 tpa of municipal and C and I green waste, within the Hespin Wood waste management complex is now permitted until 2031 in line with the adjacent landfill site. The smaller site, Eden Organics Composting facility (processing up to 25,000 tpa of largely agricultural green waste), was originally linked to the expiry of Thackwood clay extraction consent, but in 2015 was granted permission as a permanent facility. The facility is open windrow, but also has a liquid waste processing facility within a modern building.
- 13.27 In addition, planning permission was granted in June 2018 for a new composting facility at Lillyhall waste management centre, Workington (2/18/9008).
- 13.28 The adopted CMWLP did not make any specific site allocations for additional composting facilities as the need would only arise if time-extensions on the existing facilities were not approved. As both sites have now been granted a time extension, and a further permission approved, there should now be sufficient capacity within the CMWLP period.

Household Waste Recycling Centres (HWRCs)

- 13.29 Four HWRCs are identified as potentially closing within the CMWLP period, but only two new sites are allocated in the CMWLP. The allocations are to replace three of the four identified to close, as they are currently on sites too small for modern facilities or in locations that cause significant adverse impacts.
- 13.30 Policy SP3 in the adopted CMWLP committed to identifying replacement sites for those facilities that the waste disposal authority has elected to replace, and the two sites referred to in Table 24 below are identified in Policy SAP1 of the adopted Local Plan.

SITE name	Expiry date	Replacement proposed?	Reason
Canal Head (Kendal)	2020	YES – SL1B	Regeneration aspirations for the site
Flusco (near Penrith)	Extended to 2031	NO	Modern site adjacent to landfill with permission to 2032; time extension first option
Redhills Quarry (Millom)	2019 (now extended to 2029)	NO	Alternative facilities available
Yeathouse Quarry (Frizington)	2021 (now extended to 2029)	YES – AL37	Small site in open countryside; adjacent landfill now closed

Table 24: Household Waste Recycling Centres (HWRCs) due to close during Plan period

- 13.31 Planning permission for a facility on site allocation AL37(Lillyhall), replacing the Frizington HWRC, has been granted but not yet commenced, and no planning application has yet been submitted for allocation SL1B (adjacent Kendal Fell Quarry), the proposed replacement site for the HWRC at Kendal.
- 13.32 No site had been allocated for a replacement for the Penrith HWRC (Flusco), as a planning application for a time extension was anticipated. This was granted in October 2015 allowing the HWRC to operate until 2031(application reference 3/15/9007).
- 13.33 The current position is that a time-extension has been approved for the existing Kendal HWRC at Canal Head until 2020 and as yet no application has been received to develop the replacement facility.
- 13.34 Temporary timescales for the HWRC at Frizington and also at Redhills Quarry have been requested for a number of years due to these sites being considered inadequate in terms of their size and location to provide the type of modern facilities required on an HWRC site. In recognition of this, the County Council secured planning permission in July 2013 (Planning Permission ref. 2/13/9003)

on a suitable alternative site at Lillyhall Industrial Estate (AL37 in the adopted Local Plan). It was intended that the new facility at Lillyhall would provide a replacement for both the Frizington and Workington HWRC sites. Unfortunately due to lack of funding for the Lillyhall project no progression has taken place and it is looking unlikely that this project will progress in the foreseeable future.

- 13.35 Subsequently time-extensions were granted on Frizington HWRC (Yeathouse Quarry) in December 2017 and Redhills Quarry in April 2018 for both sites to operate until 31 December 2029 to coincide with the CMWLP period. Although these sites are not in ideal locations, in the absence of a suitable alternative site it was important to ensure that a facility remained available in this part of the County.

Metal recycling

- 13.36 Metal recycling facilities, including car breakers, depollution and WEEE facilities, provide an important facility for recycling/reuse of products that could otherwise only be disposed of as hazardous landfill. There is considered to be sufficient capacity to continue providing this facility throughout the CMWLP period and beyond, to accommodate to the levels of waste arisings predicted and also of waste managed. Planning permission was granted in 2017 for a new scrap metal recycling facility at Workington (2/17/9012).

Thermal treatment capacity

- 13.37 The WNA 2015 showed a need for an Energy from Waste facility (EfW) as exported waste could then be managed locally. The adopted CMWLP (2017) provides for 2 thermal treatment developments within the plan period although no site is allocated specifically for this type of waste treatment. Policy SP3 in the adopted CMWLP (2017) includes potential need for EfW facilities in its estimated provision of 7 sites. Policy SAP2 listed 7 sites for a range of waste management facilities without specifying what facility would go on each site. Only one of the site allocations, Kingmoor Park in Carlisle (CA31), was originally suggested by the owner with an EfW in mind.

- 13.38 Planning permission 1/16/9005 was granted in October 2016 for construction of an Energy from Waste plant at the Kingmoor Park site. This has yet to be implemented and in January 2019 a S73 application was approved to change the processing technology (from gasification to moving grate). This new planning permission (1/18/9012) will now expire in January 2022.

Waste Transfer Stations

- 13.39 Under the preferred scenario of Growth/Recycling, when assessing capacity against total waste managed in Cumbria there is a capacity gap identified in waste transfer stations (WTS). WTS facilities receive materials from most waste streams, in particular CD and E, LACW and C. If WTS facilities in Cumbria are importing waste from outside the county that is a business decision led by market conditions, rather than a capacity requirement for Cumbria. There is no capacity gap identified when assessed on the basis of waste arisings in Cumbria.
- 13.40 **At this time, Cumbria has sufficient WTS capacity to accommodate predicted levels of waste arising throughout the CMWLP period and beyond, under the preferred scenario of Growth/Recycling.**
- 13.41 It is likely that provision of new waste transfer facilities will be market led. Policy DC9 (criteria for waste management facilities) of the CMWLP supports this type of facility in appropriate locations should there be demand. For example, planning permission was granted in October 2018 for a new WTS at the Partylite site in Barrow. This was to create larger premises to replace an existing, outgrown site and will result in additional capacity for receiving and recycling waste. In some cases additional capacity could be provided by increasing the operating hours of existing premises rather than having to build new facilities.

Conclusions/Interventions required

- 13.42 Under the preferred scenario of Growth/Recycling, there is no capacity gap identified for waste arisings. For waste managed a capacity gap in WTS is identified.
- 13.43 It is not considered that intervention is required to plan for additional WTS facilities. Provision of additional capacity for transfer and treatment facilities is likely to be market-led. Policy DC9 (criteria for waste management facilities) of the CMWLP supports this type of facility in appropriate locations should there be demand.
- 13.44 **Overall, the WNA shows there is sufficient capacity to accommodate predicted waste arisings and achieve appropriate recycling targets throughout the CMWLP period with capacity remaining at 2035.**

Summary of future waste management requirements			
Preferred Scenario of Growth/Recycling			
	Landfill	Recycling/Treatment	Waste Transfer Stations
Capacity for predicted waste arisings to end of CMWLP period (2030) and LDLP period (2035)	Yes	Yes	Yes
Capacity for waste managed	Yes	Yes	Capacity gap (deficit) identified
Issues	No current concerns due to recent time extensions at Hespin Wood and Roan Edge, plus a new facility at Goldmire.	Some HWRC facilities are due to close within the CMWLP period and/or considered inadequate in terms of size and location.	Capacity of WTS may need to increase to accommodate predicted waste arisings. This could be through extending operating hours on existing facilities or providing new facilities.
Intervention required	NO	NO – policy SAP1 of the CMWLP allocates sites to replace facilities at Workington and Frizington (AL37 – Lillyhall) and at Kendal (SL1B – land adjacent Kendal Fell Quarry)	NO – already supported by Policy DC9 of the CMWLP.

Glossary

AMP – Asset Management Period. A 5-year cycle for which water companies (e.g. United Utilities) plan their operations.

C – Commercial waste stream – determined by the EWC code

CD – Construction & Demolition waste streams – determined by the EWC code

CMWLP – Cumbria Minerals and Waste Local Plan (adopted September 2017)

E –Excavation waste stream – determined by the EWC code

EfW – Energy from Waste facility. The recovery of energy value from waste by burning the waste directly, or by burning a fuel produced from the waste.

EWC code – European Waste Catalogue code. A numbered system which codes waste types. Used to determine which waste stream it should be attributed to.

GDF – Geological Disposal Facility. An engineered facility deep underground designed for the long term and permanent disposal of higher activity radioactive waste. The Department for Business, Energy and Industrial Strategy is working to locate a suitable site for a GDF in England.

GVA – Gross Value Added. An economic term to measure the value or contribution to the economy of goods and services produced in a particular area, industry or economic sector. Based on the difference between the cost to produce the goods and amount received when it is sold.

HLW – High Level radioactive Waste. Radioactive waste that is so active it is self-heating and requires cooling.

HWDI – Hazardous Waste Data Interrogator. Database produced by the Environment Agency annually reporting on hazardous waste movements between licensed facilities in England.

HWRC – Household Waste & Recycling Centre. Civic amenity sites used by local residents (usually free of charge) and businesses (usually charged) to dispose of their own waste. The sites provide facilities for collection of all household and garden waste other than anything which may be considered hazardous or requiring special treatment.

I –Industrial waste stream – determined by the EWC code

ILW – Intermediate Level radioactive Waste. Waste that is sufficiently radioactive to require shielding during its handling and transportation. Sometimes referred together with HLW as ‘higher activity wastes’

LACW – Local Authority Collected Waste. Also referred to as Municipal Waste. Household and trade waste collected by the district councils from the kerbside.

LDLP – Lake District Local Plan 2020 – 2035 (submitted for Examination – August 2019)

LLW – Low Level radioactive Waste

LLNRW – Low Level Non-nuclear Radioactive Waste. Very low level radioactive waste generated by non-nuclear industries that can be managed at facilities outside the nuclear industry (e.g. from medical and research facilities).

LLWR – Low Level Waste Repository. The UK's LLW disposal facility, near to the Sellafield site at Drigg. Receives LLW from across the UK that cannot be disposed of by more sustainable management routes.

MBT – Mechanical Biological Treatment. A waste processing facility that combines a sorting facility with a form of biological treatment, such as composting or anaerobic digestion. MBT plants are designed to process mixed household waste as well as commercial and industrial wastes. In Cumbria the waste is shredded, dried and transformed into Solid Recovered Fuel (SRF) which can be burned to provide an alternative source of energy to traditional fossil fuels.

MRF – Materials Recovery Facility. Sometimes referred to as Materials Recycling Facility. Waste is received from kerbside collections (LACW) and HWRCs. Waste is sorted and materials suitable for recycling are recovered as part of the process to be sent on for reprocessing and recycling. The remainder of the waste is treated or sent for disposal.

NDA – Nuclear Decommissioning Authority. Owns the UK's historic nuclear sites (including Sellafield) in the government's behalf and is responsible for deciding how they should be decommissioned. Also responsible for developing policy and strategy on the long-term management of nuclear waste.

NORM – Naturally Occurring Radioactive Materials. Natural radioactive elements that are present in very low concentrations in the earth's crust. Found in many geological formations, can be released and brought to the surface during activities such as hydraulic fracturing (shale gas and oil) or drilling for coal bed methane.

PEDL – Petroleum Exploration and Development Licence. Required by operators to pursue oil and gas exploration activities.

RDF – Refuse Derived Fuel. A generic term for fuel manufactured from the processing of waste via mechanical and/or biological treatment. Includes biodegradable material as well as plastics. Non-combustible materials such as glass and metals are removed, and the residual material is then shredded to produce the fuel. Used to generate energy (e.g. producing electricity and hot water for communal heating systems).

RWI – Radioactive Waste Inventory. Produced by the Nuclear Decommissioning Authority every three years providing an estimate of the current and predicted arisings for radioactive waste that will be generated by the NDA.

SRF – Solid Recovered Fuel. A specific term for a refuse derived fuel that has gone through additional processing to improve the quality and value. It has a higher calorific value than RDF and is considered a high-quality alternative to fossil fuel. Used in facilities such as cement kilns.

SNRHW – Stable Non-Reactive Hazardous Waste. Hazardous waste that does not break down or cause harm to human health or the environment.

SOC – Substance Oriented Classification. An additional level of headings within the EWC codes that provides more detail on the type of material being disposed of. Particularly useful to distinguish between CD and E waste within EWC codes 01 and 17.

Vehicle depollution/ ELV facility – facilities authorised for treatment of End of Life Vehicles. Depollution involves the removal of any hazardous components containing harmful chemicals and toxins to ensure they are disposed of correctly before the vehicle can be crushed. Parts to be removed include battery, air bags, oils and liquids, catalytic converter etc. to be disposed of separately as ELV waste.

VLLW – Very Low Level radioactive Waste. A sub-category of LLW, very lightly contaminated with radioactivity. Often referred to together as ‘lower activity wastes’. Small amounts, principally from hospitals and universities, can be safely disposed of as part of the municipal, commercial or industrial waste streams.

WDI – Waste Data Interrogator. Database produced by the Environment Agency annually reporting on waste movements between licensed facilities in England.

WEEE – Waste Electrical and Electronic Equipment. End-of-life electrical and electronic equipment. Includes most products that have a plug or battery. Under the WEEE Regulations producers of electronic equipment are now directly responsible for the disposal of electronic waste they have produced. This includes achieving targets in recycling of their products and minimising waste.

WNA – Waste Needs Assessment. An assessment carried out by waste planning authorities to assess future waste growth and capacity requirements in order to inform decision-making and policy formulation.

WPA – Waste Planning Authority. The local authority (public body) whose duty it is to carry out waste planning functions for a particular area.

WRMP – Water Resources Management Plan. Strategic plan produced by water companies (e.g. United Utilities) covering a 25 year period to maintain sufficient water supply.

WTS – Waste Transfer Station. A facility used for the temporary storage of waste, prior to being transported to the end point of disposal. For example, smaller collection vehicles may deposit waste here before loading onto larger vehicles. Waste may also be sorted to identify materials that can be taken to a recycling/treatment facility rather than landfill. Many WTS do also have recycling/treatment facilities on site therefore also performing a waste management function.

WwTW – Wastewater Treatment Works. Containing plant for treatment of wastewater prior to discharge into the watercourse. Usually provided by water companies (e.g. United Utilities) as part of their infrastructure network.

Appendix 1 – Predicted growth across each waste stream based on population and economic growth

BASELINE JOBS GROWTH	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Agriculture - NO CHANGE	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00
Construction & Demolition	203,617.00	204,319.74	205,938.67	206,448.33	207,005.96	207,568.39	208,142.81	208,657.27	208,967.86	209,514.70	209,671.80	210,313.37	210,844.62	211,596.53
Excavation - NO CHANGE	587,523.00	587,523.00	587,523.00	587,523.00	587,523.00	587,523.00	587,523.00	587,523.00	587,523.00	587,523.00	587,523.00	587,523.00	587,523.00	587,523.00
Industrial	640,728.00	635,945.02	619,636.20	617,633.66	616,023.30	610,966.97	606,872.75	598,261.87	594,468.54	589,330.11	584,037.71	578,974.90	573,566.90	568,463.57
Commercial	292,192.00	292,656.89	293,519.90	293,531.08	293,516.92	294,316.45	294,524.34	295,133.40	295,919.94	296,354.81	297,196.78	297,920.00	298,519.91	299,482.92
Hazardous - NO CHANGE	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00
LACW	269,856	270,804	272,250	273,480	274,956	276,469	277,809	279,196	280,544	281,725	283,060	284,305	285,624	287,044

ZERO JOBS GROWTH	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Agriculture - NO CHANGE	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00
Construction & Demolition	203,617.00	225,242.00	225,242.00	225,242.00	225,242.00	225,242.00	225,242.00	225,242.00	225,242.00	225,242.00	225,242.00	225,242.00	225,242.00	225,242.00
Excavation - NO CHANGE	587,523.00	608,979.00	608,979.00	608,979.00	608,979.00	608,979.00	608,979.00	608,979.00	608,979.00	608,979.00	608,979.00	608,979.00	608,979.00	608,979.00
Industrial	640,728.00	689,931.00	689,931.00	689,931.00	689,931.00	689,931.00	689,931.00	689,931.00	689,931.00	689,931.00	689,931.00	689,931.00	689,931.00	689,931.00
Commercial	292,192.00	300,896.00	300,896.00	300,896.00	300,896.00	300,896.00	300,896.00	300,896.00	300,896.00	300,896.00	300,896.00	300,896.00	300,896.00	300,896.00
Hazardous - NO CHANGE	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00
LACW	269,707	270,259	270,891	271,350	271,889	272,382	272,760	273,188	273,483	273,839	274,189	274,454	274,711	274,890

HOUSING TARGETS FULLY MET	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Agriculture - NO CHANGE	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00	24,728.00
Construction & Demolition	203,617.00	205,245.94	206,887.90	208,543.01	210,211.35	211,893.04	213,588.19	215,296.89	217,019.27	218,755.42	220,505.46	222,269.51	224,047.66	225,840.05
Excavation - <i>Allow change in this model</i>	587,523.00	592,223.18	596,960.97	601,736.66	606,550.55	611,402.95	616,294.18	621,224.53	626,194.33	631,203.88	636,253.51	641,343.54	646,474.29	651,646.08
Industrial	640,728.00	645,853.82	651,020.65	656,228.82	661,478.65	666,770.48	672,104.64	677,481.48	682,901.33	688,364.54	693,871.46	699,422.43	705,017.81	710,657.95
Commercial	292,192.00	294,529.54	296,885.77	299,260.86	301,654.95	304,068.18	306,500.73	308,952.74	311,424.36	313,915.75	316,427.08	318,958.50	321,510.16	324,082.24
Hazardous - NO CHANGE	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00	39,497.00
LACW	269,856	272,058	274,260	276,464	278,666	280,868	283,070	285,272	287,511	289,677	291,879	294,081	296,285	298,487

APPENDIX 2 – Waste Management Capacity Models

PREFERRED SCENARIO: WASTE ARISINGS – GROWTH / RECYCLING

Waste Category	Facility Type	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
CD & E	<i>CD & E Recycling/Treatment</i>	147,867	145,110	139,938	132,891	132,511	132,129	125,863	125,513	125,302	119,055	118,948	118,511	118,150	117,638
CD & E	<i>CD&E Recovery/Re-use</i>	20,513	0	0	0	0	0	0	0	0	0	0	0	0	0
CD & E	<i>CD&E Landfill</i>	2,091,887	2,091,220	2,049,926	2,013,304	1,972,039	1,930,773	1,895,383	1,854,119	1,812,860	1,777,471	1,736,216	1,694,949	1,653,685	1,612,414
LACW, Haz,C&I,CD	<i>Mixed Recycling/Treatment</i>	272,116	274,001	281,703	279,476	274,269	275,820	269,275	273,056	271,249	273,281	265,878	267,705	269,767	261,698
LACW,C&I,Haz	<i>Metal Recycling</i>	14,259	14,476	15,258	15,351	15,424	15,647	15,840	16,254	16,417	16,657	16,898	17,122	17,370	17,586
LACW,C&I,CD	<i>Landfill exc LLW cell</i>	4,298,194	4,065,968	3,835,203	3,620,849	3,432,360	3,244,239	3,064,089	2,876,377	2,690,860	2,502,778	2,323,847	2,135,671	1,947,540	1,076,785
LACW, Haz,C&I, CD	<i>Transfer only</i>	5,192	7,846	13,576	15,777	15,857	16,228	16,602	17,533	17,797	18,271	18,775	19,143	19,620	19,907

PREFERRED SCENARIO: WASTE MANAGED – GROWTH / RECYCLING

Waste Category	Facility Type	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
CD & E	<i>CD & E Recycling/Treatment</i>	42,600	38,146	29,973	21,282	20,903	20,520	14,074	13,724	13,513	7,085	6,978	6,542	6,181	5,669
CD & E	<i>CD&E Recovery/Re-use</i>	14,651	0	0	0	0	0	0	0	0	0	0	0	0	0
CD & E	<i>CD&E Landfill</i>	2,085,368	2,084,701	2,043,407	2,006,927	1,965,662	1,924,397	1,889,187	1,847,923	1,806,664	1,771,455	1,730,201	1,688,933	1,647,669	1,606,398
LACW, Haz,C&I,CD	<i>Mixed Recycling/Treatment</i>	327,080	328,965	336,667	334,441	329,233	330,784	325,674	329,454	327,648	329,679	323,282	325,108	327,170	319,101
LACW,C&I, Haz	<i>Metal Recycling</i>	16,631	16,849	17,631	17,724	17,797	18,019	18,213	18,627	18,789	19,029	19,271	19,495	19,743	19,959
LACW,C&I,CD	<i>Landfill exc LLW cell</i>	4,310,355	4,078,130	3,847,364	3,633,010	3,444,521	3,256,400	3,074,816	2,887,105	2,701,588	2,513,505	2,333,569	2,145,393	1,957,262	1,086,506
LACW, Haz,C&I, CD	<i>Transfer only</i>	-28,910	-24,560	-15,828	-12,125	-12,045	-11,675	-11,301	-10,370	-10,106	-9,632	-9,128	-8,760	-8,283	-7,996

APPENDIX 2 – Waste Management Capacity Models

SCENARIO: WASTE ARISINGS – GROWTH/ NO RECYCLING

Waste Category	Facility Type	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
CD & E	<i>CD & E Recycling/Treatment</i>	147,867	147,418	146,384	146,058	145,702	145,343	144,976	144,647	144,449	144,099	143,999	143,589	143,250	142,769
CD & E	<i>CD&E Recovery/Re-use</i>	20,513	0	0	0	0	0	0	0	0	0	0	0	0	0
CD & E	<i>CD&E Landfill</i>	2,091,887	2,091,220	2,049,926	2,008,662	1,967,397	1,926,132	1,884,866	1,843,602	1,802,344	1,761,079	1,719,825	1,678,557	1,637,293	1,596,022
LACW, Haz,C&I,CD	<i>Mixed Recycling/Treatment</i>	272,116	274,001	281,703	282,211	277,018	278,585	280,064	283,745	284,707	286,695	288,448	290,189	292,159	286,881
LACW,C&I,Haz	<i>Metal Recycling</i>	14,259	14,476	15,258	15,351	15,424	15,647	15,840	16,254	16,417	16,657	16,898	17,122	17,370	17,586
LACW,C&I,CD	<i>Landfill excluding LLW cell</i>	4,298,194	4,065,968	3,835,203	3,618,114	3,429,610	3,241,474	3,053,300	2,865,688	2,677,403	2,489,365	2,301,278	2,113,187	1,925,148	1,051,601
LACW,C&I, CD	<i>Transfer only</i>	5,192	5,537	7,130	7,251	7,308	7,656	8,005	8,916	9,167	9,618	10,115	10,457	10,912	11,168

SCENARIO: WASTE MANAGED – GROWTH / NO RECYCLING

Waste Category	Facility Type	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
CD & E	<i>CD & E Recycling/Treatment</i>	42,599	42,151	41,117	40,791	40,435	40,076	39,709	39,380	39,181	38,832	38,732	38,322	37,982	37,502
CD & E	<i>CD&E Recovery/Re-use</i>	14,651	0	0	0	0	0	0	0	0	0	0	0	0	0
CD & E	<i>CD&E Landfill</i>	2,085,368	2,084,701	2,043,407	2,002,143	1,960,878	1,919,613	1,878,347	1,837,083	1,795,825	1,754,560	1,713,306	1,672,038	1,630,774	1,589,503
LACW, Haz,C&I,CD	<i>Mixed Recycling/Treatment</i>	327,080	328,965	336,667	337,175	331,983	333,549	335,028	284,120	339,671	341,659	343,412	345,154	347,123	341,846
LACW,C&I, Haz	<i>Metal Recycling</i>	16,631	16,849	17,631	17,724	17,797	18,019	18,213	13,447	18,789	19,029	19,271	19,495	19,743	19,959
LACW,C&I,CD	<i>Landfill excluding LLW cell</i>	4,310,355	4,078,130	3,847,364	3,630,275	3,441,772	3,253,635	3,065,462	2,864,200	2,689,564	2,501,526	2,313,439	2,125,348	1,937,309	1,063,762
LACW, Haz,C&I, CD	<i>Transfer only</i>	-28,911	-28,565	-26,972	-26,851	-26,794	-26,446	-26,096	-39,316	-24,935	-24,484	-23,987	-23,644	-23,190	-22,934

APPENDIX 2 – Waste Management Capacity Models

SCENARIO: WASTE ARISING - NO GROWTH / RECYCLING[illegible]

SCENARIO: WASTE MANAGED – NO GROWTH / RECYCLING

[illegible]

APPENDIX 2 – Waste Management Capacity Models

SCENARIO: WASTE ARISING – NO GROWTH / NO RECYCLING

[illegible]**SCENARIO: WASTE MANAGED – NO GROWTH / NO RECYCLING**[illegible]

APPENDIX 2 – Waste Management Capacity Models

SCENARIO: WASTE ARISINGS – HOUSING / RECYCLING

Waste Category	Facility Type	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
CD & E	<i>CD & E Recycling/Treatment</i>	147,867	142,065	134,397	123,967	120,292	116,588	106,692	102,879	99,035	88,849	84,894	80,907	76,887	72,836
CD & E	<i>CD&E Recovery/Re-use</i>	20,513	0	0	0	0	0	0	0	0	0	0	0	0	0
CD & E	<i>CD&E Landfill</i>	2,091,887	2,090,560	2,048,625	2,011,439	1,969,531	1,927,618	1,891,863	1,849,988	1,808,109	1,772,537	1,730,698	1,688,854	1,647,006	1,605,153
LACW, Haz,C&I,CD	<i>Mixed Recycling/Treatment</i>	272,116	266,871	261,592	253,515	242,759	237,355	223,045	217,501	209,028	203,407	187,218	181,423	175,589	159,917
LACW,C&I, Haz	<i>Metal Recycling</i>	14,259	13,878	13,495	13,109	12,719	12,326	11,930	11,531	11,129	10,724	10,315	9,903	9,488	9,069
LACW,C&I,CD	<i>Landfill excluding LLW cell</i>	4,298,194	4,064,225	3,830,249	3,614,527	3,424,722	3,234,910	3,053,961	2,864,203	2,677,308	2,487,561	2,308,316	2,118,633	1,928,943	1,056,821
LACW, Haz,C&I, CD	<i>Transfer only</i>	5,192	5,546	7,722	7,862	5,919	3,960	1,985	-6	-2,012	-4,035	-6,073	-8,128	-10,200	-12,288

SCENARIO: WASTE ARISINGS – HOUSING / NO RECYCLING

Waste Category	Facility Type	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
CD & E	<i>CD & E Recycling/Treatment</i>	147,867	144,384	140,873	137,333	133,766	130,169	126,544	122,890	119,207	115,495	111,752	107,980	104,177	100,344
CD & E	<i>CD&E Recovery/Re-use</i>	20,513	0	0	0	0	0	0	0	0	0	0	0	0	0
CD & E	<i>CD&E Landfill</i>	2,091,887	2,090,560	2,048,625	2,006,685	1,964,739	1,922,788	1,880,831	1,838,868	1,796,900	1,754,926	1,712,946	1,670,961	1,628,969	1,586,972
LACW, Haz,C&I,CD	<i>Mixed Recycling/Treatment</i>	272,116	266,871	261,592	256,279	245,545	240,164	234,748	229,297	223,793	218,287	212,729	207,135	201,504	189,021
LACW,C&I, Haz	<i>Metal Recycling</i>	14,259	13,878	13,495	13,109	12,719	12,326	11,930	11,531	11,129	10,724	10,315	9,903	9,488	9,069
LACW,C&I,CD	<i>Landfill excluding LLW cell</i>	4,298,194	4,064,225	3,830,249	3,611,762	3,421,936	3,232,101	3,042,258	2,852,407	2,662,544	2,472,681	2,282,805	2,092,921	1,903,028	1,027,717
LACW, Haz,C&I, CD	<i>Transfer only</i>	5,192	3,227	1,246	-751	-2,763	-4,792	-6,836	-8,897	-10,975	-13,069	-15,180	-17,308	-19,453	-21,615

APPENDIX 3 – Waste transfer and treatment facilities receiving Construction & Demolition and Excavation waste

Waste Transfer Stations receiving Excavation Waste (2017 WDI)					
Facility/Operator	Location	Amount of E waste received (te)	Amount of CD waste received (te)	Facility Type	Recycling/treatment of waste on site?
Unit C, Cubby Construction Ltd	Carlisle, CA6 4RW	4,897	3,838	Haz	Assume recycling for aggregate in construction
B&J Metals (Skip Hire Ltd)	Kendal, LA9 6NZ	1,024	5,920	Non-Haz	Yes
Ormsgill Yard MRF, FCC Recycling (UK) Ltd	Barrow, LA14 5UY	107	470	Haz	Yes
Sinkfall Recycling, Brian Armistead Ltd	Barrow, LA14 4QE	11,176	826	Non-Haz	Producing recycled aggregate on site
North West Recycling Ltd	Carlisle, CA6 4RW	2,393	28,153	Non-Haz	Producing recycled aggregate on site
Coopers Yard, JJC Hire Ltd	Barrow, LA14 4EQ	571	23,520	Non-Haz	Yes
Unit N, Thompsons Plant Hire Ltd	Flimby, Maryport, CA15 8PD	773	0	Non-Haz	-
Distington Hazardous WTS	Workington, CA14 4JP	0.6	63	Haz	Yes
Scarth Road, H Wicks (Lindal) Ltd	Barrow, LA14 4QR	195	3,526	Non-Haz	Yes
Flusco HWRC	Penrith	0	979	Haz	Yes
JM Skips, Brownriggs Yard	Egremont CA22 2PN	0	215	Non-Haz	-
Kendal Fell	Kendal LA9 5RT	0	25	Haz	Yes
Eden Recycling, Station Yard	Kirkby Stephen, CA17 4LA	0	300	Non-Haz	Yes
Hangar 20, Silloth Airfield (DA Harrison)	Silloth, CA7 4PA	0	4,491	Non-Haz	Yes
Whitehaven Skips & Services Ltd	Whitehaven, CA25 5QB	0	159	Non-Haz	-
Hespin Wood		0	4.2	Haz	-
	Total E waste received in WTS	21,136 (0.021Mt)	72,489 (0.072Mt)	Total CD waste received in WTS	

APPENDIX 3 – Waste transfer and treatment facilities receiving Construction & Demolition and Excavation waste

Treatment Facilities receiving Excavation waste (2017 WDI)					
Facility/Operator	Location	Amount of E waste received (te)	Amount of CD waste received (te)	Facility Type	Recycling/treatment of waste on site?
Ashcroft Recycling Site	Flimby, Maryport, CA15 8PD	5,113	23,066	Physical Treatment	Yes
Derwent Recycling Services Ltd	Workington, CA14 4JP	4,332	1,445	Non-Haz Waste Transfer/Treatment	Yes
Diamond Yard – Tony Brown Aggregates Ltd	Ulverston, LA12 0LA	51,417	8,019	Physical Treatment	Yes – for topsoil and aggregates
Distington MRF	Workington, CA14 4JP	12,944	4,095	Haz waste transfer/treatment	Company produces recycled aggregates at Hespin Wood site. Used here for capping adjacent landfill
Eden Organics Composting Site	CA4 0PZ	0	-	Composting	
Flusco Landfill Site	Penrith, CA11 0JB	1,082	5,481	Physical Treatment	Permit for recycling waste to produce topsoil. Assume use for capping landfill on site
Goldmire Quarry	Barrow, LA14 4QG	81,433	7,719	Physical Treatment	Assume used for capping landfill
Harry Barker Properties Ltd	Barrow, LA16 7HE	26,908	8994	Non-Haz Waste Transfer/Treatment	Produces recycled aggregates
Hespin Wood – A W Jenkinson Woodwaste Ltd	Carlisle, CA6 4BJ	0	2989	Composting	
Hespin Wood Landfill – Cumbria Waste Management	Carlisle, CA6 4BJ	38,805	9,272	Physical Treatment	Recycling for secondary aggregates; assume soil used for capping landfill
Hespin Wood MRF	Carlisle, CA6 4BJ	9.52	2,427	Material Recycling Facility	Yes
W G Mackay Ltd	Workington, CA14 4JP	1,966	6,119	Non-Haz Waste Transfer/Treatment	Yes
Kingmoor Sidings- Network Rail	Carlisle, CA6 4BH	-	164,067	Inert Waste Transfer/Treatment	Yes
Lawson's Recycling Centre	Workington, CA22 2NH	19,940	14,650	Physical Treatment	Yes

APPENDIX 3 – Waste transfer and treatment facilities receiving Construction & Demolition and Excavation waste

Metcalfe Plant Hire Ltd	Penrith, CA11 9EH	3,724	17,057	Physical Treatment	Produces secondary aggregates
Overby Quarry Aggregate Recycling Site	CA7 4NF	-	8,576	Physical Treatment	Yes
Phillip Carruthers Ltd	Workington, CA14 4JP	4,289	11,934	Inert Waste Transfer/Treatment	-
Roan Edge Landfill and Recycling Facility Site	Kendal, LA8 0AP	66,618	-	Physical Treatment	Permit for treating waste to produce soil. Assume some used for capping landfill.
Thackwood Landfill Site	Carlisle	182	-	Material Recycling Facility	-
Wilson Pit Yard, West Coast Composting Ltd	Whitehaven, CA28 9QJ	0	53	Non-Haz Waste Transfer/Treatment	-
	Total E waste received in Treatment facilities	318,767 (0.32Mt)	295,968 (0.3Mt)	Total CD waste received in Treatment facilities	

APPENDIX 4 – Sites and organisations associated with radioactive waste in Cumbria

Site	Description
Sellafield nuclear licensed site (including Windscale)	This is the only site in the UK that produces HLW and it is also treated and stored here. Foreign spent fuel is sent to Sellafield for reprocessing and the products are returned to its country of origin. ILW arises, is treated and stored on site. Some ILW from across the UK is also stored here. LLW and VLLW arise on site. Some of the lower activity LLW and VLLW is disposed into the onsite landfill; some is sent to the LLWR; some is managed by sending it for treatment in the UK and abroad; some is sent to landfill or for incineration outside the county.
Sellafield National Nuclear Laboratory	LLW is produced in the Laboratory during research. Depending on its activity level, it is managed by: consignment to the LLWR; sent for treatment in the UK and abroad; sent to landfill or incinerated at facilities outside the county.
Low Level Waste Repository	ILW is being generated during the decommissioning of former MOD magazines contaminated with plutonium – this will be safely retrieved and sent to Sellafield for storage. The currently operational vault (Vault 9), and subsequent vaults 9a, 10 and 11, have planning permission for the disposal of LLW until 2045. LLW generated onsite is either stored or disposed in the vault or sent for treatment, incineration or landfill outside the county.
Eskmeals test range	LLW was produced from test firing and managed by consignment to the LLWR. No volume is recorded against the site in the 2013 Radioactive Waste Inventory.
Studsvik UK Ltd ¹	This company treats metals that are contaminated by LLW. Some LLW is managed by sending to the parent company in Sweden. Contaminated metals are also sent from the Sellafield site to other operators in Germany, which have more extensive facilities. Classed as 'out of scope', metal is then entered into the metal market. Secondary waste arising from treatment of metals at this facility, is either sent to the LLWR or outside the county to landfill and for incineration.
Lillyhall Landfill	The landfill has an Environmental Permit to dispose of VLLW and planning permission until 2029.
Furness General Hospital	The three hospitals in Cumbria use a range of radioactive isotopes, such as technetium, iodine and carbon-14, for diagnostic and therapeutic applications. The majority of the arising radioactive waste substances are liquid, with lesser amounts of solid waste and minimal gaseous waste. Solid waste is usually in the form of syringes, needles, swabs, vials and gloves. The Environment Agency regulates disposal of these wastes; liquids are mainly disposed of in wastewater, solids are sent for incineration, with the ash residues being disposed of in appropriately permitted landfill.
West Cumberland Hospital	
Cumberland Infirmary	
BAE Systems Marine Ltd	Very low volumes of LLW arise here as a result of building and commissioning reactor plant in the UK's nuclear-powered submarine fleet. Depending on its activity level, it is sent to landfill or incinerated. The 2013 Radioactive Waste Inventory records one waste package here.
Kingmoor Park Properties Ltd	LLW was produced here as a result of industrial processes. Depending on its activity level, it was managed by consignment to the LLWR, sent to landfill or incinerated. Although the site has now been remediated, the Environment Agency still record a Permit, but there is no volume recorded in the UKRWI.

¹ The facility was sold to EDF Group in April 2016, and renamed Cyclife UK Ltd.

APPENDIX 4 – Sites and organisations associated with radioactive waste in Cumbria

International Nuclear Services Ltd	This company, a wholly owned subsidiary of the NDA, manages the transport, using its own fleet of ships, to deliver foreign spent fuel to Sellafield for reprocessing and to then return the products to the country of origin. INS use both Barrow Port and the Port of Workington.
Direct Rail Services	DRS is a wholly owned subsidiary of the Nuclear Decommissioning Authority, established in 1995 as a supplier of rail transport and associated services to the nuclear industry.

APPENDIX 5 – Environment Agency Pollution Inventory 2017

AUTHORISATION ID /PERMIT ID	OPERATOR NAME	SITE ADDRESS	SITE POSTCODE	EASTING	NORTHIN G	EA AREA NAME	SUBSTANCE NAME	ROUTE NAME	QUANTITY RELEASED	UNIT OF MEASURE ID
BZ2508	SELLAFIELD LTD	DRIGG DEPOT DRIGG HOLMROOK CUMBRIA	CA19 1XH	306140	498890	Cumbria and Lancashire	Other Alpha Particulate	Air	Below Reporting Threshold	
BZ2508	SELLAFIELD LTD	DRIGG DEPOT DRIGG HOLMROOK CUMBRIA	CA19 1XH	306140	498890	Cumbria and Lancashire	Other Beta/Gamma Particulate	Air	Below Reporting Threshold	
BZ2508	SELLAFIELD LTD	DRIGG DEPOT DRIGG HOLMROOK CUMBRIA	CA19 1XH	306140	498890	Cumbria and Lancashire	Tritium	Controlled Waters	Below Reporting Threshold	
BZ2508	SELLAFIELD LTD	DRIGG DEPOT DRIGG HOLMROOK CUMBRIA	CA19 1XH	306140	498890	Cumbria and Lancashire	Total Alpha	Controlled Waters	33.55	MBq
BZ2508	SELLAFIELD LTD	DRIGG DEPOT DRIGG HOLMROOK CUMBRIA	CA19 1XH	306140	498890	Cumbria and Lancashire	Total Beta/Gamma (Excl Tritium)	Controlled Waters	856	MBq
BG1047	UNIVERSITY HOSPITALS OF MORECAMBE BAY NHS TRUST	FURNESS GENERAL HOSPITAL NUCLEAR MEDICINE DEPT DALTON LANE BARROW-IN-FURNESS CUMBRIA	LA14 4LF	321200	471800	Cumbria and Lancashire	Technetium 99m	Wastewater	120	GBq
BG1047	UNIVERSITY HOSPITALS OF MORECAMBE BAY NHS TRUST	FURNESS GENERAL HOSPITAL NUCLEAR MEDICINE DEPT DALTON LANE BARROW-IN-FURNESS CUMBRIA	LA14 4LF	321200	471800	Cumbria and Lancashire	Total Beta/Gamma (Excl Tritium)	Wastewater	120	GBq
AG6761	NORTH CUMBRIA UNIVERSITY HOSPITALS NHS TRUST	WEST CUMBERLAND HOSPITAL WHITEHAVEN CUMBRIA	CA28 8JG	298940	516110	Cumbria and Lancashire	Selenium 75	Wastewater	8.26	MBq
AG6761	NORTH CUMBRIA UNIVERSITY HOSPITALS NHS TRUST	WEST CUMBERLAND HOSPITAL WHITEHAVEN CUMBRIA	CA28 8JG	298940	516110	Cumbria and Lancashire	Technetium 99m	Wastewater	53.101	GBq
AG6761	NORTH CUMBRIA UNIVERSITY HOSPITALS NHS TRUST	WEST CUMBERLAND HOSPITAL WHITEHAVEN CUMBRIA	CA28 8JG	298940	516110	Cumbria and Lancashire	Iodine 123	Wastewater	1.148	GBq
AG6761	NORTH CUMBRIA UNIVERSITY HOSPITALS NHS TRUST	WEST CUMBERLAND HOSPITAL WHITEHAVEN CUMBRIA	CA28 8JG	298940	516110	Cumbria and Lancashire	Iodine 131	Wastewater	5899	MBq

APPENDIX 5 – Environment Agency Pollution Inventory 2017

CC8508	VT NUCLEAR SERVICES LIMITED	ENVIRONMENTAL LABORATORY WESTLAKES SCIENCE AND TECHNOLOGY PARK MOOR ROW CUMBRIA	CA24 3HZ	299600	514900	Cumbria and Lancashire	Tritium	Wastewater	Below Reporting Threshold	
CC8508	VT NUCLEAR SERVICES LIMITED	ENVIRONMENTAL LABORATORY WESTLAKES SCIENCE AND TECHNOLOGY PARK MOOR ROW CUMBRIA	CA24 3HZ	299600	514900	Cumbria and Lancashire	Carbon 14	Wastewater	Below Reporting Threshold	
CC8508	VT NUCLEAR SERVICES LIMITED	ENVIRONMENTAL LABORATORY WESTLAKES SCIENCE AND TECHNOLOGY PARK MOOR ROW CUMBRIA	CA24 3HZ	299600	514900	Cumbria and Lancashire	Tritium	Air	Below Reporting Threshold	
CC8508	VT NUCLEAR SERVICES LIMITED	ENVIRONMENTAL LABORATORY WESTLAKES SCIENCE AND TECHNOLOGY PARK MOOR ROW CUMBRIA	CA24 3HZ	299600	514900	Cumbria and Lancashire	Total Alpha	Wastewater	Below Reporting Threshold	
CC8508	VT NUCLEAR SERVICES LIMITED	ENVIRONMENTAL LABORATORY WESTLAKES SCIENCE AND TECHNOLOGY PARK MOOR ROW CUMBRIA	CA24 3HZ	299600	514900	Cumbria and Lancashire	Total Beta/Gamma (Excl Tritium)	Wastewater	4.82	Bq
BU6808	BAE SYSTEMS MARINE LTD	Barrow Shipyard Barrow In Furness Cumbria	LA4 1AF	319200	468200	Cumbria and Lancashire	Tritium	Wastewater	Below Reporting Threshold	
BU6808	BAE SYSTEMS MARINE LTD	Barrow Shipyard Barrow In Furness Cumbria	LA4 1AF	319200	468200	Cumbria and Lancashire	Carbon 14	Wastewater	Below Reporting Threshold	
BU6808	BAE SYSTEMS MARINE LTD	Barrow Shipyard Barrow In Furness Cumbria	LA4 1AF	319200	468200	Cumbria and Lancashire	Cobalt 60	Wastewater	Below Reporting Threshold	
BU6808	BAE SYSTEMS MARINE LTD	Barrow Shipyard Barrow In Furness Cumbria	LA4 1AF	319200	468200	Cumbria and Lancashire	Total Beta/Gamma (Excl Tritium)	Wastewater	Below Reporting Threshold	

APPENDIX 5 – Environment Agency Pollution Inventory 2017

KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Neptunium 237	Controlled Waters	36	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Plutonium 241	Controlled Waters	2100	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Cobalt 60	Controlled Waters	21	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Tritium	Air	99000000	MBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Other Alpha Particulate	Air	56	MBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Other Beta/Gamma Particulate	Air	600	MBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Cerium 144	Controlled Waters	120	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Thorium 230	Controlled Waters	Below Reporting Threshold	
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Antimony 125	Controlled Waters	1000	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Caesium 134	Controlled Waters	42	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Thorium 232	Controlled Waters	Below Reporting Threshold	
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Carbon 14	Air	420000	MBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Sulphur 35	Air	Below Reporting Threshold	
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Argon 41	Air	Below Reporting Threshold	

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KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Ruthenium 106	Air	Below Reporting Threshold	
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Iodine 129	Air	6500	MBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Iodine 131	Air	370	MBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Caesium 137	Air	Below Reporting Threshold	
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Radon 222	Air	39000	MBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Americium 241	Air	17	MBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Krypton 85	Air	43000000	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Tritium	Controlled Waters	1300000	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Carbon 14	Controlled Waters	3600	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Sulphur 35	Controlled Waters	Below Reporting Threshold	
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Ruthenium 106	Controlled Waters	1000	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Iodine 129	Controlled Waters	260	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Caesium 137	Controlled Waters	3300	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Technetium 99m	Air	Below Reporting Threshold	

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KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Xenon 133	Air	Below Reporting Threshold	
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Total Alpha	Controlled Waters	180	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Total Beta/Gamma (Excl Tritium)	Controlled Waters	12000	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Strontium 90	Controlled Waters	2100	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Yttrium 90	Controlled Waters	2100	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Zirconium 95	Controlled Waters	37	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Niobium 95	Controlled Waters	27	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Technetium 99	Controlled Waters	1600	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Americium 241	Controlled Waters	20	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Curium 242	Controlled Waters	Below Reporting Threshold	
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Other Alpha Particulate	Controlled Waters	Below Reporting Threshold	
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Other Beta/Gamma Particulate	Controlled Waters	1400	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Uranium Alpha	Air	Below Reporting Threshold	
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Plutonium Alpha	Air	35	MBq

APPENDIX 5 – Environment Agency Pollution Inventory 2017

KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Uranium Alpha	Controlled Waters	4.3	GBq
KP3690SX	SELLAFIELD LTD	Sellafield and Windscale Sites, Seascale,	CA20 1PG	302736	503639	Cumbria and Lancashire	Plutonium Alpha	Controlled Waters	150	GBq
GB3598DY	North Cumbria University Hospitals NHS Trust	Cumberland Infirmary, Newtown Road, Carlisle,	CA2 7HY	338797	555999	Cumbria and Lancashire	Selenium 75	Wastewater	14	MBq
GB3598DY	North Cumbria University Hospitals NHS Trust	Cumberland Infirmary, Newtown Road, Carlisle,	CA2 7HY	338797	555999	Cumbria and Lancashire	Technetium 99m	Wastewater	294.03	GBq
GB3598DY	North Cumbria University Hospitals NHS Trust	Cumberland Infirmary, Newtown Road, Carlisle,	CA2 7HY	338797	555999	Cumbria and Lancashire	Indium 111	Wastewater	2264	MBq
GB3598DY	North Cumbria University Hospitals NHS Trust	Cumberland Infirmary, Newtown Road, Carlisle,	CA2 7HY	338797	555999	Cumbria and Lancashire	Iodine 123	Wastewater	2.762	GBq
GB3598DY	North Cumbria University Hospitals NHS Trust	Cumberland Infirmary, Newtown Road, Carlisle,	CA2 7HY	338797	555999	Cumbria and Lancashire	Iodine 131	Wastewater	3999	MBq
ZB3335DP	Cyclife UK Ltd	1 Joseph Noble Road, Lillyhall industrial estate, Workington	CA14 4JX	302104	525105	Cumbria and Lancashire	Other Alpha Particulate	Air	Below Reporting Threshold	
ZB3335DP	Cyclife UK Ltd	1 Joseph Noble Road, Lillyhall industrial estate, Workington	CA14 4JX	302104	525105	Cumbria and Lancashire	Other Beta/Gamma Particulate	Air	Below Reporting Threshold	
ZB3335DP	Cyclife UK Ltd	1 Joseph Noble Road, Lillyhall industrial estate, Workington	CA14 4JX	302104	525105	Cumbria and Lancashire	Total Alpha	Wastewater	Below Reporting Threshold	
ZB3335DP	Cyclife UK Ltd	1 Joseph Noble Road, Lillyhall industrial estate, Workington	CA14 4JX	302104	525105	Cumbria and Lancashire	Total Beta/Gamma (Excl Tritium)	Wastewater	Below Reporting Threshold	
ZB3335DP	Cyclife UK Ltd	1 Joseph Noble Road, Lillyhall industrial estate, Workington	CA14 4JX	302104	525105	Cumbria and Lancashire	Total Alpha	Controlled Waters	Below Reporting Threshold	
ZB3335DP	Cyclife UK Ltd	1 Joseph Noble Road, Lillyhall industrial estate, Workington	CA14 4JX	302104	525105	Cumbria and Lancashire	Total Beta/Gamma (Excl Tritium)	Controlled Waters	Below Reporting Threshold	

Whaley, Rachel

From: Gaskell, Gemma <Gemma.Gaskell@uuplc.co.uk>
Sent: 28 March 2019 13:56
To: Whaley, Rachel
Subject: RE: Cumbria County Council - Review of Waste Needs Assessment

Hi Rachel

Apologies for the delay in getting back to you on this. We have a number of online resources which detail our infrastructure plans for coming years in the Cumbria region.

Our information leaflet 'Keeping Cumbria Flowing' is a little dated now, but provides a good summary of everything that is happening or has recently happened both with water and wastewater infrastructure in Cumbria:
<https://www.unitedutilities.com/globalassets/cumbria-images/assets/keeping-cumbria-flowing-booklet.pdf>.

The pages from our website are more up-to-date. Please see <https://www.unitedutilities.com/cumbria/our-plans/> - this include specific pages for areas within Cumbria.

If you're interested in clean water infrastructure, our existing position, together with plans for the future, are detailed within the Draft Water Resources Management Plan 2019. This covers the whole area that United Utilities is responsible for, however there are specific references to Cumbria throughout the document. The most relevant water supply project within Cumbria is the Thirlmere transfer pipeline to West Cumbria, expected to be completed by 2021. Please note that the document is still in Draft at this time, but is due to be finalized soon. The document can be found at: <https://www.unitedutilities.com/corporate/about-us/our-future-plans/water-resources/developing-our-water-resources-management-plan/>.

With regard to our future infrastructure capacity during the next Asset Management Period (AMP 7, 2020-2025) and beyond, we are not in a position to be able to give an outlook for the entire county over the coming years. We feed information regarding draft and adopted future development allocations from Local Planning Authorities across to our Asset Management team who then model impact on our infrastructure. This is being carried out regularly, and any potential infrastructure needs are identified and planned for, subject to funding.

I hope this helps – if you have any other questions please come back to me.

Best regards
Gemma

Gemma Gaskell
Town Planner
Developer Services & Metering
Network Delivery
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From: Whaley, Rachel [<mailto:Rachel.Whaley@cumbria.gov.uk>]
Sent: 06 March 2019 16:35
To: Planning Liaison
Subject: Cumbria County Council - Review of Waste Needs Assessment

I am currently reviewing and updating our Waste Needs Assessment as part of our ongoing evidence base for the Minerals and Waste Local Plan (2015 – 2030).

With regards to provision for waste water and sewage sludge, I would be grateful if you could confirm whether United Utilities consider they have sufficient infrastructure /capacity within the county for their anticipated waste water treatment needs during the next Asset Management Period (AMP 7; 2020-2025).

If you anticipate any significant change in waste water infrastructure requirements beyond that period please could you advise.

Kind Regards

Rachel Whaley
Planning Officer (Minerals and Waste Planning Policy)

Environment and Regulatory Services | Cumbria County Council
County Offices | Busher Walk | Kendal | LA9 4RQ

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Cumbria.gov.uk/planning-environment/DC/dc.asp

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APPENDIX 6

Correspondence with United Utilities

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APPENDIX 7 – Strategic movements of waste and hazardous waste

STRATEGIC WASTE IMPORTS (2017 WDI)

Site Name	Permit Type	Barking & Dagenham	Flintshire UA	Lancashire	Lincolnshire	Middlesbrough UA	Northumberland	Peterborough UA	Scottish WPA	Warwickshire	Wiltshire	WPA not codeable (Cheshire)	WPA not codeable (London)	WPA not codeable (North East)	York UA
Kendal Auction Mart	A25 : Deposit of waste to land as a recovery operation			10451.7											
Silvertop Quarry	S1539: Use of waste deposit for recovery						2983.5								
HESPIN WOOD LANDFILL SITE	L04 : Non Hazardous LF								19002.8						
North West Recycling Ltd	A11 : Household, Commercial & Industrial Waste T Stn			10233.9			18210		28785.4						
Hespin Wood Landfill	SR2010 No12: Treatment of waste to produce soil <75,000 tpy								1167.88						
Whitehaven Skips And Services Transfer Station	S1506: 75kte HCI Waste TS														
Thackwood Landfill Site	A15 : Material Recycling Treatment Facility			1535.54											
Dundee Tyres	A11 : Household, Commercial & Industrial Waste T Stn								2719.82					1618	
Unit 25 - The Hangar	A15 : Material Recycling Treatment Facility	6411	1412	8098	6351			2803	4778	15449			6550		
Diamond Yard	SR2010 No12: Treatment of waste to produce soil <75,000 tpy			1774.76											
Hespin Woods M R F	A15 : Material Recycling Treatment Facility			6259.68					5937.48						
Roan Edge Landfill & Recycling Facility Site	SR2010 No12: Treatment of waste to produce soil <75,000 tpy			8556.68											
Hespin Wood Resource Park EPR/SP3133HW	Physical treatment installation														
Hespin Wood EPR/YP3393ZL	Composting installation			4148.8		11927.7	1754.7		4820.48		4058	1011	8044.8		5422

APPENDIX 7 – Strategic movements of waste and hazardous waste

STRATEGIC WASTE EXPORTS (2017 WDI)

Facility WPA	Site Name	Permit Type	Cumbria
Bedford WPA	Monoworld Recycling Facility	A16 : Physical Treatment Facility	1150.1
Cheshire West and Chester WPA	Manisty Wharf	A15 : Material Recycling Treatment Facility	6623.86
City of Derby WPA	Sims Group U K Ltd	A20 : Metal Recycling Site (mixed MRS's)	1312.782
County Durham WPA	Hill Top Farm	S0803 : HCI Waste TS + treatment	2064.56
County Durham WPA	West Shaw Farm	S0819 : Sewage sludge treatment	6011.78
County Durham WPA	Hulands Quarry	SR2010 No12: Treatment of waste to produce soil <75,000 tpy	10889.42
County Durham WPA	PORT CLARENCE LANDFILL SITE	Other Biological Treatment installation	6496.78
Darlington WPA	Cleveland House	S0821 : Metal recycling site	7462.701
Derbyshire WPA	J & A Young (Leicester) Ltd	A16 : Physical Treatment Facility	1843.145
Gateshead WPA	Blaydon Quarry Landfill EPR/WP3537ZG	L04 : Non Hazardous LF	22205.54
Hartlepool WPA	J & B Recycling Ltd	A15 : Material Recycling Treatment Facility	2027.84
Kingston Upon Hull City WPA	Gibson Lane Site	Physical treatment installation	8241.74
Kirklees WPA	BRADLEY PARK LANDFILL SITE	L01 : Hazardous Merchant LF	1017.2
Lancashire WPA	Lancashire Waste Recycling Ltd	A16 : Physical Treatment Facility	36810.29
Lancashire WPA	A1 Supa Skips Ltd	A11 : Household, Commercial & Industrial Waste T Stn	2660.44
Lancashire WPA	Leyland Waste Treatment Facility	Other Biological Treatment installation	2585.01
Lancashire WPA	Hapton Valley Transfer Station	A11 : Household, Commercial & Industrial Waste T Stn	34408.29
Lancashire WPA	WHITEMOSS LANDFILL	L01 : Hazardous Merchant LF	1497.34
Lancashire WPA	K T Recycling Limited	A11 : Household, Commercial & Industrial Waste T Stn	3049.64
Lancashire WPA	Stodday Remote Tanker Terminal	A11 : Household, Commercial & Industrial Waste T Stn	57507.45
Liverpool WPA	S Norton & Co Ltd	A20 : Metal Recycling Site (mixed MRS's)	2188.69
Liverpool WPA	Foster Street	Physico-chemical treatment installation	1689.1
Liverpool WPA	Bankfield House	Metal Recycling installation	1806.59
Middlesbrough WPA	Normanby Wharf	A9 : Haz Waste Transfer Station	1389.09
North East Lincolnshire WPA	Shed No 7, Westside Road	A11 : Household, Commercial & Industrial Waste T Stn	1485.06
North Lincolnshire WPA	Bioganix Ltd	A22 : Composting Facility	2541.9
North Yorkshire WPA	J F S Westholme Farm Biogas	S1210 : On-farm anaerobic digestion using farm wastes only	1308
North Yorkshire WPA	Knapton Quarry Landfill	L04 : Non Hazardous LF	21047
Northumberland WPA	Ellington Road LF EPR/DP3238SB	L02 : Non Haz (SNRHW) LF	5610.62
Northumberland WPA	Ellington Road Composting Facility EPR/UP3494ZL	Non-Haz Waste Transfer	4115.18
Redcar and Cleveland WPA	Imperial Park AD Plant	Other Biological Treatment installation	10504.6
Redcar and Cleveland WPA	ICI No 2 Teesport EPR/RP3631DA	L04 : Non Hazardous LF	1353.5
Rotherham WPA	Mangham Works	A11 : Household, Commercial & Industrial Waste T Stn	16.966
Sheffield WPA	8 Grange Mill Lane	Metal Recycling installation	3361.7

APPENDIX 7 – Strategic movements of waste and hazardous waste

Stockton-on-Tees WPA	Port Clarence landfill Site (Haz)	L01 : Hazardous Merchant LF	1806.07
Thurrock WPA	U R M (U K) Limited	A15 : Material Recycling Treatment Facility	1286.98
Wakefield WPA	U R M (U K) Ltd	A15 : Material Recycling Treatment Facility	1523.92
Wakefield WPA	South Kirkby Plant	A15 : Material Recycling Treatment Facility	1155.32
Walsall WPA	Aldridge Waste Transfer Station	A11 : Household, Commercial & Industrial Waste T Stn	1145.23

STRATEGIC HAZARDOUS WASTE IMPORTS (2017 HWDI)

Arising WPA	ShortClass	Tonnage
Aberdeen City	Oil and Oil/Water Mixtures	2,120.00
Aberdeenshire	Oil and Oil/Water Mixtures	3,019.18
Flintshire	Thermal Process Waste (inorganic)	1,412.68
North Lanarkshire	Oil and Oil/Water Mixtures	1,236.10
Rutland	Waste/Water Treatment and Water Industry	2,800.90
Stockton-on-Tees	Oil and Oil/Water Mixtures	97.02
Stockton-on-Tees	Waste/Water Treatment and Water Industry	3,923.56
Suffolk	Waste/Water Treatment and Water Industry	107.98
Warwickshire	Thermal Process Waste (inorganic)	15,451.00

STRATEGIC
HAZARDOUS WASTE
EXPORTS (2017 HWDI)

ShortClass	Tonnage	Deposit WPA	Total by WPA
Municipal and Similar Commercial Wastes	0.06	Birmingham City	220.59
C&D Waste and Asbestos	1473.94	Cambridgeshire	1,498.56
Municipal and Similar Commercial Wastes	0.102	Cheshire East	324.44
Municipal and Similar Commercial Wastes	0.0001	Cheshire West and Chester	1,610.93
Municipal and Similar Commercial Wastes	0.04	County Durham	223.95
Municipal and Similar Commercial Wastes	0.209	Darlington	268.88
C&D Waste and Asbestos	0.06	Gateshead	523.04
C&D Waste and Asbestos	76.5	Hartlepool	109.33
Waste/Water Treatment and Water Industry	355.88	Herefordshire	356.22
Municipal and Similar Commercial Wastes	10.09	Kirklees	1,067.20
Healthcare	0.44461	Knowsley	252.69
Municipal and Similar Commercial Wastes	507.64	Lancashire	3,090.93
Municipal and Similar Commercial Wastes	0.165	Leeds	1,063.73
Municipal and Similar Commercial Wastes	15.763	Liverpool	1,024.45
Healthcare	172.05086	Newcastle Upon Tyne	172.69
Municipal and Similar Commercial Wastes	0.3	Norfolk	352.34
Healthcare	842.0459	North Tyneside	842.10
Waste/Water Treatment and Water Industry	926.34	North Yorkshire	931.42

APPENDIX 7 – Strategic movements of waste and hazardous waste

Municipal and Similar Commercial Wastes	43.66	Northumberland	2,467.14
Municipal and Similar Commercial Wastes	0.175	Nottinghamshire	227.24
C&D Waste and Asbestos	48.12	Redcar and Cleveland	175.10
Waste/Water Treatment and Water Industry	7.22	Salford	454.92
Municipal and Similar Commercial Wastes	19.4	Sefton	911.48
Waste/Water Treatment and Water Industry	480.87	Shropshire	482.33
Municipal and Similar Commercial Wastes	763.54	St Helens	765.57
Municipal and Similar Commercial Wastes	3.64281	Staffordshire	773.25
Municipal and Similar Commercial Wastes	0.005	Stockton-on-Tees	7,804.30
Oil and Oil/Water Mixtures	104.48	Stoke-on-Trent City	364.30
Municipal and Similar Commercial Wastes	0.554	Tameside	341.10
Municipal and Similar Commercial Wastes	1.609	Trafford	371.72
Municipal and Similar Commercial Wastes	5.1365	Wakefield	183.53
Municipal and Similar Commercial Wastes	13.5132	Walsall	186.00

APPENDIX 8 – Details of waste export movements to SCOTLAND (2017 WDI)

Cumbria	02 - AGRICULTURE AND FOOD PROCESSING WASTES	Haz Waste Transfer	Dumfries & Galloway	Scottish WPA	Scotland	1.22		
Cumbria	03 - FURNITURE, PAPER AND CARDBOARD MANUFACTURING WASTES	Non-Haz Waste Transfer	Scotland	Scottish WPA	Scotland	459.44		
Cumbria	13 - OIL WASTES AND WASTES OF LIQUID FUELS	Physical-Chemical Treatment	North Lanarkshire	Scottish WPA	Scotland	53.96		
Cumbria	13 - OIL WASTES AND WASTES OF LIQUID FUELS	Physical-Chemical Treatment	Scotland	Scottish WPA	Scotland	45.38		
Cumbria	15 - PACKAGING, ABSORBENTS , WIPING CLOTHS ETC N.O.S.	Haz Waste Transfer	Renfrewshire	Scottish WPA	Scotland	5.00		
Cumbria	16 - WASTES NOT OTHERWISE SPECIFIED IN THE LIST	Car Breaker	City of Glasgow	Scottish WPA	Scotland	3,185.31		
Cumbria	16 - WASTES NOT OTHERWISE SPECIFIED IN THE LIST	Car Breaker	Dumfries & Galloway	Scottish WPA	Scotland	348.49		
Cumbria	16 - WASTES NOT OTHERWISE SPECIFIED IN THE LIST	Car Breaker	Falkirk	Scottish WPA	Scotland	430.86		
Cumbria	16 - WASTES NOT OTHERWISE SPECIFIED IN THE LIST	Car Breaker	Scotland	Scottish WPA	Scotland	0.17		
Cumbria	16 - WASTES NOT OTHERWISE SPECIFIED IN THE LIST	Haz Waste Transfer	Argyll and Bute UA Islands	Scottish WPA	Scotland	10.00		
Cumbria	16 - WASTES NOT OTHERWISE SPECIFIED IN THE LIST	Metal Recycling	Scotland	Scottish WPA	Scotland	3,036.00		

APPENDIX 8 – Details of waste export movements to SCOTLAND (2017 WDI)

Cumbria	16 - WASTES NOT OTHERWISE SPECIFIED IN THE LIST	Non-Haz Waste Transfer	Dumfries & Galloway	Scottish WPA	Scotland	38.13		
Cumbria	16 - WASTES NOT OTHERWISE SPECIFIED IN THE LIST	Non-Haz Waste Transfer	Scottish Borders	Scottish WPA	Scotland	20.00		
Cumbria	17 - CONSTRUCTION AND DEMOLITION WASTES	Car Breaker	Scotland	Scottish WPA	Scotland	1.83		
Cumbria	17 - CONSTRUCTION AND DEMOLITION WASTES	Haz Waste Transfer	Dumfries & Galloway	Scottish WPA	Scotland	16.00		
Cumbria	17 - CONSTRUCTION AND DEMOLITION WASTES	Non-Haz Waste Transfer	Scotland	Scottish WPA	Scotland	0.96		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Biological Treatment	Scotland	Scottish WPA	Scotland	282.00		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Car Breaker	Scotland	Scottish WPA	Scotland	7.15		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Chemical Treatment	City of Glasgow	Scottish WPA	Scotland	2.70		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Composting	Aberdeenshire	Scottish WPA	Scotland	133.92		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Composting	City of Glasgow	Scottish WPA	Scotland	24.38		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Composting	Clackmannan	Scottish WPA	Scotland	34.94		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Composting	Dumfries & Galloway	Scottish WPA	Scotland	29,449.55		

APPENDIX 8 – Details of waste export movements to SCOTLAND (2017 WDI)

Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Composting	East Ayrshire	Scottish WPA	Scotland	102.10		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Composting	Falkirk	Scottish WPA	Scotland	98.22		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Composting	Fife	Scottish WPA	Scotland	26,187.57		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Composting	North Ayrshire	Scottish WPA	Scotland	6,643.06		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Composting	North Lanarkshire	Scottish WPA	Scotland	224.72		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Composting	Scottish Borders	Scottish WPA	Scotland	695.57		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Composting	South Ayrshire	Scottish WPA	Scotland	318.14		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Composting	South Lanarkshire	Scottish WPA	Scotland	249.48		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Composting	Stirling	Scottish WPA	Scotland	4,361.40		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Composting	West Lothian	Scottish WPA	Scotland	51.94		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Material Recycling Facility	North Lanarkshire	Scottish WPA	Scotland	4,844.06		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Non-Haz Waste Transfer	Scotland	Scottish WPA	Scotland	348.58		

APPENDIX 8 – Details of waste export movements to SCOTLAND (2017 WDI)

Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Physical Treatment	City of Glasgow	Scottish WPA	Scotland	1,804.86		
Cumbria	19 - WASTE AND WATER TREATMENT WASTES	Physical-Chemical Treatment	North Lanarkshire	Scottish WPA	Scotland	25.32		
Cumbria	20 - MUNICIPAL WASTES	Haz Waste Transfer	Argyll and Bute UA Islands	Scottish WPA	Scotland	2.00	SCOTLAND	83,544

APPENDIX 9 – Waste management facilities in Cumbria receiving waste in 2017 (WDI 2017)

Site Name	Operator	Permit Type	SitePC	Tonnes Received
Raven Crag	Lyon Leisure	S1539: Use of waste deposit for recovery	CA11 0DE	6762
Rose Garth	Mr Jonathan Bellas, Mrs Sarah Bellas, Mr Andrew Bellas And Mrs Valerie Bellas	A25 : Deposit of waste to land as a recovery operation	CA16 6BU	2613.9
J. M. Skips Brownriggs Yard	Jacksons Marine Limited	S0801 : HCI Waste Transfer Station	CA22 2PN	411.85
Etterby Scrapyard	Douglas Michael	A19 : Metal Recycling Site (Vehicle Dismantler)	CA3 9QU	3052.28
Cross Croft Ind Est	Head Roland	A20 : Metal Recycling Site (mixed MRS's)	CA16 6HP	1756.625
Barrow Wwtw	United Utilities Water Limited	A23 : Biological Treatment Facility	LA13 0PT	95738
Waller Street Works	Mr William Allan And Mr Robert Allan	A20 : Metal Recycling Site (mixed MRS's)	CA1 2DA	1258
Clay Flatts	Lancaster James	A19 : Metal Recycling Site (Vehicle Dismantler)	CA14 2TQ	54
Claybanks Field Brampton	Paterson Jeremy	A19 : Metal Recycling Site (Vehicle Dismantler)	CA8 2AB	323.49
Kendal Fell Waste Management Centre	Suez Recycling And Recovery Lancashire Ltd	A9 : Haz Waste Transfer Station	LA9 5RT	44314.3
Branthwaite Vehicle Dismantlers	Brough Trevor	A19 : Metal Recycling Site (Vehicle Dismantler)	CA14 4RG	7339.003
John Morgan & Co Ltd	John Morgan And Co Ltd	S1214 : Metal recycling, vehicle storage, depollution	LA12 0BH	2276.648
Kendal Auction Mart	L & W Wilson (Endmoor) Limited	A25 : Deposit of waste to land as a recovery operation	LA7 7FP	18142.89

APPENDIX 9 – Waste management facilities in Cumbria receiving waste in 2017 (WDI 2017)

Silvertop Quarry	Thompsons Of Prudhoe Limited	S1539: Use of waste deposit for recovery	CA8 2PE	24222.22
The Close Farm	Digit Resource Management Limited	S0819 : Sewage sludge treatment	CA7 1DJ	5636.62
Ashcroft Recycling Site	Ashcroft Demolition (Cumbria) Ltd	SR2010 No12: Treatment of waste to produce soil <75,000 tpy	CA15 8PD	28179
Whitehaven Golf Course	Western Lakes Ltd	A25 : Deposit of waste to land as a recovery operation	CA28 8UD	9200
Flusco Pike Landfill EPR/BM5941IH	Lakeland Waste Management	L02 : Non Haz (SNRHW) LF	CA11 0JB	74883.485
HESPIN WOOD LANDFILL SITE	Cumbria Waste Management Ltd	L04 : Non Hazardous LF	CA6 4BJ	108560.859
Bennett Bank Landfill	FCC Waste Services (UK) Limited	L04 : Non Hazardous LF	LA14 4QH	44166.51
DISTINGTON LANDFILL SITE	Cumbria Waste Management Ltd	L04 : Non Hazardous LF	CA14 4JP	6057.56
Dixon Hill Quarry	R A Harrison; W H Harrison; D A Harrison; M M Harrison; J A Williamson	S1539: Use of waste deposit for recovery	CA7 4NB	1622.28
Unit C	Cubby Construction Limited	A9 : Haz Waste Transfer Station	CA6 4RW	8735.6
Mossband Flood Embankment	A D Waste Transfer Limited	A25 : Deposit of waste to land as a recovery operation	CA6 5LP	15693.49
12 Shap Road Ind Estate	B & J Metals (Skip Hire) Limited	A11 : Household, Commercial & Industrial Waste T Stn	LA9 6NZ	9144.33
Cumbria Recycling Limited	Cumbria Recycling Limited	S0823 : WEEE treatment facility	CA14 4JR	1224.035
Goldmire Quarry	Burlington Aggregates Limited	SR2010 No12: Treatment of waste to produce soil <75,000 tpy	LA14 4QG	89153.24
Cooper House Farm	Wilson Anthony	S1539: Use of waste deposit for recovery	LA8 9LD	18830.5

APPENDIX 9 – Waste management facilities in Cumbria receiving waste in 2017 (WDI 2017)

Ormsgill Yard Materials Recycling Facility	F C C Recycling (U K) Limited	A9 : Haz Waste Transfer Station	LA14 5UY	28147.51
Bousteads Grassing Carlisle C A	Cumbria Waste Management Ltd	A13 : Household Waste Amenity Site	CA2 5AR	10552.398
Derwent Recycling Services Ltd	Derwent Recycling Services Ltd	S0803 : HCI Waste TS + treatment	CA14 4JP	13315.17
Brampton Household Amenity Site	Cumbria Waste Management Ltd	A13 : Household Waste Amenity Site	CA8 1SW	2092.12
Field 3771	Ashcroft Plant (Cumbria) Limited	S1539: Use of waste deposit for recovery	CA15 8NF	15969
Willowholme Auto Salvage Ltd	Willowholme Auto Salvage Ltd	A19a : ELV Facility	CA2 5RT	220
Sinkfall Recycling	Brian Armistead Limited	A11 : Household, Commercial & Industrial Waste T Stn	LA14 4QE	19689.35
Mintsfeet Road	Lakeland Gold Limited	A20 : Metal Recycling Site (mixed MRS's)	LA9 6ND	1712.5
Faugh Sandpit No 2	Eddie Wannop Ltd	A25 : Deposit of waste to land as a recovery operation	CA8 9EG	570.18
North West Recycling Ltd	North West Recycling Ltd	A11 : Household, Commercial & Industrial Waste T Stn	CA6 4RW	116783.072
Land At Kingmoor Sidings	Network Rail Infrastructure Limited	S0906: Inert and excavation WTS with treatment	CA6 4BH	164067.352
Project Furness Hosuehold Waste Recycling Centre	Cumbria Waste Management Ltd	S0813 : Non-hazardous & hazardous HWA Site	LA15 5UY	7881.329
Station Yard	Hoyle Adam	A11 : Household, Commercial & Industrial Waste T Stn	CA17 4LA	883.264
Hangar 20 Silloth Airfield	D Alan Harrison , D Anthony Harrison, S J Harrison	A11 : Household, Commercial & Industrial Waste T Stn	CA7 4PA	11508.19
Karen House	W G Mackay Limited	S0803 : HCI Waste TS + treatment	CA14 4JP	8547.13

APPENDIX 9 – Waste management facilities in Cumbria receiving waste in 2017 (WDI 2017)

Overby Quarry Aggregate Recycling Site	Thomas Armstrong (Aggregates) Ltd	SR2010 No12: Treatment of waste to produce soil <75,000 tpy	CA7 4NF	8576.26
Overby Quarry	Thomas Armstrong (Aggregates) Ltd	A25 : Deposit of waste to land as a recovery operation	CA7 4NG	41447.33
Flusco Landfill Site	Lakeland Waste Management Limited	SR2010 No12: Treatment of waste to produce soil <75,000 tpy	CA11 0JB	6703.24
Hespin Wood Landfill	Cumbria Waste Management Ltd	SR2010 No12: Treatment of waste to produce soil <75,000 tpy	CA6 4BJ	53063.156
Ponsonby Old Hall Farm	Stanley Renewable Energy Ltd	S1210 : On-farm anaerobic digestion using farm wastes only	CA20 1BX	7056.46
Whitehaven Skips And Services Transfer Station	Whitehaven Skips & Services Ltd	S1506: 75kte HCl Waste TS	CA25 5QB	326.394
Thackwood Landfill Site	Waste Transfer Services Ltd	A15 : Material Recycling Treatment Facility		3527.1
Coopers Yard	J J C Hire Ltd	A11 : Household, Commercial & Industrial Waste T Stn	LA14 4EQ	25523.76
Hilltop Farm Composting Facility	Positive (Eden) Ltd	A22 : Composting Facility	CA4 0NR	2161
Holliday Metals	Holliday Michael	SR2011 No3: Vehicle Depollution Facility <5000 tps	CA7 2EG	91.695
Wicks Services Limited	Wicks Services Limited	S1517: Vehicle storage, depollution	LA13 4QR	504.57
Metcalfe Plant Hire Ltd	Metcalfe Plant Hire Ltd	SR2010 No12: Treatment of waste to produce soil <75,000 tpy	CA11 9EH	20781
Dundee Tyres	Dundee Tyres Ltd	A11 : Household, Commercial & Industrial Waste T Stn	CA6 4NW	6609.836
Lillyhall Stage 3 Landfill Site	FCC Recycling (UK) Limited	L02 : Non Haz (SNRHW) LF	CA14 4JH	5089.98
Eden Organics Composting Site	H & E Trotter Ltd	A22 : Composting Facility	CA4 0PZ	19413

APPENDIX 9 – Waste management facilities in Cumbria receiving waste in 2017 (WDI 2017)

Lillyhall Waste Management Centre	FCC Recycling (UK) Limited	A21 : Chemical Treatment Facility	CA14 4JH	24012.48
Kendal H W R C	Cumbria Waste Management Ltd	A13 : Household Waste Amenity Site	LA9 7BY	5386.767
Hespin Wood	Cumbria Waste Management Ltd	A9 : Haz Waste Transfer Station	CA6 4HB	4.22
Maryport C A	Cumbria Waste Management Ltd	A13 : Household Waste Amenity Site	CA15 8NT	3854.779
Unit 25 - The Hangar	Agriorganics Ltd	A15 : Material Recycling Treatment Facility	CA7 4PE	69261
Frizington C A	Cumbria Waste Management Ltd	A13 : Household Waste Amenity Site	CA26 3QU	5924.136
Ambleside C A	Cumbria Waste Management Ltd	A13 : Household Waste Amenity Site	LA22 0EE	1314.363
Clay Flats Workington C A	Cumbria Waste Management Ltd	A13 : Household Waste Amenity Site	CA14 2TG	6571.627
Wilson Pit Yard	West Coast Composting Ltd	S0803 : HCI Waste TS + treatment	CA28 9QJ	6056.35
Grange C A	Cumbria Waste Management Ltd	A13 : Household Waste Amenity Site	LA11 7EN	1287.085
Sowerby Lodge	Eden Valley Oils Limited	A16 : Physical Treatment Facility	CA17 4EG	1378.061
Phillip Carruthers Ltd	Phillip Carruthers Ltd	S0811 : Inert & excavation Waste TS + treatment	CA14 4JP	16223
Cavendish Dock Road	Faint Peter	A19a : ELV Facility	LA14 2LA	520.174
Lawson's Recycling Centre	G & A M Lawson Ltd	A16 : Physical Treatment Facility	CA22 2NH	34590
Ulverston Waste Transfer Station	South Lakeland District Council	A11 : Household, Commercial & Industrial Waste T Stn	LA12 9BL	425.45

APPENDIX 9 – Waste management facilities in Cumbria receiving waste in 2017 (WDI 2017)

Ecclerigg Depot	South Lakeland District Council	A11 : Household, Commercial & Industrial Waste T Stn	LA23 1LJ	726.575
Diamond Yard	Tony Brown Aggregates Limited	SR2010 No12: Treatment of waste to produce soil <75,000 tpy	LA12 0LA	59437.63
Distington Materials Recycling Facility	Cumbria Waste Management Ltd	S0807 : HCl Waste TS + treatment + asbestos	CA14 4JP	94090.499
Hespin Woods M R F	Cumbria Waste Management Limited	A15 : Material Recycling Treatment Facility	CA6 4BJ	37458.92
Roan Edge Landfill	L & L Wilson (Endmoor) Ltd	L05 : Inert LF	LA10 5EW	647.5
Roan Edge Landfill & Recycling Facility Site	L & W Wilson (Endmoor) Limited	SR2010 No12: Treatment of waste to produce soil <75,000 tpy	LA8 0AP	66618.669
Solway Heat And Power Ltd	Solway Heat & Power Ltd	S1210 : On-farm anaerobic digestion using farm wastes only	CA7 5JR	11101.34
Flusco H W R C	Lakeland Waste Management Ltd	A9 : Haz Waste Transfer Station	CA11 0JB	6422.704
Unit N	Thompsons Plant Hire Limited	A11 : Household, Commercial & Industrial Waste T Stn	CA15 8PD	773.32
Distington Hazardous Waste Transfer Station	Cumbria Waste Management Ltd	Haz Waste Transfer	CA14 4JP	5577.826
Willow Lane Garage	Garnett Gordon Thomas	A19a : ELV Facility	LA11 7LU	48
Old Foundry Yard	Liverick Paul James	A20 : Metal Recycling Site (mixed MRS's)	CA9 3HZ	65
Bennett Bank Transfer Station	F C C Waste Services (U K) Limited	A9 : Haz Waste Transfer Station	LA14 4QH	10.63
Junction Street	Mountelm Ltd	A20 : Metal Recycling Site (mixed MRS's)	CA2 5XH	1237
Bonnie Mount	Burne Steven Alan	A19 : Metal Recycling Site (Vehicle Dismantler)	CA11 8SR	982.3

APPENDIX 9 – Waste management facilities in Cumbria receiving waste in 2017 (WDI 2017)

Sandysike Brickworks	Mountelm Ltd	A20 : Metal Recycling Site (mixed MRS's)	CA6 5SR	7796
Wigton C A	Cumbria Waste Management Ltd	A13 : Household Waste Amenity Site	CA7 9NE	1882.053
Hespin Wood Resource Park EPR/SP3133HW	Renewi UK Services Limited	Physical treatment installation	CA6 4BJ	65178.98
Hespin Wood EPR/YP3393ZL	A.W. Jenkinson Woodwaste Limited	Composting installation	CA6 4BJ	99209.429
Harry Barker Properties Ltd	Harry Barker (Ireleth And Askam) Properties Ltd	S0803 : HCl Waste TS + treatment	LA16 7HE	35902.43
Kendal Fell Leachate Treatment Plant	Waste Recycling Group (Central) Limited	Physico-chemical treatment installation	LA9 5RT	5728
Wigton Cellophane Plant EPR/UP3939DR	Futamura Chemical UK Limited	Physico-chemical treatment installation	CA7 9BG	166.28
Distington Golf Club	Gate Robert Dickinson	A25 : Deposit of waste to land as a recovery operation	CA14 5RT	47038
Ulverston Civic Amenity Site	Cumbria Waste Management Ltd	A13 : Household Waste Amenity Site	LA12 9BN	3319.037
Millom C A	Cumbria Waste Management Ltd	A13 : Household Waste Amenity Site	LA18 4JZ	1520.969
Kirkby Stephen H W R C	Cumbria Waste Management Ltd	A13 : Household Waste Amenity Site	CA17 4RN	1249.112
Carlisle Wastewater Treatment Works	United Utilities Water Limited	A23 : Biological Treatment Facility	CA2 5SH	94380
Sowerby Woods Resource Park EPR/XP3839FJ	Renewi UK Services Limited	Physical treatment installation	LA14 4QR	53960.29
The Old Cooperage	Gregg Brian	S1214 : Metal recycling, vehicle storage, depollution	LA8 0HW	11190

APPENDIX 9 – Waste management facilities in Cumbria receiving waste in 2017 (WDI 2017)

Scarth Road	H Wicks (Lindal Limited	A11 : Household, Commercial & Industrial Waste T Stn	LA14 4QR	18583.25
Borwick Rails	Mcmeekin Lea	A19a : ELV Facility	LA18 4JU	154
Canal Head Yard	Williamson Blair	A19a : ELV Facility	LA12 7JZ	315
Escott Works	Steven David Barwick & Craig Andrew Nugent	A19a : ELV Facility	CA2 5AR	394
Clay Flatts	Moss Bay Metals Ltd	A19 : Metal Recycling Site (Vehicle Dismantler)	CA14 2TQ	19291.761

2161432.057

Total managed

APPENDIX 10 – Future capacity of waste management facilities

Waste Category	Facility Type	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
CD and E	Physical Treatment	367,102	367,102	367,102	367,102	367,102	367,102	367,102	367,102	367,102	367,102	367,102	367,102	367,102	367,102
CD and E	Non-Hazardous Transfer/ Treatment	35,902	35,902	35,902	35,902	35,902	35,902	35,902	35,902	35,902	35,902	35,902	35,902	35,902	35,902
CD and E	Inert waste transfer/ treatment	180,290	180,290	180,290	180,290	180,290	180,290	180,290	180,290	180,290	180,290	180,290	180,290	180,290	180,290
	CD & E Recycling/Treatment	583,294	583,294	583,294	583,294	583,294	583,294	583,294	583,294	583,294	583,294	583,294	583,294	583,294	583,294
CD & E	Deposit of waste to land (Recovery)	202,112													
	CD & E Recovery/Re-use	202,112	0	0	0	0	0	0	0	0	0	0	0	0	0
CD & E	Inert Landfill	2,176,800	2,176,152	2,134,902	2,093,652	2,052,402	2,011,152	1,969,902	1,928,652	1,887,402	1,846,152	1,804,902	1,763,652	1,722,402	1,681,152
	CD&E Landfill	2,176,800	2,176,152	2,134,902	2,093,652	2,052,402	2,011,152	1,969,902	1,928,652	1,887,402	1,846,152	1,804,902	1,763,652	1,722,402	1,681,152
LACW only	HWRC (CA Site)	52,836	52,836	52,836	52,836	47,449	47,449	47,449	47,449	47,449	47,449	47,449	47,449	47,449	40,634
LACW,C&I, CD	Non-Hazardous Transfer/ Treatment	107,934	107,934	107,934	107,934	107,934	107,934	107,934	107,934	107,934	107,934	107,934	107,934	107,934	107,934
LACW, Haz,C&I, CD	Hazardous waste transfer/ treatment	138,209	138,209	138,209	138,209	138,209	138,209	138,209	138,209	138,209	138,209	138,209	138,209	138,209	138,209
LACW, Haz,C&I,CD	Materials Recycling Facility (MRF)	110,247	110,247	110,247	110,247	110,247	110,247	110,247	110,247	110,247	110,247	110,247	110,247	110,247	110,247
LACW,C&I	Anaerobic digestion	18,158	18,158	18,158	18,158	18,158	18,158	18,158	18,158	18,158	18,158	18,158	18,158	18,158	18,158
LACW,C&I	Biological Treatment	195,755	195,755	195,755	195,755	195,755	195,755	195,755	195,755	195,755	195,755	195,755	195,755	195,755	195,755
LACW,C&I	Composting	120,783	120,783	120,783	120,783	120,783	120,783	120,783	120,783	120,783	120,783	120,783	120,783	120,783	120,783
LACW,C&I	Physical/chemical Treatment	181,284	181,284	181,284	181,284	181,284	181,284	181,284	181,284	181,284	181,284	181,284	181,284	181,284	181,284
	Mixed Recycling/Treatment	925,206	925,206	925,206	925,206	919,819	919,819	919,819	919,819	919,819	919,819	919,819	919,819	919,819	913,004
Haz,C&I	Car Breaker	32,694	32,694	32,694	32,694	32,694	32,694	32,694	32,694	32,694	32,694	32,694	32,694	32,694	32,694
LACW,C&I, Haz	Vehicle Depollution	14,063	14,063	14,063	14,063	14,063	14,063	14,063	14,063	14,063	14,063	14,063	14,063	14,063	14,063
LACW,C&I, Haz	WEEE Facility	1,224	1,224	1,224	1,224	1,224	1,224	1,224	1,224	1,224	1,224	1,224	1,224	1,224	1,224
LACW,C&I,Haz	Metal Recycling	13,825	13,825	13,825	13,825	13,825	13,825	13,825	13,825	13,825	13,825	13,825	13,825	13,825	13,825
	Metal Recycling	61,806	61,806	61,806	61,806	61,806	61,806	61,806	61,806	61,806	61,806	61,806	61,806	61,806	61,806
LACW,C&I,CD	Non-Hazardous Landfill (SNRHW)	2,078,510	1,998,537	1,918,564	1,838,591	1,758,618	1,678,645	1,598,672	1,518,699	1,438,726	1,358,753	1,278,780	1,198,807	1,118,834	353,452
LACW,C&I,CD	Non-Hazardous Landfill	2,389,467	2,236,741	2,084,015	1,946,787	1,838,227	1,729,667	1,621,107	1,512,547	1,403,987	1,295,427	1,186,867	1,078,307	969,747	861,187
LLW Haz (Lillyhall cell)	Non-Inert Landfill (LLW)	585,000	585,000	585,000	585,000	585,000	585,000	585,000	585,000	585,000	585,000	585,000	585,000	585,000	0
	Landfill excluding LLW cell	4,467,977	4,235,278	4,002,579	3,785,378	3,596,845	3,408,312	3,219,779	3,031,246	2,842,713	2,654,180	2,465,647	2,277,114	2,088,581	1,214,639
LACW,C&I	Non-Hazardous Transfer	7,762	7,762	7,762	7,762	7,762	7,762	7,762	7,762	7,762	7,762	7,762	7,762	7,762	7,762
LACW, Haz,C&I, CD	Hazardous Waste Transfer	49,094	49,094	49,094	49,094	49,094	49,094	49,094	49,094	49,094	49,094	49,094	49,094	49,094	49,094
LACW,C&I, CD	Non-Hazardous Transfer	195,609	195,609	195,609	195,609	195,609	195,609	195,609	195,609	195,609	195,609	195,609	195,609	195,609	195,609
	Transfer only	252,465	252,465	252,465	252,465	252,465	252,465	252,465	252,465	252,465	252,465	252,465	252,465	252,465	252,465

Notes on why capacity reduces

Kendal HWRC expires 2020

Millom & Frizington HWRC expires 2029

Flusco landfill & facilities expire 2031

Lillyhall landfill expires 2029 with 690,499 remaining capacity lost (based on 2017 throughput)

Flusco landfill expires 2029 with 203,686 remaining capacity lost (based on 2017 throughput)

Bennet Bank expires 2019 with 28,668 remaining capacity lost (based on 2017 throughput)

Goldmire throughput unknown - initial suggestion 27,500 cu m pa = 41,250 tpa. Used this for WNA but based on recent trends unlikely to receive that amount

Roan Edge - need to monitor throughput, only 648 te in 2017. For WNA have just deducted 41,250 tpa from 2019 onwards

APPENDIX 11 - Landfill capacity in Cumbria (based on end of 2017 EA data – published 2018)

Site	Expiry date	Operator	Landfill Type	EA data end of 2016 permitted Voidspace (m³)	2017 WDI data on waste received 2017 throughputs (tonnes)	EA data end of 2017 permitted Voidspace (m³)	End of 2017 capacity (tonnes) ¹	Comments
NON-INERT LANDFILL CAPACITY								
Bennett Bank	2019		L04 Non-Haz	27,871	44,166	132,479 <i>(78,000 – Operator adjustment – reduction of 54,479)</i> 78,000	117,000	EA comment - The pre-settlement contours for site were remodelled following a topographical survey in 2017 increasing the volume of the site despite void utilisation in 2017 CCC comment - Permission in 2015 reduced capacity by 200,000 cu m deleting Phase 7 of approved scheme. Approval in Jan 2018 for time extension to 2019 and revised restoration scheme. Operator said in late 2017 was 78,000 cu m remaining (approx. 93,000 tonnes capacity). Anticipated to last until 2019 based on receiving 40,000 tpa
Hespin Wood	2039	Cumbria Waste Management Ltd	L04 Non-Haz	1,392,388	108,560	1,314,978	1,972,467	
Lillyhall	2029	FFC Recycling (UK) Ltd	L02 Non-Haz (SNRHW)	892,754 <i>(Less 390,000 LLW capacity)</i> 502,754	5,090	891,053 <i>(Less 390,000 LLW capacity)</i> 501,053	1,336,579 (less 585,000 LLW) 751,579	
Flusco	2032	Lakeland Waste Management Ltd	L02 Non-Haz (SNRHW)	901,598	74,883	884,621	1,326,931	
Distington Landfill, Workington	Closed	Cumbria Waste Management Ltd	L04 Non-haz Non-Inert	-	6,058 HIC?	-		
TOTAL			Non-inert	<u>2,824,611</u>		2,833,131 (as adjusted = 2,778,652)	4,324,697 (as adjusted= 4,167,988)	
Additional Non-Inert capacity permitted 2017/2018								
Hespin Wood	2039			200,000		200,000	300,000	
Total capacity				<u>3,024,611</u>		3,033,131 (as adjusted = 2,978,652)	4,549,697 (as adjusted = 4,467,978)	

¹ Tonnage capacity calculated using ratio of voidspace (cubic metres) x 1.5 = tonnage

APPENDIX 11 - Landfill capacity in Cumbria (based on end of 2017 EA data – published 2018)

Site	Expiry date	Operator	Landfill Type	EA data End of 2016 permitted Voidspace (m³)	2017 WDI data on waste received 2017 throughputs (tonnes)	EA data End of 2017 permitted Voidspace (m³)	End of 2017 capacity (tonnes)	Comments
INERT LANDFILL CAPACITY								
Derwent Howe	Closed		Inert	0				
Roan Edge Landfill	2031	L&W Wilson (Endmoor Ltd)	L05 Inert	195,843	648	195,200	292,800	EA comment - Estimated from 2017 waste returns. Operator asked for survey and calculations
TOTAL			Inert	195,843		195,200	292,800	
Additional Inert Capacity permitted 2017/2018								
Goldmire	2042		L05 Inert	850,000		850,000	1,275,000	EA comment - Site has yet to commence operation.
Roan Edge Landfill	2031		Inert	406,000		406,000	609,000	CCC comment - Anticipated to start receiving waste end of 2018 Planning permission granted in 2017 – prior extraction required
Total capacity				1,451,843		1,451,200	2,176,800	

Additional Inert waste disposal sites with permits for Deposit of waste to land/ Recovery. Taken from WDI 2017 showing Inert CD & E waste received at the following locations during 2017:

Site	Location/Postcode	Quantity received in 2017 (tonnes)
Distington Golf Club	CA14 5RT	47,038
Silvertop Quarry	CA8 2PE	24,222
Whitehaven Golf Course	CA28 8UD	9,200
Faugh no 2 Quarry	CA8 9EG	570
Overby Quarry	CA7 4NG	41,447
Rose Garth (subsidence infill)	Nr Long Marton CA16 6BU	2,614
Cooper House Farm	Selside, LA8 9LD	18,831
Dixon Hill Quarry	CA7 4NB	1622
Field 3771	Nr Maryport, CA15 8NF	15,969
Moss Flood Embankment	North of Carlisle, CA6 5LP	15,693
Kendal Auction Mart	Junction 36, LA7 7FP	18,143
Raven Crag	Nr Newbiggin, Penrith, CA11 0DE	6762
Total recorded Inert CD & E waste to land recovery		202,112

APPENDIX 12 – SUMMARY OF CAPACITY ISSUES FOR EACH GROWTH SCENARIO

Growth/Recycling	Waste Arising – No capacity deficit identified.
	Waste Managed -LACW; C&I; CD & E; Haz - Immediate capacity deficit in transfer stations. Deficit of 28,910 tonnes reducing to 7,996 tonnes by 2030.
Growth/No Recycling	Waste Arising - No capacity deficit identified.
	Waste Managed – LACW; C&I; CD & E; Haz - Immediate capacity deficit in transfer stations. Deficit of 28,911 tonnes reducing to 22,934 tonnes by 2030.
No Growth/Recycling	Waste Arising - LACW; C&I; CD & E; Haz - Immediate capacity deficit in transfer stations. Deficit of 8,834 but reducing to 2,077 by 2030.
	<p>Waste Managed – capacity deficit for treatment facilities receiving CD & E waste only. Deficit of 2,822 tonnes increasing to 15,632 tonnes by 2030.</p> <p>LACW; C&I; CD & E; Haz - Immediate capacity deficit in transfer stations. Deficit peaks at 41,239 tonnes in 2018 reducing to 29,979 tonnes by 2030.</p>
No Growth/No Recycling	Waste Arising - LACW; C&I; CD & E; Haz - Immediate capacity deficit in transfer stations. Deficit remains at 11,379 tonnes throughout the Plan period.
	Waste Managed – LACW; C&I; CD & E; Haz - Immediate capacity deficit in transfer stations. Deficit remains at 45,481 tonnes throughout the Plan period.
Housing Targets Met/ Recycling	Waste Arising -LACW; C&I; CD & E; Haz - Capacity deficit in transfer stations in 2025. Deficit of 2,012 tonnes increasing to 12,228 tonnes by 2030.
	Waste Managed – not modelled for this level of growth
Housing Targets Met/ No Recycling	Waste Arising -LACW; C&I; CD & E; Haz - Capacity deficit in transfer stations in 2020. Deficit of 751 tonnes increasing to 21,615 tonnes by 2030.
	Waste Managed – not modelled for this level of growth

APPENDIX 13 – QUARRIES IN CUMBRIA WITH PERMISSION DUE TO EXPIRE AND RESTORATION SCHEMES DUE FOR COMPLETION WITHIN THE CMWLP PERIOD (BY 2030)

Site Name	Year permission expires/restoration to be completed by	Request for extended operating period received
Brockleworth Farm	2021	No - confirmed no further extraction planned.
Cardewmires Quarry	2025	
Faugh No. 1 Sand Pit	2024	
Faugh No.2 Sand Pit	2022	
Holme Park Quarry	2023	Time extension to 2043 approved in July 2017 subject to S106
Kirkhouse Quarry	2023	
Low Gelt Quarry	2019	Screening Opinion received January 2019 regarding proposed time extension until 2026.
Moota Quarry	2024	
Overby No 2 Sand Pit	2026	
Peel Place Quarry	2025	
Roosecote Sand Pit	2029	
Shapfell Limestone (Hardendale)	2018	Applications approved in June 2019 to provide extended timeframe for completion of revised restoration scheme. Permission expires 2036.
Snowhill Quarry 1	2022	
Snowhill Quarry 2	2020	
Tendley Quarry	2029	