Kirklees Waste Needs Assessment 2025

Management Requirements for Local Authority Collected Waste in Kirklees to 2043

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Abbreviations

Abbreviation	Full Term
AD	Anaerobic Digestion
C & I	Commercial & Industrial Waste
C, D & E / CDEW	Construction, Demolition & Excavation Waste
DEFRA	Department for Environment, Food and Rural Affairs
DMR/MDR	Dry mixed recyclables or mixed dry recyclables
EA	Environment Agency
EfW	Energy from Waste
EWC	European Waste Catalogue
HWRCs	Household Waste Recycling Centres
LACW	Local Authority Collected Waste
MBT	Mechanical Biological Treatment
MRS	Metal Recycling Site
MRF	Material Recycling Facility
PPG	Planning Practice Guidance
RDF	Refuse Derived Fuel
WCA	Waste Collection Authority
WDA	Waste Disposal Authority
WDF	WasteDataFlow
WDI	Waste Data Interrogator
WNA	Waste Needs Assessment
WPA	Waste Planning Authority
WTS	Waste Transfer Station

Glossary of terms

Term	Definition
Anaerobic Digestion	A process to manage organic matter including green waste and food waste broken down by bacteria in the absence of air, producing a gas (biogas) and nutrient rich solid or liquid (digestate). The biogas can be used to generate energy either in a furnace, gas engine, turbine or to power vehicles, and digestate can be applied to land as a fertiliser.
Biodegradable waste	Waste that can break down over time due to natural biological action/processes, such as food, garden waste and paper.
Commercial Waste	Waste from factories or premises used for the purpose of trade or business, sport, recreation or entertainment
Construction, Demolition & Excavation Waste	Waste arising from the building process comprising demolition and site clearance waste and builders' waste from the construction/demolition of buildings and infrastructure. Includes masonry, rubble and timber.
Defra	The UK Government department responsible for developing national waste management policy.
Energy from Waste	The conversion of the calorific value of waste into energy, normally heat or electricity through applying thermal treatment of some sort. May also include the production of gas that can be used to generate energy.
Environment Agency	The body responsible for the regulation of waste management activities through issuing permits to control activities that handle or produce waste. It also provides up-to-date information on waste management matters and deals with other matters such as water issues including flood protection.
European Waste Catalogue (EWC)	Comprehensive listing of wastes divided into 20 chapters, most of which are industry-based, although some are based on materials and processes. Each waste type is assigned a unique six-digit code. Otherwise referred to as List of Waste (LoW).
Green waste	Biodegradable plant waste from gardens and parks such as grass and hedge trimmings, from domestic and commercial sources suitable for composting.

Term	Definition
Hazardous Waste	Waste requiring special management under the Hazardous Waste Regulations 2005 due to posing potential risk to public health or the environment (when improperly treated, stored, transported or disposed). This can be due to the quantity, concentration, or characteristics of the waste.
Household Waste	Waste from households collected through kerbside rounds, bulky items collected from households and waste delivered by householders to household waste recycling centres and "bring recycling sites". along with waste from street sweepings, and public litter bins.
Incineration	The controlled combustion of waste. Energy may also be recovered in the form of heat (see Energy from Waste).
Industrial Waste	Waste arising from any factory and from any premises occupied by an industry (excluding mines and quarries).
Kerbside Collection	The collection of recyclate and waste from households, or occasionally industrial and commercial premises.
Landfill (including land raising)	The permanent disposal of waste to land, by the filling of voids or similar features, or the construction of landforms above ground level (land-raising).
Local Authority Collected Waste	Waste collected by or on behalf of a local authority. Includes household waste and business waste where collected by a local authority and non-municipal fractions such as construction and demolition waste delivered to HWRCs. LACW is the definition used in statistical publications, which previously referred to municipal (solid) waste (MSW).
Materials Recycling Facility (MRF)	A facility for sorting recyclable materials from the incoming waste stream.
Mechanical Biological Treatment (MBT)	A waste facility that combines a sorting facility with a form of biological treatment such as composting or anaerobic digestion.
Municipal Solid Waste (MSW) (from 2010)	Local Authority Collected Waste plus any wastes similar in nature and composition including that collected from businesses by private waste collection companies. (Term used for reporting against retained EU Directives only).
Non-Hazardous Waste Landfill	A landfill permitted to accept non-inert (biodegradable) wastes e.g. municipal and commercial and industrial waste and other non-hazardous (including inert) wastes. May only accept hazardous waste if a special cell is constructed.

Term	Definition
Open Windrow Composting	A process in which biodegradable waste (such as green waste) is broken down in an open air environment (aerobic conditions) by naturally occurring micro-organisms to produce a material suitable for use as a soil improver.
Other Recovery	Processes such as energy from waste that recover value from waste other than recycling or composting. Sits below recycling in the waste hierarchy, but above disposal.
Recovery	Subjecting waste to processes that recover value including recycling, composting or thermal treatment to recover energy.
Recycling	The reprocessing of materials extracted from the waste stream either into the same product or a different one.
Refuse Derived Fuel	A fuel produced to a contract specification by processing the combustible fraction of waste.
Residual Waste	*The Environmental Targets (Residual Waste) (England) Regulations 2023*, defines residual waste as any waste other than excluded waste that is (a) sent to landfill in the United Kingdom; (b) put through incineration in the United Kingdom; (c) used in energy recovery in the United Kingdom; or (d) sent outside the United Kingdom for energy recovery.
The Plan area	The area subject to the Waste Local Plan to which this study relates. In this case the metropolitan borough of Kirklees. Note The Plan area does not cover the Peak District National Park (PDNP), but as part of the PDNP falls within Kirklees waste arising in the PDNP may be reported as managed as waste from Kirklees as the WDI does not identify waste from PDNP separately.
Waste Collection Authority (WCA)	A local authority that has a duty to collect household waste. WCAs also have a duty to collect commercial waste if requested to do so and may also collect industrial waste. In this case Kirklees Council as unitary authority
Waste Disposal Authority (WDA)	A local authority responsible for managing the waste collected by waste collection authorities and the provision of household waste recycling centres. In this case Kirklees Council as unitary authority.

Term	Definition
Waste Minimisation / Reduction	The most desirable way of managing waste according to the Waste Hierarchy, by avoiding the production of waste in the first place.
Waste Planning Authority	The authority responsible for planning for waste within a specific administrative area. In this case Kirklees Council.
Waste Transfer Station	A site to which waste is delivered for sorting or baling prior to transfer to another place for recycling, treatment or disposal.

Introduction

1.1 Kirklees Council has contracted BPP Consulting to produce the Kirklees Waste Needs Assessment (WNA) with 2023 data, from this, forecasts for waste arisings have been generated and resulting management requirements assessed.

1.2 This WNA includes the following reports:

1. Management Requirements for Local Authority Collected Waste to 2043;
2. Management Requirements for Commercial & Industrial Waste to 2043;
3. Management Requirements for Construction, Demolition & Excavation Waste to 2043;
4. Management Requirements for Hazardous Waste to 2043;
5. Scoping Review of Management Requirements for Other Waste;
6. Review of Waste Flows.
7. Overview of above.

1.3 This report has taken the quantity of Local Authority Collected Waste (LACW) reported as arising in Kirklees for 2023/24 and used this baseline arisings value to forecast and assess projected management requirements through to 2043.

Assessing Kirklees LACW Arisings

Introduction

1.4 This section presents data for arisings of Local Authority Collected Waste (LACW) in Kirklees in 2023/24, the most recent year for which data is available at the time of writing. From this, potential future arisings are forecast.

Definition

1.5 In the UK, until 2010, the term Municipal Solid Waste (MSW) was taken as meaning waste collected by local authorities (mainly from households). However, to ensure consistency with the EU definition of municipal waste, in 2010, the UK expanded the definition to include not just waste from households but any wastes similar in nature and composition and so now the term 'municipal waste' includes wastes (of a similar type) collected from businesses by private waste collection companies as well as waste formerly referred to as MSW.

1.6 In light of this, a new term to only cover waste for which local authorities have responsibility to collect/manage was adopted. This term is “Local Authority Collected Waste” (LACW). LACW includes ‘household waste’ (waste produced by householders collected from their homes (collected household waste) and waste deposited at Household Waste Recycling Centres (HWRCs), plus commercial waste collected by councils, street sweepings, litter and fly tipped materials. In general, the non-household waste fraction of LACW represents around 5% of total LACW arisings.

1.7 The Kirklees Local Plan defines LACW as:

“waste which is collected by the council from households and businesses”

Principal Data Sources

1.8 The principal data sources used to generate this part of the WNA are as follows:

DEFRA Local Authority Collected Waste Management - Annual Results

1.9 Each year DEFRA releases annual datasets for LACW management in England[1]. This is based on data submitted by WCAs and WDAs through WasteDataFlow. At the time of writing the latest dataset published is that for the financial year 2023/24.

WasteDataFlow

1.10 Wastedataflow (WDF) is a web-based data entry portal used by local authorities to report on waste management arrangements to central Government on a quarterly basis. The data input is used to report on national recycling and landfill diversion performance as well as local authority league tables on recycling rates etc following independent quality checking. While Councils normally report in financial years, as the EA WDI reports for calendar year the data for Kirklees covering the four quarters of 2023 has been accessed to ensure comparability between datasets.

Advice on Data

1.11 The principal source of advice with respect to the use of data to inform production of a plan evidence base is the national Planning Practice Guidance (nPPG) available at Guidance waste. This states that:

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

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

Paragraph: 022 Reference ID: 28-022-20141016

[1] Dataset released by DEFRA has been accessed to ascertain LACW arisings and management profile for Kirklees. This data is derived from returns provided by the Council via the Waste Data Flow portal.

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

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

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

Data Presentation

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

- Where actual tonnage data has been accessed, this has been used in the computations.
- Where data has been subject to computation, this has been included to 3 sf. Final values discussed in the text are rounded to the nearest 500.
- Where percentages have been used to generate data, the percentages are presented as whole numbers, however the computations actually use the true value. This means that values generated as a result of computations may not always precisely correspond to the values computed if the percentage value presented in this report is applied.
- A threshold of >500 tonnes has been applied to certain computations.

Kirklees LACW Management Arrangements

1.14 Kirklees Council, as both the Waste Collection Authority (WCA) and Waste Disposal Authority (WDA), has sole responsibility for the management of LACW arising in Kirklees. The Council has an existing waste management contract with SUEZ Recycling and Recovery in place to 2028. This includes the operation of 4 HWRCs, the Kirklees

Energy from Waste (EfW) plant, Vine Street material recycling facility (MRF) and 2 waste transfer stations (WTS).

Kirklees Resource & Waste Strategy

1.15 The Kirklees Resource & Waste Strategy 2021 was first published by Kirklees Council in 2021. It sets targets for recycling, reducing and reusing LACW. The strategy was updated in 2023 and includes revised management targets for LACW.

Kirklees LACW Management Profile

1.16 The management profile of LACW arising in Kirklees over the last decade is displayed in Figure 1 below.

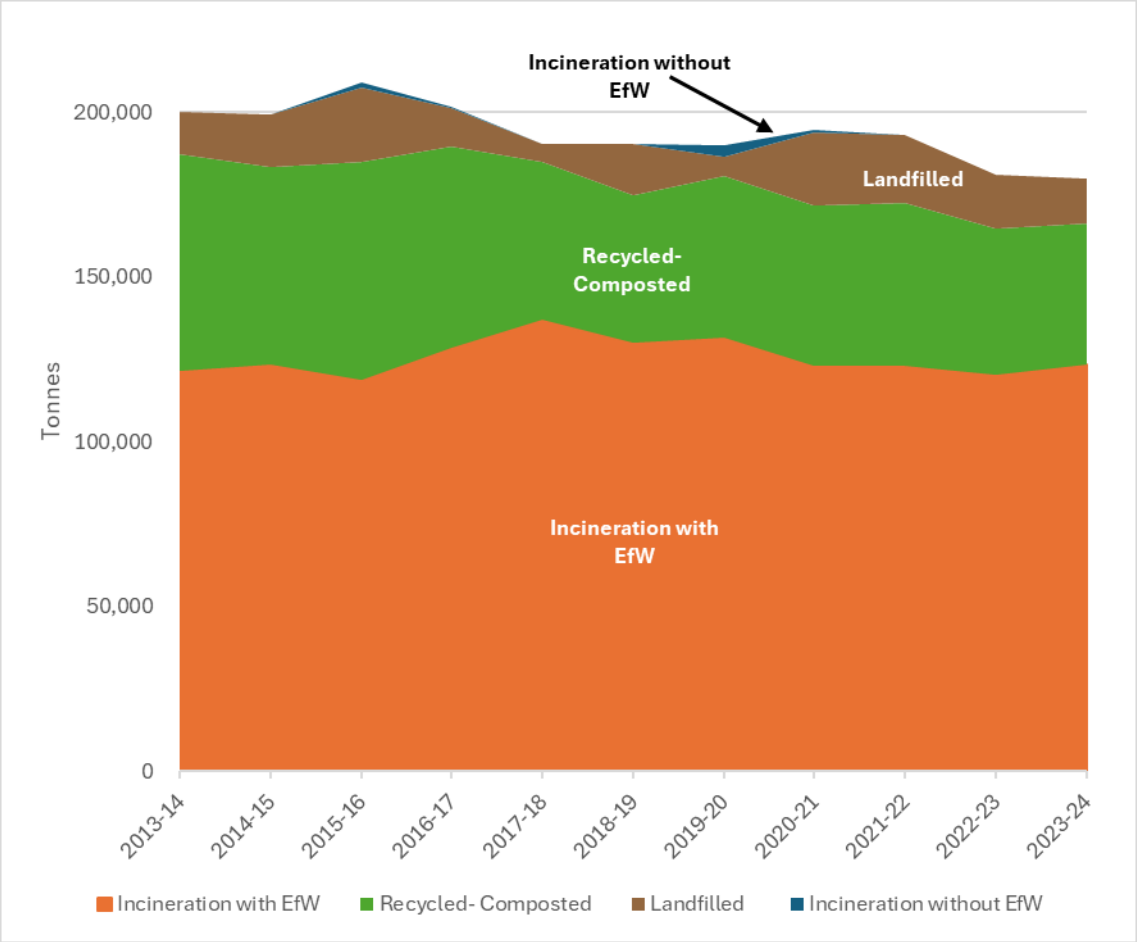


Figure 1: Management Profile for Kirklees LACW 2013/14 – 2023/24 (tonnes)
Source: DEFRA

1.17 Figure 1 shows that:

- Kirklees LACW is predominately managed through incineration with EfW throughout the decade, with an average of c125,500 tpa managed via this route.
- Recycling and composting shows greater variability with a marked fall in 2017/18 from 2016/17 levels and then relatively stable through to 2023/24.
- LACW to landfill has fluctuated over the decade, with a peak in 2015/16 of c22,500 tonnes and a low in 2017/18 of c5,500 tonnes.
- Very little Kirklees LACW is managed via incineration without EfW, with 1,000 tonnes managed via this route in only 2015/16 and 2019/20.

Kirklees LACW Forecast

1.18 The following have been taken into account in projecting future LACW arisings in Kirklees over the Plan period:

- National Planning Practice Guidance (nPPG)
- National forecast of LACW growth in England
- Historical pattern of LACW arisings in Kirklees

These are discussed below.

National Planning Practice Guidance

1.19 The national Planning Practice Guidance (nPPG)[2] states the following in relation to forecasting future MSW arisings (now referred to as LACW):

"***How should waste planning authorities forecast future municipal waste arisings?***
Forecasts of future municipal waste arisings are normally central to the development of Municipal Waste Management Strategies.
It will be helpful to examine municipal waste arisings according to source (i.e. household collections, civic amenity site wastes, trade waste etc.). This may allow growth to be attributed to particular factors and to inform future forecasts.
A 'growth profile', setting out the assumed rate of change in waste arisings may be a useful starting point for forecasting municipal waste arisings. The growth profile should be based on two factors:

- household or population growth; and
- waste arisings per household or per capita.

How is a growth profile prepared?
A growth profile is prepared through a staged process:

- calculate arisings per head by dividing annual arisings by population or household data to establish short- and long-term average annual growth rates per household and
- factor in a range of different scenarios, e.g. constant rate of growth, progressively lowering growth rates due to waste minimisation initiatives.
- The final forecast can then be modelled with scenarios based on the long- and short-term rate of growth per household, together with household forecasts."

1.20 It is notable that the examples of growth scenarios given in nPPG refer to either a constant rate or lowering of growth rates i.e. there is no mention of the possibility of a

[2] Ref.: Revision date: 16 10 2014 Paragraph: 029 & 30 Reference ID: 28-029-20141016

rising growth rate, suggesting that the Government does not see increasing growth in LACW as a scenario to be modelled.

Context in Kirklees

1.21 The previous WNA modelled various growth scenarios including a zero growth, i.e. static growth. It is unclear what actual growth rates were applied. Furthermore, the Resource & Waste Strategy 2021 (and 2023 update) does not include any local forecasts for LACW. Therefore, the following have been considered in projecting future LACW arisings in Kirklees over the Plan period:

i. Historical pattern of LACW arisings in Kirklees;
ii. National DEFRA forecast of LACW in England;
iii. nPPG advice on estimating LACW growth.

i) Historical Pattern of LACW Arising in Kirklees

1.22 LACW arisings in Kirklees over the past decade is shown in Table 1 along with growth rates. below. The observed pattern is displayed in Figure 2.

Table 1: Kirklees LACW arisings between 2013/14 and 2023/24 including 5yr growth rates

Year	Total	Annual growth rate
2013-14	200,210	
2014-15	199,330	-0.44%
2015-16	208,853	4.78%
2016-17	201,622	-3.46%
2017-18	190,195	-5.67%
2018-19	190,439	0.13%
	5-year average growth rate	**-0.93%**
2019-20	189,858	-0.31%
2020-21	194,741	2.57%
2021-22	192,857	-0.97%
2022-23	181,154	-6.07%
2023-24	179,680	-0.81%
	5-year average growth rate	-1.12%
	Average annual growth rate over decade	-1.02%

The value for 2020-21 may reflect the Covid-19 pandemic lock-down so should be regarded as an anomalous value and not be accounted for.

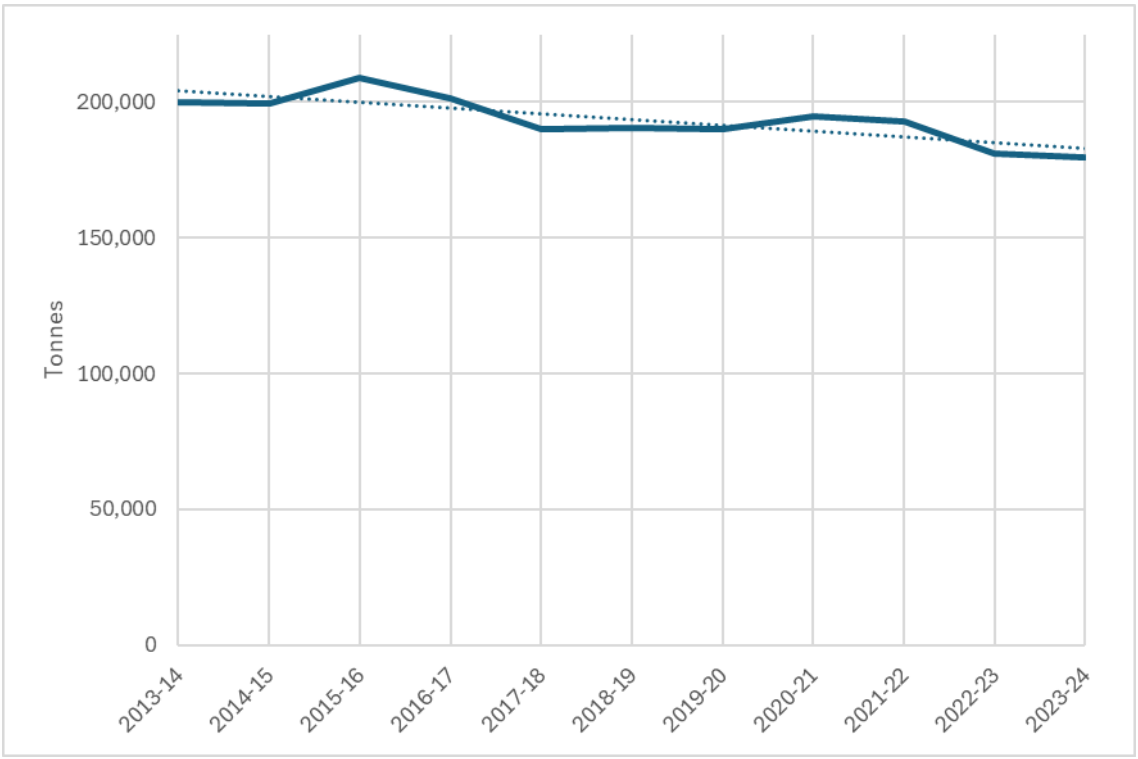


Figure 2: Trend in LACW Arisings in Kirklees 2013/14 to 2023/24

1.23 Historical data for LACW arisings (Table 1 and Figure 2) shows an overall declining trend in arisings from 2013/14 to 2023/24 as indicated by the dotted trendline with an average annual growth rate over the decade of minus 1.02%.

Relating LACW arisings to Household numbers

1.24 LACW arisings in Kirklees over the past nine years is compared with the number of households[3] in Figure 3.

[3] Kirklees Observatory, *Housing Report for Kirklees*. https://observatory.kirklees.gov.uk/housing/

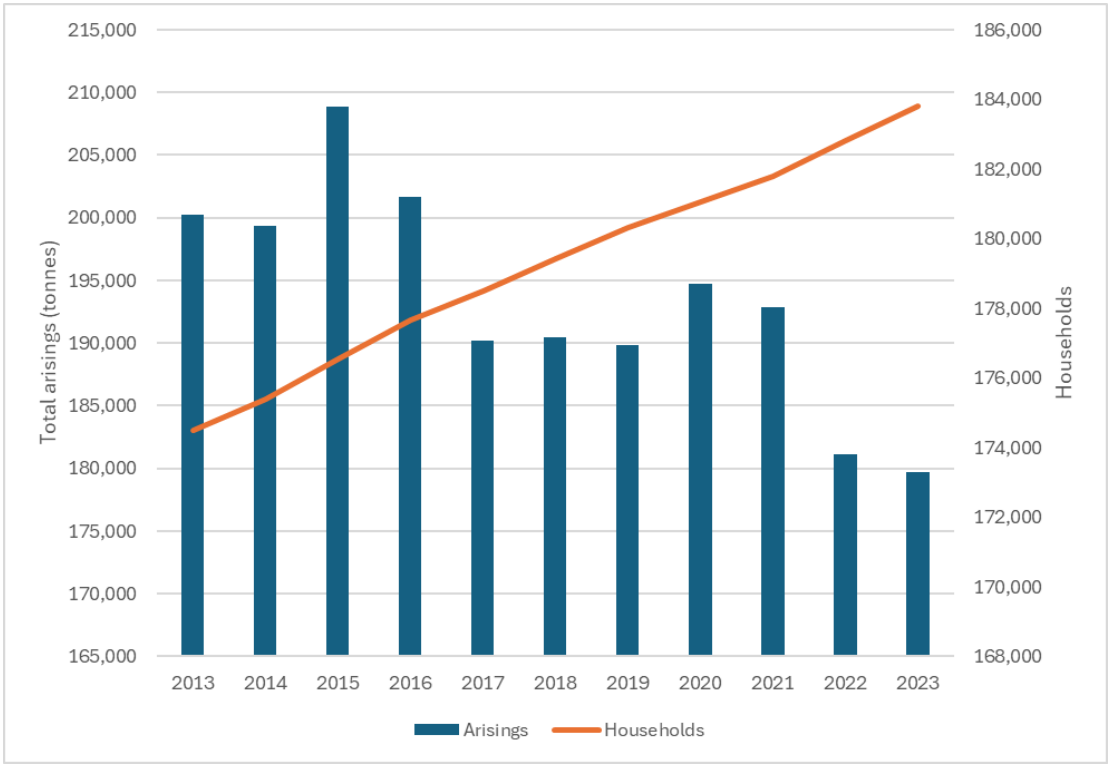


Figure 3: Total LACW arising (bar chart) vs household numbers (orange line) 2013 to 2023
(y axis not set to zero)

1.25 Figure 3 shows that while the number of households in Kirklees increased steadily over the period 2013 and 2023, Kirklees LACW arisings decreased over time reaching their lowest level in 2023/24. This suggests an inverse correlation between growth in the number of households and LACW arisings.

ii) National DEFRA Forecast of LACW in England

1.26 DEFRA published a study of *Future Waste Arisings in England*[4] in 2021. This included the most current national forecast for LACW published by Government (amongst others). The method used to produce a forecast for LACW waste nationally involved the development of a model[5] using external variables such as population growth and Regional Gross Disposable Household Income trends (GDHI) to project LACW growth. Three scenarios were constructed (central, lower and upper) but for the purposes of this exercise the central forecast is referred to. The graph resulting from the forecast produced is reproduced as Figure 4 below.

[4] '*Future Waste Arisings*' Eunomia, April 2021

[5] This is different to a standard time-series forecast as it includes lagged dependent variables

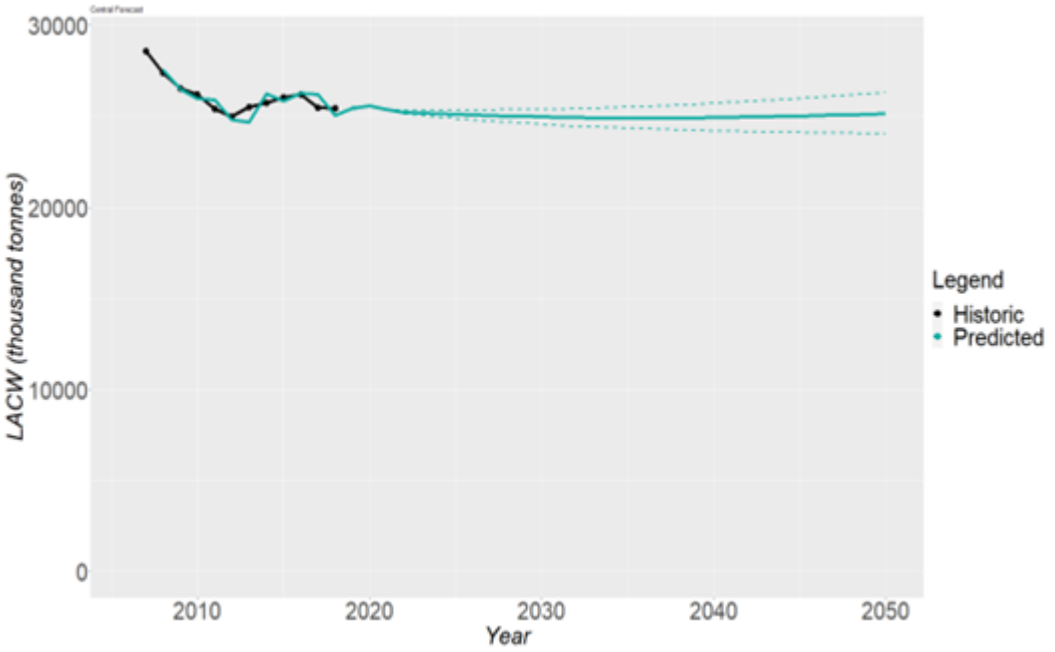


Figure 4: Local Authority Collected Waste Arisings Forecast for England (2020-2050)
Source: Reproduced from Future Waste Arisings, for DEFRA (2021)

1.27 Figure 4 shows that nationally, LACW arisings were predicted to increase slightly in 2020 and then decrease marginally from 2022 to 2035, with a slight upswing from 2035 to 2050[6]. The growth rates indicated at 5-year intervals from 2020 for the central scenario are shown in Table 2 below.

Table 2: Defra National LACW Forecast 5-year Growth Rates

Year	2020	2025	2030	2035	2040	2045	2050
5-year growth rate	-	-2.12%	-0.18%	-0.54%	+0.37%	+0.18%	+0.54%

1.28 While the national LACW forecast presented in the DEFRA 2021 report provides an indication of the direction in which growth in LACW in Kirklees may be headed, it should of course be noted that the report provides a national picture and so presents an average of what is predicted to happen across England. Thus, it masks any regional or local differences that may arise from more local disparities such as varying levels of prosperity and associated consumption. That being said the forecasts presented in the DEFRA 2021 report are used as the basis for modelling of the achievement of targets related to the policy goals of national Resources & Waste Strategy published in 2018[7]

[6] It is noted this appears to be contrary to nPPG advice published in 2016 cited above

[7] Our Waste, Our Resources: A Strategy for England, Department for Environment, Food & Rural Affairs, December 2018.

and the Environment Act, and so represents the forecast of LACW that is driving national policy for measures and initiatives that can reasonably be expected to impact the management of LACW arising in Kirklees locally.

iii) National Planning Practice Guidance advice on estimating LACW growth

1.29 The method set out in the nPPG to generate a Plan area level LACW forecast proposes that a growth profile be based on household growth and waste arisings per household and/or population growth and waste arisings per capita. This can then be modelled with a range of different scenarios e.g. constant rate of growth and progressively lowering growth rates due to factors such as waste minimisation/dematerialisation.

Building a Growth Profile

1.30 The nPPG sets out a step-by-step basis to establish a growth profile:

Step 1 – Establish short-term average annual growth rates per household/population
Step 2 – Establish long-term average annual growth rates per household/population

This is done by dividing annual LACW arisings by population or household numbers data. Figure 5 below plots the output of this exercise by household for Kirklees.

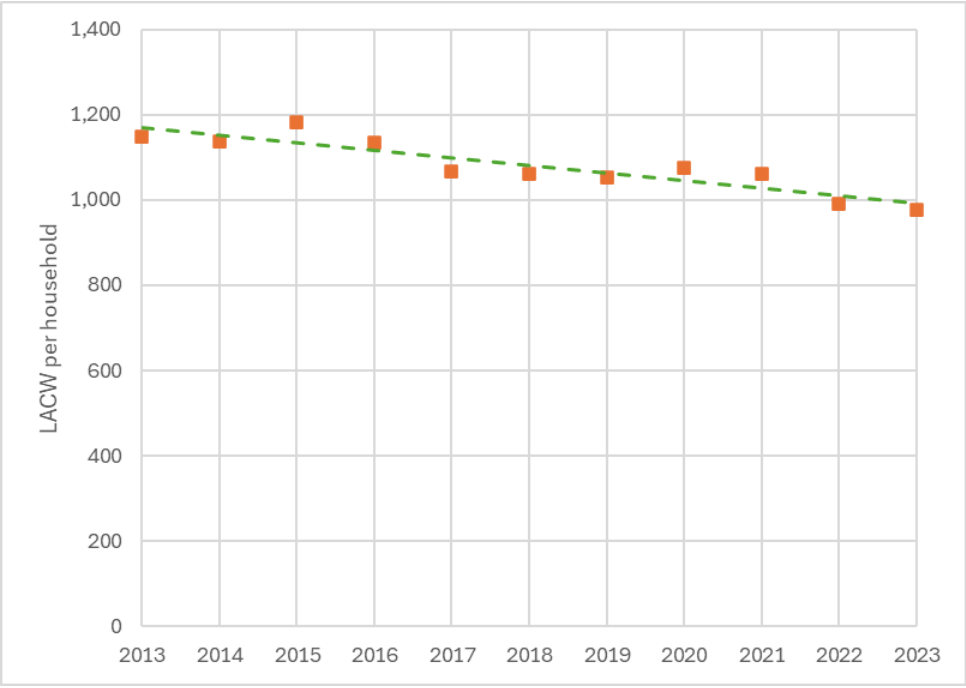


Figure 5: LACW per household in Kirklees 2013/14 to 2023/24
Green dashed line is a trendline NB: y axis not at zero.

Figure 5 yields the following:

- the average compound annual growth rate for LACW arisings per household for the period 2013/14 to 2023/24 is -1.54% (the long-term growth rate);
- the average compound annual growth rate for LACW arisings per household for the 5-year period 2017/18 to 2023/24 is -2.10% (short-term growth rate).

1.31 The long- and short-term growth rates in LACW arisings per household arrived at were then applied to the baseline LACW arisings value for 2023/24 of c179,500 tonnes, to the end of the Plan period. In addition, scenarios reflecting the following growth factors are plotted:

- DEFRA National Forecast of LACW at 5-year intervals;
- Historical LACW Growth of -1.02% per annum (see commentary under Figure 2).

The next step is to apply the growth rates for LACW arisings per household per annum from the annual household growth forecast for Kirklees[8].The results are displayed in Figure 6 below.

[8] 2018 ONS Household projections. See footnote 3 for source.

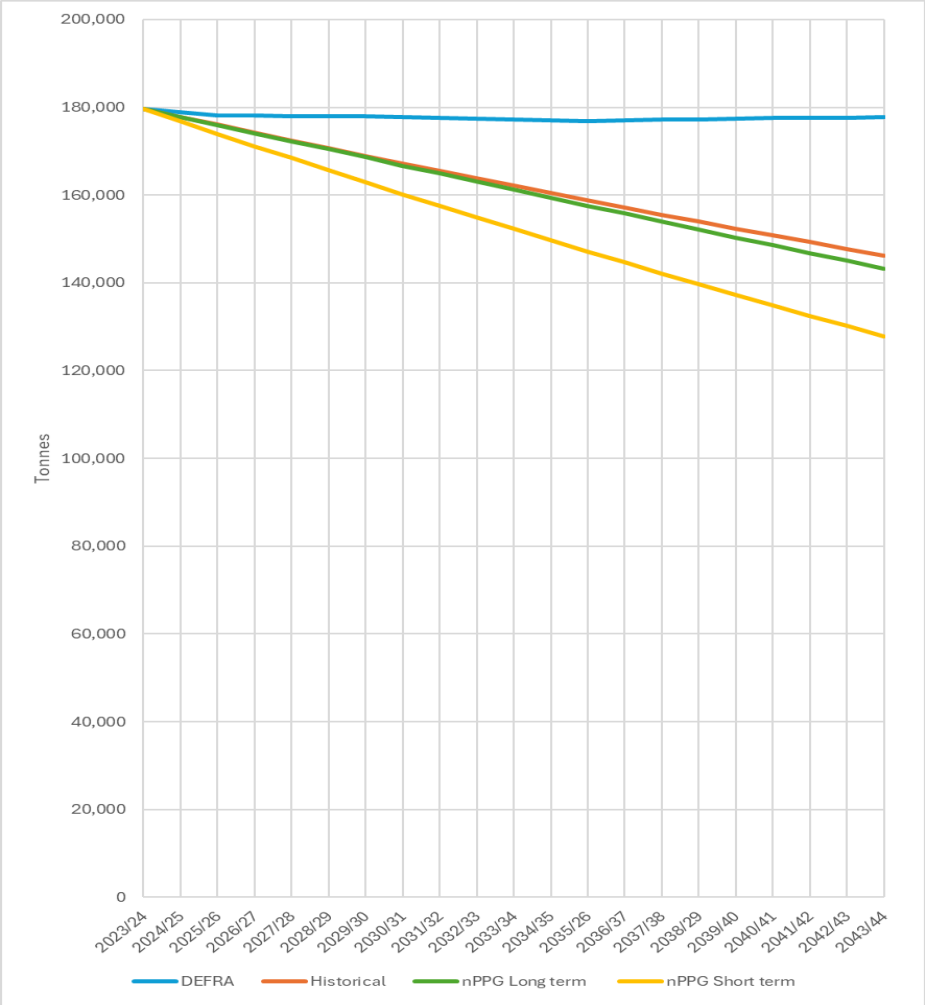


Figure 6: Kirklees LACW arisings forecasts cone of possibilities (from 2023/24 baseline)

1.32 Even though the number of households in Kirklees is forecast to increase over the Plan period, all four scenarios result in a lower LACW arising in 2043 to the actual 2023/24 baseline arising value, i.e. LACW arisings are projected to fall over time. This is because the forecast fall in waste arisings per household more than counteracts the projected growth in household numbers. The corresponding values are presented in Table 3.

Table 3: Forecast values for Kirklees LACW arisings (tonnes)

Year	DEFRA Growth Rate	Historic Growth Rate projection	nPPG Long-Term arisings forecast	nPPG Short-Term arisings forecast
2023/24	*179,680*	*179,680*	*179,680*	*179,680*
2024/25	178,918	177,839	177,817	176,808
2025/26	178,160	176,017	175,932	173,939
2026/27	178,095	174,213	174,082	171,133
2027/28	178,031	172,428	172,281	168,401
2028/29	177,967	170,662	170,456	165,671
2029/30	177,903	168,913	168,596	162,932
2030/31	177,839	167,182	166,715	160,199
2031/32	177,647	165,469	164,904	157,559
2032/33	177,455	163,774	163,080	154,931
2033/34	177,264	162,096	161,261	152,332
2034/35	177,072	160,435	159,437	149,753
2035/36	176,881	158,791	157,589	147,176
2036/37	177,012	157,164	155,783	144,663
2037/38	177,143	155,554	153,976	142,172
2038/39	177,274	153,960	152,169	139,705
2039/40	177,405	152,383	150,354	137,253
2040/41	177,536	150,821	148,545	134,830
2041/42	177,600	149,276	146,777	132,468
2042/43	177,664	147,747	145,015	130,133
2043/44	177,728	146,233	143,229	127,799

1.33 Taking the mean value between the projected LACW arisings at 2043 for the lowest (nPPG short term) and highest (DEFRA) projected growth rates, would equate to c153,000 tonnes of LACW arising in 2043. This equates to a decline of c15% over the Plan period (minus 0.75% pa).

Relating forecasts to waste arisings per household

1.34 In order to gauge how realistic the proposed forecasts might be, the waste per household factors implied by each scenario at 2043 have been calculated and then compared against the actual waste per household factor in 2023 of 977kg per household. This is shown in Table 4 below.

Table 4: Waste per household in 2043 compared to 2023 actual and the percentage change year on year implied by each scenario (tonnes)

Forecast	Waste arisings per household factor at 2043 (t/phh)	Difference from actual in 2023 over 20 years (t/phh)	Percentage annual change
DEFRA	0.89	-0.087	-0.41%
Historic	0.73	-0.24	-1.16%
Long-Term Growth	0.72	-0.26	-1.24%
Short-Term Growth	0.64	-0.34	-1.60%
Calculated mean value from cone of possibilities	0.77	-0.21	-1.01%

Findings

1.35 The findings from the comparison shown in Table 5 are as follows:

- the national DEFRA central forecast implies a reduction in per household arisings of 87kg over the Plan period. This equates to a 4.3kg fall per household per year;
- the historic data scenario implies a reduction in per household arisings of 244kg over the Plan period. This equates to a 12.2kg fall per household per year;
- the long-term growth scenario implies a reduction in per household arisings of 260kg over the Plan period. This equates to a 12.9kg fall per household per year;
- the short-term growth scenario implies a reduction in per household arisings of 337 kg over the Plan period. This equates to a 16.8 kg fall per household per year;
- the mean value from the cone of possibilities forecast implies a reduction in per household arisings of 211 kg over the Plan period. This equates to a 10.6 kg fall per household per year.

1.36 The above analysis suggests waste arisings per household will fall year on year and this could vary between 4.3-16.8 kg. The cone of possibilities central forecast predicts a fall in waste per household per year of 10.6 kg, giving an average arising of 765 kg in 2043, is considered to be the most realistic scenario, plotting a trajectory below the national Defra forecast blue line) but above the locally generated forecasts[9]. This yields the preferred scenario (Central Scenario – purple) shown in Figure 7.

[9] Note the long-term target in the Environment Act is that by the end of 2042 the total mass of residual waste per person does not exceed 280kg on average– a reduction from the 2019 level of 560kg per person, i.e. a halving of per capita residual waste production.

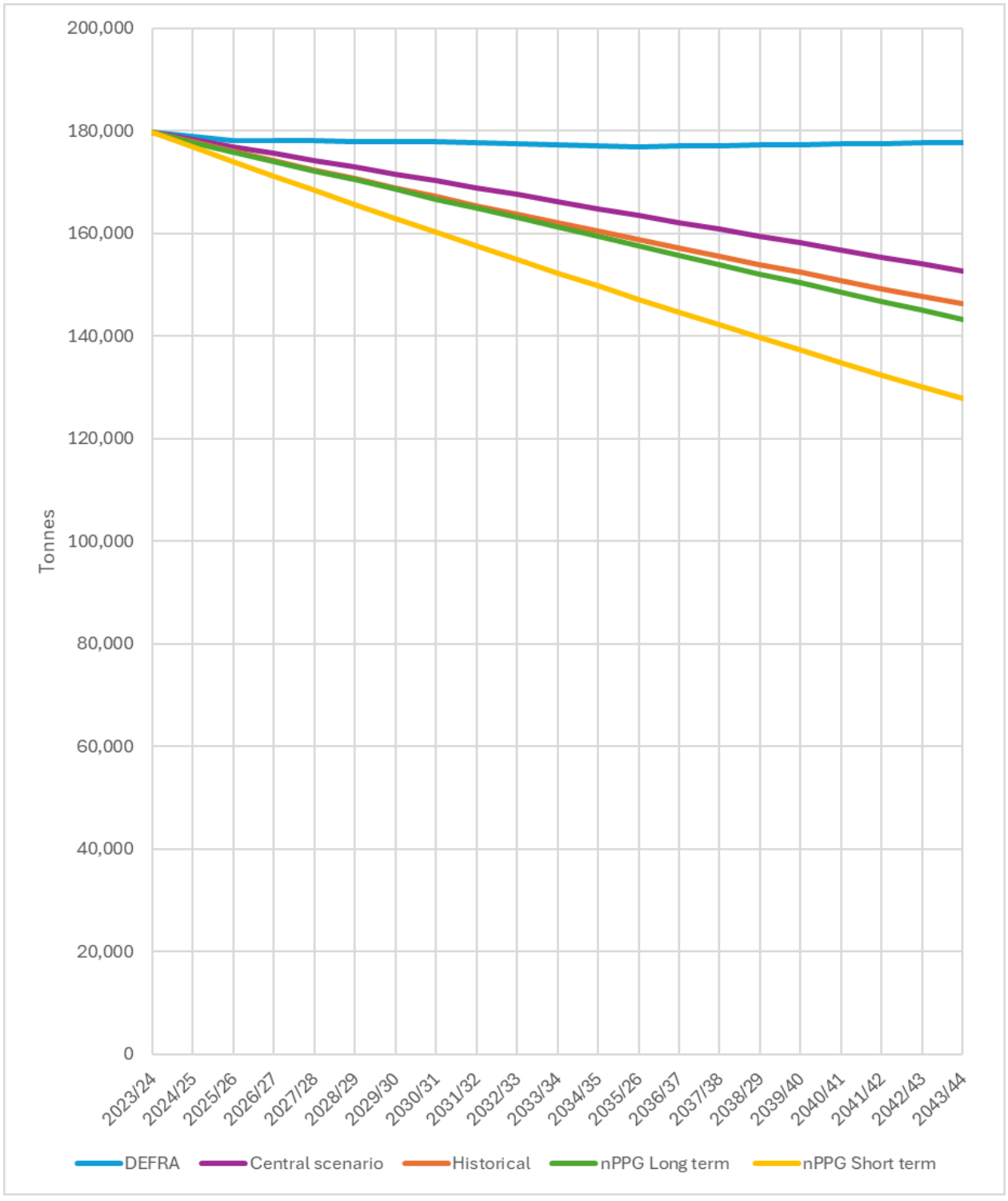


Figure 7: Cone of Possibilities' for LACW forecast with Mean Central Scenario

Forecast Conclusion

1.37 Taking the mean of the upper and lower scenarios of the 'cone of possibilities' gives a central scenario, which results in projected LACW arisings in 2048 of c146,000 tonnes, a decrease of c33,500 tonnes on the 2023/24 value. The forecast arisings each year are shown in Table 5 below.

Table 5: Forecast LACW arisings each year using the preferred Central Scenario (tonnes)

Year	Preferred Central Scenario
2023/24	*179,680*
2024/25	178,334
2025/26	176,988
2026/27	175,643
2027/28	174,297
2028/29	172,951
2029/30	171,605
2030/31	170,259
2031/32	168,914
2032/33	167,568
2033/34	166,222
2034/35	164,876
2035/36	163,530
2036/37	162,184
2037/38	160,839
2038/39	159,493
2039/40	158,147
2040/41	156,801
2041/42	155,455
2042/43	154,110
2043/44	152,764
2044/45	151,418
2045/46	150,072
2046/47	148,726
2047/48	147,381
2048/49	**146,035**

Kirklees LACW Future Management Capacity Needs

1.38 Having identified a preferred forecast, the next step is to establish the current LACW management profile and management arrangements for Kirklees LACW. This may then be used to establish realistic future management targets which then informs identification of any future management capacity requirements to ensure Plan area net self-sufficiency is met.

Existing LACW Management Profile

1.39 Table 6 below shows the management profile for 2023/24.

Table 6: LACW Management Profile in Kirklees 2023/24
Source: DEFRA 2023/24

Route	Tonnes	%
Total Arisings	179,680	
Recycling/ Composting	42,967	24%
Incineration with EfW	123,386	69%
Incineration without EfW	0	0%
Landfill	13,327	7%

1.40 Table 6 shows that in 2023/24 the percentage of LACW recycled/ composted stood at 24%, while the proportion sent to incineration with EfW stood at 69% and landfill stood at 7%.

Kirklees LACW Management Targets

1.41 Having established the existing management profile, the next step is to consider what management profile may be desirable and achievable and therefore what waste management targets ought to be set in the Plan to achieve that management profile. LACW is all classed as municipal waste (along with waste of a similar nature from commercial sources) and therefore, the municipal waste targets discussed below relate to LACW as a whole.

Kirklees R&W Strategy Local Targets

1.42 The adopted *Kirklees Resource & Waste Strategy* (2023 update) includes a 65% recycling and composting target for municipal waste by 2035 and a 95% diversion rate from landfill by 2030.

1.43 This compares with the management targets adopted in national policy for England set out below.

National LACW (Municipal waste) Management Targets

1.44 The EU Circular Economy Plan, to which the UK Government has confirmed its commitment[10], includes the following targets for municipal waste as a whole, which includes all LACW other than construction and demolition waste arising from works at homes:

- 55% recycling floor by 2025; and
- 60% recycling floor by 2030; and
- 65% recycling floor by 2035; plus
- 10% ceiling limit on landfilling by 2035.

1.45 The recently adopted Environment Act target of 50% reduction in residual waste per household by 2042 with an interim target of 21% reduction by tonnage by January 2028, is expected to require going beyond the above national recycling target. In addition, the Government has stated a desire to virtually eliminate the landfilling of biodegradable municipal waste by 2028.

1.46 Considering the above targets, the targets set out in Table 7 below are proposed.

[10] https://www.gov.uk/government/publications/circular-economy-package-policy-statement/circular-economy-package-policy-statement

Table 7: Proposed Targets for LACW Management in Kirklees

Italicised entries are actual values

Year	2028	2033	2038	2043	2048
Recycling/composting (floor)	≥55%	≥60%	≥65%	≥70%	≥75%
Other Recovery inc EfW	*38%*	35%	32%	30%	25%
Landfill (ceiling)	≤5%	≤5%	≤3%	≤1%	≤1%

Kirklees LACW Management Requirements

1.47 Applying the proposed targets to the preferred forecast gives the capacity requirements set out in Table 8.

Table 8: Future Management Profile for Forecast Kirklees LACW Arisings (tonnes)

Year	2028	2033	2038	2043	2048	Forecast Period Peak/Cumulative Capacity Requirement
Recycling/Composting Target (Floor)	95,123	99,733	103,670	106,935	109,526	109,526 (peak)
Remainder to Landfill Target (Ceiling)	8,648	8,311	4,785	1,528	1,460	134,063 (cumulative)
Other Recovery Remainder	65,721	58,178	51,038	45,829	36,509	65,721 (peak)

1.48 Table 8 shows Kirklees recycling/organic waste treatment capacity will need to be capable of managing a peak of c109,500 tonnes of LACW by the end of the Plan period for the proposed 2048 target/floor to be met.

1.49 The proposed landfill targets are forecast to result in a declining need for non-inert landfill with a total cumulative non-inert landfill requirement of c134,000 tonnes over the Plan period set out in Table 9.

Table 9: Cumulative Landfill Requirement for Kirklees residual LACW to 2048

Year	Landfill Requirement pa	Cumulative Landfill Requirement
2025/26	10,987	10,987
2026/27	10,207	21,195
2027/28	9,427	30,622
2028/29	8,648	39,270
2029/30	8,580	47,850
2030/31	8,513	56,363
2031/32	8,446	64,809
2032/33	8,378	73,187
2033/34	8,311	81,498
2034/35	7,606	89,104
2035/36	6,901	96,004
2036/37	6,195	102,200
2037/38	5,490	107,690
2038/39	4,785	112,475
2039/40	4,133	116,608
2040/41	3,482	120,090
2041/42	2,830	122,920
2042/43	2,179	125,099
2043/44	1,528	126,627
2044/45	1,514	128,141
2045/46	1,501	129,642
2046/47	1,487	131,129
2047/48	1,474	132,603
2048/49	1,460	**134,063**