London Waste Infrastructure Capacity Study

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Abbreviations

AATF	Approved Authorised Treatment Facility
AD	Anaerobic Digestion
AE	Approved Exporter
BAU	Business As Usual
C&I	Commercial and Industrial (waste)
CDE	Construction, Demolition and Excavation (waste)
CE	Circular Economy
DMR	Dry Mixed Recycling
DRS	Deposit Return Scheme
EA	Environment Agency
EfW	Energy from Waste
ELWA	East London Waste Authority
EPR	Extended Producer Responsibility
ERF	Energy Recovery Facility
EWC	European Waste Category
FALP	Further Alterations to the London Plan
FLASH	Flats above shops
GDP	Gross Domestic Product
GLA	Greater London Authority
GVA	Gross Value Added
HH	Household (waste)
HIC	Household, Industrial and Commercial (waste)
HWRC	Household Waste and Recycling Centres
LACW	Local Authority Collected Waste
LB	London Borough
LLW	Low level (radioactive) waste
LWM	London Waste Map
MBT	Mechanical and Biological Treatment

MRFs	Material Recycling Facilities
NLWA	North London Waste Authority
ONS	Office for National Statistics
OPDC	Old Oak Park Royal Development Corporation
RBKC	Royal Borough Kensington and Chelsea
RDF	Refuse Derived Fuel
RRC	Reuse and Recycling Centre (also commonly referred to as HWRC or Household Waste and Recycling Centre)
SELWTG	South East London Waste Technical Group
SIC	Standard Industrial Classification
SME	Small to Medium-sized Enterprise
SoCG	Statements of Common Ground
VLLW	Very low level (radioactive) waste
WCA	Waste Composition Analysis
WDF	WasteDataFlow
WDI	Waste Data Interrogator
WEEE	Waste Electrical and Electronic Equipment
WLWA	West London Waste Authority
WP	Work Package
WPAs	Waste Planning Authorities
WRAP	Waste and Resources Action Programme
WRWA	Western Riverside Waste Authority
WTS	Waste Transfer sites

Glossary

Word	Meaning
Arisings	The material that forms the waste or recyclate.
Brownfield sites	Previously developed areas, typically in urban locations, that are available for redevelopment and are often used for housing or other development.
Capacity	The amount of material permitted to be processed at a facility.
C&I waste	Commercial & Industrial Waste is any waste generated by businesses and specifically excludes waste from households.
CDE waste streams	Construction, Demolition and Excavation Waste is the waste arising from building, demolition, excavation, or renovation activity.
Circular Economy	A system where materials are kept in use, preventing them from becoming waste, whilst regenerating nature. It adopts processes like maintenance, reuse, refurbishment, remanufacture, recycling, and composting.
Combustion	This category relates to permitted activities that combust gas produced by the treatment or decomposition of waste.
Deposit Return Scheme	An environmental policy where a small, refundable deposit is added to the price of single-use drinks containers at the point of purchase.
Flats/FLASH waste	FLASH properties are defined as Flats Above Shops and have additional challenges to flats as they have no visible kerbside for the management of waste.
Gross Value Added	A measure of the contribution to the economy by a producer, industry, or sector. It is calculated as the value of output (goods and services produced) minus the value of intermediate consumption (inputs used in production).
Gross Domestic Product	A measure representing the total value of all final goods and services produced within a country over a specific period. It can be measured using the output, income, or expenditure approaches, which all aim to estimate the same economic value.
Household arisings	This is the amount of waste generated per household.
Household (HH) Waste	This is the waste being generated by household waste.
Incineration	This category relates to the incineration or co-incineration of waste.
Landfill	This category relates to permitted sites used for the deposit of waste into or on land.
Materials Category	This is the classification of material used in waste composition; at a high level this enables treatment and processing requirements to be identified.
Mining Waste	This category relates to mining waste operations in respect of inert extractive waste and unpolluted soil on the site of a mine or quarry.
Mobile Plant	This category relates to the use of mobile plant to treat waste, restore or spread waste on land. Operators are required to notify us about individual deployments, but this information is not held in waste returns. You can request this data separately.

Word	Meaning
MRS (Metal Recycling)	This category relates to permitted waste operations which predominantly recycle metal waste or dismantle larger components ready for onward transfer. Typical permit operations include metal recycling, vehicle dismantling and car breaking.
Non-regular collected (household) waste	All household waste excluding that which is regularly collected (see term definition for "Regularly collected waste" below). This includes waste and recycling collected through Reuse and Recycling Centres, bring banks, street recycling bins, bulky waste collections, street cleaning and other materials that are classified as household waste.
On/In Land	This category relates to permitted facilities where waste is recovered to land. This can either be depositing waste in a lagoon or utilising waste as part of a deposit for recovery scheme.
Planning scenario	The most likely modelling scenario to be used for waste planning. The projected waste arisings take account of future population projections and economic growth on waste generation.
Processing	This category relates to permitted installations where the treatment of waste is not the primary activity, but where waste is used as a product in their process. These permits usually don't have a permit condition to provide a waste return, but the operator has agreed to supply the data voluntarily. As such this is a limited number of sites.
Regular collected (household) waste	Household waste collected directly from a household's containers or a communal bin store scheduled on a regular basis, e.g., weekly or fortnightly. This material is often called "kerbside collected", but this term is not used in this report, since ambiguity can arise as to whether "kerbside" refers to standard access properties only, or properties (such as flats) using communal containers. For clarity "regular collected waste" includes all property types regularly collected from. "Regular collected" can refer to residual, dry recycling, food waste and/or garden waste, specified as required in this report.
Reuse and Recycling Centre	Facilities provided for residents to dispose their waste, as required by the Environment Protection Act 1990. Outside of London, these facilities are commonly referred to as Household Waste Recycling Centres or Civic Amenity Sites.
Recovery	The process whereby energy is recovered from waste materials.
Simpler Recycling	Legislation to enable consistent, more streamlined collections from all households, businesses and relevant non-domestic premises.
Storage	This category relates to permitted activities where waste may be bulked up and stored temporarily.
Transfer	This category relates to permitted sites which receive waste and transfer it on to another facility. It will often include other waste management activities not viewed as treatment i.e. storage, bulking of waste, compaction, manual sorting or separation of waste and repackaging. This category covers a broad variety of waste types and operations such as household/commercial/industrial waste, asbestos, clinical waste, hazardous and non-hazardous wastes.

Word	Meaning
Treatment	This category relates to permitted sites which treat waste for either recovery or disposal. Sites may also treat waste and transfer it to another facility. This category covers a broad variety of waste types and operations such as composting and anaerobic digestion, chemical treatment, material recycling facilities, WEEE treatment.
Use of Waste	This category relates to waste operations where certain waste types are utilised for purposes such as manufacturing timber, in construction, or for reclamation purposes.
WasteDataFlow	A web-based system for municipal waste data reporting by UK local authorities to government.
Waste Data Interrogator	A public register of waste management facilities in England, recording the annual reports of quantities and types of waste handled.

Executive summary

Resource Futures has been commissioned by the Greater London Authority (GLA) to undertake a waste infrastructure capacity review for London helping to inform the Mayor's waste policies in the London Plan. This work has been undertaken and presented in this report as a series of Work Packages. The first three areas of work are reported in this document whereas the fourth work package is a separate outcome-based model that has informed this report's outputs.

Work Package 1: London waste arisings review for Household (HH), Commercial and Industrial (C&I) and Construction, Demolition and Excavation Waste (CDE)

Work Package 2: a) London borough performance against waste apportionment and b) London's waste infrastructure capacity and net self-sufficiency performance

Work Package 3: Review of London borough waste apportionment methodology and setting a new apportionment

Work Package 4: Waste capacity model and reporting tool

This report incorporates findings and learnings from two stakeholder engagement activities held with London Boroughs, the GLA, ReLondon and the Environment Agency to set the approach, methodology, and report draft results. The work also responds to and incorporates feedback from independent peer reviewers of the approach taken and results.

Work Package 1: London waste arisings review

The aim of the waste arisings review is to produce a baseline waste arisings and projections up to 2050, for London, for the following waste streams:

- Household (HH)
- Commercial and industrial (C&I)
- Construction, demolition and excavation waste (CDE)

Separate arisings for each of these waste streams have been generated using 2024 as the baseline year. Projected waste arisings are calculated out to 2050 using the GLA's latest (2024) population data and economic projections, with sensitivity scenarios also developed for comparison. The central or 'Planning' scenario shows London's total waste is forecast to increase from around 18.4 million tonnes per year in 2024 to around 21 million tonnes by 2050. For 2024 this is made up of around 11 million tonnes CDE waste, 4.9 million tonnes C&I waste, and 2.8 million tonnes HH waste with some Hazardous waste (around 200,000 tonnes).

This analysis is undertaken at London-wide and borough-level. The outputs from the modelling are used to set new London borough waste apportionment targets for the amount of waste that each borough should plan to manage (see Work Package 3). The model also provides waste composition estimates for all waste streams. All methodologies used and developed have been incorporated into the final Work Package 4 reporting tool.

Work Package 2a: London borough performance against waste apportionment

London Boroughs meeting their waste apportionment targets forms a key element and sub-set for achieving the Mayor's wider strategic goal for London to be 100 per cent net waste self-sufficient by 2026, as set out in London Plan Policy SI8: Waste capacity and net waste self-sufficiency. To effectively conform with Policy SI8, London Boroughs in developing their local development plans, or separate waste plans, must allocate sufficient sites, identify suitable areas, and identify waste management facilities in their waste planning authority area to provide capacity to manage tonnages of household, industrial, and commercial waste (HIC waste). The allocation must also align to forecasted changes in material types and quantities to meet future requirements in 2031 and 2041. All London waste sites are safeguarded, with a requirement to find compensatory provision in Borough or within another London Borough for any waste site lost. Continued safeguarding of waste sites is essential for London to keep the value of its waste in London and to become regionally self-sufficient.

Work Package 2a assesses performance against the apportionment targets set for each Borough in the current London Plan 2021 – a snapshot in time helping to inform London's journey towards 100% net waste self-sufficiency. The results show that London both at regional and at Borough level is performing well against apportionment targets, and that this policy is working to manage more of London's waste in London. Under the Planning scenario, applying the latest maximum London HIC waste infrastructure figures 2020-2024, 20 Boroughs (nearly two thirds of mostly outer London boroughs), are achieving or on track to achieve their targets. As a region, the Planning scenario results show that London Boroughs collectively meet or are on track to meet waste apportionment targets as a whole with a circa 11,000 tonne capacity surplus. This is largely due to extensive surplus capacity in East London and South East London where most of London's waste facilities are located.

Work package 2b: London waste infrastructure and achieving net waste self-sufficiency

Work Package 2b assesses London's total waste infrastructure position for all waste streams including CDE waste, identifies capacity needs, and considers waste movements in and outside of London as the key determining factor for reporting London's progress towards 100% net waste self-sufficiency. The results show that London has around 28.5 million tonnes of waste management capacity when applying the maximum annual received tonnage figures between 2020-2024, across 376 waste sites. With London's total waste arisings estimated at 18.4 million tonnes in 2024 increasing to 21 million tonnes by 2050, this suggests that London has more than sufficient waste management infrastructure to meet its needs. However, this is inflated by the inclusion of landfills (4.5 million tonnes) which are a declining asset, and of waste transfer sites (WTS) making up 11.5 million tonnes (just under one third) of London's maximum waste capacity. London's WTS make up around half (181) of London's 376 waste sites, and play an important role to mostly segregate, bulk, or store waste for onward management in other treatment facilities. This results in some double handling and therefore double counting. However many WTS do include some treatment capacity not always accurately separated out on the Waste Data Interrogator.

When considering actual treatment capacity need, London as a region is facing a HIC waste capacity gap of around 1.4m tonnes in 2024, growing to around **4 million tonnes** per year by 2050 if no new capacity is built under the core 'Planning Scenario'. The 2050 capacity gap reduces down to about **2.5 million tonnes** under a 'Waste Reduction' scenario achieving the Mayor's 50% food waste reduction target by 2030. This capacity gap assessment is mainly made up of additional Materials Recycling and Anaerobic Digestion waste treatment capacity needed aligned to achieving the Mayor's 65% municipal waste recycling targets set out in the London Environment Strategy, and making an effective contribution towards 100% net waste self-sufficiency. The results show that London is expected to have sufficient energy from waste capacity to meet its projected residual waste needs once Cory's second Riverside Resource energy from waste (EFW) facility at Belvedere Bexley comes on line expected in 2026/27.

London continues to rely heavily on outer regions for managing its waste, mostly CDE waste exported to landfills in the South-East and East of England, although the amount London exports as a whole into these regions is coming down. Across all waste streams London exports around 6.3 million tonnes (or 34%) of the circa 18.4 million tonnes waste generated in 2024, putting London's net-waste sufficiency performance at 66%. This figure increases to 81% when only HIC waste is considered. It further reduces down to 55% when only CDE waste is considered, recognising the continued challenges faced from high amounts of CDE waste going to landfill outside of London.

Work Package 3: Waste apportionment methodology review and setting a new apportionment

Work Package 3 reviews the methodology used to set Borough apportionment targets in the current London Plan 2021. It proposes a fairer and more streamlined approach for setting new targets applying projected waste arisings per Borough. This simplified approach considers projected waste arisings, available industrial land for new waste infrastructure, and socio-economic factors recognising that waste management facilities are often located in more deprived areas. The same trend however aligns with previous methodologies used whereby London Boroughs with more available industrial land and higher projected arisings are apportioned more waste to manage.

Consideration is given to extending the approach to apportion CDE waste although this is not recommended due to data quality issues and higher levels of uncertainty with this waste stream.

Work Package 4: Waste capacity model and reporting tool

The Work Package 4 model brings together the waste arisings, composition and apportionment data informing all three other work packages into one succinct interactive tool (not included in this report). This allows the GLA team to run common reports for monitoring the Mayor's policies and to provide evidence for developing future policy. Predominantly this tool will be used by the GLA going forward to predict and forecast waste arisings helping to inform future infrastructure needs, policy, and to monitor performance against the Mayor's goal for London to be 100% net waste self-sufficient.

I. Work Package 1: London Waste Arisings

1. Introduction

The aim of the Waste Arisings modelling is to produce baseline waste arisings and projections to 2050, for London, for the following waste streams:

- Household (HH), which includes all housing types – houses, flats and flats above shops (FLASH)
- Commercial and industrial (C&I)
- Construction, demolition and excavation waste (CDE)

Separate arisings and projections for each of these waste streams are provided, using 2024 as a baseline, presented at London-wide and borough-level. The outputs from the modelling will be used to inform London's waste infrastructure needs (Section 13) and reset London borough waste apportionment targets for the new London Plan (Section 20). The model outputs also provide waste composition estimates for all waste streams.

For completeness, arisings for hazardous waste and radioactive waste were considered (see Section 2.6 and 4.6), although they are not included in the overall arisings for setting new London borough waste apportionment targets (see Chapter IV: Work Package 3). This is due to the specific nature of these wastes requiring specialist treatment in fewer facilities not practical to locate in every London borough.

2. Methodology for Waste Arisings Modelling

2.1. Overview of Waste Arisings Modelling

Resource Futures has developed a comprehensive Waste Arisings Model drawing on the best available waste data sources to estimate London's waste projected out to 2050.

The primary functions of the Waste Arisings modelling are to:

- Calculate baseline tonnage arisings for HH waste, C&I waste, and CDE waste streams
- Provide projected waste arisings up to 2050.

Table 1 summarises the main data sources used to estimate and project arisings for the three core waste streams in the Planning scenario. The data sources and calculation methodology are then discussed for each waste stream, with relevant assumptions and data limitations set out in Section 3.

Table 1: Data sources for HH, C&I and CDE baseline tonnage arisings and projections

Waste stream	Baseline tonnage arisings	Projections to 2050
HH waste	WasteDataFlow 2024	GLA Population projections 2024 - 2050 (GLA 2024-based demographic projections)
C&I waste	Waste Data Interrogator 2024 v1 March 2026 (difference in HIC waste and WDF-reported HH waste)	GLA Gross Value Added (GVA) projections 2024 – 2050
CDE waste	Waste Data Interrogator 2024 v1 March 2026	No change from baseline

The model calculates baseline waste arisings for the three waste streams using the most recent data (2024) from WasteDataFlow (WDF), and Waste Data Interrogator (WDI). This is the most recent full year of data available where these datasets overlap. CDE waste and combined household, industrial, and commercial waste (HIC) waste is reported through the WDI. WDF reports Local Authority Collected Waste (LACW), with HH waste and commercial waste collected by local authorities reported separately. To avoid double counting of commercial waste, C&I waste is calculated as the difference between HIC waste reported in the WDI and HH waste reported in WDF.

The waste arisings for each of the waste streams are then projected forward to 2050 using the GLA's latest London population and economic projections (2024). Each year, HH waste is multiplied by the percentage change in population and C&I waste is multiplied by the change in Gross Value Added (GVA). In line with guidance in the National Planning Policy for Waste, CDE waste is assumed unchanged from the baseline year.[1]

The main modelling scenario is called the Planning scenario and includes all confirmed upcoming legislative changes affecting waste collection, including Simpler Recycling and the Deposit Return Scheme (DRS), projected population growth and economic growth. For each waste stream sensitivity scenarios are also modelled to show the effect of meeting food waste and packaging waste reduction targets and alternative waste growth patterns.

The legislative changes (Simpler Recycling and DRS) are not modelled to affect the overall waste arisings projection, but will affect residual waste composition and recycling rates, so these are relevant for informing future infrastructure needs against London's current waste infrastructure discussed in Chapter III: Work Package 2b). Details on these assumptions are included in Appendix A.3.

The Waste Arisings model includes two alternative scenarios modelled as sensitivities for each waste stream, listed in Table 2, to show a range of outcomes. The first is applied to HIC waste and assumes that targets relating to packaging waste and food waste reduction

[1] National Planning Policy for Waste, October 2014 {Last accessed December 2025}.

are met. The second sensitivity assumes that CDE waste is projected in line with GVA to show the impacts if CDE waste were to be coupled with the GLA's economic growth projections.

Table 2: Alternative scenarios included in the Waste Arisings model

Scenario	Waste stream	Alternative scenario

1	HH waste	Packaging waste and food waste reduction targets met:
		• The Mayor of London's target of reducing food waste per capita by 50% by 2030[2].
		• EU Regulation 2025/40[3] packaging waste per capita targets of:
		  ○ 5% reduction by 2030
		  ○ 10% reduction by 2035
		  ○ 15% reduction by 2040.

	C&I waste	
2	CDE waste	Waste projected in line with GLA GVA projections 2024 - 2050

2.2. HH waste arisings and projections

HH waste is split into regular collected waste and non-regular collected waste, as these streams are forecast differently, as described below. The term regular collected waste refers to household waste collected directly from a household's containers or a communal bin store scheduled on a regular basis, e.g., weekly or fortnightly.

2.2.1. HH Waste arisings baseline

2.2.1.1. HH regular collected waste arisings

The Waste Arisings model calculates the baseline tonnages for HH regular collected waste from data reported by London Boroughs in WDF for the year 2024.[4] The following regular collected waste HH streams are included in the Waste Arisings model:

- Residual waste (black bag waste)
- Dry recycling
- Food waste
- Garden waste

Baseline HH regular collected waste tonnages are calculated in the Waste Arisings Model by London borough and split between houses (with their own bins) and flats (using communal bins) to incorporate the difference in waste arisings across different property

[2] *London Environment Strategy 2018, p301,* https://www.london.gov.uk/sites/default/files/london_environment_strategy_0.pdf

[3] *European Regulation 40/2025*, https://eur-lex.europa.eu/eli/reg/2025/40/oj {Last accessed December 2025}. Packaging reduction has not been applied to C&I waste because the EU packaging reduction targets state that they are not suitable for application to C&I wastes (paragraph 120).

[4] Based on Question 10 and Question 23 data returns in WDF

types. These were calculated based on waste composition data[5] for the two property types and adjusted to match the reported WDF tonnages.[6] Where waste composition data from one or both property types was unavailable, averages from the other authorities were used.

Baseline population of each housing type was determined based on Census data.

2.2.1.2. Non-regular collected HH waste arisings

Tonnages for HH waste other than regular collected waste have also been derived from 2024 WDF tonnages. These include waste arising from the following:

- Household Waste and Recycling Centres (HWRCs)
- Bring bank recycling sites
- Other HH recycling and residual waste – mainly street cleansing waste and from street bins
- Bulky waste collections

In the Waste Arisings model, the above streams have been collated into two categories to help understand the difference between recycled and non-recycled waste arisings:

- Non-regular collected HH residual
- Non-regular collected HH recycling

2.2.2. HH waste projections

Regular collected HH waste projections

Regular collected HH waste is projected to increase in line with the latest London population growth projections developed by the GLA (GLA 2024-based demographic projections). This is similar to the methodology applied for previous HH waste projections produced by GLA and SLR Consulting in 2017[7] informing the London Plan 2021.[8] However, this study introduces an improvement which accounts for 90% of population growth occurring within people living in flats, based on GLA planning forecasts. This factors in the different amounts of waste and recycling that are produced in flats compared to other property types.

Non-regular collected HH waste projections

For non-regular collected HH waste, the Waste Arisings model projects no change in the tonnages up to 2050. This is on the basis that historic WDF data of non-regular collected HH waste (Appendix A.7) shows that the tonnage has remained reasonably static or even

[5] Waste composition was received for most of the London Boroughs for this project
[6] https://relondon.gov.uk/resources/report-estimates-of-london-household-waste-composition
[7] *London Waste Plan Forecasts and Apportionments, Task 1 – GLA Waste Arisings Model Critical Friend Review, SLR, 2017*
[8] *The London Plan The spatial development strategy for Greater London (2021) https://www.london.gov.uk/sites/default/files/the_london_plan_2021.pdf*

decreased slightly in recent years, suggesting that there is no strong relationship between population growth and non-regular collected waste arisings.

2.2.3. Scenario 1: HH waste reduction scenario

Scenario 1 represents a lower waste growth scenario based on meeting the Mayor of London's food waste reduction target and EU packaging reduction targets set out in Table 2. Further information on how these targets were applied to the modelling are provided in Section 3.

Waste reduction could be achieved through changes in consumption behaviour and from the government's packaging extender producer responsibility (pEPR) regulations driving packaging reuse, material switching and lightweighting of packaging.

2.3. C&I waste arisings and projections

2.3.1. C&I waste arisings baseline

The C&I waste baseline has been derived from analysis of WDI for the calendar year 2024. Where waste was not coded directly to a borough and only at a London level, this has been allocated to boroughs based on population. Assumptions are detailed in Section 3.

As mentioned in Section 2.1, tonnages in WDI are not classified directly as C&I, but under HIC, which also includes household waste. HH waste is subtracted from HIC waste in each borough to obtain just the C&I waste for each borough. The modelling summed HIC wastes reported in WDI as originating in London but excluded waste recorded under recovery and disposal codes relating to transfer and temporary storage to avoid double counting of wastes.[9]

2.3.2. C&I waste projections

C&I waste is projected to increase in line with indicators for economic growth using London Gross Value Added (GVA) projections provided by the GLA. GVA is considered to be a better measure of economic activity than Gross Domestic Product (GDP) for the purposes of projecting C&I waste arisings.

The GLA[10] has consistently used real Gross Value Added (GVA) as the primary measure of London's economic performance. GVA is an indicator of economic output that measures the value of goods and services produced within an economy, excluding taxes and subsidies on products. GLA Economics uses GVA as its primary measure of London's economic performance because it offers a more accurate representation of regional economic activity than Gross Domestic Product (GDP). Unlike GDP, GVA excludes taxes and subsidies on products, which can distort figures at sub-national levels. This makes GVA more suitable for regional forecasting and policy analysis.

[9] https://www.wastesupport.co.uk/recovery-and-disposal-codes.php/
[10] https://data.london.gov.uk/gla-economics/

An added benefit of using GVA projections is that they also provide projections by C&I sector using standard industrial classification (SIC) economic activity codes.

For these reasons, GVA projections have been applied for forecasting London C&I waste arisings to 2050. This supersedes the previously adopted approach by SLR Consulting in 2017[11], informing the London Plan 2021, which used employment projections alongside C&I waste sampling estimates by sector from Defra's C&I Survey 2009.[12]

For consistency however the C&I sectors used in the GVA projections align with the C&I sectors used in the Defra 2009 survey. From this, an aggregate GVA growth per borough was calculated for each period up to 2050 (see Appendix A.5 for details).

2.3.3. Scenario 1: C&I waste reduction scenario

As for HH waste (Section 2.2.3), the Waste Arisings model includes a waste reduction scenario for C&I waste based on the Mayor of London's food waste target of reduction in food waste per capita by 50% being met. The reasoning for applying this target to C&I waste is provided in Section 3.

Packaging reduction is not included for C&I waste because the EU packaging reduction targets state that they are not suitable for application to C&I wastes (paragraph 120).

2.4. CDE waste arisings and projections

2.4.1. CDE waste arisings baseline

CDE arisings have been estimated and forecast using data from WDI for the calendar year 2024. CDE waste data has improved in recent years as a result of the Environment Agency removing significant exemptions resulting in much more waste material now being reported. Whilst there may still be some exempted waste missing, WDI remains the best available data to undertake this assessment.

2.4.2. CDE waste projections

In line with Government guidance, the Planning scenario assumes net arisings of CDE waste remain constant over time.[13] This is based on the 2024 baseline year.

2.5. Composition estimates for HH and C&I wastes

Waste composition estimates have been applied to HH and C&I wastes included in the Waste Arisings model, with associated tonnages for the baseline period (2024). This was required to inform London's future HIC waste infrastructure capacity needs set out in Chapter III: Work Package 2b.

Table 3 sets out the best available waste composition analysis (WCA) data sources applied for HH and C&I waste Composition for CDE waste has not been estimated due to the lack

[11] *London Waste Plan Forecasts and Apportionments, Task 1 – GLA Waste Arisings Model Critical Friend Review, SLR, 2017*
[12] *Commercial and Industrial Waste Survey 2009, Final Report, Jacobs on behalf of Defra*
[13] https://www.gov.uk/guidance/waste

of good quality and publicly available data. Further details of data sources and limitations of the data discussed in Appendix A.1.

Table 3: Waste composition data sources by waste stream

Waste stream	Data source	Notes
HH regular collected	ReLondon estimates of London household waste composition, 2023[14]	By far the most accurate profile of London regular collected waste composition to date.
HH non-regular collected	WRAP national composition estimates 2017	HWRC composition derived from London only studies. Other waste streams from England studies.
C&I wastes	London C&I disaggregated to C&I wastes with reference to Defra C&I Survey 2009. Commercial waste composition: Compositional analysis of LA collected and non-LA collected non-household municipal waste, Resource Futures on behalf of WRAP, 2020 Industrial waste composition: C&I Wastes in Wales, Resource Futures on behalf of WRAP, 2020	Fieldwork for both studies in 2019 (avoiding Covid lockdown periods). Commercial waste study included sampling from 3 London boroughs, and composition profile derived from these samples. Industrial waste study: the only known study in the UK with suitable categories. Small number of samples, all from Wales.

2.6. Other waste streams

WDI calendar year 2024 data has been analysed to produce tonnages for hazardous waste. Radioactive waste does not appear in WDI and quantities arising are only reported in the UK Radioactive Waste & Materials Inventory.[15] However, sources of radioactive waste in London are only from medical or research establishments, which are classed as small users in the inventory and are not included in reporting due to the negligible amounts and because these have very low concentrations of activity. This waste can be disposed of with domestic refuse to landfill, either directly or after incineration. Radioactive waste arisings are therefore excluded from the study.

[14] https://relondon.gov.uk/resources/report-estimates-of-london-household-waste-composition
[15] https://ukinventory.nda.gov.uk/data-hub/2022-inventory-reports/

3. Waste Arisings assumptions and limitations

This section details the assumptions and their limitations. Some of these assumptions have already been stated in the text, further details are available in Appendix A:.

3.1. HH waste assumptions and limitations

WDF includes reported tonnages of waste in different collected categories for every borough and is the only source for this information. It includes reported tonnages of HH regular collected waste, other HH waste and local authority collected non HH waste. WDF has some limitations and quality issues. For example, C&I, other non-household and HH tonnages can be inconsistently reported. Where HH and non-HH waste is co-collected by an authority, estimates are made as to how much came from each source.

The most important data source for modelling the projection of HH waste arisings is the GLA 2024-based demographic projections (2024-2050). Waste in London has slightly decreased since 2000 despite population increases, meaning waste per inhabitant has decreased over this time. This may partly be due to changes in reporting on WDF with movement of household waste into non-HIC waste (e.g. waste previously reported as street cleansing now being reported as fly tipping). Resource Future's method has regular collected waste increasing in line with population but non-regular collected waste remaining static. The combination of these results in waste per inhabitant reducing slightly over the modelled period.

In addition to population changes, other factors could affect waste arisings, as was noted by the peer review team. A major driver of this could be climate change and the UK response to it. Additionally, the growing complexity of the waste management system is likely to make it increasingly land-intensive, which could lead to policy changes to encourage waste reduction. As these cannot be predicted with any certainty, we have chosen to maintain a 'steady state' position.

Regular collected HH waste from WDF was split into houses and flats using detailed waste composition data from each of these housing types. The model assumes that 90% of projected population growth will be people living in flats. Whilst the waste composition analyses used cover an extensive portion of London, some housing types or authorities had not been sampled and averages using the other authorities had to be used.

3.2. Waste Reduction sensitivity scenario

The Waste Reduction scenario assumes that the following targets will be met:

- Mayor of London, reducing food waste per capita by 50% by 2030
- EU Regulation 2025/40 packaging waste per capita:
    - 5% reduction by 2030
    - 10% reduction by 2035
    - 15% reduction by 2040

The Mayor's food waste reduction target is assumed to apply to both HH and C&I waste on the basis that this target aligns with the Courtauld Commitment 2030 food waste target, which applies to both household and retail food waste.

Regarding the EU packaging waste reduction targets, the regulation specifically states that it apples to household waste only (para 120) and, therefore, the reduction is only applied to packaging arising in London's household waste.

All the above reduction targets are expressed in terms of percentage reduction in per capita arisings. Regarding household waste, since the regularly collected part (accounting for the majority of household waste) is projected to increase in line with population, it has been assumed that directly applying the percentage reduction to the relevant waste stream's tonnage provides a good approximation of the waste reduction impacts being modelled.

The limitation is that this does not account for the zero-growth assumption for household waste that is not regularly collected, nor (in relation to the food waste target) does it account for the growth of C&I waste in line with GVA projections rather than population. However, the modelling required to account for these would be unduly complex and would be unlikely to significantly impact the waste reduction modelling outputs.

3.3. C&I waste arisings assumptions and limitations

C&I waste has historically been a challenging waste stream to study compared to HH waste. Businesses are not required to report their waste arisings in the same way that boroughs are for household waste. This results in limited data availability, compounded by the lack of a recent detailed UK or London C&I waste survey – the last being undertaken in 2009, with no known plans to repeat it. Therefore, inevitably there is greater uncertainty in estimating C&I arisings, than for household. To address this limitation, the Waste Arisings modelling applies the best available data from WDI for calculating C&I waste tonnages starting at a 2024 baseline.

This represents the only viable data source for C&I arisings and is generally reasonably robust. There are some limitations to the data, particularly with some incomplete information on the origin of C&I waste by borough. We are confident that the best available assumptions have been applied to deal with these limitations. More information on the key C&I waste estimate limitations and assumptions can be found in Appendix A.5.

The projections provided by the GVA for this project are, under the instruction of GLA Economics, to be treated as confidential and therefore the precise growth factors that are derived from GVA projections cannot be included in this report.

In addition to HH and local authority collected C&I waste, WDF also reports non HH, non-C&I wastes of around 300k tonnes, primarily fly tipping waste. Strictly speaking, this should not be reported as HIC waste in WDI, as it not household, industrial or commercial waste, but as there is no other logical categorisation for it, we assume it is included in this. Within the modelling, this is not included in HH waste, therefore our model includes it in C&I waste. This waste thus changes in line with GVA projections. An analysis of fly tipping waste reported in WDF showed that this waste had doubled over the last ten years. Street cleansing waste had a decrease in this time, although only around half of the fly tipping increase, so it may be that there have been some changes to reporting within boroughs. Nevertheless, this shows there is no evidence that this waste should remain static over the projection (like non regular collected household waste) and in the absence of other

evidence, it is assumed to change with GVA, like the rest of C&I. This waste represents around 5% of the total C&I waste.

3.4. CDE Waste arisings assumptions and limitations

Projecting CDE waste is challenging, it depends on several factors, including economic growth and the way that large construction/infrastructure projects handle their waste (with well managed projects potentially producing very little waste). Furthermore, different types of projects can often provide different types of waste. For example, projects that involve tunnelling generate large quantities of excavation waste, however, this is not data that is publicly available. While the GVA projections include construction as a sector, GLA Economics advised that this is more representative of SME construction activity, rather than larger infrastructure projects which would form the greater proportion of CDE waste. In line with Government guidance, the Planning scenario assumes net arisings of CDE waste remain constant over time. This is based on the 2024 baseline year.

As with C&I waste, there is some incomplete information on the origin of CDE waste by borough; refer to Appendix A:. Where waste was not coded to a borough and only at a London level, this has been allocated to boroughs based on population.

4. Waste Arisings model results

The charts included in this section present the outputs from the Waste Arisings model, starting with HIC waste arisings and projections by borough using the Planning scenario. This is followed by a break down and analysis of each of the three core waste streams modelled under the different modelling scenarios.

4.1. HIC waste modelling outputs

Table 4 sets out HIC waste arisings by London borough projected out to 2050 at ten-year intervals under the Planning scenario, starting from a 2024 baseline. These figures are intended to be used for setting new borough waste apportionment targets. More information on this and the apportionment methodology can be found in Section 18.

Table 4: HIC waste projections by London borough to 2050 in thousands of tonnes (rounded)

Borough	2024	2030	2040	2050
Barking and Dagenham	563	594	641	689
Barnet	242	259	291	325
Bexley	374	394	429	468
Brent	343	365	407	449
Bromley	397	420	475	547
Camden	140	149	169	192
City of London	275	307	373	452

Borough	2024	2030	2040	2050
City of Westminster	189	199	225	255
Croydon	302	319	365	413
Ealing	259	274	304	334
Enfield	298	314	355	401
Greenwich	292	313	353	392
Hackney	122	125	135	148
Hammersmith and Fulham	87	93	107	121
Haringey	172	182	206	224
Harrow	154	162	181	198
Havering	300	316	367	427
Hillingdon	356	377	436	501
Hounslow	273	291	332	379
Islington	202	217	246	281
Kensington and Chelsea	56	56	59	63
Kingston upon Thames	102	106	120	131
Lambeth	130	137	151	167
Lewisham	278	294	326	366
Merton	272	288	323	362
Newham	333	358	408	457
Redbridge	213	223	255	286
Richmond upon Thames	80	80	80	82
Southwark	318	343	396	450
Sutton	132	138	153	170
Tower Hamlets	157	166	187	201
Waltham Forest	145	150	164	174
Wandsworth	142	149	160	174
Total	**7,699**	**8,159**	**9,177**	**10,281**

4.2. HH waste modelling outputs

Projected HH waste arisings are shown in Figure 1 for the Planning scenario and the Waste Reduction scenario. The Planning Scenario (blue line) shows waste increasing from around 2.8 to 3.2 million tonnes by 2050. The waste reduction scenario (Scenario 1, purple line) shows a gradual decrease in total HH waste arisings up to 2030 primarily due to food waste halving in line with the Mayor's food waste target being achieved. There are also very small reductions in arisings up to 2040 due to the assumption that packaging waste reduction targets are met in these years but overall, it is still modelled that waste would increase after 2030 due to increases in population.

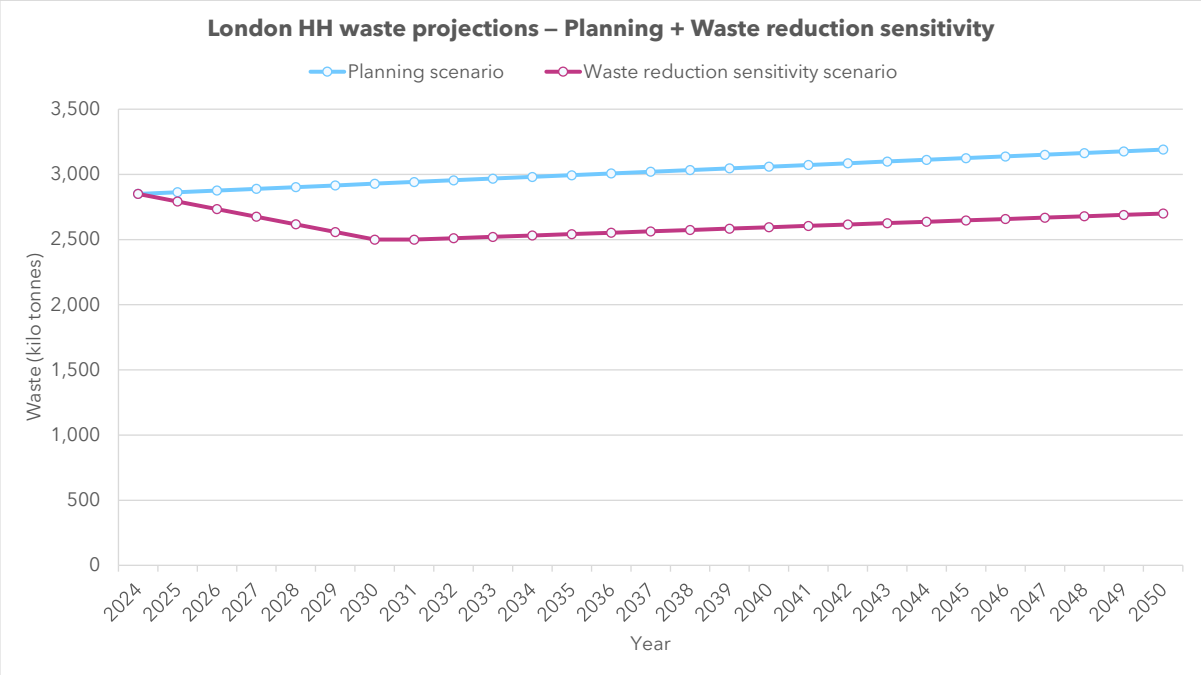

Figure 1: London HH waste projections Planning scenario and waste reduction scenario projections

4.3. C&I waste modelling outputs

Projected C&I waste arisings are shown in Figure 2 for the Planning scenario and the waste reduction scenario (Scenario 1). The Planning Scenario (blue line) shows C&I waste arisings steadily increasing from 4.8 million tonnes in 2024 to 7.1 million tonnes in 2050, a 45% increase. There is a smaller increase of 25% under the waste reduction scenario (Scenario 1, purple line) to around 6 million tonnes by 2050, with waste gradually decreasing up to 2030 due to the assumption of food waste halving. These results reflect the GVA projection increases, and the assumption that C&I arisings will track these increases.

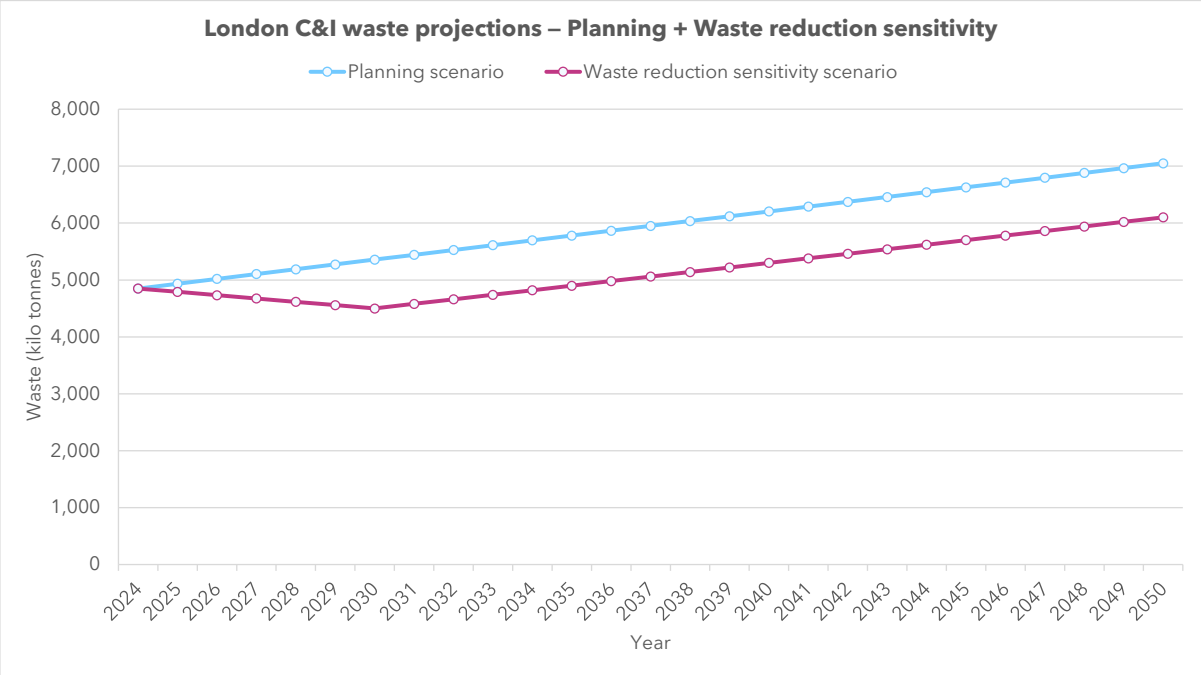

Figure 2: London C&I waste projections

4.4. CDE waste modelling outputs

Projected CDE arisings are shown in Figure 3 for the Planning scenario and waste growth sensitivity scenario (Scenario 2), with 10.7 million tonnes as the starting baseline in 2024. The Planning Scenario (blue line) applies no change in CDE waste growth in line with National Planning Policy for Waste Guidance[16]. Under the Sensitivity Scenario using GVA projections, significant increases in CDE arisings are forecast to arise to just over 15 million tonnes by 2050 – a 45% increase. As was the case for C&I waste, this trend is driven by the GVA projected increases, and the assumption that CDE arisings will track these increases.

[16] National Planning Policy for Waste Guidance [Last accessed December 2025].

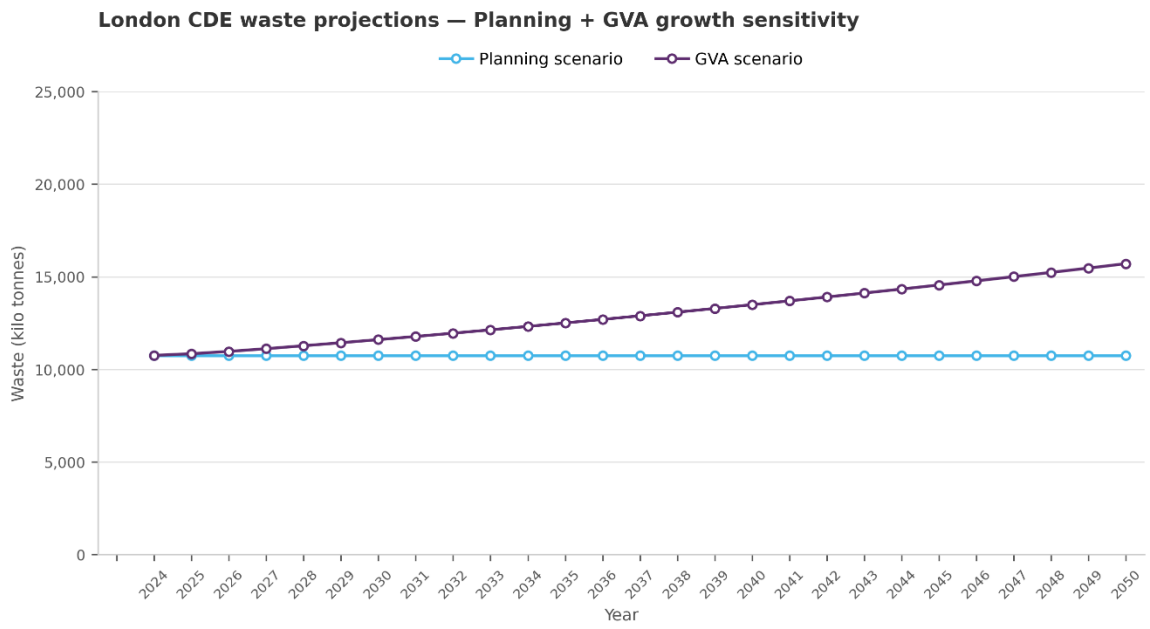

Figure 3: London CDE waste projections

4.5. Combined HH, C&I and CDE waste modelling outputs

Figure 4 shows that London's overall waste is projected to gradually increase under the Planning scenario from around 18.4 million tonnes in 2024 to 21 million tonnes in 2050.

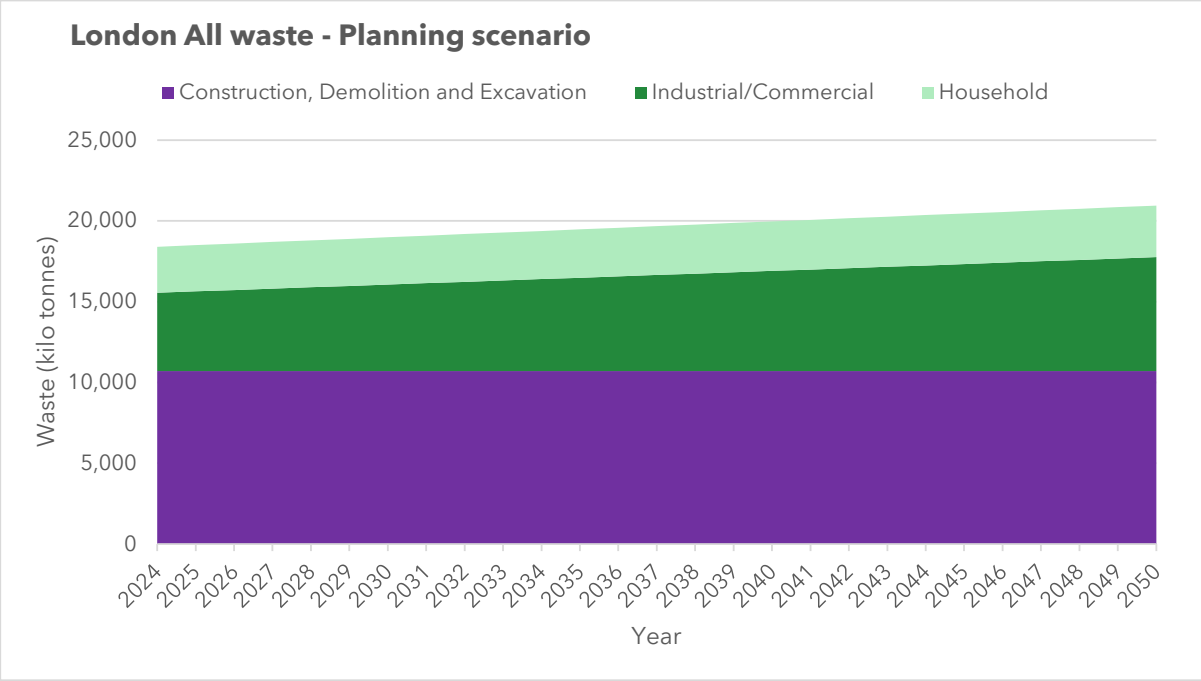

Figure 4: London All waste projections – Planning scenario

Figure 5 shows that under the Waste Reduction sensitivity scenario (but keeping CDE flatlined) overall waste increases by around 1.2 million tonnes between 2024 and 2050.

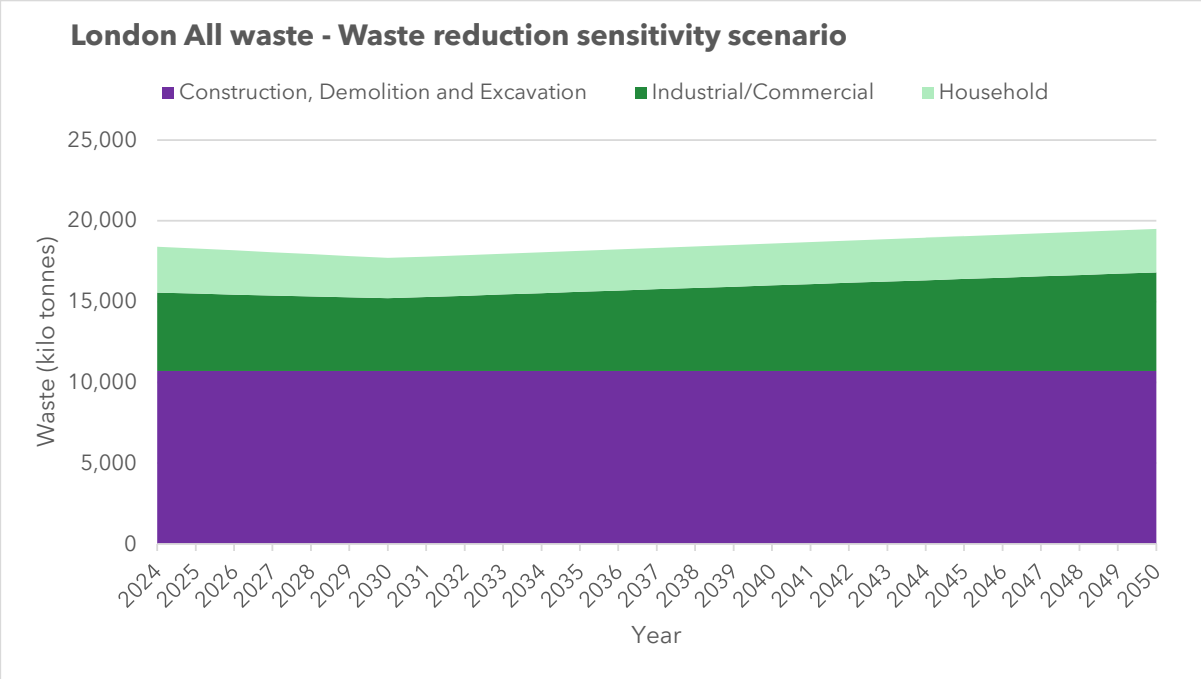

Figure 5: London All waste projections – Waste reduction sensitivity scenario for HIC waste and CDE flatlined

4.6. Hazardous waste

WDI reports Hazardous wastes (separately from HIC and CDE wastes), and the total calculated in the Waste Arisings model for London in 2024 was 198,000 tonnes. Hazardous waste includes mainly asbestos, paints, chemicals, solvents, oils, batteries and some electronic and electrical waste.

II. Work Package 2a: London Borough performance against waste apportionment

5. Introduction

Achieving borough level waste apportionment forms a key element of the Mayor's wider strategic goal for London to be 100 per cent net waste self-sufficient by 2026 as set out in London Plan Policy SI8: Waste capacity and net waste self-sufficiency. To effectively conform with Policy SI8 London boroughs, in developing their local development plans, or separate waste plans, must allocate sufficient sites, identify suitable areas, and identify waste management facilities in their waste planning authority area to provide capacity to manage apportioned tonnages of household, industrial, and commercial waste (HIC waste) set out in the London Plan. All London waste sites are safeguarded, with a requirement to find compensatory provision in borough or within another London borough for any waste site lost.

Work Package II assesses London's performance against the apportionment targets set for each London borough in the current London Plan 2021 – a snapshot in time helping to inform London's journey towards 100% net waste self-sufficiency. The following sections set out the methodological approach taken, data and information limitations, key trends, conclusions, and recommendations for more effectively implementing the Mayor's apportionment policy and supporting borough performance. The methodology and criteria used to set each Borough's waste apportionment target is discussed in Chapter IV (Work Package IV: Waste apportionment methodology review and setting a new apportionment).

It is important to state that assessing and reporting London borough performance has not been a straightforward exercise with many limitations discovered, including inconsistent reporting of available waste capacity counting towards apportionment identified in local development plans/joint waste plans, and discrepancies in effectively matching waste facilities and their operational capacity with reported waste facility throughput figures on the Waste Data Interrogator. This has presented challenges in obtaining consistent and accurate data to accurately report borough performance against apportionment set out in Section 7. Section 6.3 summarises the limitations and the approach that Resource Futures has taken to help address them, including considerations for the GLA and London boroughs to support on.

An important first step in undertaking this task is to recognise that most London boroughs are working together on strategic waste planning matters, which includes 'pooling' their waste apportionment targets - a key flexibility for meeting the Mayor's waste apportionment policy. Table 5 below sets out those London boroughs working together developing joint waste plans to collectively meet their apportionment targets, and those working together on waste planning but identifying their apportionment requirements in

their borough local development plan. Figure 6: London waste planning groups and authorities presents a visual map image of the joint working arrangements at the time of writing this report.

Table 5: London borough waste planning groups and apportionments in the 2021 London Plan

Local Authority / Waste Planning Group	Borough members	Apportionment target 2021	Apportionment target 2041	Apportionment share (% of 2041 target)
Draft East London Waste Plan consultation draft 2024	(4) Barking and Dagenham, Havering, Redbridge, Newham	1,409kt	1,497kt	17.1
North London Waste Plan adopted 2022	(7) Camden, Islington, Haringey, Waltham Forest, Hackney, Enfield, Barnet	1,307kt	1,389kt	15.7
South East London Waste Technical Group (SELWTG) Paper adopted 2022.	(6) Southwark, Bexley, Bromley, City of London, Greenwich, Lewisham,	1,405kt	1,492kt	17.0
West London Waste Plan adopted 2015	(6) Brent, Ealing, Harrow, Hillingdon, Hounslow, Richmond upon Thames	2,092kt	2,221kt	25.4
City of Westminster Local Plan adopted 2021	(1) Pooled with Bexley.	188kt	200kt	2.3
South London Waste Plan 2022	(4) Croydon, Sutton, Merton, Kingston upon Thames	888kt	944kt	10.9
Tower Hamlets Local Plan adopted 2021	(1)	195kt	207kt	2.4
Western Riverside Waste Authority (WRWA)*				
Hammersmith and Fulham Local Plan 2018		210kt	223kt	2.6

Local Authority / Waste Planning Group	Borough members	Apportionment target 2021	Apportionment target 2041	Apportionment share (% of 2041 target)
Royal Borough Kensington and Chelsea (RBKC) Local Plan 2024		116kt	123kt	1.4
Lambeth Local Plan 2021		143kt	152kt	1.7
Wandsworth Local Plan 2023		264kt	280kt	3.2
Totals	**32 boroughs + the City of London Corporation**	**8,217kt**	**8,728**	**100%**

* Western Riverside Waste Authority (WRWA) borough members listed below work together on waste planning with the Old Oak Park Royal Development Corporation (OPDC) but have chosen to identify waste sites meeting apportionment through their own local plans. WRWA boroughs also produced a joint waste technical paper (2017) identifying waste capacity across the four boroughs towards meeting apportionment.

Figure 6: London waste planning groups and authorities

6. Methodology

6.1. Data and information sources

Table 6: Data and information sources

Data / information reviewed and source	Description
London Plan 2021	Waste Policy SI8: Estimated and forecast arisings for HIC waste. Borough level apportionment targets set for each borough for years 2021 and 2041
London borough joint waste plans/local development plans/Joint Waste Technical Papers **Source:** See links in **Table 5** above	Identified waste sites and processing capacity tonnage data known at time Plan was published (data not verified by Resource Futures). Information on borough working arrangements and other relevant contextual information.
Waste Data Interrogator (WDI) V1 March 2026	The Environment Agency's digital tool used to collect and store data on the quantities and types of waste managed by regulated waste facilities in London. We have applied WDI London waste facility tonnage returns ('waste received') for the years 2020 – 2024 reporting average and maximum operational capacity.
London Waste Map	GLA's digital tool mapping London's waste facilities with an Environmental Agency permit reporting tonnages managed. For the purposes of this exercise this source was reviewed and discarded in favour of the WDI, as the single source of truth and for consistency with the overall approach across the other Work Packages for the GLA. The London Waste Map also included many data discrepancies, inconsistencies, and some missing sites and entries for the year 2023.

6.2. Methodological approach

Table 7: Methodology approach applied in sequence

Step	Description
1	Review key information provided in the London Plan 2021 Waste Policy SI8 including forecast HH waste and C&I (waste expected to arise in each borough to 2041) (Table 9.1); London borough apportionment targets for 2021 and 2041; and criteria for waste activities deemed to be managed in London counting towards meeting apportionment (para 9.8.4): -waste used for energy recovery (e.g. incineration) -producing a solid recovered fuel (SRF) or high-quality refuse derived fuel (RDF) destined for energy recovery -sorting or bulking waste for reuse, repair, recycling, or remanufacture (including for anaerobic digestion) -reuse or recycling (including anaerobic digestion)

Step	Description
2	Identify and group London boroughs working together on waste planning through the development of joint waste plans or joint waste technical papers to collectively meet their apportionments ('pooling) for target years 2021 and 2041. Combining pooled apportionments and reporting performance by joint waste planning group. Identify London boroughs setting out their approach to apportionment in own borough local development plan and report performance. Report where joint working arrangements are in place including joint technical papers or Statements of Common Ground (SoCG).
3	Review each joint waste plan/borough local plan to extract key information including their strategic waste planning approach, joint working arrangements and identified waste management capacity and sites within the plan area.
4	Collate information from joint waste plans/borough local plans/Technical Papers regarding identified waste sites managing HIC waste counting towards waste apportionment.
5	Review the WDI and compile a list of waste facilities with an Environment Agency license operating across the boroughs of London. Gather data on actual throughputs of each waste facility for the past five years to better understand and validate operational status. Use this information to calculate and report both the average five-year throughput and the maximum throughput for each waste facility.
6	Compile relevant information on waste sites that manage HIC waste from the WDI. This includes HIC waste coded as being managed at CDE waste sites. Removing landfill sites as these sites do not count towards borough apportionment.
7	Using the WDI to validate existence, operational status and throughput capacity of sites identified in the borough/joint waste plans. As such, a cross-reference between the waste sites listed in the plans and the waste sites listed in the WDI was carried out.
8	**Calculating HIC tonnage counting towards waste apportionment** Use waste facility throughput information from the WDI to calculate the average and maximum quantities of waste managed counting towards meeting apportionment in each borough or joint waste planning area. Apply the apportionment criteria set out in para 9.8.4 of the London Plan 2021 to discount landfill but include waste facilities classified as 'other' in the WDI as many of these sites have material recovery activities taking place. Apply additional criteria of 50% of the waste managed at Household Waste and Recycling Centres (HWRCs) and Waste Transfer sites (WTS) for meeting apportionment based on the GLA's pragmatic approach for determining how these facilities should be accounted for, recognising that much waste managed at transfer sites goes to landfill or incineration outside of London not counting towards apportionment. Including HIC waste managed at CDE waste sites meeting apportionment criteria.
9	Compare and validate the average and maximum waste throughputs from the WDI to the apportionment capacity indicated by each borough/group in their plans.
10	Compare and validate the average and maximum waste facility throughputs from the WDI to the operational capacity of the same sites identified in the borough/joint waste plans.
11	Determine whether or not each borough or joint waste planning group met and/or are on track to meet their 2041 waste apportionment target using the methodological approach set out at 1-10 above.

6.3. Limitations

Assessing and reporting London Borough performance has not been a straightforward exercise as set out in the limitations set below.

Table 8: Limitations

Limitation	Description and Resource Futures response to managing limitation
1	**Inconsistent approach reporting borough performance against apportionment.** In reviewing the waste plans from each borough/joint waste group, it became apparent that the information was presented in various formats, with no standardised information across the boroughs/groups. Some boroughs/joint waste groups provided detailed information in their plans, while others offered fewer details. For example, some borough local plans/joint waste plans specified which waste sites and percentage tonnage contributing towards their apportionment targets in line with the London Plan apportionment criteria, whereas others simply list all the permitted waste sites handling HIC waste and count all this capacity towards their apportionment. There is also wide variation in the timeframes for adopted borough/joint waste plans (see Table 10). Those Plans adopted prior to 2021 identify waste capacity to meet their waste apportionment targets set out in the London Plan 2011 targets, which are considerably lower that targets in the London Plan 2021. To manage these limitations and take a balanced approach, Resource Futures has presented three scenarios for reporting borough progress against apportionment targets in the London Plan 2021. **Scenario 1:** Performance against apportionment based on information provided in borough local development/joint waste plans (i.e. borough self-assessment); **Scenario 2:** Core scenario. Applies performance against apportionment matching waste sites identified in borough development plans/joint waste plans with all sites on the WDI managing HIC waste counting towards apportionment. **Scenario 3:** Scenario 2 with reduced waste from WTS contributing towards waste apportionment (20% less). This is due to better WDI 'Waste Received' data showing these sites manage mostly residual waste going to disposal facilities (i.e. landfill or EFW outside London) not counting towards apportionment.
2	**Data gaps and discrepancies:** In reviewing the Borough local/joint waste plans and data on the WDI, it was observed that there were discrepancies between the two sources. Specifically, not all facilities listed in the plans appeared on the WDI, and conversely, not all facilities shown on the WDI were included in the plans. This could be down to different naming classifications used to identify the waste sites in the plans and on the WDI, and/or when the Borough/joint waste plan was adopted (ranging from 2015 to 2024) where some sites may have closed, or their operational capacity declining, increasing, or relocated since the waste plan was published. By using WDI data there is no 'missing' waste capacity data in the results reported under Scenarios 1 and 2. To help further manage this limitation Resource Futures has reported progress against apportionment under three

Limitation	Description and Resource Futures response to managing limitation
	scenarios as stated above, and identified key data gaps and discrepancies from our modelling including: -Relevant contextual information on the status of a borough/joint waste plan and any planned revisions. -Where we have been able to match waste facilities between the two sources of information. -Identifying facilities that we have been able to match across the two sources of information.
3	**Throughput gaps** - 192 waste facilities matched between the WDI and borough/joint waste plans. Some facilities reported zero values (29 facilities) or less than 5,000 tonnes of throughput (163 facilities) over the three years 2021-2023, raising questions over their operational status. To address this Resource Futures has taken a pragmatic approach by reporting the maximum tonnages received from these facilities over the past five years (2020-2024) to assess and report apportionment performance scenarios.
4	The waste facility throughput data for years 2020 – 2024 used for this assessment is based solely on publicly available information from the WDI last updated in March 2026 (v1). It is important to note that some facilities identified in borough plans may have in fact closed or not currently operating. This is the case for the London Organics facility on the Edmonton Eco Park in Enfield identified in the North London Waste Plan reviewed, which has since been shut down to make space for the new ERF facility. Although unlikely, there may also be additional capacity from facilities that have recently received planning permissions or from planned or potential waste facilities identified in the borough/group adopted plans that are not currently included in the WDI. To maintain a consistent approach, Resource Futures has applied waste facility data as reported on the WDI to report Borough/waste authority performance against apportionment. It is recommended that a review and refresh of the London Waste Map is undertaken to align with the latest WDI London facility tonnage returns.
5	Some waste facilities identified in borough/joint waste plans are missing or showing as a differently named facility on the WDI, or their capacity may be 'wrapped up' in sites with multiple facilities, making it challenging to validate their operational status and capacity counting towards apportionment performance. However, this does not affect the overall results as the WDI picks up all London waste facilities, so their capacity is included in borough apportionment performance under Scenarios 2 and 3.
6	Operational Flexibility - Some facilities handle multiple types of waste (household/industrial/commercial, construction/demolition and hazardous). This approach highlights the flexibility of some sites to manage different waste types depending on need, market availability, and peaks and troughs associated with fewer larger construction projects (e.g. Thames Tideway Tunnel). When looking at each waste type separately, the maximum tonnages recorded often come from different years. Adding these maximums together can therefore suggest a total throughput that is higher than the facility has ever actually managed in a single year, therefore inflating its true maximum operational capacity.

Limitation	Description and Resource Futures response to managing limitation
	Similarly, some of London's Waste Transfer Sites (WTS) as classified under the WDI have materials recycling/sorting activities on site 100% counting towards apportionment not reflected in the results. Therefore, caution should be taken in interpreting the results in Scenarios 2 and 3. To help address these limitations Resource Futures has been able to code HIC waste received at CDE sites to further support borough performance against apportionment. Further individual site investigation beyond the scope of this project is possible to determine the number of sites and the year-to-year variation to obtain a more accurate maximum operational capacity for managing HIC counting towards apportionment.

6.4. Assumptions

Table 9: Assumptions

Assumptions	
1	Following step 6 set out in Table 7, it was assumed that all waste facilities managing HIC waste identified on the WDI count towards apportionment, with the exception of HWRCs and WTS facilities (where only 50% tonnage was counted in line with GLA guidance)
2	The maximum annual waste facility tonnage throughput figures across a five-year period (2020-2024), matched on the WDI is used for the purposes of determining whether borough apportionment has been met.
3	Information and data on current and planned waste facilities and their operational status in borough/joint waste plans have been quality checked for accuracy.
4	Adopted borough/joint waste plans have been reviewed by the GLA and determined in general conformity with the London Plan Waste Policies. This includes Joint Waste Technical Papers for SELWTG Group 2022 and WRWA/OPDC 2017.
5	In line with the original apportionment methodology developed in 2007, 80,000 tonnes per hectare is assumed for areas/sites earmarked in borough/joint waste plans for future/planned waste facilities.

7. Results

7.1. Apportionment performance scenarios

This section sets out the results of borough performance against London Plan 2021 apportionment targets under three scenarios for comparison, followed by some analysis.

- **Scenario 1:** Table 10 presents performance against apportionment based on information provided in borough local development/joint waste plans (i.e. borough self-assessment).
- **Scenario 2:** Table 11 presents performance against apportionment matching all local sites on the WDI managing Household, Commercial, and Industrial waste. This approach allows for an apportionment performance comparison considering

actual reported maximum annual tonnage throughputs between 2020-2024. Scenario 2 is considered the 'core' scenario as it applies the most current London waste facility data to compare against the apportionment targets.

- **Scenario 3:** Table 12 (combining scenarios) shows results from the first two scenarios with a third scenario applying reduced waste from Waste Transfer Sites (WTS) counting towards waste apportionment (20% instead of 50%) for comparison. This third scenario is included due to recent findings in the Waste Data Interrogator showing that many WTS typically manage 80-90 percent residual waste for onward disposal not counting towards apportionment.[17]

Figures are shown in tonnes unless stated otherwise. The following key applies to understanding Scenarios 1 and 2. Surplus waste capacity tonnages for meeting apportionment is identified in **bold text.** Capacity shortfalls/constraints are identified in **orange text**.

Key	
	Apportionment targets met/on track to meet
	Capacity constraints identified.
	Apportionment not met

Resource Futures presented draft apportionment performance results using London Waste Map facility data at a London borough waste planning workshop on 10th June 2025 organised by the GLA. Key discussion points from this workshop are integrated into Sections 9 (conclusions) and 10 (recommendations) to indicate first hand borough apportionment and waste planning experience, challenges, and improvement opportunities.

The workshop presentation and summary note can be found at **Appendix B:: GLA/Environment Agency/ London borough waste apportionment workshop presentation and summary note**, which includes the draft and final apportionment performance results using WDI facility data.

[17] Where sites are researched using the 'Waste Received' data in the WDI. This data can differ from researching the 'Waste Removed' Waste Data Interrogator (WDI).

Table 10: Apportionment performance Scenario 1: Borough identified local waste capacity vs London Plan apportionment targets for 2021 and 2041

Waste Planning Group	Identified Waste Capacity (tpa)	Apportionment target 2021	Target met?	Apportionment target 2041	On target?	Notes
Draft East London Waste Plan Group (2025)	*2,561,000*	*1,409,000*	*Y*	*1,497,000*	*Y*	***1,064,000tpa surplus capacity** by 2041.*
North London Waste Plan Group (2022)	*1,300,000*	*1,307,000*	*Y*	*1,389,000*	*Plan to*	***89,000tpa capacity shortfall** for meeting 2041 target. New waste facilities/compensatory capacity have been identified in Waste Plan to meet shortfall.*
South-East London Waste Technical Group (SELWTG) (2022) *	*1,936,000*	*1,593,000*	*Y*	*1,692,000*	*Y*	***244,382tpa surplus capacity** above 2041 apportionment target including Bexley absorbing Westminster's 200kt apportionment target. The surplus is expected to increase significantly to **1,162,982tpa** when new facilities Riverside Resource Recovery 2 EFW (750ktpa) and LB Bexley Thames Rd Depot (173ktpa) become operational by/before 2041.*
West London Waste Plan Group (2015)	*1,636,000*	*2,092,000*	*N*	*2,221,000*	*Plan to*	***162,000tpa capacity shortfall** identified to meet 2021 target (as set in 2011 London Plan). Developing new Waste Plan identifying potential new waste sites helping to meet circa **585kpta shortfall** against its 2041 target set in London Plan 2021.*

Waste Planning Group	Identified Waste Capacity (tpa)	Apportionment target 2021	Target met?	Apportionment target 2041	On target?	Notes
Hammersmith and Fulham (H&F) Local Plan (2018)	*681,000*	*210,000*	*Y*	*223,000*	*Y*	***6,239tpa surplus capacity over 2041 apportionment target.*** *H&F identifies a 426,000tpa tonnage surplus above its London Plan 2016 apportionment target (247,000tpa by 2036), noting extensive permitted waste capacity from its Powerday and EMR/Scrubs Lane sites'. This surplus increases to 458,000 tonnes against its London Plan 2021 target for 2041. The WDI shows that the Powerday and EMR sites manage mainly CDE waste, but they managed a combined 229,140 tonnes HIC waste between 2019-2023, giving H&F circa 6,000 surplus capacity against their 2041 Apportionment target.* *H&F Officers confirmed in June 2025 that the borough is preparing a Local Plan Reg 18 consultation draft for Autumn 2025. New waste estimates and performance against apportionment will be available for a Reg 19 draft thereafter. Its Statement of Common Ground with RBKC and OPDC will also be revisited.*
South London Waste Plan Group (2022)	*945,910*	*888,000*	*Y*	*944,000*	*Y*	***1,910tpa surplus capacity*** *over 2041 apportionment target*

Waste Planning Group	Identified Waste Capacity (tpa)	Apportionment target 2021	Target met?	Apportionment target 2041	On target?	Notes
Tower Hamlets Local Plan (2020)	*86,324,000*	*195,000*	*N*	*207,000*	*Plan to*	***109,000tpa capacity shortfall*** *to meet 2021 target. Have identified land that would reduce app gap up to 2036.*
Royal Borough Kensington and Chelsea (RBKC) Local Plan (2024)	*90,600*	*116,000*	*N*	*123,000*	*Plan to*	***32,400tpa shortfall****. RBKC confirms it has no licensed waste sites. States 90,600 tonnes of apportionment target could be met with redevelopment of Cremorne Wharf waste site post Thames Tideway Tunnel project and from some exempt sites. The shortfall will be higher as its unclear if the Cremorne site will be re-built and whether the exempt sites count towards apportionment. RBKC states waste apportionment will be met working with H&F and OPDC under its Statement of Common Ground.*
Lambeth Local Plan (2021)	*55,300*	*143,000*	*N*	*152,000*	*Plan to*	***94,700tpa shortfall*** *within borough by 2036 to meet 2041 target.*

Waste Planning Group	Identified Waste Capacity (tpa)	Apportionment target 2021	Target met?	Apportionment target 2041	On target?	Notes
Wandsworth Local Plan (2023)	*147,544*	*264,000*	*N*	*280,000*	*Plan to*	***126,456tpa shortfall by 2036.*** *Recognises constraints in borough to meet both targets. Local Plan states 147,544tpa waste capacity available counting towards apportionment including 141,164 licensed capacity with the remaining circa 6,000tpa coming from exempt sites. Clarity sought on how the 141,164tpa has been calculated and the facilities used.*
Total	*9,440,060*	*8,217,000*		*8,728,000*	*Y*	***712,060 surplus waste capacity identified above meeting 2041 waste apportionment target for London.***

*Includes City of Westminster, which agreed to pool their apportionment with LB Bexley (part of the SELWTG).

8. Analysis

8.1.1. Scenario 1 analysis: Borough self-assessment

16 local authorities (just under half) comfortably meet, or are on track to meet, their apportionment targets for both target years (2021 and 2041). These are the four ELWA boroughs, seven SELJWTG boroughs (including City of Westminster), Hammersmith and Fulham, and the four South London Waste Plan Boroughs. This number increases to 23 boroughs if the seven NLWA boroughs successfully bring forward new capacity to meet its identified 89,000tpa shortfall through their new Joint Waste Plan.

East London and the SELWTG collectively have identified extensive surplus capacity to meeting their apportionments totalling circa 1.25 million tonnes per annum.

10 London Boroughs recognise they don't have sufficient capacity in their authority area to meet their apportionment targets – the six WLWA Boroughs, Tower Hamlets, Lambeth, Wandsworth and RBKC.

The four WRWA Boroughs continue to work together on waste planning for strategic waste management purposes, but no apportionment pooling arrangements are currently in place. H&F and RBKC Boroughs have a Statement of Common Ground with OPDC to work together towards meeting their apportionment targets.

Collectively across London, under Scenario 1 there is a **712,060tpa surplus** of available waste capacity in local development plans/joint waste plans for meeting London borough apportionment performance as a whole. This number reduces to around a **483,299tpa surplus** if only HIC waste deemed by the WDI to be managed at the EMR and Powerday sites in Hammersmith and Fulham are counted towards apportionment.

The East London Waste Plan Group, North London Waste Plan Group, and the West London Waste Plan Group are refreshing their joint waste plans and expect to meet/continue to meet their apportionment targets.

To provide a more accurate apportionment performance based on waste capacity identified in local development plans/join waste plans, more clarity has been sought from LB Wandsworth on the source and methodological approach for the identified 141,164 tonnes waste capacity counting towards apportionment, leaving Wandsworth with a 126,456 tonne capacity constraint. This figure maybe outdated and out of step with the latest maximum household, industrial, and commercial waste capacity in Wandsworth reported on the WDI totalling 365,598tpa reasonably counting towards apportionment (See Scenario 2 below). This has not been resolved at the time of writing this report so are not reflected in the Scenario 1 results.

Table 11: Apportionment performance Scenario 2: London borough apportionment targets 2041 vs Maximum annual waste facility HIC tonnage throughputs 2020-2024

NB: Matching maximum HIC waste facility tonnage throughput data from the Waste Data Interrogator counting towards apportionment. (#) denotes number of boroughs.

Waste Planning Group	Apportionment target 2041 (tonnes)	Waste Data Interrogator: Maximum throughput London HIC waste facilities (2020-2024)	Difference Max throughput vs 2041 target	Comment against max throughputs	
Draft East London Waste Plan Group (4)	1,497,000	1,913,179	416,179	Surplus capacity	
North London Waste Plan Group (7)	1,389,000	1,433,394	44,394	Surplus capacity	
South-East London Waste Technical Group (SELJWTG) (7)*	1,692,000	2,558,984	866,984	Surplus capacity	
West London Waste Plan Group (6)	2,221,000	1,291,363	**-929,637**	Constrained capacity	
South London Waste Plan (4)	944,000	858,887	**-85,113**	Constrained capacity	
Hammersmith and Fulham Local Plan (1)	223,000	229,239	6,239	Surplus capacity	
Kensington and Chelsea Local Plan (1)	123,000	0	**-123,000**	Constrained capacity	
Lambeth Local Plan (1)	152,000	1,432	**-150,568**	Constrained capacity	
Tower Hamlets Local Plan (1)	207,000	87,154	**-119,846**	Constrained capacity	
Wandsworth Local Plan (1)	280,000	365,598	85,598	Surplus capacity	
	8,728,000	**8,773,463**	**11,231**	**Surplus capacity**	

*Includes City of Westminster, which is not formally part of the SELJWTG but has pooled with LB Bexley (part of the SELJWTG)

8.2. Combining Scenarios

Figure 7 shows how the first two scenarios compared with a third scenario, showing the impact of reducing the amount of waste from waste transfer sites (WTS) counting towards apportionment from 50 per cent to 20 per cent.

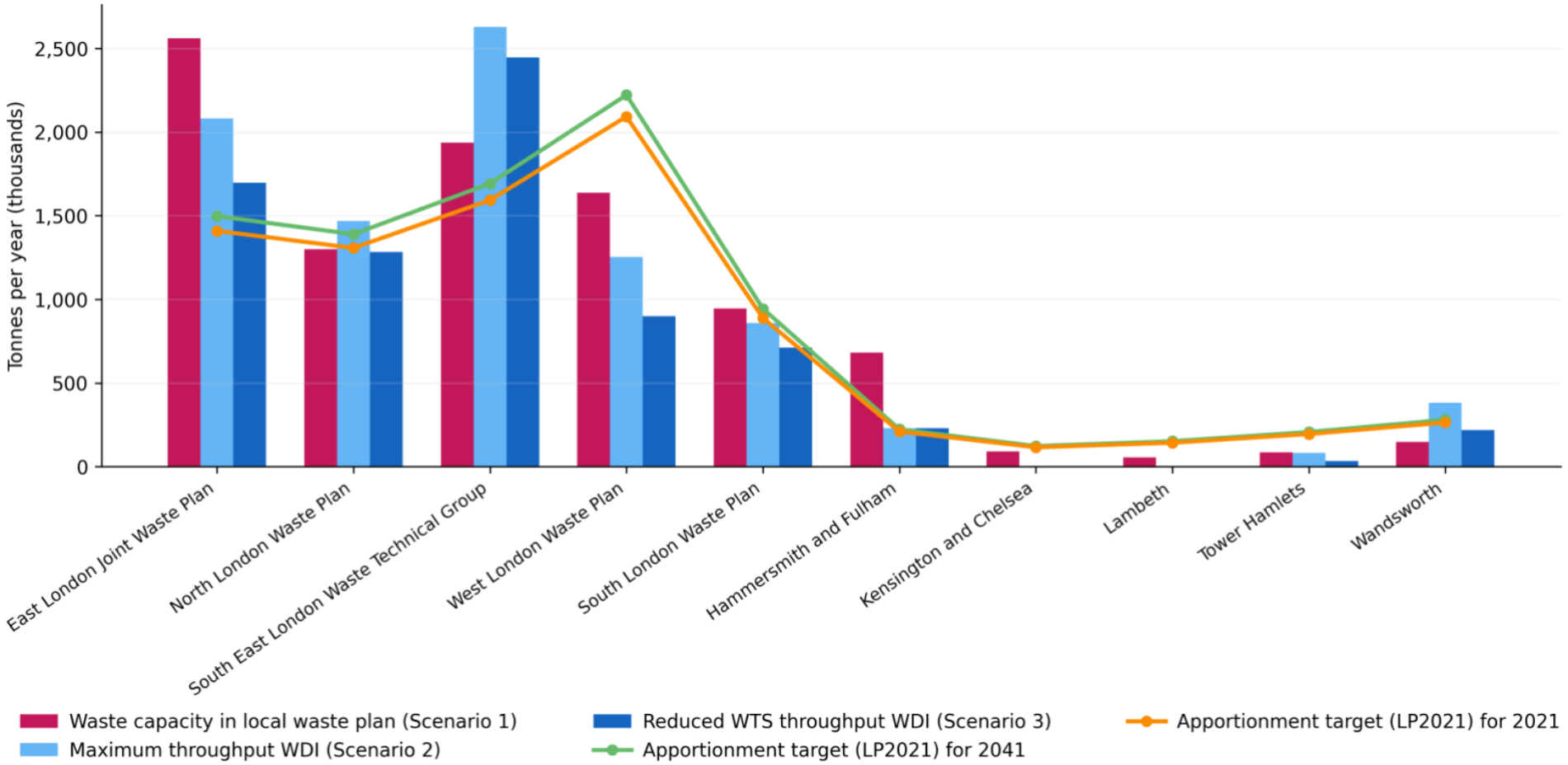

Figure 7: Combining Scenarios 1, 2 and 3 for reporting performance against 2041 borough apportionment targets

8.2.1. Scenario 2 and 3 Analysis

Table 11 shows that, under Scenario 2, 20 boroughs are meeting or are on track to comfortably meet their apportionment targets, with 13 boroughs facing capacity shortfalls. The 20 Boroughs achieving apportionment under Scenario 2 are the four East London Planning Group boroughs, seven NLWA Boroughs, seven South East Planning Group boroughs (including City of Westminster), Hammersmith and Fulham, and Wandsworth. Key differences in Scenario 2 compare with Scenario 1:

- Wandsworth meets its apportionment targets with an expected 85,600tpa capacity surplus. This is due to more facilities managing HIC waste identified on the WDI reasonably counting towards apportionment.
- North London Waste Plan Group meet their apportionment with a circa 44,000tpa surplus. This is due to several additional waste facilities managing HIC waste identified on the WDI reasonably counting towards apportionment.
- The South London Waste Group (four Boroughs) faces an 85,000tpa capacity shortfall compared to a 1,910 tonnes surplus under Scenario 1. This may in part be due to the loss of sites since the South London Waste Plan was adopted in 2022.
- West London Waste Planning Group capacity shortfall increases from 585,000tpa to 929,637tpa). This is likely to do with more up to date data applied than what would have been available in 2015 when the West London Waste Plan was adopted.
- Capacity constraint challenges remain for Tower Hamlets, RBKC and Lambeth under both scenarios, however the shortfall is no more than 151,000tpa for each borough.

Scenario 2 shows that collectively across London there is only **11,231 tonnes per annum surplus capacity** for meeting 2041 apportionment targets, compared with a **712,060 tonne surplus** under Scenario 1. This difference is largely down to Scenario 2 using the latest available waste facility data (2020-2024), and better available data coding HCI waste managed at CDE sites that some boroughs may not have had access to when developing their waste plans. Significant local area waste capacity surpluses under Scenario 2 include:

- The East London Waste Plan Group has 416,179 tpa surplus capacity
- The South East Waste Planning Group has 866,984 tpa surplus capacity

As a result, there is wide disparity in apportionment performance at borough level under Scenario 2, skewed by extensive surplus capacity in East London and South East London where most of London's waste sites are located. This compares with most of the remaining boroughs facing modest capacity shortfalls of between 151,000 – 85,000tpa. Despite these differences London boroughs collectively have and are making good progress towards meeting their apportionment targets under both Scenarios.

Figure 7 shows that reducing the amount of tonnage from Waste Transfer Sites counting towards apportionment from 50 per cent to 20 per cent under Scenario 3 would have a significant impact for most boroughs meeting apportionment, showing collectively a circa **1.21 million tpa capacity shortfall**.

Figure 7 also shows a similar trend in the apportionment targets set in 2021 and 2041 (line charts), with the burden for managing most waste produced falling on the outer London boroughs where more waste facilities and available industrial land exist. The rationale for

this approach is set out in Chapter IV (Work Package 3: Apportionment methodology review).

9. Conclusions

1. Under Scenarios 1 and 2 London waste apportionment policy at borough level **is reasonably being achieved based on the arisings forecast in the 2021 London Plan**. Across both scenarios, 16 to 20 London Boroughs met their 2021 apportionment targets and/or are on track to comfortably meet their 2041 apportionment targets. The greatest challenge is for the six WLWA Boroughs, showing an extensive 929,637 capacity shortfall against its 2041 targets under Scenario 2. For those Boroughs showing capacity constraints (circa 85,000tpa – 151,000tpa), clear acknowledgements and commitments to plan for these constraints are set out in their local plans/joint waste plans.

2. The extent to which Boroughs apply London Plan apportionment criteria can make a material difference to achieving apportionment. Specifically, the amounts of waste that Boroughs deem counting towards apportionment managed at HWRCs, Waste Transfer Sites which make up around two thirds (165) of London's 252 waste sites managing HIC waste. Data improvements in the WDI have also allowed more HIC waste to be reported managed at Construction, Demolition and Excavation Waste sites than before reasonably counting towards apportionment.

3. At a strategic London-wide level, borough level apportionment **is being met** with a circa 712,000tpa **surplus capacity** under Scenario 1, and 11,231 tonnes per annum **surplus capacity** under Scenario 2 when maximum throughputs from all sites managing household, commercial and industrial wastes on the WDI are considered. The surplus capacity position is skewed by extensive surplus capacity in East London and South East London totalling around 1.3 million tpa. Scenario 3 shows London would have a circa 1.21 million tpa **capacity shortfall** when far less waste managed at WTS is determined to be counting towards apportionment.

4. These results help demonstrate that **at the regional level the Mayor's waste apportionment policy is working** to help keep the value of London's household, industrial, and commercial waste within London, working towards achieving the Mayor's overall goal for London to be 100 per cent net waste self-sufficient. This is best demonstrated under Scenario 2, where 20 (nearly two thirds) of London boroughs are achieving or tracking to meet their apportionment targets. Scenario 2 is considered the core scenario for determining apportionment performance applying actual and latest maximum facility tonnage figures.

5. Through the 10 June 2025 workshop discussion, it was acknowledged that the apportionment approach has helped drive greater collaboration and knowledge sharing on waste planning across London's waste planning authorities. This is evidenced by the high number of boroughs working together (28 of 33) to jointly plan and/or pool their waste apportionment targets.

6. Effectively safeguarding waste sites **is essential** for London's strategic waste management for achieving 100 per cent net self-sufficiency, and for boroughs to effectively meet apportionment. The 10 June workshop participants identified several challenges for meeting borough apportionment, namely the loss of waste sites to other uses or being closed (for whatever reason) and consequently losing their safeguarded status. This is further compounded by loss of waste sites not always known or reported to the local waste planning authority. Solutions discussed to help remedy this included:
    a. closer working between the Environment Agency (EA) and local authorities to better understand and report planned closing of sites for failing to meet their permit requirements,
    b. closer local authority monitoring and protection of safeguarded waste sites, and more support and stronger enforcement for repeat poor performing sites (against their EA permits).

7. The GLA's London Waste Map has traditionally been a useful tool to look up, strategically report, and map London's waste infrastructure, helping to inform London's strategic waste planning policy and to plan for infrastructure need. However, the current London Waste Map version does have some limitations for accurately reporting and validating London's waste capacity. Addressing these limitations through full alignment and coding with the WDI and including more mapping functionality will help the GLA and London boroughs to more easily and accurately monitor and report performance against waste apportionment.

8. Resource Futures considers that the new and forthcoming national waste regulations – namely Simpler Recycling, Deposit Return Scheme, and stronger Extended Producer Responsibility requirements will have a positive impact in helping boroughs to meet waste apportionment. The impact of the regulations, discussed briefly at the 10 June Borough workshop, are expected to help drive up recycling performance and demand for reuse and recycling capacity including at waste transfer stations, which should ultimately increase tonnage throughputs counting towards apportionment (see Step 8 Table 6.2). Opportunities to increase London's waste infrastructure however continues to be constrained by higher land prices and available suitable sites compared with other parts of the UK, reflected by London's continued high waste export rate.

9. Apportionment aside, the 10 June workshop discussion concluded that waste transfer sites offer wider strategic value (particularly those with river access) and should continue to be recognised through Borough apportionment and safeguarded for waste management and circular economy purposes (including materials and waste storage).

10. Recommendations

Resource Futures makes the following recommendations to the GLA working collaboratively with the boroughs and the City of London Corporation helping to:

1) Support Boroughs develop waste plans meeting their apportionment targets

2) Support the GLA to drive higher impact through London Plan policy for achieving net waste-self-sufficiency and accelerating London to a circular economy, and

3) More accurately report London's waste infrastructure capacity and monitor performance against apportionment

Preparation of borough local development plans/joint waste plans:

- London Boroughs more consistently use the same waste facility naming classification as used on the Waste Data Interrogator. This will help to more easily match waste facilities and their operational capacity, helping to speed up the time for local/waste plans to be reviewed and determined in general conformity with London Plan waste policy and meeting apportionment.
- London Boroughs clearly and consistently identify waste capacity counting towards apportionment by applying the London Plan apportionment criteria, namely amounts of waste from WTS and HWRCs going for reuse, recycling or for energy recovery in London. Boroughs should also consider researching CDE sites managing HIC waste to help boost their apportionment performance.
- Even closer working between Boroughs, the EA, and the GLA to accurately report operational status of waste facilities and any capacity growth plans. The EA should engage early and regularly with Boroughs on waste sites proposed to be closed due to repeated poor (regulatory) performance will help Boroughs to take early action to avoid more waste site losses and find suitable alternative compensatory waste capacity provision.

Implementing and driving higher impact of the Mayor's waste planning policies:

- As a collective effort, London Boroughs with surplus capacity should provide support to those facing shortfalls, provided that the associated logistics do not cause significant impacts and that Boroughs absorbing additional capacity are reasonably incentivised or rewarded. Good examples already exist, including the South-East London Joint Waste Planning Group absorbing the City of London and City of Westminster's apportionment.
- GLA retains its policy approach to safeguard waste sites and establish a robust and consistent process for ensuring appropriate compensatory sites are found for waste sites lost. This could be achieved through establishing a publicly accessible register of waste sites lost or proposed to be lost to other uses through the planning application process, and collaborating with boroughs to help find reasonable alternative sites or using spare capacity in existing facilities by consulting a refreshed London Waste Map so that there is no overall lost capacity.
- GLA simplify and clarify its criteria for waste activities counting towards apportionment:

    - Remove the refuse derived fuel/solid recovered fuel (RDF/SRF) quality requirement as this is challenging for boroughs to demonstrate and for the GLA to monitor and enforce. New waste regulations including energy from waste being included in the Emissions Trading Scheme will help to drive up the quality of RDF/SRF and remove recyclables from residual waste.
    - Retain and specify the current pragmatic approach for applying 50% of waste received at WTS and HWRCS counting towards apportionment. This work including Borough engagement has demonstrated challenges for accurately reporting waste activities and waste types received and removed from WTS and HWRCs, and highlighted the strategic importance of these sites beyond waste apportionment. Reducing the amount of waste from WTS may also create a perverse incentive for Boroughs to not prioritise these sites for waste management in favour of other uses. The GLA should recognise higher amounts of waste recycled and recovered from HWRCS and WTS counting towards apportionment where a Borough can evidence this in their local/waste plan.
- GLA undertake a review of waste transfer sites to determine opportunities for:
    - Increasing recycling processing and storage capacity helping to increase tonnage throughput meeting apportionment.[18]
    - Accepting higher amounts and types of hazardous waste for safe storage, processing, and onward transfer to specialist facilities helping to ensure that more of this waste is managed effectively.
    - Upgrading these sites into circular economy hubs supporting activities including community reuse, materials innovation and storage, repair, and refurbishment; this would also help to make these sites (particularly poorly performing ones) better neighbours, deliver value for local communities, and support London's transition to a circular economy.

Mapping, reporting, and monitoring London's waste infrastructure and apportionment performance:

- Refresh the London Waste Map to establish a centralised automated waste data platform fully integrating the latest available Waste Data Interrogator information in near-real time. This would improve data accuracy, consistency, and transparency in reporting London's truly operational waste infrastructure, and simplify the process for the GLA and London boroughs to report and track performance against apportionment.
- Further assess facilities reporting 0 or <5000tpa returns over the last three years to better determine operational status and/or plans/potential for growth.
- Consider using more straightforward language to classify waste facility descriptions on the London Waste Map. Namely separating out Anaerobic Digestion and Composting facilities from 'Organic treatment'; changing 'Disposal' to 'Landfill', changing 'Thermal treatment' to 'Energy from Waste'.

[18] Would need to consider broader issues including potential adverse impacts on local communities

- Enhance the London Waste Map 'Waste Planning Groups' mapping layer to show waste sites identified in local development/joint waste plans and the tonnage counting towards apportionment.

III. Work Package 2b: Waste infrastructure capacity and net self-sufficiency

11. Introduction

The London Plan 2021 Policy SI 8 'Waste capacity and net waste self-sufficiency' policy is intended to enable London's waste to be managed sustainably by having sufficient infrastructure to manage the equivalent amount of **all** waste produced. Policy SI8 sets a target for London to be 100% net waste self-sufficient by 2026. This approach aims to help keep the value of London's waste within London, creating local green jobs, reducing waste disposal costs, and accelerating London's transition to a low-carbon circular economy. The net self-sufficiency target applies to the three core waste streams: Construction, Demolition, and Excavation (CDE) waste, Commercial and Industrial (C&I) waste, and Household (HH) waste. It does not apply to hazardous waste due to the nature of this waste requiring specialist treatment in sites mostly located outside of London. London Plan waste apportionment policy discussed in Chapter II (Work Package 2a) only applies to C&I waste and HH waste and plays a key role in helping London to achieve 100% net waste self-sufficiency.

The planning system can be used to achieve waste self-sufficiency through reserving land that is suitable for waste management to be retained for that purpose, in the context of potentially higher land values for other uses that are also in demand and are key to the overall success of London. Chapter III (Work Package 2b) considers London's status and ability to have sufficient capacity to manage the total amount of waste expected to arise up to 2050.

12. Methodology for the Review of London's Waste Infrastructure capacity

The purpose of Chapter III (Work Package 2b) is to determine the current and future waste management capacity needs for all London's waste, and the role it plays in helping London to become 100 per cent net waste self-sufficient. This has been achieved by combining current and projected waste arising data from the Waste Arisings model – see Chapter I (Work Package 1) – with London's current waste management infrastructure in the Waste Data Interrogator, and using information from the London Industrial Land Supply Study 2020 to inform the opportunities for new waste sites. Current waste infrastructure does not include facilities with planning permission that have not yet been built, since there remains uncertainty in the delivery of waste management infrastructure and the Forward Planning process cannot make assumptions about delivery. This Work Package (2b) should be read alongside Chapter II (Work Package 2a) which assesses London's performance against the borough level waste apportionment.

Borough Local Plans or Joint Waste Plans all need to identify sufficient sites that are suitable for waste management, with adequate access for bringing in waste materials and taking away processed product. However, this is clearly challenging in Central London locations and waste management activity is best located on industrial sites which tend to be concentrated in particular parts of London as identified in the London Industrial Land Supply Study 2020[19]

Factors that can affect the amount of waste managed include the equipment used, the internal design of the site to facilitate movements of vehicles, external access and highway constraints and most importantly the market for inputs and outputs. The Environmental Permit for a site will specify a maximum quantity of material that can be handled at a facility, which will take into account these factors as well as other factors such as emissions and water use. If a site can be operated satisfactorily without any adverse impacts on the environment, this can sometimes be altered to increase the capacity of a facility.

For planning purposes, an understanding needs to be developed of how much land is required to manage the waste arising in a planning area. This issue is discussed in further detail in Chapter IV (Work Package 3: Apportionment Methodology Review). However, the amount of waste that can be treated on a site largely depends on the technology used and the efficiency of the operation of this technology. For the purposes of this study, the approach taken to estimating capacity is that agreed by the National Chairs of Waste Advisory Technical Bodies which comprises the following steps:

- Identify the throughput of each facility in the study area by looking at the 'waste received' in tonnes for the most recent five years.
- Record the highest throughput in tonnes over this period on the basis that this throughput is possible at the facility and lower quantities are due to market conditions rather than any limitations on the facility.

[19] London Industrial Land Supply Study - London Datastore {Last Accessed 1 June 2026}.

- Check the most recent years are not null and the facility is still operational.
- Additional checks can be made for larger facilities which will impact the overall capacity of an area by examining company websites and permits or contacting the operator of the facility.
- The throughput tonnage is then rounded up to the nearest 1,000 tonnes since the quantities recorded are necessarily approximate

12.1. Results for the Waste Infrastructure in London

Table 12 sets out an assessment of London's current maximum annual waste management infrastructure capacity including landfill and waste transfer sites for all waste types (Construction, Demolition and Excavation Waste, Commercial and Industrial Waste, and Hazardous Waste). This is compared with current and forecast waste arisings to 2050. Taking this approach suggest that London has more than sufficient capacity for managing the equivalent to all waste produced up to 2050, showing a 10 million tonne surplus in 2024.

Table 12: Total London waste (HIC, CDE, and Hazardous waste) capacity assessment vs projected waste arisings

Maximum annual capacity received 2020-2024 including landfill (tonnes)	Estimated total waste arisings (tonnes)	Year	Difference tonnes (Max capacity vs estimated arisings)
28,524,232	18,452,000	2024 (Base year)	10,072,232
	18,913,000	2030	9,611,232
	19,927,000	2040	8,597,232
	21,026,000	2050	7,498,232

However when landfill is removed as a declining asset and the throughput and type of each facility is considered, a more accurate treatment capacity assessment can be presented. Table 13 and Figure 8 shows the throughput of waste received from inside and outside of London using different categories of waste facility each year from 2020 to 2024 for all wastes. This table includes transfer capacity, the largest waste site category making up around half (181) of London's total waste sites (376). Waste transfer sites (WTS) are typically used to sort, segregate, and bulk up different waste for onward management to treatment facilities, so there is an element of double handling and therefore double counting of waste. Table 13 demonstrates the impact of removing landfill from the in-year throughput tonnage figures, showing a 99,000-tonne shortfall against 2024 estimated waste arisings. Applying the maximum facility capacity figures (2020-2024) shows a 5.7 million tonne surplus. However, removing London's extensive 11.5 million tonnes of HIC WTS capacity would result in a circa 5.8m HIC treatment capacity shortage, although this figure in reality would be lower as many WTS include some treatment activities not accurately separated out on the WDI. Figure 8 sets out London's waste facility annual throughput 2020 – 2024. An assessment of London's key HIC waste treatment capacity requirements is set out in Section 14.

Table 13: Annual throughput of all wastes by category of facility and maximum capacity (tonnes 2020-2024)

Type of facility	2020	2021	2022	2023	2024	Max 2020-2024
Fuel/MBT	652,238	708,243	552,146	578,824	516,889	721,914
HWRC	323,235	322,074	308,434	325,820	331,815	390,409
Metals/Vehicle depollution	981,028	1,132,911	1,029,894	931,839	833,430	1,485,450
MRF	1,853,198	1,832,615	1,732,168	1,895,562	1,802,603	2,099,222
Organic	293,337	302,186	368,609	391,913	395,779	425,189
Other*	3,087,282	3,764,725	3,932,476	4,074,713	3,752,690	5,236,077
Thermal	1,807,607	1,856,694	2,071,453	2,002,519	2,084,120	2,134,131
WTS (HIC)	6,520,140	7,335,049	7,044,841	7,777,999	8,447,184	11,366,464
WTS (CDE)	217,143	221,010	191,995	206,546	188,785	258,335
Total Treatment throughput	**15,735,208**	**17,475,507**	**17,232,016**	**18,185,735**	**18,353,295**	**24,117,189**
Disposal (inert landfill)	392,518	486,810	959,619	1,178,456	403,731	1,877,718
Non-hazardous landfill	1,302,758	1,337,943	1,203,407	1,641,553	1,191,208	2,529,325
Total treatment throughput + landfill	**17,430,484**	**19,300,260**	**19,395,042**	**21,005,744**	**19,948,234**	**28,524,232**
Arisings in 2024					**18,452,000**	**18,452,000**
Total treatment – 2024 arisings					**-98,705**	**5,665,189**

*Other refers to different types physical or chemical treatment of specialist or contaminated wastes. Also includes storage of specialist waste including waste oils

Figure 8: Throughput of all waste facilities in London (tonnes)

12.2. Waste sent to landfill (arising in London)

Waste sent to non-hazardous landfill in London has increased significantly over this five-year period, but this is likely to reduce over time as the capacity of the one non-hazardous landfill site in London (at Rainham Marsh) is expected to close by 2029 with final restoration by 2031. Non-hazardous landfill sites in the wider South East are gradually being restored and closed and there is little demand for developing new sites. The available landfill will therefore be further afield, for example in the East Midlands.

However, the transport costs involved in using these sites will mean they remain less attractive than using other waste treatment routes.

The data for landfill is inconsistent since the WDI shows a significant amount of non-hazardous waste being sent to landfill sites that are categorised as inert landfill sites. While the WDI shows 1.2 million tonnes per year going to landfill, the only available non-hazardous landfill sites in London are those at Rainham and Beddington, as shown in Table 14 below. The Ruislip site is a temporary landfill for managing spoil waste from the HS2 rail project.

Table 14: Waste received at Non-hazardous landfill in London (tonnes)

	2020	2021	2022	2023	2024
Veolia ES Rainham Landfill	1,017,777	664,064	444,941	370,180	318,346
Valencia Waste Beddington	-	-	-	166,600	254,920
Silt Lagoons, Rainham and Wennington Marshes	284,981	673,879	758,466	518,291	552,884
Ruislip Southern Sustainable Placement S2	-	-	-	753,082	319,979
Total	**1,302,758**	**1,337,943**	**1,203,407**	**1,808,153**	**1,446,129**

Data from the Environment Agency[20] shows that the remaining capacity at Rainham is 1.054,600 cubic metres and the remaining capacity at Beddington is 228,340 cubic metres.

The amount of waste arising in London and sent to landfill in all destinations has also reduced over the past five years as shown in Table 15 and Figure 9 below:

[20] Remaining Landfill Capacity – data.gov.uk

Table 15: Total waste arising in London disposed of to landfill

	2020	2021	2022	2023	2024
Waste received into London Landfill	962,282	928,339	1,310,610	2,356,705	1,324,923
Waste received into East of England Landfill	2,649,086	2,002,913	1,929,798	1,963,655	1,975,699
Waste received into South East of England Landfill	2,446,347	2,661,477	2,391,869	2,314,962	2,233,345
Waste received into landfill sites in other regions	8,063	18,889	19,123	203,216	574,389
Total	**6,065,778**	**5,611,618**	**5,651,400**	**6,838,538**	**6,108,356**

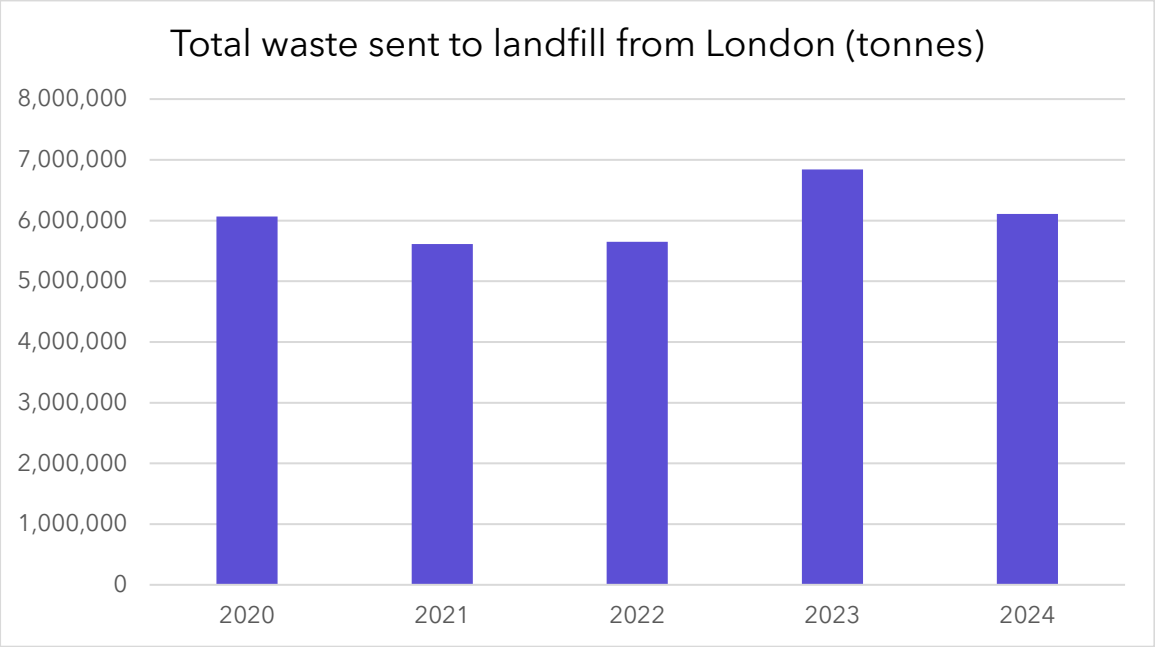

Figure 9: Waste arising in London and sent to landfill (all areas, HIC, hazardous and inert), tonnes

The majority of waste from London that is disposed of to landfill is sent to the East and South East of England. The amount received into landfills in the East of England has reduced slightly from 2020, but this reduction has stabilised and waste sent further afield has increased as shown in Figure 10 below:

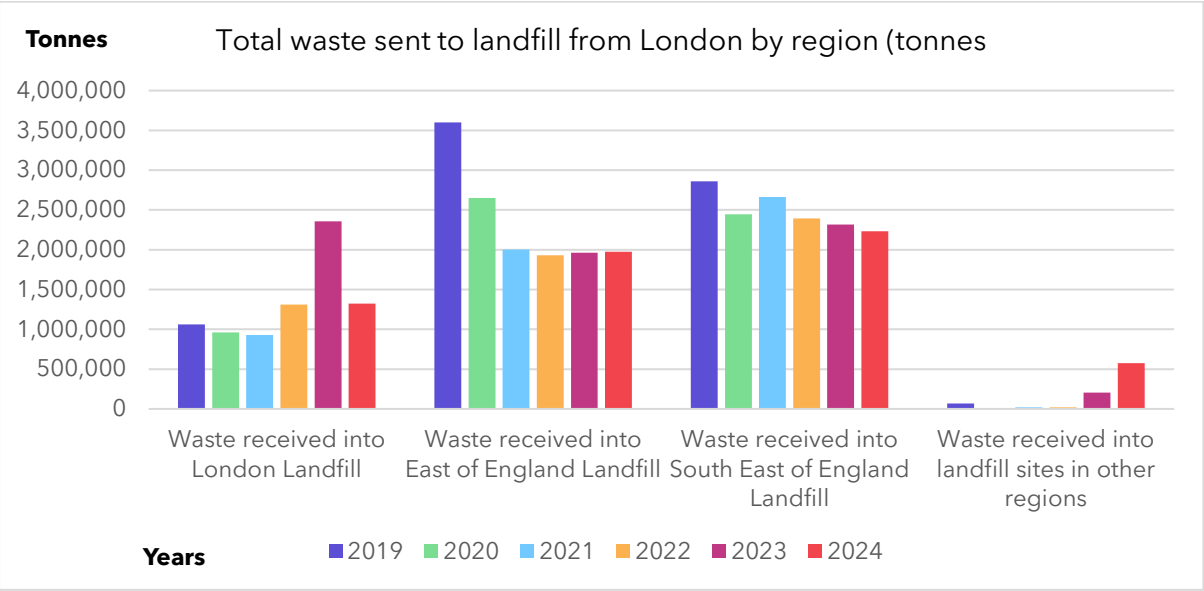

Figure 10: Waste sent to landfill arisings in London (tonnes)

The capacity of facilities to handle this material stream is examined in more detail in section 12.1 but it should be noted here that much of the material that is sent to landfill comprises soils from excavation. If this material cannot be used for landscaping, then landfill is the only management option – and this is likely to be outside London.

12.3. Energy from Waste

There are four municipal waste incinerators in London and the throughput of these over the past five years is show in Table 16 below. For the purposes of showing London's maximum EFW capacity, Cory's second Riverside Resource Recovery facility in Bexley has also been included which will treat residual waste from the East London Waste Authority constituent boroughs under new contract from 2027/28.

Table 16: Waste received at energy from waste facilities in London (tonnes WDI)

Site Name	2020	2021	2022	2023	2024	Max available capacity (tpa)
Riverside Resource Recovery EPR/BK0825IU	754,418	582,767	803,031	796,192	815,882	800,000
Edmonton EfW Facility EPR/YP3033BE	571,505	516,374	506,031	484,035	493,724	700,000
South East London Combined Heat and Power (SELCHP)	400,311	435,001	428,571	391,163	429,184	460,000
Beddington ERF EPR/GP3305LN	81,354	322,469	333,628	330,778	345,307	347,000
Riverside Resource Recovery 2						650,000*
Total	**1,807,588**	**1,856,611**	**2,071,261**	**2,002,168**	**2,084,097**	**2,957,000**

*Expected to come on stream in 2026/27

The maximum capacity figure is taken from publicly available information from the operators and their websites. The redevelopment of the energy from waste facility at Edmonton will result in an increased capacity totalling 700,000 tonnes per annum by 2027, which is already taken into account in the table above (Max available capacity column).

The development of Riverside 2[21] will provide additional EfW capacity of 650,000 tonnes per annum by 2026.

This will give a total capacity for non-hazardous waste treatment at EfW in London of approximately 2,307,000 + 650,000 = 2,957,000 tonnes per annum.

12.4. Organic waste Treatment Facilities

Organic waste is a key fraction of the waste stream comprising about a third of the total waste arising in London. If this could be collected and treated separately it would make a significant improvement in the sustainable management of London's waste. In London, the majority of organic waste arising is food waste, and the proportion of green waste (material arising from gardens and parks) is relatively low compared to the rest of the UK.

Food waste needs to be handled correctly within the Animal By-product Regulations which broadly means keeping the material contained to control any risks to animal or human health. The Government's preferred approach for the treatment of food waste is through anaerobic digestion (AD) which stabilises the waste and produces a digestate used as fertiliser and biogas as outputs.

Table 17 shows there are three main AD facilities within London for the treatment of organic food wastes producing renewable energy and compost outputs. The two facilities in Barking and Dagenham are located in the Sustainable Industries Park and take segregated food waste, although some of this is brought from outside London, primarily the Essex area. In addition to these, Riverside AD Facilities in Mitcham (London Borough of Merton), taking London's total AD capacity to 320,000tpa.

Table 17 shows London's composting facilities treating organic wastes from parks and gardens with estimated maximum capacity of 200,000 tonnes per annum. Overall, these facilities do not make a significant contribution to the waste management capacity in London.

Table 17: Organic Waste Treatment Facilities in London

		Max tonnes received 2024	Approximate max capacity (tonnes)	London Borough
East London Biogas	Biocapital	77,299	80,000	Barking & Dagenham
Hitch Street AD Plant	Refood Ltd	63,931	160,000	Barking & Dagenham
Riverside AD	Biocollectors Ltd	79,491	80,000	Merton

[21] Riverside 2 | Cory Group

		Max tonnes received 2024	Approximate max capacity (tonnes)	London Borough
Total AD for food waste		**220,720**	**320,000**	
Buckingham Palace	Royal Household Property Section	276	350	Westminster
The Royal Botanic Gardens, Kew	Royal Botanic Garden Kew	120	500	Richmond
Kensington Gardens Leaf Pen	Royal Parks Ltd	1,233	2,000	Westminster
Regents Park Leaf Yard	Royal Parks Ltd	300	400	Westminster
Greenwich Park Leaf Yard	Royal Parks Ltd	378	1,000	Greenwich
High View Farm	West London Composting	57,662	70,000	Hillingdon
Swanley Recycling Centre	Envar Composting Services Ltd	38,207	39,000	Bromley
Mitcham Waste Treatment Centre	Riverside Bio	76,883	77,000	Merton
Total composting capacity		**175,059**	**190,250**	

12.5. MBT Capacity

MBT facilities receive mixed municipal wastes which can have a high organic content, separate some recyclate waste but in the main prepare a solid recovered fuel or waste derived fuel (SRF or RDF) for onward management in incinerators or cement kilns. Table 18 shows London's four MBT facilities totalling around 517,000 tonnes in 2024. At Frog Island in Havering there is an MBT facility operated by Renewi which received around 174,000 tonnes in 2024. Looking at the waste removed from this site in 2023 WDI, 125,000 (79%) tonnes were removed of which 76,500 tonnes were sent to incineration either in the UK or exported to other countries. The amount of waste removed in 2024 was 122,650 tonnes, which is 42%. Similarly, at Jenkins Lane MBT the waste received was around 177,000 tonnes in 2024 and 125,300 tonnes (70%) were removed of which 87,000 tonnes went to incineration.

MBT facilities do not receive segregated food waste but rather take in mixed municipal wastes which will have a high organic content. The true waste treatment capacity provided by these facilities can therefore be considered as 50% of their throughput.

Table 18: Mechanical Biological Treatment (MBT) Facilities in London

	Tonnes received in 2024	Approximate capacity (tonnes)	London Borough
Frog Island Waste Management Facility	173,053	211,664	Havering
Jenkins Lane Waste Management Facility	176,244	214,237	Newham
Greenwich Integrated WMF*	55,089	63,667	Greenwich
Southwark Integrated Waste Management Facility*	112,503	113,501	Southwark
Total MBT throughput	516,889	**603,069**	
Capacity to be added for capacity calculations		**300,000**	

*Estimates only as these facilities have both MBT and MRF capacity not reporting tonnage figures separately on the WDI. A 50/50 split is assumed for reporting capacity purposes.

13. Additional infrastructure requirements

Sections 13 and 14 consider the case for delivering key HIC waste infrastructure against forecast arisings helping to meet the Mayor's 65% municipal waste recycling targets by 2030 and make an effective contribution towards achieving 100% net waste self-sufficiency. The extent to which this can or should be located within London depends to a significant extent on the type and scale of this infrastructure. Reprocessing facilities for making products from recycled paper, glass and metals comprise large capital investments and there may only be sufficient feedstock in the UK for a limited number of such facilities. Other wastes such as organic wastes and CDE wastes are uneconomic to transport over long distances due to their relatively low value and high density, so therefore it is more cost efficient for facilities processing these materials to be located close to the point where the waste arises. Facilities for cleaning, sorting and baling recyclate, particularly paper, card, plastics and metals could appropriately be accommodated within London and the value added to these materials captured in the London economy. This also applies to materials such as WEEE, textiles, furniture which can be repaired or broken down into their constituent materials in standard industrial premises.

Looking at the available feedstock for individual materials streams is a challenging exercise since the data on composition is not up to date and focuses mainly on HH waste, with little detailed information on C&I wastes. The best available data is from WRAP (the Waste and Resources Action Programme) who have commissioned a number of studies on waste composition for HH, non-household and C&I wastes. The Waste Arisings model gives detail of the composition of C&I wastes.

13.1. Organic waste treatment

Information on waste composition is contained in the Waste Arisings model. This shows that food waste makes up around 27% of London's total HIC arisings with garden waste

contributing an additional 6% giving a total of 33% organic material. The amounts of organic waste arising in 2024 and as a proportion of total HIC waste are shown in Table 19 below:

Table 19: Proportion of Organic Waste Arising compared to total HIC arisings in London (base year 2024)

	Total HH	% HH	C&I	% C&I	Total HH + C&I	% of Total (all waste streams)
Food waste	691,204	24.5%	1,382,600	28.4%	2,073,804	26.9%
Garden waste	278,756	9.9%	168,166	3.5%	446,922	5.8%
Total Organic waste	969,960	34.4%	1,550,766	31.9%	2,520,726	32.7%
Total waste arisings in that category	**2,827,000**		**4,871,000**		**7,699,000**	

Source: Waste Arisings model

Starting with an estimated 2.1 million tonnes of HIC food waste that enters the waste stream as shown in Table 19, a range of capture rates in shown in Table 20 give a range of the capacity of AD facilities required in London.

Table 20: Quantity of food waste to be treated depending on a range of capture rates

Capture rate (from a total of 2,074,000 tonnes	Tonnes to be treated
30%	622,000
40%	829,000
50%	1,037,000
60%	1,244,000

Given that the approximate throughput of the currently available facilities in London is in the region of 320,000 tonnes pa (from Table 17 above), it is apparent that significantly more AD capacity is required to treat the food waste arising in London to achieve the treatment by AD of the tonnages shown above. **Nearly twice as much AD capacity is required** (622,000 tonnes) to treat the material resulting applying a 30% capture rate of food waste arising. This increases to around 1.8 million tonnes if all HIC food waste is considered. Section 14 provides more information on London's forecast AD capacity requirements.

However, the economics of developing and operating AD facilities in London needs to be attractive for a sustained period in order for these facilities to be brought forward. Increased demand for AD treatment is expected as more separate food waste services are introduced and expanded for effective compliance with the government's Simpler Recycling requirements. The fluctuations in gate fees (and rebates) to date mean that

there has not been a strong pipeline of new projects, notwithstanding the availability of feedstock.

13.2. Dry Mixed Recycling (DMR)

The target for municipal waste recycling in the current London Plan is to meet or exceed the municipal waste recycling target of 65% of total HIC arisings by 2030. If all of the 27% of the food waste recycled, is an organic fraction, then approximately 38% of the total remaining waste stream must be recycled to meet the target. As an example, if 50% of the food waste arising is recycled (13.5% of total arisings), then 51.5% of the rest of the waste arisings must be recycled to meet the target.

DMR here is considered to comprise paper, card, fibre-based composites, glass, plastic bottles and pots, tubs and trays and metals collected in regular collections. It also includes the metals collected in regular collections, but the metals collected at HWRCs are likely to comprise other materials such as furniture or tools that fall outside the category of DMR. Plastic film is not included in DMR at present since it cannot easily be handled in MRFs. However, separate collections of plastic film are expected to commence in 2027 and specialist facilities for handling this material will need to come forward at this time. Data from the Waste Arisings model shows that common DMR materials comprise 25.70% of total HIC arisings, or around 2 million tonnes, as shown in Table 21 below. Adding plastic film (see Table 24) would increase the proportion of dry recyclables to around **2.45 million tonnes** or 35%. Although plastic film currently requires specialist treatment outside typical MRFs, we have included it in estimating future MRF capacity requirements set out in Section 14 on the expectation that MRF technology will continue to improve to increasingly recover more plastic film.

Table 21: Composition of Dry Mixed Recycling (DMR) element of all waste in London 2024, tonnes

Category of waste	Total tonnage arising	% out of total arisings	% out of total HIC arisings
Paper	472,671	2.6%	6.1%
Card	670,316	3.6%	8.7%
Fibre-based composite	79,230	0.4%	1.0%
Glass	535,952	2.9%	7.0%
Metal – ferrous	129,526	0.7%	1.7%
Metal - non-ferrous	90,836	0.5%	1.2%
Plastic – bottles	198,813	1.1%	2.6%
Plastic - PTT (Pots tubs and trays)	177,263	1.0%	2.3%
DMR total	**1,978,907**	10.72%	25.70%
		% of total waste arisings (18,452,000)	% of HIC arisings (7,699,000)

Data on C&I waste is not sufficiently robust to obtain a comparable figure but previous studies[22] have shown that the relative percentage of recyclable waste in the C&I waste stream is often higher and cleaner, to the extent that this residual material has a value and is sold rather than entering the residual waste stream. This material therefore does not always need to be handled in Material Recycling Facilities (MRFs) and can be sold direct to re-processors: paper from printing operations, scrap metal from manufacturers, cardboard from packaging and retail operations.

Table 22 shows the current MRF capacity in London.

[22] *Defra Survey of Commercial and Industrial Waste Arisings 2009*

Table 22: Throughput of MRF facilities 2020 to 2024 (tonnes)

Operator	Borough	2020	2021	2022	2023	2024	Max received
Day Group, Brentford	Hounslow	331,912	372,233	314,729	413,225	359,039	**413,225**
K&J Skip Hire, Atcost RD	Barking & Dagenham	0	5,456	11,504	4,496	11,645	**11,645**
N&P Crayford MRF Limited	Bexley	330,012	331,067	321,284	338,030	347,994	**347,994**
Biffa, Ardra Rd	Enfield	300,483	290,599	281,426	316,490	289,315	**316,490**
Powerday, Scrubs Lane	Hammersmith & Fulham	276,042	219,440	229,885	259,768	267,856	**276,042**
Veolia Southwark	Southwark	110,215	113,501	110,106	110,436	112,503	**113,501**
Veolia, Rainham	Havering	158,469	181,973	125,321	128,774	129,487	**181,973**
Veolia, Plumstead Marsh	Greenwich	52,815	60,512	57,054	63,667	55,089	**63,667**
H. Sivyer, Herringham Rd	Greenwich	70,780	48,633	77,233	30,333	14,165	**77,232**
Hanson, Breach Lane	Barking & Dagenham	30,472	22,124	26,547	37,004	17,673	**37,004**
Cory, Smugglers Way	Wandsworth	35,592	35,376	31,948	31,163	24,013	**35,592**
Cappagh Works Riverside Rd	Wandsworth	64,959	56,048	44,039	52,314	79,229	**79,229**
Powerday, West Drayton	Hillingdon	16,832	34,922	35,579	55,442	62,352	**62,352**
Mssrs Dugdale, Crayford Creek	Bexley	39,221	26,827	32,789	23,757	18,522	**39,221**
Veolia, Choats Rd Dagenham	Barking & Dagenham	9,123	11,832	12,643	10,373	7,461	**12,643**
777 Recycling Centre	Sutton	16,619	9,226	7,514	5,497	3,070	**16,619**
Pulse Environmental, Canning Town Depot	Newham	8,157	10,298	9,687	11,324	0	**11,324**
Uxbridge Recycling Wallingford Rd	Hillingdon	1,495	2,550	2,880	3,470	3,190	**3,470**
Total		**1,853,198**	**1,832,615**	**1,732,168**	**1,895,562**	**1,802,603**	**2,099,222**

It should be recognised that these capacities are approximate, and some facilities have seen reductions in capacity over the period examined. This means that if the highest throughput was several years ago, it may not be achievable now. The total maximum MRF capacity currently available now has therefore been rounded to 2.1 million tonnes per annum of throughput.

Taking the total upper end MRF requirement less available capacity in 2024:

2.45tpa – 2.10 million = 315,000 tonnes pa

An additional **315,000 tonnes per annum of MRF capacity is currently needed** if all the materials considered to comprise Dry Mixed Recycling are to be captured and sent for re-processing. Plastic bottles could be captured through a Deposit Return Scheme, but this will not apply to the other materials under consideration.

13.3. Textiles

Textiles are a high value part of the waste stream and, if they can be captured before they enter the residual waste, this value can be better retained. There is little reliable data on the quantities of textiles that are reused and resold and the WRAP study shows that textiles make up 2.5% of the HH waste stream. The composition data in the Waste Arisings model gives a figure of 2.1% of all waste comprising textiles, which is fairly consistent.

Equally, there is little data on the capacity of infrastructure that handles textiles. Much of this material is managed by charity shops and second-hand or vintage sales platforms and further work is required to understand the quantities received and sold or disposed of. Research amongst operators active in this market could be the best starting point for understanding what additional infrastructure is required to manage this waste stream more sustainably.

A report on textile materials flows in London was published by ReLondon in June 2023[23] that contains useful data on the management of used textiles from the year 2019 in the Sankey diagrams on pages 17 and 18 of that report, summarised in Table 23. This research shows that Londoners acquired an estimated 154,600 tonnes of new clothing in 2019 equivalent to every Londoner buying 48 items of new clothing (on average) in that one year. Londoners discarded 142,700 tonnes of clothing (or around 44 items of clothing per person) in that same year.

Table 23: Management routes of new clothing textiles in London

	Tonnes of clothing textiles managed in London 2019	Percentage compared to total disposed of
Placed in the bin (residual waste)	60,600	42.47%
LA segregated collection	12,700	8.90%
Collected by charities	29,200	20.46%

[23] London's Fashion Footprint Report, ReLondon

	Tonnes of clothing textiles managed in London 2019	Percentage compared to total disposed of
Textile merchants	40,200	28.17%
Textiles disposed of after purchase	**142,700**	
Accumulation (retained within homes)	11,900	
Total clothing textiles purchased	**154,600**	

The waste composition data in the Waste Arisings model gives an overall tonnage of 410,641 of textiles entering the waste stream, which is made up of 112,439 tonnes from HH and 298,201 tonnes from C&I sources.

The opportunity therefore lies in retrieving the waste textiles from the residual bin and capturing this in either segregated collections or through specialist collections routes and charity shops. More research will be required to understand whether it is a lack of this type of infrastructure that results in the deposit of textiles in the residual bin or awareness.

13.4. Plastic film

The Waste Arisings model shows arisings in the waste stream in 2024 of plastic film as follows in Table 24.

Table 24: Plastic Film arisings in 2024

	HH	C&I	CDE	Total
Tonnes	124,705	484,112	362,914	971,731
Percentage of total arisings	4.4%	9.9%	3.4%	5.3%
Total waste arisings (tonnes)	2,827,000	4,871,000	10,753,000	18,452,000

Film used in retail and industry is cleaner and heavier than the material in the HH waste stream and can be more easily re-processed. Agricultural films form a significant element of the waste in this category, but this is unlikely to make a significant contribution to the waste arisings in London. The processing of this material is expensive and complex and the business case for managing this material is vulnerable to the fluctuating oil price. There is no dedicated film recycling infrastructure in London at present although plastic film will be collected as part of the recycling stream in England by 31 March 2027. These figures give an indication of the level of capacity that will be required to handle this material. If film is successfully extracted from the residual waste stream for recycling, this will create a corresponding reduction in tonnages sent to incineration or landfill, if the appropriate infrastructure is available to manage it.

13.5. Waste electrical and electronic equipment (WEEE)

The Waste Arisings model shows that the percentage of WEEE arising in the HH waste stream comprises 1.44% of the total and that the percentage of WEEE in the C&I waste stream comprises 0.6% of the total waste arising. This equates to 39,492 of HH WEEE and 29,962 tonnes of C&I WEEE totalling 69,454 tonnes in 2023. However, the value of this waste stream in terms of the materials contained within it and the carbon savings that could potentially be achieved by reducing the acquisition of raw materials make this a waste stream that is important to retain away from the residual waste stream.

Data on the amount of electrical and electronic equipment placed on the market and the amount of WEEE collected in the whole of the UK market is reported by the Environment Agency (EA).[24] A summary is shown in Table 25.

Table 25: Electrical and Electronic Equipment (EEE) placed on the UK market in the calendar year 2024

Category	HH EEE (tonnes)	Non- Household EEE (tonnes)	Total (tonnes)
Large HH appliances	588,665	32,030	620,696
Small HH appliances	215,037	8,762	223,799
IT and telecoms equipment	62,676	49,414	112,090
Consumer equipment	30,890	9,247	40,137
Lighting equipment	60,486	32,947	93,433
Electrical and electronic tools	76,368	21,829	98,196
Toys, leisure and sports	61,761	6,692	68,453
Medical devices	2,767	14,555	17,322
Monitoring and control Instruments	22,929	33,796	56,725
Automatic dispensers	266	2,470	2,737
Display equipment	86,395	12,236	98,631
Cooling appliances containing refrigerants	222,411	44,211	266,622
Gas discharge lamps and LED light sources	4,486	754	5,240
Photovoltaic panels	158,735	4	158,739
Totals	**1,593,872**	**268,948**	**1,862,820**
London proportion (assumed 6%)	**95,632**	**16,137**	**111,769**

[24] https://www.gov.uk/government/statistical-data-sets/waste-electrical-and-electronic-equipment-weee-in-the-uk

Treatment and collection of WEEE can be carried out at any waste management facility, and if the operators of these facilities wish to issue evidence of proof of reuse or treatment or export of an appliance, then the operators of the facility will need to be registered as an Approved Authorised Treatment Facility (AATF) or an Approved Exporter (AE). The list of AATFs in the UK is publicly available at the same site as above, and the amount of waste received by these facilities can be identified from the WDI (Table 26).

Table 26: Approved Authorised Treatment Facilities for WEEE located in London

Name of AATF	AATF address	London Borough where facility is located	Tonnes received in 2023
European Metal Recycling Ltd (Willesden)	106 Scrubs Lane, Willesden, London NW10 6QY	Hammersmith & Fulham	134,473
First Mile Ltd	32-38a Minerva Road, Park Royal, London NW10 6HJ	Ealing	47,884
Groundwork London	Rework, Western Riverside Waste Transfer Station, Smugglers Way, London SW18 1EG	Wandsworth	215,358
Total quantity of waste received by AATFs in London			**397,715**

However, the material received by these facilities includes a range of categories of waste, including discarded vehicles and "mixed metal wastes", which may include WEEE. Table 27 shows the composition of the material received by these facilities:

Table 27: Breakdown of types of waste handled by AATFs in London

Name of AATF	Total tonnes received in 2023	Discarded equipment	Discarded vehicles	Mixed metal wastes	HH and similar wastes	Other
European Metal Recycling Ltd (Willesden)	134,473	19,413	54,387	58,134	0	2,539
First Mile Ltd	47,884	0	0	0	47,155	729
Groundwork London	215,358	867	0	678	191,240	22,573
Totals	**397,715**	**20,280**	**54,387**	**58,812**	**238,395**	**25,841**

It is therefore difficult to conclude that there is sufficient treatment capacity for the quantity of WEEE arising within London. The category of 'discarded equipment' will

comprise WEEE, and a percentage of material in the categories of 'mixed metal wastes' and 'HH and similar wastes' will comprise WEEE also.

Further detailed analysis will be required to understand the treatment routes of this waste stream. In addition to the data on how much equipment is placed on the market, information is required on how much is in use, how much is sold in secondary markets, what proportion is in storage at any one time, and how much enters the residual waste stream.

14. Considering current and future HIC waste capacity needs

The analysis in Section 13 shows that there remains significant need for the development of additional waste management facilities for the treatment of HIC waste arising in London if the Mayor's aspirations for 100% net waste self-sufficiency and a recycling rate of 65% are to be achieved in the long term. Both these targets, set to be achieved by 2026 and 2030 respectively, form key drivers for effective waste policy in London. If the recycling target is to be achieved, this will require changes to collection systems so that more materials can be collected separately as well as the development of new treatment infrastructure - namely MRFS and AD facilities. This section considers London's current and future HIC waste capacity needs for key infrastructure EFW, MRFs, and AD facilities helping to deliver on the Mayor's recycling and net waste self-sufficiency targets, out to 2050.

Food waste comprises the largest single category within HIC waste and so efforts to increase the capture rate of this material are important as part of the process of reaching a higher recycling rate. Table 28 shows London's maximum treatment capacity by facility type currently (2024). Table 29 shows there is currently approximately 320,000 tonnes pa of dedicated food waste treatment capacity and additional capacity of 1.8 million tonnes is required to treat it all food waste expected to arise. Capacity of nearly one million tonnes pa is required if half of the arisings are to be processed within London.

Garden waste treatment facilities do not necessarily require an Environmental Permit and so data is not available on how much capacity is available. However, including initiatives for home composting, separate collection of garden waste and commercial composting of garden waste are required to manage nearly the 450,000 tonnes arising in 2024 (see Table 19).

The processes for recycling DMR involve the collection of this material to keep it clean and therefore retain its value and then separating the different categories of material and processing it into new product. MRFs are part of this chain of facilities that are required to capture this set of materials which comprise 25-30% of total HIC arisings. As discussed above, the current capacity gap for DMR handling is around 315,000 tonnes pa. Processing capacity for these materials needs to be developed in addition to this sorting and handling capacity.

Table 28: Total Maximum HIC waste treatment capacity in London 2024

Facility Type	Capacity (tonnes)
EfW	2,957,000
AD	320,000
Composting	200,000
MBT	300,000
MRF	2,100,000
AATF	400,000
Total treatment capacity	6,279,000
HIC arisings in 2024	7,699,000
HIC waste capacity gap	**-1,420,000**

The EFW figure in Table 28 includes additional 650,000 tpa EfW capacity from the Belvedere 2 facility expected to be operational in 2026/27, giving a total treatment capacity of 6,279,000 tpa and a HIC waste management capacity gap of **1,420,000 tpa.**

Forecasting forward, Table 29 and Figure 11 set out the estimated arisings and potential capacity surplus/gaps for key infrastructure needed Energy from Waste (EFW), Materials Recycling Facilities (MRF), and Anaerobic Digestion for treating separately collected food waste out to 2050, and assuming no new known capacity is built. This applies the 'Planning scenario' achieving the Mayor's 65% municipal waste recycling target by 2030 for estimating London's waste arisings set out in Work Package 1.

Table 29: Waste capacity surplus/gaps by key waste treatment methods (EFW, AD, and MRF): Planning Scenario

	2024			2030		
Facility type	**Maximum capacity (tonnes)**	**Estimate arisings (tonnes)**	**Gap/Surplus (Max capacity less arisings)**	**Maximum capacity (tonnes)**	**Estimate arisings (tonnes)**	**Gap/Surplus (Max capacity less arisings)**
AD	320,000	2,127,833	-1,807,833	320,000	2,261,633	-1,941,633
MRF	2,100,000	2,415,953	-315,953	2,100,000	2,560,312	-460,312
EfW	2,957,000	2,012,732	944,268	2,957,000	2,132,708	824,292
Other	902,000	1,141,482	-239,482	902,000	1,205,347	-303,347
TOTAL	**6,279,000**	**7,699,000**	**-1,420,000**	**6,279,000**	**8,160,000**	**-1,881,000**
	2040			**2050**		
Facility type	**Maximum capacity (tonnes)**	**Estimated arisings (tonnes)**	**Gap/Surplus (Max capacity less arisings)**	**Maximum capacity (tonnes)**	**Estimated arisings (tonnes)**	**Gap/Surplus (Max capacity less arisings)**
AD	320,000	2,554,313	-2,234,313	320,000	2,876,907	-2,556,907
MRF	2,100,000	2,876,912	-776,912	2,100,000	3,220,206	-1,120,206

EfW	2,957,000	2,395,866	561,134	2,957,000	2,680,983	276,017
Other	902,000	1,345,909	-443,909	902,000	1,494,905	-592,905
TOTAL	**6,279,000**	**9,173,000**	**-2,894,000**	**6,279,000**	**10,273,000**	**-3,994,000**

'Other' for the purposes of this HIC capacity forecasting applies to facilities for the management of other waste streams including mixed waste requiring some kind of mechanical biological treatment, garden waste, wood, textiles, and WEEE estimated at approximately 900,000 tonnes in 2024. As noted above, data on these materials is not very well known and should be treated with caution. In addition, plastic film is not generally handled at MRFs but will be separately collected from 2027 and specialist MRF facilities for processing this material are likely to be developed over time.

Table 29 and Figure 11 show that, aside from EFW, there are significant capacity gaps in AD, MRF and 'Other' capacity ranging from around 1.4 million tonnes per annum in 2024 to around **4 million tonnes by 2050.** Rejects from both AD and MRF facilities will in turn usually be sent to EfW for which there is expected to be sufficient capacity.

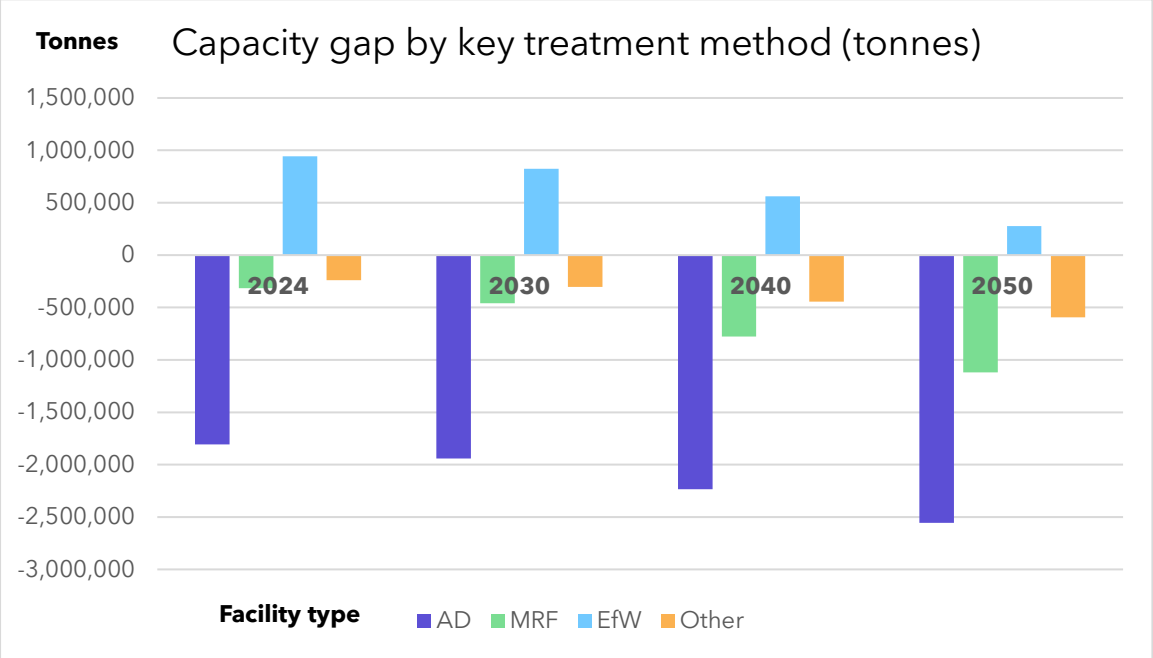

Figure 11: London EFW/MRF/AD capacity needs 2030-2050: Planning Scenario

The Mayor has ambitious targets to reduce and recycle waste: 50% reduction in food waste and associated packaging waste alongside the 65% municipal waste recycling by 2030. If these targets are met, then overall HIC arisings will reduce between 2024 and 2030, increasing thereafter with a forecast increase in population. Table 30 demonstrates how waste arisings under the "Waste Reduction' scenario compares with the currently available HIC waste treatment capacity, and with the gap/surplus requirements under the Planning scenario shown in Table 29. Under the Waste Reduction scenario London's expected EFW/AD/MRF capacity requirements reduce down to around 2.5 million tonnes per year by 2050.

Appendix A: Table 42 sets out limitations and assumptions applied for estimating HIC arisings going to each infrastructure type and performance.

Table 30: Waste capacity surplus/gaps by key waste treatment methods (EFW, AD, and MRF): Waste Reduction Scenario

	2024			2030		
Facility type	**Maximum capacity (tonnes)**	**Estimate arisings (tonnes)**	**Gap/Surplus (Max capacity less arisings)**	**Maximum capacity (tonnes)**	**Estimate arisings (tonnes)**	**Gap/Surplus (Max capacity less arisings)**
AD	320,000	2,127,833	-1,807,833	320,000	1,943,868	-1,623,868
MRF	2,100,000	2,415,953	-315,953	2,100,000	2,201,308	-101,308
EfW	2,957,000	2,012,732	944,268	2,957,000	1,833,690	1,123,310
Other*	902,000	1,141,482	-239,482	902,000	1,036,753	-134,753
TOTAL	**6,279,000**	**7,699,000**	**-1,420,000**	**6,279,000**	**7,015,619**	**-736,619**
	2040			**2050**		
Facility type	**Maximum capacity (tonnes)**	**Estimated arisings (tonnes)**	**Gap/Surplus (Max capacity less arisings)**	**Maximum capacity (tonnes)**	**Estimated arisings (tonnes)**	**Gap/Surplus (Max capacity less arisings)**
AD	320,000	2,175,261	-1,855,261	320,000	2,450,670	-2,130,670
MRF	2,100,000	2,446,131	-346,131	2,100,000	2,738,775	-638,775
EfW	2,957,000	2,036,966	920,034	2,957,000	2,279,999	677,001
Other*	902,000	1,142,142	-240,142	902,000	1,268,888	-366,888
TOTAL	**6,279,000**	**7,800,499**	**-1,521,499**	**6,279,000**	**8,738,332**	**-2,459,332**

15. Net self-sufficiency (waste processed in and outside of London)

Net-waste self-sufficiency is a measure of how much of London's waste management relies on its own facilities, how mush waste it imports to manage, and how much waste it exports recognising that waste travels regional and internation boundaries for treatment.

Net-waste self-sufficiency will change year to year based on waste arising and managed in that year. It should now be confused or compared with London's waste infrastructure capacity calculated using the maximum tonnage received over the past five years (2020-2024).

15.1. London waste imports and exports

An examination of the Waste Data Interrogator (WDI) for the past five years shows the quantity of non-hazardous waste HIC waste exported from and imported into London to and from other areas of the country.

A number of caveats apply for the use of data from the WDI:

- The information in the WDI derives from returns made by companies that handle waste and is dependent on these companies submitting accurate information on the type of waste they are handling, the quantity handled and the locations of origin and destination.
- Recording the correct waste code for material can be challenging.
- Incorrect locations are sometimes recorded for origin and destination data.
- The actual process carried out at a facility may not easily fit into the categories in the WDI particularly when a combination of different processes is located at one site.
- The amount of processing that takes place at Transfer Stations varies and can be difficult to assess.
- The 'waste removed' category of the WDI is not mandatory for companies to return and therefore this dataset is not complete and should not be used unless there is no alternative source of data.

The 'basic waste category' in the WDI has three fields:

- Hazardous
- Household/Industrial/ Commercial (HIC)
- Inert / Construction & Demolition (CD)

These are broad categories and further detail is given in the fields EWC Chapter, EWC Sub-Chapter, EWC Waste description and the Waste Code. Hazardous materials can arise in the HIC and CDE waste streams and non-inert materials can arise in the Inert/ CD stream. It should therefore be recognised that waste data will always contain inaccuracies. However, in the context of planning for new infrastructure, the information from the WDI gives a good overall picture of what quantities and types of waste are managed in the relevant locations.

The Environment Agency carries out significant cleaning and quality assurance of the data in the WDI. The Environment Agency has made it clear that the primary purpose of the WDI is not planning for waste management, but the current position is that it provides the best available source of data on how much waste in handled at permitted facilities. Therefore, the WDI remains a key tool for waste planning, in conjunction with WDF for Local Authority Collected Waste and any ad hoc studies that may apply.

Imports and exports of waste are identified using the WDI 'waste received' dataset and collating the origin and destination fields for the waste stream required.

15.2. London HIC waste movements in 2024 - UK

The nature of the market in waste management means that waste is often collected in one area and managed in another. Waste treatment facilities are often located in industrial areas and where land values allow for this use to be economic. This means that waste management facilities are unlikely to be located in areas of London where land values are very high.

The vehicle movements, and potential environmental inpacts of waste management activities also mean that these facilities should mostly be located away from sensitive receptors such as residential neighbourhoods, depending on the exact nature of the facility.

The impact of this over time is that waste management facilities are located further away from Central London and into the home counties and beyond. Landfill sites in particular will need to be located outside urban areas and have historically been developed in quarries in locations outside London where sand, gravel and clay have been extracted.

As landfill becomes a less-favoured way to manage waste, the opportunity to manage waste closer to where it arises increases. Processing of waste materials into new products can take place in conventional industrial units and these can be located in industrial areas with London and other urban centres.

Table 31 shows the exports and imports of HIC waste from London to all other Waste Planning Authorities (WPAs) in England in 2024.

Table 31: London HIC waste exports and imports 2024

London Exports HIC waste 2024		**London Imports waste HIC 2024**		
Receiving WPA	**Tonnes**	**Sending WPA**	**Tonnes**	**Net export (t)**
		SE England		
Buckinghamshire	141,629	**Buckinghamshire**	63,923	77,707
Kent	359,951	**Kent**	361,163	- 1,212
Slough	328,457	**Slough**	144,015	184,442
Milton Keynes	203,924	**Milton Keynes**	6,951	196,973

London Exports HIC waste 2024		London Imports waste HIC 2024		
Receiving WPA	**Tonnes**	**Sending WPA**	**Tonnes**	**Net export (t)**
Surrey	178,921	**Surrey**	324,153	- 145,233
Buckinghamshire	141,629	**Buckinghamshire**	63,923	77,707
Southampton	91,633	**Southampton**	1,415	90,218
Medway	70,832	**Medway**	58,301	12,531
Hampshire	58,426	**Hampshire**	44,799	13,627
Oxfordshire	47,056	**Oxfordshire**	50,023	- 2,966
West Sussex	23,172	**West Sussex**	18,557	4,615
East Sussex	9,669	**East Sussex**	112,715	- 103,046
Windsor & Maidenhead	7,992	**Windsor & Maidenhead**	7,928	64
West Berkshire	4,517	**West Berkshire**	865	3,651
Wokingham	2,034	**Wokingham**	885	1,149
Reading	556	**Reading**	2,940	- 2,384
Bracknell Forest	99	**Bracknell Forest**	18,221	- 18,122
Portsmouth	5	**Portsmouth**	5,517	- 5,511
Isle of Wight	-	**Isle of Wight**	1,835	- 1,835
South East not codable	-	**South East not codable**	280,854	- 280,854
Total	**1,528,872**		**1,505,061**	**23,812**
East England				
Thurrock	484,183	**Thurrock**	71,649	412,434
Hertfordshire	202,880	**Hertfordshire**	29,527	173,353
Cambridgeshire	195,183	**Cambridgeshire**	18,106	177,077
Essex	150,134	**Essex**	452,675	- 302,541
Norfolk	95,448	**Norfolk**	3,708	91,740

London Exports HIC waste 2024		London Imports waste HIC 2024		
Receiving WPA	**Tonnes**	**Sending WPA**	**Tonnes**	**Net export (t)**
Suffolk	45,538	**Suffolk**	4,086	41,453
Central Bedfordshire	7,679	**Central Bedfordshire**	202	7,478
Bedford	6,689	**Bedford**	10,142	- 3,453
Peterborough	1,811	**Peterborough**	227	1584
Southend-on-Sea	30	**Southend-on-Sea**	14,224	- 14,194
Luton	-	**Luton**	1,689	-1,689
East of England not codable	-	**East of England not codable**	1,739	- 1,739
Total	**1,189,575**		**607,974**	**581,503**
Other English regions				
Totals for Yorks & Humber	313,013	**Totals for Yorks & Humber**	2,268	
Totals for West Midlands	137,593	**Totals for West Midlands**	20,039	
Totals for South West	262,318	**Totals for South West**	44,572	
Totals for North West	80,871	**Totals for North West**	13,435	
Totals for East Midlands	140,455	**Totals for East Midlands**	50,731	
North East	48,932	**North East**	19,091	
Subtotal other English regions	**983,645**		**150,166**	**833,479**

Table 32: Summary London HIC waste exports and imports 2024

	Exports (tonnes)	Imports (tonnes)
SE England	1,528,872	1,505,061
East England	1,189,576	607,973
England other	983,645	150166
Total	**3,702,093**	**2,263,300**
Net export:	**1,438,893**	

15.3. London HIC net Waste movements in 2020-2024

Table 31 and Table 32 above show that London exported 1.439 million tonnes of HIC waste in the year 2024. Given the total arisings of 7,699,000 tonnes on HIC waste in that year, this shows that 1.439 / 7.699 = **18.7%** of HIC waste arising was exported. London was therefore 81% self-sufficient in the management of HIC waste.

It is useful to look at the historic patterns of waste movements to understand how the position has changed over time. Table 33 below show that, for the first time, net exports of HIC waste from London have reduced overall: from 1,933,100 tonnes in 2020 to 1,408,564 tonnes in 2024 (a reduction of approximately 500,000 tonnes). The reduction in net exports of HIC waste 840,000 tonnes per annum since 2020 is likely to have been a result of a number of factors, including an increase in waste management capacity for non-hazardous waste and an increase in the use of landfill within London.

The impacts of the Covid pandemic on waste arisings are complex and not fully understood, but arisings in 2020 and 2021 are very likely to be anomalous due to less activity in the commercial areas of London and different patterns of consumption and therefore waste production during periods of lockdown.

Net HIC waste exports to the East of England and the South-East of England, which are the regions that have historically managed the bulk of London's exported waste, have significantly reduced by 1.1 million tonnes combined over this period. This demonstrates positive progress towards reduced reliance on waste management capacity in these regions.

The waste exported to the South-West region mainly comprises a municipal waste contract between West London Waste Authority and Suez treating around 250,000 tonnes of residual waste per annum at the Javelin Park EfW facility in South Gloucestershire.

Waste exports to the East Midlands are rising slightly, which probably reflects the availability of landfill in that region. Waste exported to the Yorkshire & Humber region is sent to incineration with some transfer stations from which this material may have been exported out of the country for onward management.

Table 33: Net exports of HIC Waste from London to the other regions of the UK (tonnes)

Year	East of England	South East of England	South West	Yorks & Humber	East Midlands	West Midlands	North West	North East	Total
2020	1,190,876	220,132	264,890	108,257	48,374	29,488	34,009	37,074	**1,933,100**
2021	139,516	129,363	274,128	386,650	- 29,666	62,944	27,201	352	**990,488**
2022	413,967	99,579	260,394	344,087	164,027	91,101	18,295	23,534	**1,414,984**
2023	484,203	187,131	247,597	238,791	132,474	77,959	40,529	-120	**1,408,564**
2024	581,603	23,812	217,713	310,745	90,190	117,553	67,435	29,843	**1,438,894**

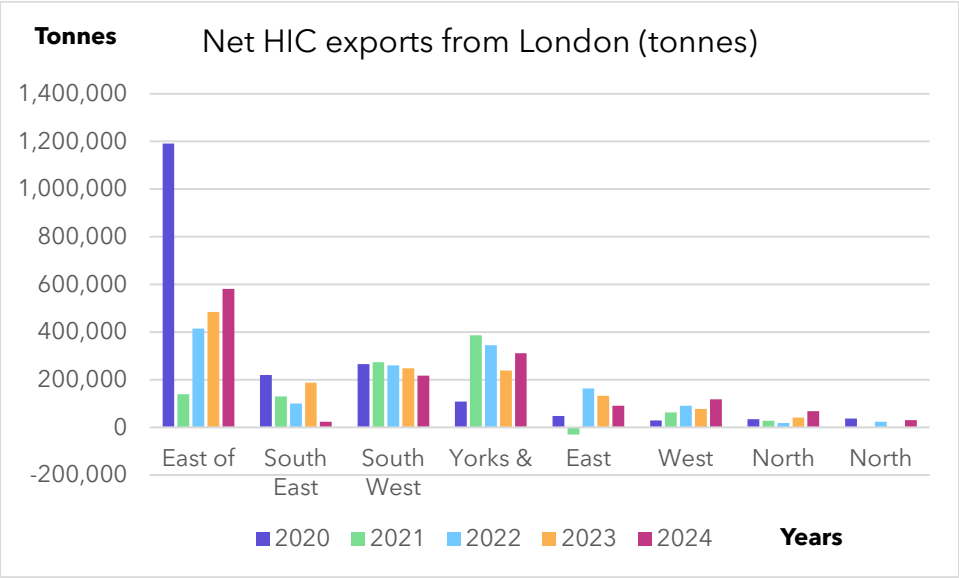

Figure 12: Net HIC exports from London

This data shows that 1,439 thousand tonnes of HIC waste were exported to other regions of England 2024. This does not include exports to Wales or Scotland which were nominal. It also does not explicitly examine exports of treated waste, usually to refuse derived fuel to other countries.

Given total HIC arisings of 7,699 thousand tonnes in 2024, this shows that London exported 18.69% of HIC arisings giving a figure of 81.3% self-sufficiency.

15.4. Inert/CDE waste movements in 2024 - UK

Waste from CDE activities includes soils from excavation works, inert materials such as brick, tile, concrete and stone and other materials such as wood, metals from window frames, cabling etc, and other materials such as glass, plasterboard and plastics. The majority of this material is inert which means that it will not decay in landfill. The WDI uses three basic waste categories, which are:

- Hazardous
- HIC
- Inert/CDE

The quantities of waste arising from the construction industry are greater in terms of tonnage than the quantities arising from HIC sources. The GLA has produced guidance for developers to promote the use of CE Statements for construction projects seeking planning permission. Good forward planning of demolition and construction projects can significantly reduce the amounts of this waste stream through reducing waste at source, managing more waste on site, and recovering materials for reuse and recycling.

However, some CDE projects involve the generation of contaminated soils that cannot easily be reused on or off site and need to be disposed of at landfill, making local sustainable CDE waste management London's biggest challenge for achieving net waste self-sufficiency.

The data on CDE waste has improved over the years, due to the reduction in the use of Exemptions from Environmental Permitting. However, the composition of this waste stream requires further analysis so that efforts can continue to reduce these arisings through the separation of materials suitable for reuse and recycling.

CDE waste is London's largest waste stream – over 11 million tonnes per annum. Although around 80% of this waste is reused or recycled, Table 34 shows that London still exports significant amounts of CDE waste, mostly to landfills in the South-East and East of England (around 5.5 million tonnes) – representing the biggest challenge to meeting the Mayor's net waste self-sufficiency targets.

This shows that London imports just under 1.5 million tonnes of CDE waste in 2024, making it an overall net CDE waste exporting region of 4.9 million tonnes per year.

Table 34: London Inert/CDE waste exports and imports 2024

London Exports		**London Imports**	
Receiving WPA	**Tonnes**	**Sending WPA**	**Tonnes**
SE England			
Buckinghamshire	751,500	**Buckinghamshire**	135,760
Kent	210,450	**Kent**	197,147
Surrey	572,544	**Surrey**	114,292
Windsor and Maidenhead	512,034	**Windsor and Maidenhead**	2,921
Medway	495,715	**Medway**	5,684
Oxfordshire	21,382	**Oxfordshire**	5,156
Slough	36,958	**Slough**	58,099
Hampshire	3,876	**Hampshire**	2,857
Milton Keynes	52,643	**Milton Keynes**	5
West Sussex	8,509	**West Sussex**	8,514
East Sussex	5,490	**East Sussex**	2,770
West Berkshire	4,739	**West Berkshire**	54
Southampton City	30,887	**Southampton City**	42
Wokingham	555	**Wokingham**	105
Portsmouth	2	**Portsmouth**	1
Reading	238	**Reading**	3,338
		SE not codable	458,139
SE England subtotal	**2,707,522**		**1,059,496**

London Exports		London Imports	
Receiving WPA	**Tonnes**	**Sending WPA**	**Tonnes**
East England			
Cambridgeshire	531,328	**Cambridgeshire**	242
Hertfordshire	734,334	**Hertfordshire**	74,644
Thurrock	697,265	**Thurrock**	104,634
Peterborough	179,720	**Peterborough**	22
Essex	297,234	**Essex**	232,852
Central Bedfordshire	55,350	**Central Bedfordshire**	99
Luton	210	**Luton**	257
Norfolk	3,901	**Norfolk**	2,850
Suffolk	18,057	**Suffolk**	792
Bedford	37,999	**Bedford**	908
Southend-on-Sea		**Southend-on-Sea**	2,596
		East of England not codable	1,158
East England subtotal	**2,555,398**		**421,055**
Other English regions			
Totals for Yorks & Humber	**214,612**	**Totals for Yorks & Humber**	65
Totals for West Midlands	**777,005**	**Totals for West Midlands**	929
Totals for South West	**73,448**	**Totals for South West**	916
Totals for North West	**19,680**	**Totals for North West**	322
Totals for East Midlands	**3,647**	**Totals for East Midlands**	**96**
North East	**0**	**North East**	**49**
Subtotal other English regions	**1,088,392**		**2,380**
Total for England	**6,351,312**		**1,482,931**
Net Export	**4,868,381**		

Given London's total estimated arisings of 10,753,000 tonnes on CDE waste in 2024, this shows that 4.9m / 10,7m = 45% of CDE waste arising was exported. London was therefore 55% self-sufficient in the management of CDE waste.

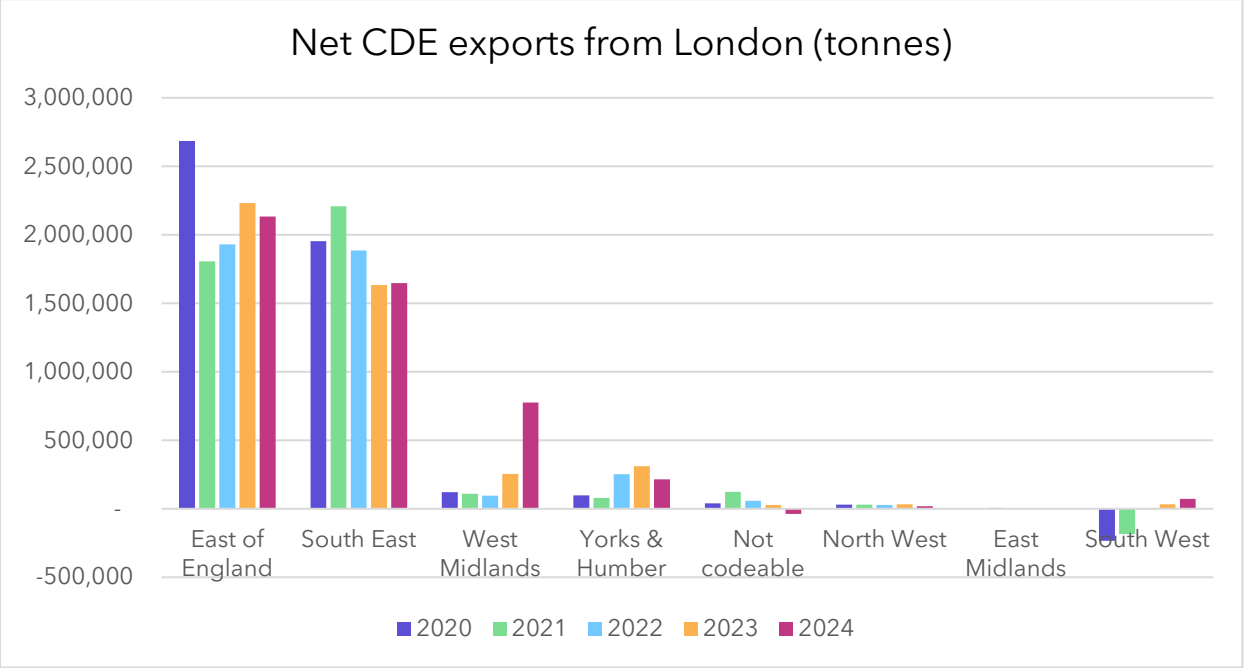

Figure 13: Net inert waste exports from London

15.5. Overall Self-Sufficiency

Looking at all waste streams for 2024, HIC and CDE, the total imports and exports are as follows:

Net exports of HIC waste: 1,438,894 tonnes

Net exports of CDE waste: 4,868,381 tonnes

Total exports: 6,307,275 tonnes

As a proportion of the total arisings figure of 18,452,000 tonnes in 2024, this is 34% and so London is **66% self-sufficient** over all waste streams.

15.6. Waste Exports to Other Countries

The 'waste removed' table of the WDI gives an indication of the quantities of waste that are exported from WPAs in England to other countries, predominantly to EFW facilities in the Netherlands and Sweden. Exports to these countries could be justified on the basis that the distances travelled are not great and the facilities that receive this waste are significantly more efficient than EfW facilities in the UK because they are connected to heat networks.

Waste exported abroad must be converted into Refuse Derived Fuel (RDF) before it is exported, since waste cannot be exported without being treated first.[25] The extent to

[25] https://www.gov.uk/guidance/importing-and-exporting-waste

which such processing changes the characteristics of the waste material varies, although a key stage is to dry the waste to reduce its volume and increase the calorific value.

However, exporting waste to be treated in other countries clearly contradicts the proximity principle for managing waste sustainably and presents risks in terms of the availability of the destination facilities which has been a challenge for the UK waste industry in recent years. For example, countries in the Far East have been tightening up their quality standards for processing waste for recycling. In 2020 the Netherlands introduced an incineration tax intended to phase out the incineration of waste and help meet CO_2 reduction goals. Despite these interventions, the cost of treating waste to produce RDF and then sending it to EfW overseas is less than managing waste in the UK (including the landfill tax), so the economic case to send the material to destinations abroad remains.

Table 35 and Figure 14 show London's waste exports by WPA between 2020 and 2024. The majority of this is HIC waste, although approximately 30,000 tonnes of CDE waste was exported for metal recycling. The East London WPAs send significant quantities of residual HIC waste abroad under contract first been processed at local Mechanical and Biological Treatment (MBT) facilities at Frog Island and Jenkins Lane. This contract will be coming to an end in 2027 and the new contract for managing residual waste arising in East London will involve treatment at Cory's second EFW facility in Belvedere Bexley.

Table 35: Total waste exported abroad (tonnes) from London 2020 - 2024

Borough Grouping	WPA	2020 (tonnes)	2021 (tonnes)	2022 (tonnes)	2023 (tonnes)	2024 (tonnes)
East London Joint Waste Plan	Barking and Dagenham	171,117	176,65	160,469	237,073	251,671
East London Joint Waste Plan	Havering	65,403	97,867	75,391	57,364	35,800
East London Joint Waste Plan	Newham	56,782	44,009	47,292	51,882	76,234
East London sub-total		**293,301**	**318,534**	**283,152**	**346,319**	**363,705**
North London Waste Plan	Enfield	**71,838**	**67,315**	**96,731**	**77,253**	**117,473**
South-East London Waste Technical Group	Bexley	134,225	133,189	120,828	160,813	149,617

Borough Grouping	WPA	2020 (tonnes)	2021 (tonnes)	2022 (tonnes)	2023 (tonnes)	2024 (tonnes)
South-East London Waste Technical Group	Bromley			8,468	11,322	11,578
South-East London Waste Technical Group	Greenwich	118,245	89,077	102,592	59,850	36,238
South-East London Waste Technical Group	Southwark	11,894	21,151	27,776	24,848	14,660
South-East London sub-total		**264,364**	**243,417**	**259,664**	**256,833**	**212,093**
South London Waste Plan	Merton	**57,694**	**37,614**	**54,386**	**64,680**	64,067
	Croydon					5,171
South London sub-total						**69,238**
West London Waste Plan	Brent	47,300	37,691	40,368	42,498	27,243
West London Waste Plan	Hillingdon	4,119	39		55	0
West London Waste Plan	Hounslow	10,367	8,738	6,316	16,716	16,574
West London Waste Plan	Richmond Upon Thames	8,264	5,793	3,523	7,115	6,124
West London sub-total		**70,050**	**52,261**	**50,207**	**66,384**	**49,941**
Western Riverside Waste Authority	Hammersmith and Fulham	18,196	57,283	51,095	39,256	19,635
Western Riverside	Wandsworth	24,471	21,879	19,800	16,066	16,822

Borough Grouping	WPA	2020 (tonnes)	2021 (tonnes)	2022 (tonnes)	2023 (tonnes)	2024 (tonnes)
Waste Authority						
Western Riverside sub-total		**42,667**	**79,162**	**70,895**	**55,321**	**36,457**
Total exported abroad from London		**799,915**	**798,303**	**815,035**	**866,789**	**848,906**

Source: WDI Waste Removed databases March 2026

Figure 14: HIC waste exported abroad from London

16. The approach to managing waste from London by WPAs outside London

Historically, when most waste was disposed of to landfill, waste from London was sent to landfill sites that had been created from the quarrying of clay for brickmaking and sand and gravel quarries for concrete-making. Landfill sites have been difficult to develop within the boundaries of London and therefore much of London's waste was disposed of in the areas outside London in the Home Counties and beyond.

Government policy in the past thirty years has been to reduce dependence on landfilling as a waste disposal route. This has been achieved to a very significant degree through the landfill tax which has gradually increased to £130.75 per tonne for non-hazardous waste from April 2026. This has made it increasingly attractive to identify alternative ways of managing waste, including through recycling and energy from waste. As shown in Section

12.2 the amount of waste disposed of at landfill has therefore steadily declined and the reliance of London on the surrounding areas can and has been reduced.

London Plan 2021 Policy SI8 sets a target for London to achieve 100% net waste self-sufficiency by 2026, with each London WPA given separate waste apportionment targets for HIC waste helping to achieve the Mayor's overall London self-sufficiency target. This target was originally contained in Policy 5.16 of the FALP (Further Alterations to the London Plan) in 2014. The WPAs outside London have therefore been aware of the aspiration for London be net-self-sufficient in waste management for over ten years. The opportunity has existed for those WPAs to plan for only the waste arising in their own area and to assume that no waste will be imported from London. However, monitoring data has shown that this target was unlikely to be achieved, and those authorities have accepted that in reality some waste will be disposed of outside London.

The analysis in WP2a shows that the apportionment approach has been effective in encouraging London Boroughs to collaborate and identify sites sufficient to manage the waste apportioned to them through the London Plan. However, the total quantity of waste apportioned to the boroughs in the first iteration of this process was not equal to the total waste arisings in London and so the net self-sufficiency target was unlikely to be met using this policy tool alone. The WPAs outside London did not stop planning to receive waste from London, and although there was an on-going debate on this issue, none of these waste local plans contains a restriction on receiving waste from London.

For example, the Kent Mineral and Waste Local Plan 2024-39[26] states in paragraph 6.3.7 that "the London Plan 2021 expects net self-sufficiency in the management of waste to be achieved by 2026. Due to its proximity and constraints within London, it is reasonable to assume that some non-hazardous residual waste arising in London may be transported to Kent for management". Policy CSW4 of the Kent Minerals and Waste Local Plan is the Strategy for Waste Management Capacity and states that "the strategy for waste management capacity in Kent is to provide sufficient waste management capacity to manage at least the equivalent of the waste arising in Kent plus an amount of residual non-hazardous waste from London that takes account of London Plan targets for net self-sufficiency."

When considering the development of new facilities, a private sector developer will assess the overall waste management capacity available in the catchment area of the proposed facility and companies will take account of the available feedstock from an area from which it is economic to travel.

[26] https://www.kent.gov.uk/__data/assets/pdf_file/0019/205507/Kent-minerals-and-waste-local-plan-2024-to-2039.pdf

IV. Work Package 3: Waste apportionment methodology review and setting a new apportionment

17. Introduction

For the purposes of implementing the London Plan, the term 'waste apportionment' refers to the projected amount of waste to be planned for in each waste planning authority area of London. The relevant policy is 'Policy SI8 Waste capacity and net self-sufficiency' of the London Plan 2021. This gives the projected waste arisings and the amount of waste to be managed in 2021 and 2041 for each London waste planning authority.

The Mayor set an overall goal for London to be 100% net waste self-sufficient by 2026. This means that exports of waste to areas outside London will not exceed imports of waste managed in London. In order to achieve this, it is necessary for Boroughs to meet their waste apportionment targets and accommodate sufficient waste management facilities to process an amount of waste equivalent to that arising in the borough.

The Local Plans produced by all planning authorities in London must therefore set out how they will plan for sufficient waste management facilities to meet their waste apportionment.

These Local or Waste Plans must therefore contain policies to accommodate sufficient waste management infrastructure to manage the amount of waste identified in the London Plan. In addition to this, when London Boroughs determine planning applications, they need to ensure that sufficient waste management infrastructure is retained or developed in their borough to manage the relevant quantity of waste in line with their apportionment targets.

There are 32 London Boroughs plus the City of London Corporation, giving 33 local waste planning authorities in London. When planning for waste management, some London Boroughs have formed groupings to produce Joint Waste Plans. This gives more flexibility to each Borough enabling them to share their apportionment.

This Work Package assesses the current methodological approach reviewed and prepared by SLR Consulting[1] to set the apportionment waste targets for London boroughs and discusses the ways in which this could be taken forward. The factors to be considered were discussed at a workshop that took place in person on 10 June 2025. This was facilitated by staff from Resource Futures and included borough planning officers, representatives of the Environment Agency and GLA officers. A record of the discussion is found in Appendix B of this report; this fed into the approach described below.

The apportionments set out in the London Plan currently only refer to household and commercial and industrial wastes, and waste from construction and demolition activities have been excluded from the apportionment process. This approach was taken because of the poor quality of data for Construction, Demolition and Excavation Waste (CDE waste), but should be reviewed for a number of reasons.

One is that CDEW actually forms the majority of waste arising in London in terms of tonnage and needs to be planned for. A further reason is that the data for this waste stream in the Waste Data Interrogator has improved over recent years and therefore this waste stream and its management can now be better understood. An examination of how an apportionment of this waste stream could be carried out is discussed in section 20.2 below.

Planning for waste is concerned with ensuring that sufficient sites are available for waste management uses and for a local authority area to ensure that waste is managed sustainably within its area. There are no mechanisms within the planning system to ensure that waste is managed in the most sustainable way, and contracts for managing waste are complex and varied, leading to the movement of waste around the country and abroad following market forces and the availability of appropriate facilities.

The policy for London therefore seeks to achieve 100 per cent 'net' waste self-sufficiency, which recognises that London imports and exports waste. An analysis of the data shows that London continues to export approximately 5 million tonnes a year of waste to landfill.

Land use is also subject to market forces, so land uses which command higher values will be desired by landowners and lower value uses will gradually be squeezed out of desirable locations. This is a particular challenge in London and the wider South East, where high land values for housing uses mean that industrial land is being replaced by residential land over time. Waste uses are particularly vulnerable to being removed because of their reputation for being 'bad neighbour uses' and therefore not desirable when local planning authorities are looking for regeneration opportunities or to meet the housing demands of their local population. The planning system is therefore crucial to ensure that waste management facilities can be built, operated, and safeguarded to meet future waste management needs in locations close as possible to where waste is generated.

17.1. Background

Waste Planning Authorities (WPAs) have historically been required to manage approximately the amount of waste arising in their area. This approach derives from the Waste Framework Directive and the 'polluter pays' principle.

However, waste arising in London has not been wholly managed within London and much continues to be exported – in particular CDE waste. This is sent for disposal in landfill sites and energy from waste facilities in the counties in the Wider South East of England as well as being processed further.

The Waste Planning Authorities of the South East of England and the East of England therefore needed to accommodate these waste imports and a system for agreeing a distribution of this waste amongst these WPAs was proposed.

This was developed in detail following the Examination in Public (EiP) for the Regional Planning Guidance for the South East Regional Plan (RPG9) in 2001. This EiP recommended the development of a methodology for the apportionment of waste from London which was to be managed by the local authorities in the South East region.

At that time, it had become clear that significant quantities of waste arising in London were being managed, predominantly by landfill, in the counties around London. These counties in turn argued that the burden of managing this waste should be shared more equitably and so an approach to apportioning this waste amongst all the WPAs in the South East was sought.

A study was commissioned by the South East Regional Assembly and the South East Regional Technical Advisory Body for Waste, named the 'Update of the Model for Future Waste Management Capacity Needs in the South East 2005'[2]. This was an update of the information contained in Annex 1 of the Proposed Alterations to RPG9 2004. The EiP recommended refinement of the Annex and so this further work was commissioned.

As referred to above, waste arisings at that time were mainly managed using landfill sites. For each WPA, the following criteria were examined in this approach:

- Surplus void space: 25%
- Geology/groundwater suitability and other environmental constraints: 37.5%
- Proximity to London: 25%
- Sustainable transport: 12.5%.

Existing contracts and the pattern of waste movements including by rail were used as a reality check.

This approach was then taken up in the London Plan to distribute the waste arising in London to the London Boroughs. There are some London authorities, predominantly those in Central London that manage very little waste at all. This is due to constraints on land available in these council areas, where there are pressures to use land for high value uses such as residential and commercial activities. However, land values in all parts of London are high and this also applies to area on the outskirts of London also. There remains a need for this approach to clarify the need for all London planning authorities to make provision for waste management activity and not rely on other boroughs or authorities outside London to manage the majority of waste arising in London.

Carrying out this apportionment exercise and allocating an amount of waste to these authorities highlights the need for them to make a contribution to the management of waste in London but acknowledge the difficulty of identifying suitable sites in the densely populated commercial centre of the Capital.

18. Methodology for the apportionment within London

The 2008 London Plan contained Policy 4A.21 which included targets for London to become increasingly waste self-sufficient in managing the following percentages of waste arising within the Capital. These were as follows:

- 75% by 2010
- 80% by 2015
- 85% by 2020

The same approach was used in the London Plan of 2011 (Table 5.3 of that Plan). The London Plans 2016 and 2021 increased the target for London to be 100% net waste self-sufficient by 2026.

Table 36 shows the apportionments for each borough in the London Plan 2010 and 2021:

Table 36: Apportionments for each London Borough in previous London Plans

Borough	Total to be managed in 2010 London Plan 2008 (%)	London Plans 2017 and 2021 (%)	Significant change in % from LP2008 to LP2017?
Barking & Dagenham	6.0	6.1	
Barnet	2.5	2.6	
Bexley	5.4	5.6	
Brent	3.4	5.0	↑
Bromley	2.9	2.3	
Camden	2.4	1.6	↓
City of London	1.2	1.0	
Croydon	3.0	3.1	
Ealing	4.3	6.6	↑
Enfield	3.6	4.3	↑
Greenwich	4.0	4.1	
Hackney	2.4	1.3	↓
Hammersmith & Fulham	2.9	2.6	
Haringey	2.2	2.3	
Harrow	2.1	1.9	
Havering	4.0	4.5	↓
Hillingdon	3.6	5.1	↓

Borough	Total to be managed in 2010 London Plan 2008 (%)	London Plans 2017 and 2021 (%)	Significant change in % from LP2008 to LP2017?
Hounslow	3.5	5.0	↑
Islington	2.4	1.2	↓
Kensington & Chelsea	2.4	1.4	↓
Kingston upon Thames	2.0	2.3	
Lambeth	2.6	1.7	↓
Lewisham	2.5	2.2	↓
Merton	2.9	2.9	
Newham	4.9	4.7	
Redbridge	1.8	1.8	
Richmond upon Thames	2.4	1.8	↓
Southwark	2.9	1.8	↓
Sutton	2.4	2.6	
Tower Hamlets	3.7	2.4	↓
Waltham Forest	2.4	2.4	
Wandsworth	3.7	3.2	↓
Westminster	1.5	2.3	↑
Total	**100.0%**	**99.7**	

The criteria used for the 2006 Study were as follows:

- Capacity: identification of theoretical surplus or deficit of waste management capacity in each borough
- Proximity to waste arisings
- Proximity to sustainable transport modes
- Proximity to the road network
- Ability to use sustainable transport modes
- Historic patterns of waste movement
- Other land uses and environmental factors
- Flood risk
- Socio-economic factors

These criteria were given weightings of high, medium and low with percentages attached to each weighting (14.4%, 9.5% and 4.8% respectively). Criteria 4 and 6 and criteria 3 and 5 were grouped into pairs.

Eight different scenarios were considered, and each was accorded a 'Suitability Index' or SI.

The 2017 Report on Apportionment produced by SLR Consulting was intended to simplify the previous method and used seven criteria, as follows, for setting apportionment targets adopted in the current London Plan 2021:

- Theoretical capacity
- Waste arisings (as forecast to be in 2021)
- Sustainable transport modes
- Road network capacity
- Other land use / environmental factors
- Flood risk
- Socio-economic factors

An 'Apportionment Percentage' (AP) was calculated using these factors; then this was weighted to develop eight different scenarios.

When these scenarios were consulted upon, each Borough sought to use the scenario that gave them the lowest apportionment.

19. 2017 Apportionment methodology Review

19.1.1. Criteria 1: theoretical capacity

Availability of suitable sites

The availability of suitable sites to manage waste is arguably the most important criterion since it reflects how much waste could in reality be managed within a borough. This criterion takes into account existing waste management facilities as well as the amount of land that is potentially suitable for hosting waste management facilities. Waste uses are generally sui generis but can usually be delivered in industrial settings. Some waste management uses comprise industrial activities, even when they may require an Environmental Permit. Examples of this would be white goods dismantling, or the processing of materials such as textiles or plastics.

In March 2023 the GLA published the 'London Industrial Land Supply Study 2020' which provides a comprehensive review of the London industrial land supply and baseline. Figure 15, taken from this study, shows the total amount of existing industrial land in London to be 6,797 hectares as of 2023.

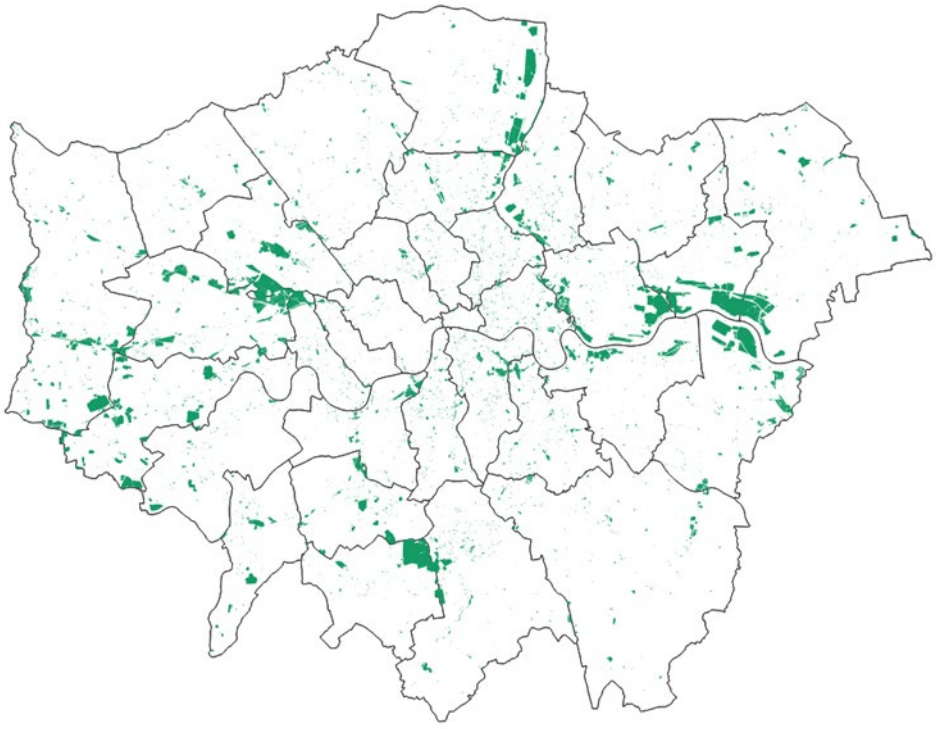

Figure 15: Existing London Industrial Land as shown in Map 2.1 in the London Industrial Land Supply Study 2020, published March 2023.

Data is available for a range of different industrial land categories comprising:

- Core industrial uses: general industry, light industry, warehousing, open storage etc.
- Wider industrial uses: this category includes waste management activities and recycling as well as other utilities, land relating to transport uses such as airports, railways and buses. It also includes other uses such as wholesale markets and emerging industrial sectors including data centres, film and TV studios.
- Vacant industrial land: buildings and sites that could be occupied by industrial uses.

Consideration was given to whether waste management facilities can be located on sites allocated as 'wider industrial uses' and it was concluded that these types of sites can, and do, accommodate waste uses, sometimes at scale. Consideration was also given to whether capacity for waste uses should be restricted to Strategic Industrial Locations (SIL) and Locally Significant Industrial Sites (LSIS) since these areas will be most suited to potentially 'bad neighbour' uses. However, many waste management facilities can be accommodated in standard industrial buildings and comprise activities that can be classified as light industrial, such as electrical goods dismantling or furniture restoration.

Over time, national and local policies should drive waste management activities up the waste hierarchy and therefore more re-use and repair facilities will be required. Industrial sites that are not located in SIL or LSIS should therefore be considered in the apportionment calculations to enable waste management facilities to be on sites in boroughs that currently have few or no such areas. This will allow these areas to accommodate some waste management activity, rather than locating all such activity only in boroughs with designated areas. This in turn takes the pressure off those Waste

Planning Authorities with large amounts of industrial land that have historically hosted the greatest proportion of waste management activity.

Recommendation: Retain criterion 1

Understanding how much waste can be managed on a site

In general, smaller facilities are likely to be less efficient in terms of land use. Such facilities can be accommodated on non-designated industrial sites, however this means that they are deliverable in boroughs with little or no designated industrial land.

While it is possible to broadly assess how much waste can be managed at an existing waste management facility by looking at the recorded throughput, it is very difficult to calculate how much waste can be managed on a given area of land since this depends to a significant degree on the technology used, the types of materials to be managed and the way in which a site is run.

In 2006, a conversion factor of 80,000 tonnes per hectare was used. This implies that 80,000 tonnes of waste can be treated on a site of one hectare. In 2017, this factor was reduced to 50,000 tonnes.

For example, an Energy from Waste (EfW) facility can treat a very large amount of waste on a relatively small site, while open windrow composting requires a much larger land take. The Lakeside EfW in Colnbrook sits on a site area of approximately 2.5 hectares and treats 450,000 tonnes per annum equating to 180,000 tonnes per hectare. The Southwark MRF sits on a site of approximately 4.8 ha and treats 85,000 tonnes per annum equating to just under 18,000 tonnes per hectare. Both are large scale facilities are therefore relatively efficient in terms of land use for the technology employed.

Another type of facility is an anaerobic digestion plant: East London Biogas treats around 70,000 tonnes per annum on a site of 1.9 ha equating to approximately 37,000 tonnes per hectare. Open windrow composting will require more land for processing organic material.

A modelling study was carried out by the Environment Agency in 2017 and replicated in the current study producing very similar results. This showed that on average MRFs, MBT and metal processing sites can treat 50,000 tonnes of waste per hectare, while AD sites process 20,000 tonnes per hectare on average and EfW facilities can process over 130,000 tonnes per hectare.

As waste is managed further up the hierarchy, policy decisions will steer less waste to be managed using incineration and residual waste technologies and more through recycling, re-processing and dismantling. Organic wastes will be treated using anaerobic digestion and composting which are the most sustainable technologies for this material, but which are more land-hungry than energy from waste facilities. Typically, a site of at least 3 hectares would be required to manage 50,000 tonnes of organic waste per annum. This means that over time, more land will be required to manage the equivalent quantity of waste as treatment approaches move from incineration of residual waste to re-use,

refurbishment, dismantling and processing of waste materials. The figure of 50,000 tonnes per hectare has therefore been used in this methodology, but it is recommended that this is re-visited in future iterations of the London Plan.

A calculation was carried out to calculate the theoretical capacity of each Borough using the following formula:

Theoretical capacity **=**

Current capacity (tonnes) **+**

[(Potential future capacity (ha) **-** *Potential industrial land release (ha))]* ***x***

50,000 (tonnes per hectare)

19.1.2. Criterion 2: waste arisings

This criterion is intended to build on the principle of self-sufficiency, so that boroughs are encouraged to manage the waste arising in their area. Those Boroughs where large quantities of waste are generated in proportion to their land area are the Central London councils which also have difficulty identifying suitable sites for waste management. All London WPAs have pressures to use land for commercial purposes as well as housing leading to the potential for the loss of waste management sites.

Household and C&I arisings were looked at separately although the final criterion used was for the total arisings of non-hazardous waste. This is shown as 'HIC' (Household, Industrial and Commercial) in the Waste Data Interrogator (WDI).

For the Review of the apportionment methodology, this criterion was considered important, since it reflects the extent of the responsibility for each WPA to plan for the waste arising in their area.

Recommendation: Retain criterion 2

19.1.3. Criterion 3: sustainable transport modes

This factor is intended to reflect the importance of sustainable transport, essentially using rail or water-based modes. In practice, very few facilities are accessible using these modes, other than Riverside Resource Recovery at Belvedere in Bexley. There are also some waste transfer stations that are located on the Thames which transfer waste away from central London to treatment and landfill sites further outside London.

There have been policies to protect the strategic wharves on the Thames that have been used to bring in minerals for construction and remove waste soils and mixed wastes, but these policies have not been sufficiently strong to prevent the gradual closure of these facilities and the development of riverside sites for housing and commercial uses.

The impact of this criterion is therefore not very significant and does not achieve the desired impact of supporting the development of waste management facilities at these

transport nodes. It has therefore been omitted from the updated apportionment calculations.

Recommendation: Remove criterion 3

19.1.4. Criterion 4: road network capacity

This criterion considers the means to transport waste sustainably and to ensure that the strategic road network is primarily used for heavy vehicles which are those used for transporting waste. Using this approach, a higher apportionment would be assigned to boroughs where heavy goods vehicles have the potential to move around the strategic road network more readily and therefore spend less time on non-strategic roads that are more vulnerable to congestion.

The initial application of this criterion in the 2006 Report showed that the City of London has the highest road density. The 2017 Report therefore examined the strategic road network. However, the relative capacity of different parts of the road network is difficult to assess with any accuracy and all sites that are used for managing waste have access roads. It is considered that sites which have been identified as industrial land will have sufficient access for potential waste treatment and that this criterion is therefore taken into account to some extent in criterion 1. This has therefore been omitted from the updated apportionment calculations.

Recommendation: Remove criterion 4

19.1.5. Criterion 5: other land use / environmental factors

Land that has an environmental designation may be considered unsuitable for waste uses, although in practice outside London such land is often used for waste facilities such as the processing of construction and demolition waste, anaerobic digestion or open windrow composting. These activities are often carried out on agricultural land rather than industrial land. The environmental designations under consideration include:

- Green Belt designation
- Metropolitan Open Land (MOL)
- Sites of Importance for Nature Conservation (SINCs)
- Special Areas of Conservation (SACs)
- Special Protection Areas (SPAs)
- Ramsar sites
- Flood risk areas

Boroughs with fewer of these designations may have more land available for waste management uses. An Apportionment Percentage was previously allocated according to the relative amount of land unconstrained by these designations.

Criterion 1 considers the availability of industrial land and very little of this is located within areas that also carry these designations. The extent of industrial sites that do also have environmental designations was analysed and amounts to approximately 4% of total industrial land as shown in Table 38. The apportionment calculation was carried out with and without deducting the land affected by this constraint and the maximum change to the amount of waste to be managed by any single borough was 3,000 tonnes. This is considered insignificant in the context of the quantities being managed by each Borough and therefore this criterion was not considered to have sufficient impact on the apportionment calculation to be worth including.

The sites where there is overlap of industrial land with MOL host waste water treatment works as shown in Figure 16 and Figure 17. This has therefore been omitted from the updated apportionment calculations.

To better understand the extent to which the new apportionment calculations would be affected by the inclusion of Criterion 5 and 6 (Flood Risk,) and whether they should be included, detailed analysis and comparison was carried out to examine the extent of land within the LSIS and SIL designations that overlap with land included in the above designations. It was found that the LSIS map includes some Metropolitan Open Land (MOL) which is unlikely to be given permission for waste uses. Conversely, there are some waste uses, such as wastewater treatment works, located within MOL. The areas of land that is subject to these designations that overlap with designated industrial land are set out in Table 37.

Table 37: Designation overlaps with Industrial Land – London level

Designation combination with Industrial Land	Hectares in London	% of Industrial area in a designated site
MOL/Industrial	263.1	3.9%
SSSI/Industrial	35.6	0.5%
SAC/Industrial	0.01	0%
SPA/Industrial	20.1	0.3%
RAMSAR/Industrial	20.3	0.3%

The percentages are calculated using the total quantity of industrial land in London of 6,797 ha, as identified in the London Industrial Land Supply Study 2020. Table 37 shows that less than 4% of industrial sites in London fall within land that has an environmental designation. Table 38 shows the MOL/Industrial Land overlap at borough level.

Table 38: MOL overlaps with Industrial Land – Borough level

Borough	Area of overlap (Ha)
Barking and Dagenham	0.1
Barnet	0.9

Borough	Area of overlap (Ha)
Bexley	7.6
Brent	1.0
Bromley	1.2
Camden	1.8
Croydon	0.1
Ealing	4.1
Enfield	0.6
Greenwich	1.6
Hackney	0.9
Hammersmith and Fulham	0.0
Haringey	8.3
Harrow	0.2
Hillingdon	0.1
Hounslow	1.7
Islington	0
Kensington and Chelsea	0
Kingston Upon Thames	36.7
Lambeth	0.1
Lewisham	0.3
LLDC Queen Elizabeth Olympic Park	0.7
Merton	1.1
Newham	2.4
Redbridge	0
Richmond upon Thames	4.2
Southwark	5.7
Sutton	172
Tower Hamlets	0.5
Waltham Forest	6.6
Wandsworth	0.1

Borough	Area of overlap (Ha)
Westminster	0.2
Grand total	**263.1**

Table 37 and Table 38 show that the overlap of industrial sites and Metropolitan Open Land is the most significant overlap, albeit less than 4% of total industrial land. Looking at the sites where this overlap occurs, the two sites which comprise the bulk of industrial sites in MOL are in fact waste sites. These accommodate Beddington Sewage Works in the London Borough of Sutton and Hogsmill Waste Water Treatment Works in the Royal Borough of Kingston upon Thames.

Figure 16 below shows the land at Beddington Sewage Works that is designated as MOL and as Industrial Land. The area of overlap comprises 169 hectares which accommodates a waste management facility.

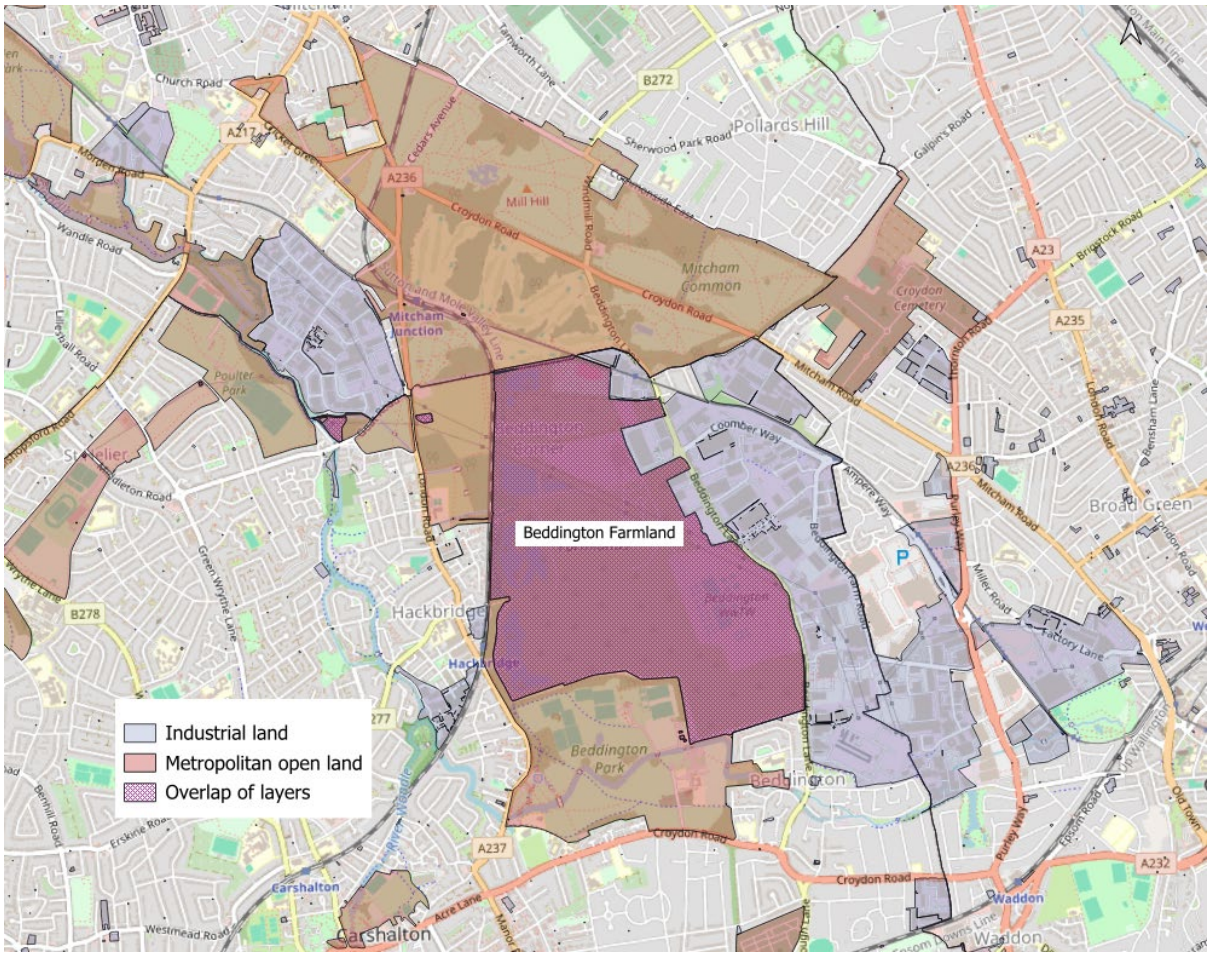

Figure 16: Beddington Farmlands MOL/Industrial Land overlap, Sutton

Figure 17 below shows Hogsmill Waste Water Treatment Works in Kingston upon Thames. The area of the overlap in this instance is 32 hectares where a waste management facility is sited within MOL.

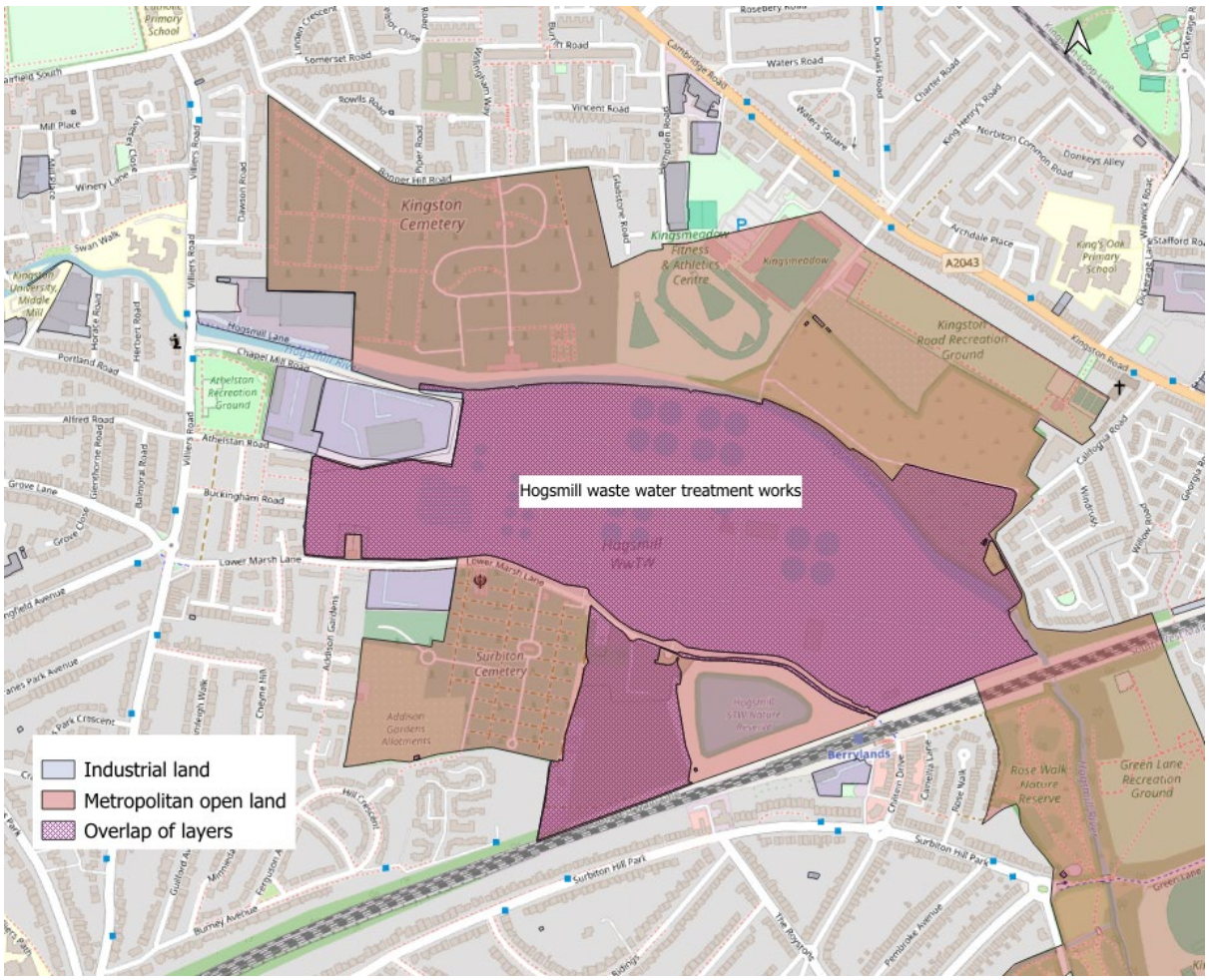

Figure 17: Hogsmill Waste Water Treatment Works MOL/Industrial Land Overlap – Royal Borough of Kingston

The overlapping analysis shows minimal Environmental Designation/Industrial Land overlaps other that the two anomalous sites in Kington Upon Thames and Sutton. Further analysis was undertaken where the available industrial land was reduced by the areas where environmental designation overlapped with industrial areas across other London boroughs. Overall, this showed the impact of including Criterion 5 amounts to a maximum change of 3,000 tonnes in the overall apportionment figure. Excluding land with these designations does not significantly impact the amount of land available for waste uses and the added complexity of including this criterion is not justified by the outcome. Therefore, it is correct to omit this criterion from the apportionment criteria.

There is also some potential for waste management facilities to be developed on "grey belt" land. Should this designation be allocated to land in London in the future, then it may be considered. However, this is likely to be a complex process which will be delivered over time and therefore is not appropriate to be taken into account at this time.

Recommendation: Remove criterion 5

19.1.6. Criterion 6: Flood risk

Much of London is vulnerable to pluvial flooding and mitigation measures may therefore be required for sites no matter what type of development is proposed.

The flood risk factor would seem to align closely to the availability of land in that sites subject to flooding would not be considered available for waste facility development. The area of each borough that was not in a flood risk area was assessed and an Apportionment Percentage allocated accordingly. Table 39 shows the results following an assessment of areas where there is considered to be a high risk of fluvial flooding.

Table 39: Flood risk assessment by London borough

Borough	Industrial Land (Ha)	High Risk of Flooding (ha)	Remaining Land (Ha)	New C2	Final app. % with flood factor	Waste to be managed in 2024 (base year) with flood factor kt)	Original app. figure (kt)
Barking and Dagenham	527.9	12.4	515.5	7.9%	6.9%	533	529
Barnet	85.1	0.2	84.9	1.3%	2.3%	179	177
Bexley	509.2	20.1	489.1	7.5%	5.4%	413	413
Brent	406.7	2.1	404.6	6.2%	5.1%	392	386
Bromley	127.6	4.1	123.5	1.9%	3.2%	244	244
Camden	36.1	0	36.1	0.6%	1.6%	124	123
City of London	2.3	0.1	2.2	0.0%	1.7%	133	133
City of Westminster	10.3	0.6	9.7	0.1%	1.7%	131	131
Croydon	147.8	0.3	147.5	2.3%	3.1%	239	236
Ealing	481.1	0.6	480.5	7.4%	5.0%	386	377
Enfield	458.8	14.6	444.2	6.8%	5.1%	393	391
Greenwich	198.8	4.6	194.2	3.0%	3.4%	259	257
Hackney	56	0.01	56	0.9%	1.9%	143	142
Hammersmith and Fulham	112.5	0.3	112.2	1.7%	1.7%	133	131
Haringey	169.1	0.2	168.9	2.6%	2.8%	215	212
Harrow	48.4	0.4	48	0.7%	1.6%	122	121
Havering	413.7	6.2	407.5	6.2%	4.5%	348	343
Hillingdon	580	6.3	573.7	8.8%	5.9%	457	450
Hounslow	471.6	2.8	468.8	7.2%	5.0%	384	376
Islington	32.4	0	32.4	0.5%	2.0%	153	153

Borough	Industrial Land (Ha)	High Risk of Flooding (ha)	Remaining Land (Ha)	New C2	Final app. % with flood factor	Waste to be managed in 2024 (base year) with flood factor kt)	Original app. figure (kt)
Kensington and Chelsea	16.4	0.23	16.2	0.2%	1.0%	73	73
Kingston upon Thames	113.5	5.799	107.7	1.6%	1.5%	115	116
Lambeth	68.9	0.133	68.8	1.1%	1.7%	134	133
Lewisham	95	1.094	93.9	1.4%	2.7%	210	209
Merton	168	0.374	167.6	2.6%	2.8%	219	216
Newham	453.3	8.597	444.7	6.8%	5.3%	410	406
Redbridge	73	2.779	70.2	1.1%	2.1%	161	161
Richmond upon Thames	84.4	4.45	80	1.2%	1.2%	90	90
Southwark	126.4	0.482	125.9	1.9%	3.1%	236	234
Sutton	320.6	14.403	306.2	4.7%	2.9%	227	228
Tower Hamlets	98.7	2.539	96.2	1.5%	2.3%	174	173
Waltham Forest	180.7	15.018	165.7	2.5%	2.4%	186	190
Wandsworth	123	2.644	120.4	1.8%	1.9%	146	145
London total							**7,699**

Comparing the last two columns in Table 39, a judgement needs to be made as to whether the difference in the final amount of waste to be managed by each borough is sufficient to justify the additional complexity and loss of transparency in the methodology. The maximum change from the earlier methodology, which did not consider the propensity to flooding of some areas of London, is in Ealing where the difference is 8,000 tonnes. In the context of the quantities of waste that each borough needs to manage, this does not make a material difference to the amount of land that each borough needs to identify for waste management uses.

In addition, it should be noted that where land has been designated as suitable for industrial use, then there may be ways in which the use of the land could be mitigated, for example through the introduction of flood management measures.

Concluding from this analysis, criterion 6 Flood Risk has therefore been omitted from the updated apportionment calculations.

Recommendation: Remove criterion 6

19.1.7. Criterion 7: socio-economic factors

This criterion aimed to assign higher apportionment percentages to those boroughs where the development and operation of waste management facilities are likely to cause less significant adverse socio-economic impacts. It therefore assigns a higher apportionment to boroughs with lower levels of social deprivation.

The inclusion of this element reflects the historic reputation of waste management facilities as being "bad neighbour industries" which have deleterious impacts on the local environment. This may continue to be the case with some sorts of facilities, such as landfill, but modern waste processing facilities arguably have no more significant impact than any other modern industrial process. Conversely, waste management activity could generate employment opportunities in both low-skilled and high-skilled occupations that could improve the economic circumstances of those living in proximity to such sites.

The Index of Multiple Deprivation (IMD) was used for this criterion which is an established data source. Weightings of 10% and 20% for this factor were tested and the conclusion reached is that a 20% weighting gives this criterion appropriate impact. This is a moderating factor rather than one of the main drivers for the apportionment.

Recommendation: Retain criterion 7

20. Results: Setting a new apportionment

From examining the impact of the previously used criteria, it is concluded that three elements be used in the apportionment in future:

- **Criterion 1 (C1):** industrial land availability
- **Criterion 2 (C2):** waste arisings by borough
- **Criterion 7 (C7):** socio-economic impact

A weighting of 20% has been allocated to the socio-economic factor (criterion 7), and weightings of 40% each to criteria 1 and 2.

The overall impact is to steer the emphasis of the apportionment towards WPAs that have the capacity to manage it, which reflects the current position to a higher degree than previously. However, all boroughs need to plan for quantities of waste that closely relate to the amount arising in their area, to reflect the need to take account of the requirements of their own community.

Consultation was carried out with partners including planning officers from some of the London Boroughs at the 10 June 2025 workshop to test this approach. The simplification of the apportionment was welcomed and the criteria used and the weightings applied to them have been derived from these discussions.

The results for setting a new apportionment applying the updated criteria and waste arisings and projection data from Chapter I (Work Package I: London Waste Arisings) are shown in Table 40. The apportionments in the London Plan 2021 as a % of the total are also provided for comparison. This has resulted in a one per cent or less change for each borough compared with the current London Plan 2021 apportionments, with the exceptions of Bromley (+1.2%), City of London (+1.1%), Ealing (-1.9%), and Southwark (+1.2%).

The spreadsheets at Appendix C of this report show how this data has been applied.

Table 40: New apportionments for each London Borough (kilo tonnes of total Household, Industrial and Commercial waste arising)

Borough	New Apportionment % of total	London Plan 2021 Apportionment % of total	London Plan 2021 App.	New Apportionments (C1+C2 at 40%; C7 at 20%)			
				2024 (base year)	2030	2040	2050
Barking and Dagenham	6.6	6.1	505	506	536	603	676
Barnet	2.4	2.6	215	183	194	219	245
Bexley	5.6	5.6	457	431	456	513	575
Brent	4.7	5.0	412	363	385	433	485
Bromley	3.5	2.3	192	269	285	320	359
Camden	1.5	1.6	133	118	125	140	157
City of London	2.1	1.0	84	165	175	196	220
City of Westminster	1.6	2.3	188	126	133	150	168
Croydon	3.0	3.1	252	234	248	279	313
Ealing	4.7	6.6	542	366	387	436	488
Enfield	4.8	4.3	356	369	391	440	493
Greenwich	3.3	4.1	338	253	268	301	337
Hackney	1.5	1.3	111	115	122	137	153
Hammersmith and Fulham	1.7	2.6	210	133	141	158	177
Haringey	2.4	2.3	192	187	198	223	250
Harrow	1.7	1.9	160	133	141	158	177
Havering	4.6	4.5	370	357	378	425	477
Hillingdon	5.9	5.1	423	453	480	540	604

Borough	New Apportionment % of total	London Plan 2021 Apportionment % of total	London Plan 2021 App.	New Apportionments (C1+C2 at 40%; C7 at 20%)			
				2024 (base year)	2030	2040	2050
Hounslow	4.8	5.0	407	368	390	438	491
Islington	1.8	1.2	101	139	148	166	186
Kensington and Chelsea	1.0	1.4	116	77	82	92	103
Kingston upon Thames	1.9	2.3	187	145	154	173	194
Lambeth	1.7	1.7	143	129	137	154	173
Lewisham	2.6	2.2	184	199	211	237	265
Merton	3.1	2.9	238	236	250	281	315
Newham	4.9	4.7	383	379	402	452	506
Redbridge	2.2	1.8	151	166	176	198	222
Richmond upon Thames	1.6	1.8	148	124	131	148	166
Southwark	3.0	1.8	150	230	244	274	307
Sutton	3.2	2.6	211	250	265	298	333
Tower Hamlets	1.9	2.4	195	149	158	178	199
Waltham Forest	2.4	2.4	199	186	197	221	248
Wandsworth	2.1	3.2	264	163	173	195	218
London total*	**100%**	**100%**	**8217**	**7,699**	**8,159**	**9,177**	**10,281**

*Actual totals may not add up exactly to 100% or to the tonne due to rounding.

20.1. Analysis

This approach to setting apportionment targets is more transparent than previous approaches using better quality and updated data that is robust and likely to be available in the long term. It retains the integrity of the previous approach but is less complex and is based on the two key factors that have a meaningful impact on how waste is managed in London: the amount of waste arising and the available land to treat it.

When new arisings forecasts are produced, these apportionment percentages can be applied to calculate the amounts of waste to be planned for in each borough grouping.

The waste arisings have been projected forward to 2050, although these forecasts should be revisited regularly as part of the monitoring process for the London Plan and as more accurate future requirements and projects become available, such as GVA, population,

household figure, major new developments etc. It is not considered useful to amend the apportionments for 2050 at this stage but as new data on industrial land availability becomes available, it will be straightforward to re-calculate these apportionments using new data.

Consideration has been given to the impact of the national collection and packaging reforms on this process. While it is expected that these reforms will have an impact on the overall types and quantities of waste arising in London, it is not anticipated that these will have an impact on the distribution of waste arisings or management facilities. Over time, these wider policy drivers are pushing waste management towards more collection, sorting and treatment of recyclable materials and less management of residual waste through landfill and energy from waste. Sorting and processing activities could potentially be carried out in more distributed facilities located in all London Boroughs leading to a more equitable distribution of waste management activity.

20.2. Consideration of apportionment of construction, demolition and excavation waste

The apportionment of waste for management by the waste planning authorities in London has been restricted to non-hazardous waste to date. This waste is shown as Household, Industrial and Commercial (HIC) in the Waste Data Interrogator. The other categories of waste are Hazardous Waste and Inert / Construction and Demolition Waste.

Hazardous Wastes arise in relatively small quantities, compared to non-hazardous wastes and treatment facilities tend to be specialist ones with particular equipment for handling these materials, for example chemical recycling takes place in chemical plants, and battery recycling requires specialist equipment to handle wastes safely. Such hazardous waste treatment facilities need to be able to access sufficient quantities of material in order to be economic to operate. Some facilities are economic only at a national scale and so it is not appropriate to carry out an apportionment exercise between London WPAs for this waste stream.

Inert / Construction and Demolition wastes were not apportioned to WPAs in the past for management for a number of reasons:

- There are substantial uncertainties around the data for CDE waste arisings. Given this uncertainty, there is potential for significant error in identifying future capacity and land-take requirements.
- A significant proportion of CDE waste generation is driven by major new developments. The arising of CDE waste can therefore vary significantly over time and is unevenly spatially distributed. As such it is difficult to predict optimal locations for new CDE waste management capacity.
- Much of the CDE waste arising (particularly excavation waste) may be managed close to the point of waste generation, without the need for permanent waste infrastructure – it would therefore not be appropriate to allocate separate waste management capacity for this material.

One reason that that the data for this material has historically been weaker than for other waste streams is because many sites managing this material had applied for exemptions from waste permitting and therefore waste returns were not provided to the Environment Agency for the material handled on these sites. Information on how much and what types of materials that were handled on these sites was therefore not available. The justification for this approach was that management of this waste stream was a lower risk activity and there could therefore be a lower level of monitoring of such sites. However, the number of sites with exemptions from permitting have gradually been reduced and most facilities that manage CDE waste are now expected to submit waste returns. There is therefore much more robust data now available for this waste stream and the Waste Data Tracking system being implemented by Defra will further improve the quality of data for this waste stream in future.

It should also be noted that much of this waste stream is managed on the sites where it is generated and therefore it never technically becomes controlled waste, as the resources are processed and reused on site. This is the most desirable approach in sustainability terms but means that data on the types and quantities of material involved never reach the Environment Agency and the scale of this work is not completely understood. Data may exist in Circular Economy Statements or Site Waste Management Plans which are held by the construction companies concerned, and so there may be scope for collating data on this material in time.

A further issue with the data for CDE waste is that some material is treated using mobile plant. The borough to which this is attributed is difficult to identify since these facilities are usually registered in one local authority but are used in a range of authority areas. Consideration needs to be given as to how to handle this type of facility.

London has progressively moved towards greater self-sufficiency in the management of HIC (non-hazardous waste), and most of the waste that is exported from London is CDE waste. It would therefore be useful to understand which WPAs are contributing towards the management of CDE waste and which are generating significantly more CDE waste than they have the capacity to manage.

Examining the arisings of CDE waste by WPA and comparing this with the capacity in each authority to manage this waste shows a greater disparity than applies to HIC waste. The process of meeting an apportionment will therefore be more challenging to achieve for those WPAs that already have relatively little waste management capacity. However, the process of understanding this could give an impetus to identifying management capacity to those authorities where very significant amounts of CDE waste are generated.

A better understanding of the quantities of excavation waste that is exported from London from major infrastructure projects could support the more sustainable management of this material are as part of such projects.

Table 41 shows CDE waste management capacity and arisings as identified in the model, compared with an apportionment based on that developed for HIC waste.

Table 41: CDE waste capacity and arisings by Borough

Joint Waste Authority	WPA	Total inert treatment capacity (rounded, tonnes)	Arisings from 2024 WDI (tonnes)	Capacity Gap (tonnes)	Apportionment %	Apportionment tonnes	Capacity excess / gap (tonnes)
East London	Barking & Dagenham	2,036,500	475,511	1,560,989	6.38%	686,072	1,350,428
East London	Havering	2,119,950	251,547	1,868,403	4.38%	471,002	1,648,948
East London	Newham	1,389,950	439,857	950,093	5.70%	612,948	777,002
East London	Redbridge	21,350	251,022	-229,672	2.11%	226,898	-205,548
North London	Barnet	605,000	349,561	255,439	2.22%	238,727	366,273
North London	Camden	1,050	420,645	-419,595	1.51%	162,378	-161,328
North London	Enfield	942,259	393,928	548,331	6.39%	687,147	255,112
North London	Hackney	50	226,439	-226,389	1.91%	205,391	-205,341
North London	Haringey	198,100	255,613	-57,513	2.56%	275,289	-77,189
North London	Islington	1,200	183,659	-182,459	1.51%	162,378	-161,178
North London	Waltham Forest	90,700	284,785	-194,085	2.46%	264,536	-173,836
South East London	Bexley	309,300	278,026	31,274	5.29%	568,859	-259,559
South East London	Bromley	44,000	270,340	-226,340	3.17%	340,885	-296,885
South East London	City of London	–	111,820	-111,820	2.31%	248,405	-248,405
South East London	Greenwich	1,119,400	512,498	606,902	3.33%	358,091	761,309
South East London	Lewisham	114,000	225,664	-111,664	2.46%	264,536	-150,536
South East London	Southwark	4,000	326,525	-322,525	2.95%	317,228	-313,228
South East London	Westminster City	–	220,592	-220,592	1.95%	209,693	-209,693
South London	Croydon	206,700	354,005	-147,305	2.87%	308,625	-101,925
South London	Kingston Upon Thames	2,350	176,177	-173,827	1.39%	149,473	-147,123
South London	Merton	483,900	201,159	282,741	2.71%	291,419	192,481
South London	Sutton	225,860	137,994	87,866	2.80%	301,097	-75,237
Other	Tower Hamlets	200	307,005	-306,805	2.20%	236,577	-236,377
West London	Brent	559,300	484,006	75,294	4.89%	525,845	33,455
West London	Ealing	1,211,500	1,481,831	-270,331	4.94%	531,222	680,278
West London	Harrow	1,200	311,177	-309,977	1.48%	159,152	-157,952
West London	Hillingdon	2,250,220	424,029	1,826,191	5.85%	629,079	1,621,141

Joint Waste Authority	WPA	Total inert treatment capacity (rounded, tonnes)	Arisings from 2024 WDI (tonnes)	Capacity Gap (tonnes)	Apportionment %	Apportionment tonnes	Capacity excess / gap (tonnes)
West London	Hounslow	393,400	239,882	153,518	4.90%	526,921	-133,521
West London	Richmond Upon Thames	45	147,797	-147,752	1.18%	126,891	-126,846
Western Riverside	Hammersmith & Fulham	224,400	230,639	-6,239	1.64%	176,357	48,043
Western Riverside	Kensington and Chelsea	2,300	133,322	-131,022	0.96%	103,233	-100,933
Western Riverside	Lambeth	78,300	273,548	-195,248	1.75%	188,186	-109,886
Western Riverside	Wandsworth	90,700	372,877	-282,177	1.84%	197,864	-107,164
Totals		**14,727,184**	**10,753,480**	**3,973,704**	**100.00%**	**10,752,405**	**3,974,779**

It can be seen from this table that arisings are very uneven between boroughs and that they do not relate to the population of the borough to any significant degree. While it is unsurprising that inner London boroughs such as Westminster and the City of London have no CDE waste treatment capacity, it would be expected that boroughs further away from the centre of the Capital would have more capacity. Examples of such boroughs would be Harrow or Redbridge.

In theory, there is an excess of treatment capacity comparing 14.7 million tonnes per annum throughput of facilities and arisings estimated at 11 million tonnes. However, a significant proportion of the treatment capacity will comprise transfer activity which accounts for the significant quantities of this waste stream that are disposed of to landfill.

Consideration should therefore be given to policies that encourage all boroughs to identify land for the handling and processing of CDE waste. This material can then be re-used in construction activity and the distances that this material is transported could be reduced with consequent environmental benefits.

20.3. Recommendation

That CDE waste is not apportioned at this time. The ability of many London Boroughs to manage CDE waste is extremely restricted, and new criteria will need to be developed to take this into account. The possibility of an obligation to manage a minimum quantity of CDE waste might encourage all Boroughs to plan for the management of this waste stream however, and so consideration should be given to how an apportionment could be equitably developed.

V. Appendices

Appendix A: Further data sources, limitations and assumptions

A.1 General data assumptions and limitations

Some of these assumptions have also appeared in the text; where this is the case, we consider that it has supported the narrative of the work where relevant.

Table 42: Data assumptions and limitations

Section	Theme	Assumption
2.2 and 2.3	Data quality	WDF can have data accuracy issues. C&I, other non-household and HH tonnages can be inconsistently reported. Where HIC waste is co-collected by an authority, estimates are made as to how much came from each source.
2.2	Limitation	HH waste projections based on population, when other factors, such as economic growth of London and lifestyle changes could influence arisings. These factors are omitted due to lack of supporting evidence.
2.3	Data quality	C&I waste has limited data availability and a lack of a recent detailed UK or London C&I waste survey data, the last being undertaken in 2009. As a result, there is some uncertainty in estimating C&I arisings
2.3	Limitation	Allocation of HIC waste from WDI. In WDI the origin of around half of waste in London is not coded to a local authority. This has been allocated to authorities based on the population in each authority. Other methods were explored but resulted in HIC waste being lower than WDF reported HH waste in some authorities.
2.4.1	Data quality	Similar to C&I estimates, some CDE tonnages has not been reported in WDI at borough level in terms of origin and has had a generic London location allocation. Therefore, this has now been disaggregated to boroughs using the same method as applied for C&I arisings.
2.4	Limitation	CDE waste is not currently included in borough level waste apportionments due to the lack of good quality and consistent data
2.4.1	Limitation	CDE waste is not currently included in borough level waste apportionments due to the lack of good quality and consistent data
WP2	Limitation	The categorisation of technologies is often inconsistent, and some facilities are recorded in different categories in different years;
WP2	Limitation	The data on locations of origin and destination and composition of waste can be incorrectly submitted by waste operators.
WP2	Limitation	Despite the EA's checks to clarify the data submitted when compiling the WDI, some errors are difficult to verify retrospectively.

Section	Theme	Assumption
WP2	Limitation	The processes that are carried out at a waste management site often involve a variety of operations which are not easy to categorise into the consistent headings required by the WDI. In particular, some transfer of waste will occur at most waste management sites since there will be a quantity of rejects at all waste processing sites, the exact amount of which varies dependent on the feedstock type, source and the technology used.
WP2	Limitation	The waste that is categorised as HIC can sometimes comprise inert wastes, rather than non-hazardous wastes. The treatment route for this material may therefore be to facilities that manage inert wastes such as wood or building materials, rather than non-hazardous waste treatment facilities. There is therefore some movement between HIC waste going to inert treatment facilities and inert waste going to non-hazardous waste treatment facilities, which may not be captured in the WDI.
WP2b EFW, AD, MRF Capacity and capacity gaps	Limitation	Challenges with accurately estimating future HIC waste capacity requirements due to unknowns including what new planned waste capacity will come forward, what waste composition will look like, and what and how new technologies can help drive up facility performance and deal with contamination. To help address we have applied the following assumptions: -Achieving the Mayor's 50% food waste reduction target and 65% recycling target by 2030 for Waste Reduction scenario -65% recycling performance across all dry mixed recycling materials (DMR) and separate food waste -100% forecast arisings going to treatment facility -15% reject rates for MRFs and AD, with reject material assumed to go to EFW

A.2 Baseline population of housing types

Baseline population of each housing type was determined based on Census data. For each authority, census data lists the number of households of different housing types (flats, terraced house, semi-detached house, detached house) with different household sizes of 1,2,3 and 4+. We assumed a household size of 4+ had an average of 4.4 people per household when the number of households for 4+ was below the average number of households in the group with 1-3 people per household. If the number of households recorded as 4+ was greater than the average from the 1-3 people per household group, then we assumed the average household size for 4+ was 5. (These values gave an average across London of 2.5 people per household, which is the same as the ONS value.) To calculate the number of people living in houses and living in flats for each borough, we multiplied the number of households by the average number of people per household for each borough and property type.

Where the sum population in houses and flats for a particular borough differed from the actual Census total population for that period (with some differences being inevitable due to the Census data not providing exact data for the '4+' persons per household category), the populations in houses and flats were normalised (proportionally adjusted) to agree with the Census population total.

A.3 Recycling within HH waste

The main modelling outputs from the Waste Arisings model are the projections described in Section 2.2.2, which are the planning projections that are carried forward into other work packages, particularly for the Waste Apportionment. Although it does not affect waste arisings, recycling is assumed to increase based on confirmed policies being introduced, which is relevant for waste infrastructure requirements. This appendix provides further details of these assumptions.

The recycling changes within the planning scenario are described in terms of Simpler Recycling and DRS, as follows.

Simpler Recycling

The assumptions on how Simpler Recycling will affect waste stream arisings in each borough are based on recycling levels within that borough if some households already have the service, or an average of other boroughs if they do not.

The model assumes that all households (houses or flats) that do not currently have a recycling or food waste service are given one in 2026 and recycle at the same rate as households (houses and flats modelled separately) that already have the service, either within the borough, if some of the same household type already have the service, or an average of all of that housing type across London if no households of the same household type within the borough have the service.

DRS

The DRS assumption is based on 90% of DRS material being captured by the scheme and removed from regular collected household waste. This is based on Defra's impact assessment.[27] This is modelled to happen in 2028.

Regarding DRS, material that is modelled to leave HH regular collections is still included in the overall model, under a separate heading of DRS diverted, since obviously this material will need to be dealt with (treated / processed) regardless of whether it is collected by local authorities or through DRS. As and when the management of DRS material becomes clear, in terms of whether it actually arises back as HH waste (if local authorities end up servicing collected DRS) or in C&I, this 'DRS collected' tonnage can be included in HH or C&I as appropriate.

[27] https://www.gov.uk/government/publications/the-deposit-return-scheme-for-drinks-containers-england-and-northern-ireland-regulations-2024-rpc-opinion-green-rated

A.4 HIC Waste in WDI

The following recovery and disposal codes (R&D codes) were excluded from HIC waste to avoid double counting of waste at transfer stations and outputs or inputs to other processes:

- R11: Use of wastes obtained from any of the operations numbered R1 to R10
- R12: Exchange of wastes for submission to any of the operations numbered R1 to R11
- R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)
- D13: Blending or mixing prior to submission to any of the operations numbered D1 to D12
- D14: Repackaging prior to submission to any of the operations numbered D1 to D13
- D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)

A.5 Calculation of GVA-driven projections

Gross Value Added (GVA) projections have been applied to calculate C&I waste arising projections, as discussed in Sections 2.3.2. The GVA projections were provided by GLA Economics and set out projected growth for each London borough for different C&I sector, for each year up to 2035.

The only data available on C&I tonnage arisings by sector is from the Defra C&I Survey 2009.[28] The GVA projections and Defra C&I Survey data divided up economic sectors into different categories, and these were therefore aligned so as to be consistent, as summarised in Table 43. Where more than one SIC07 sector (used in the GVA projections) applied to a Defra C&I Survey category, the average GVA values for the relevant SIC07 sectors was applied.

Table 43: Alignment of C&I sectors for Defra 2009 C&I Survey and GLA Economics GVA projections

Sector defined in Defra 2009 C&I survey	EWC Division	Corresponding SIC07 codes, used in GVA projections
Food, drink & tobacco	10.1 – 12.0	C
Textiles / wood / paper / publishing	13.1 – 18.2	C
Power & utilities	19.1 – 19.2, 35.1 – 36.0	C,D,E
Chemicals / non-metallic minerals manufacture	20.1 – 23.9	C
Metal manufacture	24.1 – 25.9	C

[28] *Commercial and Industrial Waste Survey 2009, Final Report, Jacobs on behalf of Defra*

Sector defined in Defra 2009 C&I survey	EWC Division	Corresponding SIC07 codes, used in GVA projections
Machinery & equipment (other manufacture)	26.1 – 33.2	C
Retail & wholesale	45.1 – 47.9	G
Hotels & catering	55.1 – 56.3	I
Public administration & social work	84.1 – 84.3, 86.1 – 88.9	O,Q
Education	85.1 – 85.6	P
Transport & storage	49.1 – 53.2	H
Other services	58.1 – 82.9, 90.0 – 96.0	I,J,K,L,M,N,R,S

GVA projections specific to SIC07 code are applied to the baseline arisings to project increases in C&I related to each sector. GVA projections are not available at a borough level, and therefore the same GVA projections by sector are applied across all Boroughs in London. However, these are applied at a borough level, since the C&I baseline estimates arisings at a borough level.

As mentioned, the GVA projections extend to 2035, and for modelling thereafter GLA Economics has advised that the best approach would be to assume a linear continuation of the trend for each sector. The model extends to 2050.

A check has been carried out on historical GVA data and C&I arisings, to ascertain whether a correlation between the two is apparent in previous data. This did not find a close correlation between the two, although the general direction of increase (increased GVA and increased C&I arisings) was apparent in the historical England data available for analysis.

A.6 Waste composition estimates data sources

The waste arising model includes compositional estimates for HH, C&I and CDE wastes, as described in Section 2.5. Further relevant detail on the data sources and the estimates is provided here, as well as the category list applied.

Category list

Table 44: Master category list applied in the Waste Arisings model

Master category list number	Master category name
1	Food waste
2	Garden waste
3	Paper
4	Card
5	Fibre-based composite
6	Glass
7	Metal - ferrous
8	Metal - non-ferrous
9	Plastic - bottles
10	Plastic - PTT (Pots tubs and trays)
11	Plastic - dense excl bottles and PTT
12	Plastic - film
13	Textiles
14	WEEE
15	Batteries
16	Wood
17	Nappies and other sanitary
18	Other combustible
19	Other non-combustible
20	All other material
21	Fines

Household regular collected waste

Compositional data is derived from an extensive database of recently completed Waste Composition Analyses (WCAs) of regular collected waste across London.[29] This includes extensive WCA data on regular collected residual and recycling for 'standard access properties', and lesser but still good coverage for the remaining flatted properties.

[29] ReLondon, 2023 *Estimates of London household waste composition* https://relondon.gov.uk/resources/report-estimates-of-london-household-waste-composition

Composition profiles were calculated for four different area typologies in London and were applied to boroughs which did not have WCA data. This was supplemented by analysis of WDF tonnages and WCAs of mixed recycling and organics.

This resulted in composition profiles for all boroughs and for all regular collected streams (residual, dry recycling, food waste and garden waste), distinguishing between flats and 'standard access' properties. This represents by far the most robust compositional estimates for London HH regular collected waste produced to date.

Household non-regular collected waste

Non-regular collected household streams include:

- Reuse and Recycling Centre (RRC) waste and recycling
- Bring bank recycling
- Other household recycling (including from street bins)
- Bulky waste collections
- Other household residual waste (mainly Street Cleaning wastes).

Apart from RRC residual waste, WCAs of these streams are rarely carried out, and no recent WCAs have been carried out in London. The WRAP national composition estimates 2017[30] provide the most recently available compositional estimates for these streams. The RRC residual estimates are derived from 14 WCAs. Composition estimates for other streams are based on smaller sample sizes and are uncertain, and in some cases based on old WCA data (from previous national estimates for 2010, or 2007) but remain the only available England estimates.

C&I wastes

The composition of C&I wastes was modelled separately, in order to apply the best available data (as explained below). London C&I data was disaggregated using the Defra C&I Survey 2009[31], which found that the great majority of London's C&I waste is commercial (83.5%), with industrial waste comprising the much smaller remainder (16.5%).

The most recent WCA of commercial waste in England on a reasonable scale was carried out by Resource Futures in 2019.[32] The study ostensibly focussed on non-household municipal waste, but it is considered that this is broadly representative of the commercial part of C&I waste. In any event, no other significant studies recent studies have been carried out in England. The study included sampling from three London Boroughs. Average compositions were taken from these samples and compared with the overall study compositions, to check that there were no unusual composition values in the London derived profile. For the purposes of this study the profile from the London samples was applied to the commercial element of London C&I wastes.

[30] National Household Waste Composition 2017, Eunomia on behalf of WRAP (2019)
[31] Commercial and Industrial Waste Survey 2009, Final Report, Jacobs on behalf of Defra
[32] Compositional analysis of Local Authority collected and non-Local Authority collected non-household municipal waste (England), Resource Futures on behalf of WRAP (2020)

For industrial waste, very few WCAs have been carried out. The only recent WCA with relevant data is from a WCA of C&I wastes in Wales – carried out by Resource Futures in 2019[33] – for which some separate sampling of waste from industrial sources was carried out. As the best available composition data source for industrial waste, this profile was applied to the industrial element of London C&I waste.

However, it is important to recognise the limitations of this composition profile, which was from only six samples, half of which were from food processing facilities. The composition profile has high food waste and plastic film arisings. It should therefore be viewed as indicative only.

[33] Commercial and Industrial Waste in Wales, Resource Futures on behalf of WRAP (2020)

A.7 Review of non-regular collected HH tonnage trends

Figure 18 illustrates an analysis of non-regular collected HH arisings over time, as discussed in Section 2.2.2.

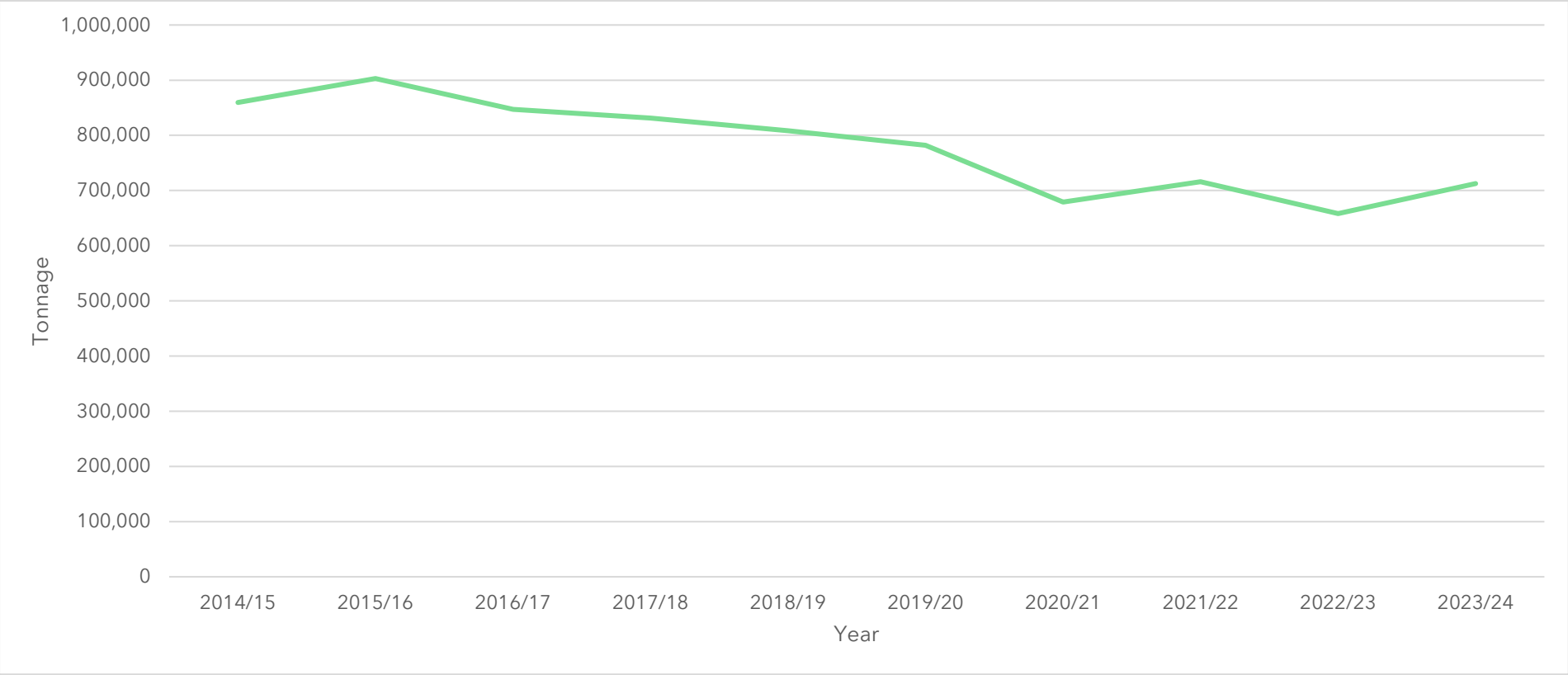

Figure 18: Review of non-regular collected tonnage trends, London 2014/15 to 2023/24.

Source: WDF

Appendix B: GLA/Environment Agency/London borough apportionment workshop summary note (separate PowerPoint document)

This document is provided separately.

Appendix C: Calculation of new apportionment

Table 45: Criterion 1 (HIC arisings in tonnes by Borough)

Borough	% of total London HIC arisings (2024)	2024 HIC arisings
Barking and Dagenham	7.3	563,456
Barnet	3.2	242,203
Bexley	4.9	373,572
Brent	4.4	342,941
Bromley	5.1	396,828
Camden	1.8	139,868
City of London	3.6	275,166
City of Westminster	2.4	189,922
Croydon	3.9	302,411
Ealing	3.4	258,533
Enfield	3.9	298,491
Greenwich	3.8	292,327
Hackney	1.6	121,544
Hammersmith and Fulham	1.1	87,173
Haringey	2.2	172,595
Harrow	2.0	154,414
Havering	3.9	299,576
Hillingdon	4.6	356,353
Hounslow	3.6	273,061
Islington	2.6	202,165
Kensington and Chelsea	0.7	55,586
Kingston upon Thames	1.3	101,995
Lambeth	1.7	130,353
Lewisham	3.6	277,951
Merton	3.5	271,739
Newham	4.3	332,644

Borough	% of total London HIC arisings (2024)	2024 HIC arisings
Redbridge	2.8	213,034
Richmond upon Thames	1.0	79,620
Southwark	4.1	317,709
Sutton	1.7	132,497
Tower Hamlets	2.0	156,968
Waltham Forest	1.9	144,962
Wandsworth	1.9	142,108
Total	**100%**	**7,698,655**

Table 46: Criterion 2 (industrial land availability)

Industrial land availability	2020	Assume	50,000
	Ha	Tonnes that could be managed	Apportionment percentage
Barking & Dagenham	527.9	26,395,000	7.8%
Barnet	85.1	4,255,000	1.3%
Bexley	509.2	25,460,000	7.5%
Brent	406.7	20,335,000	6.0%
Bromley	127.6	6,380,000	1.9%
Camden	36.1	1,805,000	0.5%
City of London	2.3	115,000	0.0%
City of Westminster	10.3	515,000	0.2%
Croydon	147.8	7,390,000	2.2%
Ealing	481.1	24,055,000	7.1%
Enfield	458.8	22,940,000	6.7%
Greenwich	198.8	9,940,000	2.9%
Hackney	56.0	2,800,000	0.8%
Hammersmith & Fulham	112.5	5,625,000	1.7%
Haringey	169.1	8,455,000	2.5%
Harrow	48.4	2,420,000	0.7%
Havering	413.7	20,685,000	6.1%
Hillingdon	580.0	29,000,000	8.5%
Hounslow	471.6	23,580,000	6.9%
Islington	32.4	1,620,000	0.5%
Kensington & Chelsea	16.4	820,000	0.2%
Kingston upon Thames	113.5	5,675,000	1.7%
Lambeth	68.9	3,445,000	1.0%
Lewisham	95.0	4,750,000	1.4%
Merton	168.0	8,400,000	2.5%
Newham	453.3	22,665,000	6.7%

Industrial land availability	2020	Assume	50,000
	Ha	Tonnes that could be managed	Apportionment percentage
Redbridge	73.0	3,650,000	1.1%
Richmond upon Thames	84.4	4,220,000	1.2%
Southwark	126.4	6,320,000	1.9%
Sutton	320.6	16,030,000	4.7%
Tower Hamlets	98.7	4,935,000	1.5%
Waltham Forest	180.7	9,035,000	2.7%
Wandsworth	123.0	6,150,000	1.8%
Total industrial land	**6,797.3**	**339,865,000**	**100.0%**
Greater London	**6798.0**		

Contained in Appendix A: Quantity of Industrial Land in London, Final Version (March 2023)**:** https://data.london.gov.uk/dataset/london-industrial-land-supply-study-2jy30/

Sub-total line total industrial for 2020 also in Table 4.2 of the London Industrial Land Supply Study 2020, published March 2023.

Table 47: Criterion 7 (Index of Multiple Deprivation)

Local Authority District name (2024)	IMD - Average score	Apportionment %
Barking and Dagenham	30.3	4.2%
Barnet	19.5	2.7%
Bexley	15.3	2.1%
Brent	30.0	4.2%
Bromley	12.7	1.8%
Camden	23.7	3.3%
City of London	10.2	1.4%
City of Westminster	23.9	3.3%
Croydon	22.6	3.1%
Ealing	25.9	3.6%
Enfield	29.9	4.2%
Greenwich	23.5	3.3%
Hackney	31.8	4.4%
Hammersmith and Fulham	21.2	2.9%
Haringey	30.9	4.3%
Harrow	17.5	2.4%
Havering	16.8	2.3%
Hillingdon	20.7	2.9%
Hounslow	24.9	3.5%
Islington	26.7	3.7%
Kensington and Chelsea	20.3	2.8%
Kingston upon Thames	11.1	1.5%
Lambeth	23.0	3.2%
Lewisham	25.5	3.5%
Merton	14.4	2.0%
Newham	31.6	4.4%
Redbridge	19.9	2.8%
Richmond upon Thames	9.5	1.3%
Southwark	23.3	3.2%
Sutton	13.9	1.9%
Tower Hamlets	30.6	4.2%
Waltham Forest	23.5	3.3%
Wandsworth	15.2	2.1%
Total	**719.5**	**100%**

Source: 2025 Indices of Multiple Deprivation
https://www.gov.uk/government/statistics/english-indices-of-deprivation-2025

Table 48: Combined criteria weighted

Origin WPA	C1 Percentage of total London HIC arisings	C2Amount that could be managed due to Industrial land availability	C7 Apportionment % from IMD	C1 at 40% C2 at 40% C7 at 20%
Barking and Dagenham	7.3%	7.8%	4.2%	6.9%
Barnet	3.1%	1.3%	2.7%	2.3%
Bexley	4.9%	7.5%	2.1%	5.4%
Brent	4.5%	6.0%	4.2%	5.0%
Bromley	5.2%	1.9%	1.8%	3.2%
Camden	1.8%	0.5%	3.3%	1.6%
City of London	3.6%	0.0%	1.4%	1.7%
City of Westminster	2.5%	0.2%	3.3%	1.7%
Croydon	3.9%	2.2%	3.1%	3.1%
Ealing	3.4%	7.1%	3.6%	4.9%
Enfield	3.9%	6.7%	4.2%	5.1%
Greenwich	3.8%	2.9%	3.3%	3.3%
Hackney	1.6%	0.8%	4.4%	1.8%
Hammersmith and Fulham	1.1%	1.7%	2.9%	1.7%
Haringey	2.2%	2.5%	4.3%	2.7%
Harrow	2.0%	0.7%	2.4%	1.6%
Havering	3.9%	6.1%	2.3%	4.5%
Hillingdon	4.6%	8.5%	2.9%	5.8%
Hounslow	3.5%	6.9%	3.5%	4.9%
Islington	2.6%	0.5%	3.7%	2.0%
Kensington and Chelsea	0.7%	0.2%	2.8%	1.0%
Kingston upon Thames	1.3%	1.7%	1.5%	1.5%
Lambeth	1.7%	1.0%	3.2%	1.7%
Lewisham	3.6%	1.4%	3.5%	2.7%
Merton	3.5%	2.5%	2.0%	2.8%
Newham	4.3%	6.7%	4.4%	5.3%
Redbridge	2.8%	1.1%	2.8%	2.1%
Richmond upon Thames	1.0%	1.2%	1.3%	1.2%
Southwark	4.1%	1.9%	3.2%	3.0%
Sutton	1.7%	4.7%	1.9%	3.0%
Tower Hamlets	2.0%	1.5%	4.2%	2.2%
Waltham Forest	1.9%	2.7%	3.3%	2.5%
Wandsworth	1.8%	1.8%	2.1%	1.9%
Total	100%	100%	100%	100%

Table 49: Total new apportionment calculations and forecast in kilo tonnes.

Borough	New Apportionment % of total	London Plan 2021 Apportionment % of total	London Plan 2021 App.	New Apportionments (C1+C2 at 40%; C7 at 20%)			
				2024 (base year)	2030	2040	2050
Barking and Dagenham	6.6	6.1	505	506	536	603	676
Barnet	2.4	2.6	215	183	194	219	245
Bexley	5.6	5.6	457	431	456	513	575
Brent	4.7	5.0	412	363	385	433	485
Bromley	3.5	2.3	192	269	285	320	359
Camden	1.5	1.6	133	118	125	140	157
City of London	2.1	1.0	84	165	175	196	220
City of Westminster	1.6	2.3	188	126	133	150	168
Croydon	3.0	3.1	252	234	248	279	313
Ealing	4.7	6.6	542	366	387	436	488
Enfield	4.8	4.3	356	369	391	440	493
Greenwich	3.3	4.1	338	253	268	301	337
Hackney	1.5	1.3	111	115	122	137	153
Hammersmith and Fulham	1.7	2.6	210	133	141	158	177
Haringey	2.4	2.3	192	187	198	223	250
Harrow	1.7	1.9	160	133	141	158	177
Havering	4.6	4.5	370	357	378	425	477
Hillingdon	5.9	5.1	423	453	480	540	604
Hounslow	4.8	5.0	407	368	390	438	491
Islington	1.8	1.2	101	139	148	166	186
Kensington and Chelsea	1.0	1.4	116	77	82	92	103
Kingston upon Thames	1.9	2.3	187	145	154	173	194
Lambeth	1.7	1.7	143	129	137	154	173
Lewisham	2.6	2.2	184	199	211	237	265
Merton	3.1	2.9	238	236	250	281	315
Newham	4.9	4.7	383	379	402	452	506
Redbridge	2.2	1.8	151	166	176	198	222
Richmond upon Thames	1.6	1.8	148	124	131	148	166
Southwark	3.0	1.8	150	230	244	274	307
Sutton	3.2	2.6	211	250	265	298	333
Tower Hamlets	1.9	2.4	195	149	158	178	199
Waltham Forest	2.4	2.4	199	186	197	221	248
Wandsworth	2.1	3.2	264	163	173	195	218
London total*	**100%**	**100%**	**8217**	**7,699**	**8,159**	**9,177**	**10,281**