

Waste Need Assessment

London Borough of Barking and Dagenham

Be First

June 2021

Quality information

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Glossary of Terms

Term	Definition
Aggregates	Coarse material used in construction (can include sand, gravel, crushed stone and recycled concrete).
Agricultural Waste	Waste from premises used for agriculture within the meaning of the Agricultural Act 1947.
Anaerobic Digestion	Anaerobic digestion is the process of using microorganisms to break down organic waste (e.g. food waste) in the absence of oxygen to produce biogas and fertilising material.
Apportionment Targets	The amount of waste that each London Borough needs to be prepared to manage in future years as set by the Mayor of London within the London Plan.
Biodegradable Waste	Any waste organic matter than can be broken down into carbon dioxide, water, methane or other simple organic molecules by microorganisms.
Bulky Waste	Waste that is too large to be accepted by regular waste collection (i.e. white goods, mattresses etc.).
Circular Economy	An economic system of closed loops in which products lose as little of their value as possible. In contrast to the take-make-dispose linear model, a circular economy is regenerative by design and aims to gradually decouple growth from the consumption of finite resources.
Clinical Waste	Waste produced from healthcare and similar activities that may pose a risk of infection (for example, swabs, bandages and dressings).
Commercial and Industrial (C&I) Waste	Waste generated by retail units, offices, and any other business, trade or factory use. Some C&I waste is collected by local authorities, however the majority is collected by private waste collection companies.
Construction, Demolition and Excavation (CD&E) Waste	Waste produced by construction, demolition or excavation activities.
Courtauld Commitments	Series of 10-year voluntary agreements aimed at identifying priorities, developing solutions and implementing changes to cut the carbon and waste associated within food and drink. The first commitment was launched in 2005, with the most recent commitment running up to 2025.
Deposit Return Scheme (DRS)	A small deposit will be added to the price of a drinks container brought to a store. Once the container has been used, the consumer will dispose of it in a reverse vending machine and the deposit will be returned to the consumer.
East London Waste Authority (ELWA)	Statutory waste disposal authority (WDA) responsible for the disposal of waste collected by the London Boroughs of Barking and Dagenham, Havering, Newham and Redbridge.
Energy Recovery / Energy from Waste (EfW)	Any type of process which generates either heat or power from the combustion of waste.
European Waste Catalogue (EWC)	A standard coding system used to identify the type of waste stream. EWC codes have been transposed into UK legislation through the List of Wastes Regulations.
Evidence Base	Includes a number of studies, assessments and background documents that inform the development of a new Local Plan.
Extended Producer Responsibility (EPR)	A policy approach through which a producer's responsibility for a product is extended to the post-use stage. This incentivises producers to design their products to make it easier for them to be reused, dismantled and/or recycled at end of life.
Food Waste	Any food, and inedible parts of food removed from the food supply chain to be recovered or disposed.
Garden Waste	Waste generated from the garden (for example grass clippings, branches and weeds).
Hazardous Waste	Waste is generally considered hazardous if it (or the material or substances it contains) are harmful to humans or the environment. This can be determined on the basis of either a) the source of waste (some types of waste are always deemed to be hazardous) or b) the concentration of hazardous substances within the waste.
Household Waste	Waste from domestic properties including waste from residual refuse collections, material collected for recycling and composting, plus waste from educational establishments, nursing and residential homes and street cleansing waste.

Term	Definition
Local Authority Collected Waste (LACW)	Household and commercial and industrial waste collected by the local authority. Includes waste streams such as recyclable materials, food waste and residual waste as well as clinical waste, garden waste and bulky waste items (i.e. mattresses or white goods).
Municipal Waste	Household waste and waste similar in nature and composition to household waste.
Proximity Principle	Waste should be disposed of as close to its place of origin as possible. The proximity principle is defined within the EU Waste Framework Directive (2008/98/EC).
Radioactive Waste	Waste which falls within the scope of the Radioactive Substances Act 1993.
Recovery and Disposal Code	Coding system used to describe a treatment or disposal option. Recovery and disposal codes are defined within the EU Waste Framework Directive (2008/98/EC).
Recyclable Waste	Materials that can be processed and used to create new products.
Refuse Derived Fuel (RDF)	Consists of residual waste that is subject to a contract with an end-user for use as a fuel in an energy from waste facility. The contract must include the end-user's technical specifications relating as a minimum to the calorific value, the moisture content, the form and quantity of the RDF.
Regulation 19 Stage	Regulation 19 Stage is the second stage of the consultation process when forming a Local Plan. This stage of the consultation process provides local communities, businesses and other interested stakeholders with a chance to comment on the draft policy content of the new Local Plan.
Residual Waste	The remaining part of the waste stream excluding any source-segregated materials (also known as non-recyclable waste/general waste).
Safeguarded Sites	Areas and sites which may be required to serve development needs in the long term.
Secondary Materials	Wastes which have been recovered to the point where they are no longer waste, or by-products from a manufacturing process, which can be used in place of virgin raw materials.
Self-Sufficiency Principle	Requires that most waste should be treated or disposed of within the region it was produced. The self-sufficiency principle is defined within the EU Waste Framework Directive (2008/98/EC).
Site Waste Management Plan (SWMP) / Construction Resource Management Plan (CRMP)	A plan which details the amount and type of waste that will be generated as a result of construction, demolition and excavation activities. The plan will also include details on the management of the waste that is generated.
Waste Capacity	The volume of waste each facility or region can process.
Waste Hierarchy	The waste hierarchy ranks waste management practices according to what is best for the environment i.e. Prevention, Re-use, Recycling, Recovery, Disposal.
Waste Management Facility	Any site used to store, treat, recover, process or dispose of waste.
Waste Needs Assessment	Identifies the waste management capacity that will be needed during a certain period of time as well as assessing the existing facilities available to manage this waste. A Waste Needs Assessment also considers the needs for additional facilities to manage the forecast requirements.
Waste Planning Authorities	The local authority responsible for waste development, planning and control. The role of waste planning authority is held by county councils, unitary authorities and national park authorities.
Wastewater	Water that has been contaminated by use in the home, business or as part of an industrial process.

Table of Abbreviations

Abbreviation	Term
AD	Anaerobic Digestion
C&I	Commercial and Industrial
CD&E	Construction, Demolition and Excavation
Defra	Department for Environment, Food and Rural Affairs
DPD	Development Plan Document
DRS	Deposit Return Scheme
EA	Environment Agency
EfW	Energy from Waste
ELWA	East London Waste Authority
ELWP	East London Waste Plan
EPR	Extended Producer Responsibility
EU	European Union
EWC	European Waste Code
GBq	Giga-becquerel
GLA	Greater London Authority
HIC	Household, Industrial and Commercial
HLW	High Level Waste
ILW	Intermediate Level Waste
IVC	In Vessel Composting
LACW	Local Authority Collected Waste
LBBB	London Borough of Barking and Dagenham
LDF	Local Development Framework
LLW	Low Level Waste
MRF	Material Recycling Facility
MSW	Municipal Solid Waste
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
NPPW	National Planning Policy for Waste
R&D Code	Recovery and Disposal Code
RDF	Refuse Derived Fuel
Reg	Regulation
SRF	Solid Recovered Fuel
tpa	Tonnes per annum
UK	United Kingdom
VLLW	Very Low Level Waste
WDI	Waste Data Interrogator
WFD	Waste Framework Directive
WMP	Waste Management Plan
WPA	Waste Planning Authority
WTS	Waste Transfer Station

1. Introduction

1.1 Context

1.2 Scope and Aims

- 1.1 This assessment is intended to update London Borough of Barking and Dagenham's (LBBB's) waste needs assessment in order to supplement the evidence base of the Barking and Dagenham Draft Local Plan 2019-37, which is currently at Regulation 19 stage (Ref 1).
- 1.2 The 2012 Joint Waste Development Plan Document (DPD) for the East London Authority Boroughs, generally referred to as the East London Waste Plan (ELWP) covers the management of waste in the ELWA up until 2021. The review of the ELWP is currently at an early stage and it is anticipated that it will be adopted in the next two - three years. As part of the preparation of the draft ELWP, the four East London waste authorities responsible for preparing the Plan – LBBB, LB Newham, LB Havering and LB Redbridge – will prepare a comprehensive evidence base which will demonstrate that each borough can meet the apportionment targets and tonnages set out in the Publication Plan. This assessment will therefore also form the basis of LBBB's input into the draft ELWP.
- 1.3 Additionally, this assessment identifies existing capacity within the borough for all waste streams with a focus in particular upon whether there is current and future capacity to meet the Greater London Authority's (GLA) apportionment targets and tonnages for household, commercial and industrial (HIC) waste set out in the Publication London Plan (Ref 2), published in December 2020. Further to this, the assessment also provides clarification of whether any of the waste management facilities listed within the ELWP 2012 (Ref 3) have been lost and identifies what (if any) waste management sites are likely to be delivered in the short term period to 2026.
- 1.4 The waste needs assessment therefore covers an interim period between now and when the revised ELWP is adopted (no later than 2026).

1.3 Structure

- 1.5 The remainder of this report is structured as follows:
 - A review of the relevant European Union (EU), national, regional and local waste legislation and policy;
 - Calculation of the current and future HIC, CD&E, radioactive, agricultural and hazardous waste arisings;
 - Assessment of the current capacity provided by the existing waste management facilities in LBBB;
 - Identification of any future waste management facilities to be built within LBBB;
 - Identification of any waste management capacity gaps and if there is a need for any additional waste management facilities in LBBB;
 - Calculation of the amount of waste being imported and exported from waste management facilities in LBBB; and
 - A summary of the findings, recommendations and future trends.

2. Policy Context

2.1 Introduction

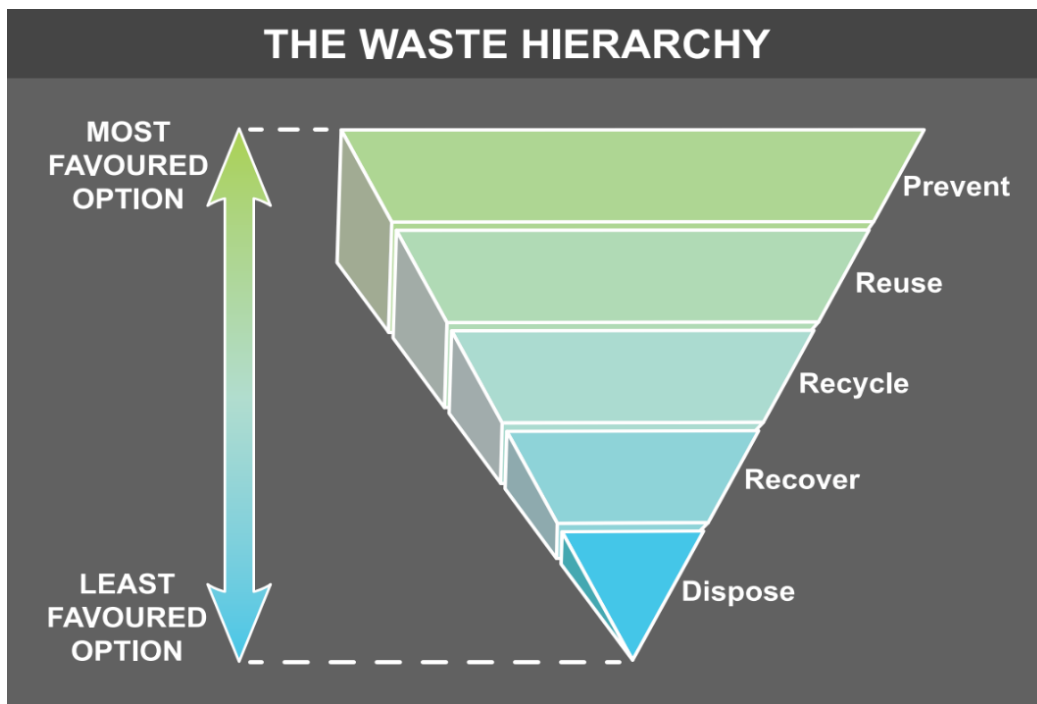
2.1 The evidence base for the Barking and Dagenham Draft Local Plan and the ELWP must comply with the relevant EU, national, regional and local planning and waste policy, described within this section.

2.2 EU Legislation

2.2.1 Waste Framework Directive (2008)

- 2.2 Historically waste management in the United Kingdom (UK) has been significantly driven by EU policy. The Waste Framework Directive (2008/98/EC) (WFD) [75/442/EEC] (Ref 4) is the principal EU legislation for waste, setting out the basic concepts and definitions related to waste management.
- 2.3 The WFD is underpinned by a key principle, known as the waste hierarchy (as set out in Article 4 of the WFD and shown on Figure 2.1), which requires that member states manage waste as near to the top of the hierarchy (i.e. waste prevention) as possible, with disposal of waste being the last resort. Article 4 states that the waste hierarchy shall apply as a priority order in waste prevention and management legislation and policy, and that member states shall take measures to encourage the options that deliver the best overall environmental outcome.

Figure 2.1 The Waste Hierarchy



2.4 Table 2.1 provides a description of the other relevant articles provided within the WFD.

Table 2.1 Relevant Articles provided within the WFD

Article	Description
Article 13: Protection of Human Health and the Environment	Requires that waste be managed by means which do not endanger human health or the environment – in particular, without risk to water, air, soil, plants or animals, without causing a nuisance through noise or odours, and without adversely affecting the countryside or places of special interest.
Article 16: Principles of Proximity and Self-Sufficiency	<ul style="list-style-type: none"> Requires that appropriate measures are taken to “establish an integrated and adequate network of waste disposal installations and of installations for the recovery of mixed municipal waste collected from private households, including where such collection also covers such waste from other producers, taking into account best available techniques.”

	<ul style="list-style-type: none"> States that this network shall be designed to enable the community as a whole to become self-sufficient in waste disposal.
Article 28: Waste Management Plans	<ul style="list-style-type: none"> Requires authorities to produce Waste Management Plans, which "set out an analysis of the current waste management situation in the geographical entity concerned, as well as the measures to be taken to improve environmentally sound preparing for re-use, recycling, recovery and disposal of waste and an evaluation of how the plan will support the implementation of the objectives and provisions of this Directive". States that the Waste Management Plans must contain: <ul style="list-style-type: none"> The type, quantity and source of waste generated within the territory, the waste likely to be shipped from or to the national territory, and an evaluation of the development of waste streams in the future; Existing waste collection schemes and major disposal and recovery installations, including any special arrangements for waste oils, hazardous waste or waste streams addressed by specific community legislation; An assessment of the need for new collection schemes, the closure of existing waste installations, additional waste installation infrastructure in accordance with Article 16, and, if necessary, the investments related thereto; Sufficient information on the location criteria for site identification and on the capacity of future disposal or major recovery installations, if necessary; and General waste management policies, including planned waste management technologies and methods, or policies for waste posing specific management problems.

2.5 Directive (EU) 2018/851 (Ref 5) amends the Waste Framework Directive and, amongst other measures, requires that Member States must implement measures to increase the reuse and recycling rate for municipal waste; which must be a minimum of 55% by weight by 2025, 60% by 2030, and 65% by 2035.

2.2.2 Landfill Directive (1999)

2.6 The Landfill Directive (1999/31/EC) (Ref 6) (brought into force in 1999 and implemented in 2001), regulates waste management of landfills in the EU. The Directive's primary objective is to prevent or minimise as far as possible, the negative effects on the environment from the landfilling of waste, in particular on surface water, groundwater, soil, air, and human health, by introducing stringent technical requirements for waste and landfills (relating to their location, design, construction and operation).

2.7 Directive (EU) 2018/850 (Ref 7) amends the Landfill Directive and requires Member States to significantly reduce waste disposal by landfilling. This will prevent detrimental consequences for human health and the environment, and ensure that economically valuable waste materials are recovered through proper waste management and in line with the waste hierarchy. Member States will be required to ensure that, as of 2030, waste suitable for recycling or other recovery, in particular that which is contained in municipal waste, will not be permitted to be disposed of to landfill. Use of landfills should remain exceptional rather than the norm. Furthermore, the Member States must take the necessary measures to ensure that by 2035, the amount of municipal waste disposed of in landfills is reduced to 10% or less of the total amount of municipal waste generated by 2035.

2.2.3 Circular Economy Package (2020)

2.8 The Circular Economy Package (CEP) (2020) is a revised legislative framework on the circular economy which identifies steps for reducing the amount of waste generated and establishes a long-term path for the management of waste and increasing the recycling rate. The measures introduced in the 2020 CEP have been transposed into UK legislation.

2.9 The CEP makes significant changes to the following Directives:

- Directive 2008/98/EC on waste (Waste Framework Directive (WFD)) – amended by Directive (EU) 2018/851;
- Directive 94/62/EC on Packaging and Packaging Waste (PPWD) (Ref 8) – amended by Directive (EU) 2018/852 (Ref 9); and
- Directive 1999/31/EC on the Landfill of Waste (LFD) – amended by Directive (EU) 2018/850;

2.10 The following Directives have also been amended by Directive (EU) 2018/849 (Ref 10) but the changes are relatively minor and have therefore not been transposed into UK legislation.

- Directive 2000/53/EC on End-of-Life Vehicles (ELV) (Ref 11);

- Directive 2006/66/EC on Batteries and Accumulators and Waste Batteries and Accumulators (BAWBA) (Ref 12); and
- Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE) (Ref 13)

2.11 Also as part of the CEP, the EU has implemented a new Action Plan (Ref 14) in March 2020. The new Action Plan contains initiatives to promote circular economy processes along the whole life-cycle of products, and aims to keep resources in the economy for as long as possible. The following measures are also included in the new Action Plan:

- Making sustainable products the norm in the EU;
- Empowering consumers and public-buyers;
- Focusing on sectors which use the most resources and have a high potential for circularity (i.e. IT, construction, batteries and vehicles);
- Generating less waste and more value;
- Making circularity work for people, regions and cities; and
- Leading global efforts on circular economy.

2.3 National Policy

2.3.1 National Planning Policy for Waste (NPPW) (2014)

2.12 The National Planning Policy for Waste (NPPW) (Ref 15), published in October 2014, sets out the government's detailed waste planning policies. The NPPW outlines the approach to be taken with regard to:

- using a proportionate evidence base in preparing Local Plans;
- identifying the need for waste management facilities in preparing Local Plans;
- identifying suitable sites and areas in preparing Local Plans;
- determining planning applications; and
- monitoring and reporting, to inform Local Plan preparation and planning application determination.

2.13 Table 2.2 describes the information contained in each paragraph of the NPPW relevant to this assessment.

Table 2.2 Paragraphs of the NPPW relevant to this Assessment

Paragraph	Description
Paragraph 2: Using a proportionate evidence base	<p>Requires that waste planning authorities:</p> <ul style="list-style-type: none"> • Ensure that the planned provision of new capacity and its spatial distribution is based on robust analysis of best available data and information, and an appraisal of options, avoiding spurious precision; • Work jointly and collaboratively with other planning authorities to collect and share data and information on waste arisings, and take account of: <ul style="list-style-type: none"> – Waste arisings across neighbouring waste planning authority areas; and – Any waste management requirement identified nationally, including the Government's latest advice on forecasts of waste arisings and the proportion of waste that can be recycled; and • Ensure that the need for waste management facilities is considered alongside other spatial planning concerns, recognising the positive contribution that waste management can bring to the development of sustainable communities.
Paragraph 3: Identify need for waste management facilities	<ul style="list-style-type: none"> • States that "<i>Waste planning authorities should prepare Local Plans which identify sufficient opportunities to meet the identified needs of their area for the management of waste streams</i>". • States that waste planning authorities should consider the need for additional waste management capacity of more than local significance, and consider the extent to which the capacity of existing operational facilities would satisfy any identified needs. • Highlights the requirement to work collaboratively with other waste planning authorities, and to have regard to their apportionments as set out in the London Plan (Ref 16).
Paragraph 4: Identifying suitable sites and areas	<ul style="list-style-type: none"> • States that waste planning authorities should identify in their Local Plans, sites and/or areas for new or enhanced waste management facilities in appropriate locations. • States that in preparing their Local Plans, the authorities should:

- “Identify the broad type or types of waste management facility that would be appropriately located on the allocated site or in the allocated area in line with the waste hierarchy, taking care to avoid stifling innovation (Appendix A);
- Plan for the disposal of waste and the recovery of mixed municipal waste in line with the proximity principle, recognising that new facilities will need to serve catchment areas large enough to secure the economic viability of the plant;
- Consider opportunities for on-site management of waste where it arises;
- Consider a broad range of locations including industrial sites, looking for opportunities to co-locate waste management facilities together and with complementary activities. Where a low carbon energy recovery facility is considered as an appropriate type of development, waste planning authorities should consider the suitable siting of such facilities to enable the utilisation of the heat produced as an energy source in close proximity to suitable potential heat customers; and
- Give priority to the re-use of previously-developed land, sites identified for employment uses, and redundant agricultural and forestry buildings and their curtilages.”

2.3.2 National Planning Policy Framework (NPPF) (2019)

- 2.14 A revised and updated National Planning Policy Framework (NPPF) (Ref 17) was published in February 2019. This sets out the Government’s planning policies for England and is a material planning consideration in the determination of planning applications.
- 2.15 With regard to Local Plan preparation, Paragraph 31 of the NPPF states that *“the preparation and review of all policies should be underpinned by relevant and up-to-date evidence. This should be adequate and proportionate, focused tightly on supporting and justifying the policies concerned, and take into account relevant market signals.”* Paragraph 35 of the NPPF outlines the criteria against which Local Plans are assessed. Plans are ‘sound’ if they meet the following requirements:
- **“Positively prepared** – providing a strategy which, as a minimum, seeks to meet the area’s objectively assessed needs; and is informed by agreements with other authorities, so that unmet need from neighbouring areas is accommodated where it is practical to do so and is consistent with achieving sustainable development;
 - **Justified** – an appropriate strategy, taking into account the reasonable alternatives, and based on proportionate evidence;
 - **Effective** – deliverable over the plan period, and based on effective joint working on cross-boundary strategic matters that have been dealt with rather than deferred, as evidenced by the statement of common ground; and
 - **Consistent with national policy** – enabling the delivery of sustainable development in accordance with the policies in this Framework.”

2.3.3 National Planning Practice Guidance: Waste (NPPG) (2015)

- 2.16 The National Planning Practice Guidance (NPPG): Waste (Ref 18) was published in October 2015, and the relevant paragraphs of the NPPG have been provided Table 2.3.

Table 2.3 Relevant Paragraphs provided within the NPPG

Paragraph	Description
Paragraph 004	States that waste planning authorities play a role in implementing the following Articles of the EU Waste Framework Directive (2008/98/EC): <ul style="list-style-type: none"> • Article 4: Waste Hierarchy; • Article 13: Protection of human health and the environment; • Article 16: Principles of proximity and self-sufficiency; • Article 28: Waste Management Plans; and • Article 34: Periodic Inspections.
Paragraph 011	States: <p><i>“The Local Plan relating to waste should identify sufficient opportunities to meet the identified needs of an area for the management of waste, aiming to drive waste management up the Waste Hierarchy. It should ensure that suitable sites and areas for the provision of waste management facilities are identified in appropriate locations.”</i></p>
Paragraph 043	<ul style="list-style-type: none"> • Addresses how waste planning authorities in London should identify gaps in management capacity.

	<ul style="list-style-type: none"> States that London waste planning authorities need to plan for the delivery of sites and areas suitable for waste management, in order to fill the gap between existing and required waste management capacity, and that the need for replacement capacity should reflect that: <ul style="list-style-type: none"> “Apportionments provide high-level benchmarks for local planning, and are subject to annual monitoring and regular review; Existing facilities may close sooner or later than predicted; Capacity may be developed at a slower or faster rate than predicted.”
Paragraph 044	<ul style="list-style-type: none"> Addresses the way in which waste planning authorities should plan for London’s waste, stating that given London’s unique waste needs, <i>“there is likely to be a need for waste planning authorities surrounding London to take some of London’s waste. The Mayor and waste planning authorities in London should engage constructively, actively and on an ongoing basis with other authorities, under the duty to cooperate, to help manage London’s waste.”</i>

2.3.4 The UK Industrial Strategy White Paper: Building a Britain Fit for the Future (2017)

- 2.17 The UK Industrial Strategy White Paper (Ref 19), published in 2017 and updated in 2018, sets out an approach to building upon the UK’s strengths, whilst also addressing its weaknesses, with a focus upon strengthening productivity.
- 2.18 It states a commitment to *“moving towards a more circular economy – to raising productivity by using resources more efficiently, to increasing resilience by contributing to a healthier environment, and to supporting long-term growth by regenerating our natural capital.”* It suggests a number of measures to be taken to achieve this commitment, including:
- raising the resource productivity of businesses, including through the promotion of recycling and strong secondary materials markets;
 - working with businesses through the Courtauld Commitment to deliver a 20% per capita reduction in food waste by 2025; and
 - continually strengthening policies in line with our national ambitions of zero avoidable waste, and a doubling of resource productivity by 2050.

2.3.5 Our Waste, Our Resources: A Strategy for England (2018)

- 2.19 Our Waste, Our Resources: A Strategy for England (Ref 20), published in December 2018, sets out how the Government plans to double resource productivity and eliminate avoidable waste of all kinds, including plastic waste, by 2050, building on “A Green Future: Our 25 Year Plan to Improve the Environment” (January 2018) (Ref 21). The Strategy outlines how it will:
- “preserve our stock of material resources by minimising waste, promoting resource efficiency and moving towards a circular economy;*
 - minimise the damage caused to our natural environment by reducing and managing waste safely and carefully; and*
 - deal with waste crime.”*
- 2.20 The Strategy states it’s aims to prolong the lives of the materials and goods that we use, moving away from the inefficient ‘linear’ economic model of ‘take, make, use, throw’ and moving towards a more circular economy. The Strategy commits to the following policy instruments and sets out dates for their production:
- Extended Producer Responsibility
- The Extended Producer Responsibility (EPR) is *“a policy approach through which a producer’s responsibility for a product is extended to the post-use stage. This incentivises producers to design their products to make it easier for them to be reused, dismantled and/or recycled at end of life”.*
- Deposit Return Scheme
- In a Deposit Return Scheme (DRS), a small deposit will be added to the price of a drinks container brought to a store. Once the container has been used, the consumer will dispose of it in a reverse vending machine and the deposit will be returned to the consumer.

Consistent Collections

- Subject to consultation, legislation enforcing the government to “*specify a core set of materials to be collected by all local authorities and waste operators*” will be introduced. It is envisioned that specifying a consistent set of dry recyclable materials to be collected from all households and businesses will improve England’s recycling rate.

2.21 At the current time, these policy instruments are out for consultation and (subject to proposals) will be rolled out from 2023.

2.3.6 A Green Future: Our 25 Year Plan to Improve the Environment (2018)

2.22 In 2018, the Government published A Green Future: Our 25 Year Plan to Improve the Environment. This Plan sets out the Government actions to help the natural world regain and retain good health. It aims to deliver cleaner air and water, protect threatened species and provide richer environment. One of the measures set out in Chapter 4 of this Plan is to decrease pressure on the environment by minimising the generation of waste. This will be done by:

- *“Meeting all existing waster targets – including those on landfill, reuse and recycling – and developing ambitious future targets and milestones; and*
- *Working towards our ambition of zero avoidable waste by 2050.”*

2.3.7 Waste Management Plan for England (2021)

2.23 The Waste Management Plan (WMP) for England (2021) (Ref 22) (which supersedes the Waste Management Plan for England (2013) (Ref 23)) was formally adopted on 27 January 2021.

2.24 The WMP is a high level document which provides an analysis of waste management in England, bringing current and planned waste management policies together in one place, and evaluates how it will support implementation of the objectives and provisions of the Waste (England and Wales) Regulations (2011) (Ref 24). Whilst Our Waste, Our Resources: A Strategy for England (2018) outlines the vision of a more circular economy and policies to support the move towards it, the Waste Management Plan for England (2021) focuses upon waste arisings and their management.

2.25 The WMP does not introduce new waste management policies, or change the landscape of how waste is managed in England, but brings current waste management policies under the umbrella of one national plan, making reference to the following documents:

- Clean Growth Strategy (2017) (Ref 25);
- Industrial Strategy (2017);
- Litter Strategy (2017) (Ref 26);
- UK Plan for Shipments of Wastes (2012) (Ref 27); and
- National Policy Statements for Hazardous Waste (2013) (Ref 28) and for Renewable Energy Infrastructure (2011) (Ref 29) (in so far as it relates to energy from waste (EfW)).

2.26 The WMP states that waste planning authorities are responsible for producing local waste management plans which cover the land use planning aspect of waste management for their areas, and that they should have regard to the Waste Management Plan for England, as well as national planning policy on waste and the NPPF, when drawing up or revising their management plans.

2.4 Regional Policy

2.4.1 The London Plan (2021)

2.27 The London plan (Ref 30) covers the period from 2019 to 2041, and replace all previous versions. The plan includes revised targets for waste which reflect and build on those set out in the London Environment Strategy (Ref 31). The policies applicable to this assessment have been set out in Table 2.4.

Table 2.4 Publication London Plan Policies Relevant to this Assessment

Policy	Description
Policy SI 7: Reducing Waste and Supporting the Circular Economy	<ul style="list-style-type: none"> • Sets the following targets: <ul style="list-style-type: none"> – “Resource conservation, waste reduction, increases in material re-use and recycling, and reductions in waste going for disposal will be achieved by the Mayor, waste planning authorities and industry working in collaboration to: <ul style="list-style-type: none"> ▪ Promote a more circular economy that improves resource efficiency and innovation to keep products and materials at their highest use for as long as possible; ▪ Encourage waste minimisation and waste prevention through the reuse of materials and using fewer resources in the production and distribution of products; ▪ Ensure that there is zero biodegradable or recyclable waste to landfill by 2026; ▪ Meet or exceed the municipal waste recycling target of 65 per cent by 2030; ▪ Meet or exceed the targets for each of the following waste and material streams: <ul style="list-style-type: none"> - Construction and demolition – 95 per cent reuse/recycling/recovery - Excavation – 95 per cent beneficial use”. • States that “Development Plans that apply circular economy principles and set local lower thresholds for the application of Circular Economy Statements for development proposals are supported.”
Policy SI 8: Waste Capacity and Net Waste Self-Sufficiency	<ul style="list-style-type: none"> • States that “In order to manage London’s waste sustainably: <ul style="list-style-type: none"> – The equivalent of 100 per cent of London’s waste should be managed within London (i.e. net self-sufficiency) by 2026 ; – Existing waste management sites should be safeguarded (see Policy SI 9 Safeguarded waste sites); – The waste management capacity of existing sites should be optimised; – New waste management sites should be provided where required; and – Environmental, social and economic benefits from waste and secondary materials management should be created.” • States that “Development Plans should: <ul style="list-style-type: none"> – Plan for identified waste needs; – Identify how waste will be reduced, in line with the principles of the Circular Economy and how remaining quantum of waste will be managed; – Allocate sufficient sites, identify suitable areas, and identify waste management facilities to provide the capacity to manage the apportioned tonnages of waste, as set out in Table 9.2 (boroughs are encouraged to collaborate by pooling their apportionment requirements); and – Identify the following as suitable locations to manage borough waste apportionments: <ul style="list-style-type: none"> ▪ Existing waste and secondary material sites/land, particularly waste transfer facilities, with a view to maximising their capacity; ▪ Strategic Industrial Locations and Locally Significant Industrial Sites; and ▪ Safeguarded wharves with an existing or future potential for waste and secondary material management.”

2.28 Policy SI 8, which relates to waste capacity and net waste self-sufficiency, sets The Plan includes new apportionment targets for each borough in order to meet the net self-sufficiency targets, as referenced in Policy SI 8, above. The Plan’s apportionment target of 6.1% for LBBB is equivalent to 505,000 tonnes per annum (tpa) by 2021 and 537,000 tpa by 2041.

2.5 Local Policy

2.5.1 Barking and Dagenham Local Plan (2010)

2.29 The Barking and Dagenham Local Plan (2010) consists of a series of Development Plan Documents (DPDs). The Core Strategy DPD (2010) (Ref 32) is the most important; its strategic objectives are supported by:

- the Borough Wide Development Policies DPD (2011) (Ref 33);
- the Site-Specific Allocations DPD (2010) (Ref 34);
- Barking Town Centre Area Action Plan DPD (2011) (Ref 35); and
- the Proposals Map DPD (2012) (Ref 36).

2.30 The Core Strategy sets out the council’s long-term vision, spatial strategy and core policies for shaping the future development of Barking and Dagenham up to 2025. The document was adopted by LBBB in

July 2010, and superseded the Unitary Development Plan (1995). The key objectives, policies and justification paragraphs relevant to this assessment have been provided in Table 2.5.

Table 2.5 Key Objectives, Policies and Justification Paragraphs in the LBBB Core Strategy

Objective/Policy/Paragraph	Description
Strategic Objective SO.9	Rise to the challenge of climate change and maintain the Council's pioneering work in this area by demanding high levels of sustainable design and construction, especially in relation to water and waste management, resource efficiency and emission control.
Policy CR3: Sustainable Waste Management	<p>States:</p> <ul style="list-style-type: none"> • <i>“To protect human health and the environment the Borough will seek to manage waste in a sustainable way and to help achieve national recycling and composting targets. This will be done by prioritising waste reduction, re-use, recycling and composting, new and emerging recovery technologies and conventional incineration over landfill, which will only be considered acceptable as a last resort.</i> • <i>To meet the needs of our growing population, and to meet the Waste Apportionment requirements set out in the London Plan (Consolidated with Alterations since 2004), appropriate existing waste management capacity will be safeguarded and preferred sites for new facilities identified. The specifics of what capacity will be safeguarded and what sites are preferred for new waste management facilities will be set out in the Joint Waste DPD which the Council is developing with the neighbouring boroughs of Havering, Newham and Redbridge.”</i> • The justification behind Policy CR3 has been provided in Appendix A.

2.5.2 The Joint Waste Development Plan Document (2012)

2.31 The four East London Waste Authority (ELWA) boroughs of Barking and Dagenham, Havering, Newham and Redbridge formally adopted the Joint Waste DPD on 27th February 2012. The Joint Waste DPD forms part of the LDF for each borough, setting waste management targets and allocating sites suitable for waste development for implementation across all of the four of the boroughs.

2.32 The Joint Waste DPD for East London sets out a planning strategy for sustainable waste management. It enables the adequate provision of waste management facilities (including disposal) in appropriate locations for:

- municipal waste;
- commercial and industrial waste;
- construction and demolition waste; and
- hazardous waste.

2.33 The Strategic Objectives contained within the Joint Waste DPD are:

- *“Deliver sustainable development by driving waste management up the waste hierarchy, addressing waste as a resource and looking to disposal as the last option, while recognising that disposal must be adequately catered for;*
- *Work towards meeting targets set out in the Waste Strategy for England 2007, and the London Plan;*
- *Enable the provision of a range of waste technologies;*
- *Enable the provision of facilities to allow for net self-sufficiency in the ELWA boroughs in accordance with the London Plan;*
- *Enable waste to be managed in one of the nearest appropriate installations without endangering health or harming the environment;*
- *Integrate waste planning with other spatial concerns, including regeneration plans;*
- *Reverse the historical trend of the ELWA area being the dumping ground for London’s waste; and*
- *Encourage our communities to take more responsibility for their waste.”*

2.34 Section 4 of the Joint Waste DPD provides information on the current and future waste management facilities in ELWA. Based on the anticipated tonnages for ELWA in 2021 (HIC waste – 1.573 million tonnes, CD&E waste – 1.267 million tonnes, Hazardous waste- 0.095 million tonnes), and the list of existing waste management facilities provided within the Joint Waste DPD, the report concludes that the capacity surplus and deficits provided in Table 2.6 are anticipated to apply to ELWA.

Table 2.6 ELWA Anticipated Capacity Surplus and Deficits

Waste Management Route	Capacity Required		
	2011	2016	2021
Recycling (HIC)	<i>786,203 tpa</i>	<i>674,313 tpa</i>	<i>415,428 tpa</i>
Composting (HIC)	-47,440 tpa	-109,170 tpa	-320,255 tpa
Recovery (all facilities)	-262,710 tpa	-256,090 tpa	-269,370 tpa

Numbers in italics are surplus capacity and numbers in bold (with minus sign in front) are deficit.

2.35 The Joint Waste DPD is in conformity with borough Core Strategy policies, including LBBB Policy CR3 (Sustainable Waste Management). The relevant policies found within the Joint Waste DPD are listed in Table 2.7.

Table 2.7 Relevant Policies found within the Joint Waste DPD

Strategic Policy	Description
Policy W1: Sustainable Waste Management	<ul style="list-style-type: none"> States: “The boroughs will aim to drive waste management up the waste hierarchy by promoting waste minimisation, materials reuse, recycling & recovery of resources and help the delivery of national and regional targets for recycling and composting set out in the Waste Strategy for England 2007 and the London Plan by: <ul style="list-style-type: none"> Working in partnership with the general public and the business community in the ELWA area to provide information and advice and raise awareness; Working in partnership with local community and voluntary groups and social enterprises to encourage waste minimisation, materials reuse, recycling and recovery of resources; Ensuring that developers and contractors design new housing, commercial and other developments to maximise opportunities for future occupiers to minimise, reuse, recycle and recover resources from waste, by providing adequate space and facilities for storage and handling of segregated waste; and Require the reuse of construction, excavation and demolition waste during new developments, such as the Thames Gateway, with on-site recycling and use of recycled aggregate wherever possible and encourage use of sustainable transport modes where the movement of waste is necessary.” The agreed targets for the Joint Waste DPD (for recycling and composting of municipal solid waste (MSW), recovery of MSW, recycling and composting of commercial and industrial (C&I), and recycling and reuse of construction, demolition and excavation waste (C,D & E)) are consistent with that of the Waste Strategy for England (2007) and the London Plan (2011).
Policy W2: Waste Management Capacity, Apportionment & Site Allocation	<p>States: “The London Plan identifies the amount of municipal and commercial waste to be managed by the ELWA boroughs as 1,228,000 tonnes at 2011; 1,395,000 tonnes at 2016 and 1,573,000 tonnes at 2021. The ELWA boroughs will meet this apportionment by:</p> <ul style="list-style-type: none"> Safeguarding the capacity of existing waste management facilities listed in Schedule 1 and encouraging increased processing of waste at these facilities, to run at a higher figure towards the licensed capacity; and Approving strategic waste management facilities where it will contribute to the ELWA boroughs meeting the London Plan apportionment on sites within the locations listed in Schedule 2.”

2.5.3 The emerging Barking and Dagenham Local Plan (2020)

- 2.36 LBBB Council are currently preparing a new Local Plan, which will set out the future of planning in the borough between 2019 and 2037, in order to be consistent with the draft emerging London Plan.
- 2.37 The existing Local Plan (formally the LDF, discussed at Section 2.7.1) will continue to form the Development Plan alongside the London Plan and the Joint Waste DPD (2012) (see Section 2.7.3) until the new Local Plan is adopted by the Council. Once it has been adopted, the Development Plan will consist of the new Local Plan, the London Plan and the Joint Waste DPD.
- 2.38 The Council previously consulted on the Issues and Options document between October 2015 and January 2016. Regulation 18 draft Local Plan consultation was carried out between November 2019 and February 2020.
- 2.39 The Reg 18 draft Local Plan consultation response issued by the GLA in February 2020 has been provided in Table 2.8.

Table 2.8 GLA Draft Local Plan Consultation Response

Regulation	GLA Consultation Response
Reg 18	<ul style="list-style-type: none"> States that <i>“the draft Local Plan does not adequately demonstrate LBBDs ability to meet its waste apportionment targets for household, commercial and industrial waste as set out in Table 9.2 of the Intend to Publish London Plan... Guidance set out in Policy SI8 of the Intend to Publish London Plan should be followed and reflected in the draft Local Plan in order to deliver the Mayor’s ambition that 100% of London’s waste is managed in London by 2026.”</i> The consultation response acknowledges that a review of the East London Joint Waste DPD is at a very early stage of development, and that the Major would therefore <i>“like to see a commitment from LBBB about how its apportionment needs will be met and how they are planning to meet waste needs beyond those apportioned over the plan period. Following on from this, the draft policy should seek to clearly protect waste sites until the joint waste plan is completed at which point it will form part of LBBB’s development plan...”</i>. The response makes clear that the Reg 18 draft Local Plan is not in conformity with the London Plan.

2.40 The Regulation 19 draft Local Plan (September 2020) and associated documents are now available to view on LBBB’s website. According to LBBB’s Local Development Scheme (2020), the emerging Local Plan is scheduled for adoption in Q3 (October-December) 2021. The draft paragraphs and policies of the Reg 19 draft Local Plan relevant to this assessment have been provided in Table 2.9.

Table 2.9. Draft Paragraphs and Policies of the Reg 19 Draft LBBB Local Plan Applicable to this Assessment

Paragraph/Policy	Description
Draft Paragraph 9.1	States that: <i>“We support the targets set out in Policy SI 8 of the draft New London Plan Intend to Publish version in order to manage London’s waste sustainably and self-sufficiently and deliver the Mayor’s ambition for London to manage 100% of its own waste by 2026. This includes the borough-level apportionment of 6.1% for the London Borough of Barking and Dagenham (LBBB) for all household, commercial and industrial waste between 2021 and 2041 (505,000 tonnes by 2021 and 537,000 tonnes by 2041).”</i>
Draft Strategic Policy SP 7: Securing a Clean, Green and Sustainable Borough	States that LBBB Council will: <ul style="list-style-type: none"> <i>“...Safeguard all waste sites within the borough and review the approach until the new Joint Waste Plan is adopted; and</i> <i>Minimise waste production by promoting sustainable waste management, the principles of circular economy and the use of sustainable materials...”</i>
Draft Development Management Policy DMSI 8: Waste Sites	States that: <i>“Development proposals will be supported where they:</i> <ul style="list-style-type: none"> <i>“Comply with the policies set out in the latest East London Waste Authority Plan and consult with the council on the emerging plans currently being updated;</i> <i>Safeguard the existing permitted capacity at the waste sites within the borough to meet the Council’s apportionment requirements set out in Policy SI 8 of the draft New London Plan Intend to Publish version; and</i> <i>Seek to maximise the efficiency and capacity of waste facilities within the borough...”</i>
Draft Development Management Policy DMSI 9: Demolition, Construction and Operational Waste	States: <i>“Prior to demolition and construction, major development proposals will be expected to:</i> <ul style="list-style-type: none"> <i>Develop an appropriate construction waste management plan in order to reduce , reuse and recover waste and to mitigate environmental impact in accordance with the targets set out in Policy SI 7 of the draft New London Plan Intend to Publish version;</i> <i>Adopt the principles of circular economy in the design of the development, using sustainable materials and aiming to achieve net zero-waste. A circular economy statement should be submitted with all major planning applications, in line with requirements of Policy SI 7 of the draft New London Plan Intend to Publish version and associated guidance ...”</i>

2.6 Summary

2.41 In summary, the relevant EU, national, regional and local policy outlines the following key points and themes:

- The emerging LBBB Local Plan must demonstrate that LBBB is able to meet the waste apportionment targets for HIC waste, as set out in the emerging London Plan (2020). This apportionment equates to 6.1% of the share of waste to be managed in London;
- In order to achieve this, LBBB should identify existing waste management capacity within the borough, which already contributes towards waste apportionment targets, and identify opportunities for introducing new waste capacity; sufficient land and facilities should be allocated to provide capacity to manage the tonnages of waste apportioned;

- The evidence base of the emerging LBB Local Plan (which should demonstrate that LBB can meet its apportionment targets, and which this assessment is intended to supplement) should be proportionate, based on robust analysis of best available data and information, and produced collaboratively with neighbouring waste planning authorities, taking account of their waste arisings;
- LBB must support the Publication London Plan's vision to manage as much of London's waste within London boroughs as practicable, working towards the equivalent of 100% of London's waste being managed within London by 2026 (i.e. net self-sufficiency);
- LBB should promote waste minimisation, resource conservation and material recycling, and endeavour to reduce waste to landfill and move towards a more circular economy, supporting the targets of the emerging London Plan (such as that to ensure that there is zero biodegradable or recyclable waste to landfill by 2026);
- LBB must engage and cooperate constructively with the Mayor, the GLA and the other ELWA boroughs, in order to help manage London's waste sustainably.

3. Forecasting Waste Arisings

3.1 Introduction

- 3.1 This assessment focuses in particular upon whether LBBD has current and future capacity to meet the GLA apportionment target for HIC waste set out in the Publication London Plan and also demonstrate how they are planning to meet waste needs beyond those apportioned over the plan period. The Publication London Plan has apportioned LBBD **6.1%** of the total amount of HIC waste generated within London.
- 3.2 The Publication Plan also states that waste planning authorities are encouraged to identify suitable additional capacity for waste where practicable, including those waste streams not apportioned by the London Plan, such as construction, demolition and excavation (CD&E) waste. Therefore, this assessment will also look at CD&E arisings and LBBD's capacity to manage this waste stream.
- 3.3 In addition to the HIC and CD&E waste streams and as required by the National Planning Practice Guidance (NPPG) for waste (paragraph 13), this assessment will also plan for the sustainable management of the following waste types:
- Hazardous waste
 - Agricultural waste;
 - Wastewater; and
 - Low level radioactive waste.

3.2 Household, Industrial and Commercial Waste

3.2.1 Context

- 3.4 The Publication London Plan has set a target to send zero biodegradable or recyclable waste to landfill by 2026 and to recycle at least 65% of municipal waste by 2030.
- 3.5 The London Plan uses Defra's 2011 definition of municipal waste as 'household waste or waste similar in composition to household waste' (Ref 37). In other words, municipal waste is largely comprised of household waste and C&I waste similar in composition to household waste. The London Plan's apportionment targets therefore take this definition into account, and apportion each borough for household, industrial and commercial waste arisings.

3.2.2 Current Arisings

- 3.6 The forecast arisings of HIC waste and the apportionment tonnages for LBBD taken from the Publication London Plan for 2021 and 2041 can be seen in Table 3.1.

Table 3.1 Forecast Arisings and Apportionment Tonnages for HIC Waste taken from the Publication London Plan

Borough	Forecast Arisings (tpa)		Apportionment Tonnages (tpa)	
	2021	2041	2021	2041
London Borough of Barking and Dagenham	214,000	230,000	505,000	537,000

Source: Publication London Plan

3.2.3 Future Arisings

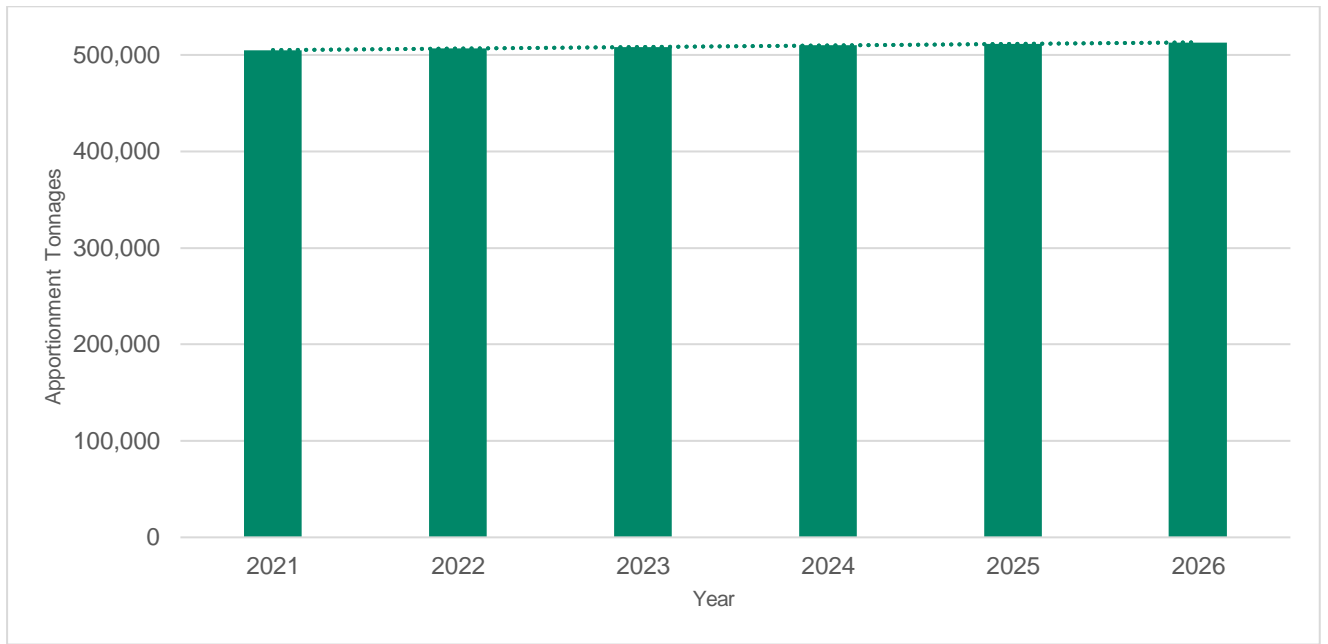
- 3.7 In calculating HIC waste arisings, the London Plan's evidence base uses in-house forecasting which has been independently reviewed (Ref 38). The Publication London Plan has been through several formal consultations before reaching this stage, including an Examination in Public and review by the Secretary of State. Therefore, this assessment assumes that the evidence base used to determine the apportionment targets for HIC waste contained within the Publication London Plan is a robust analysis.
- 3.8 The methodology for this assessment therefore uses the GLA apportionment targets and tonnages for HIC waste (as set out in the Publication London Plan) to determine if LBBD has sufficient current and future waste management capacity available within the borough. Forecasted waste arisings for LBBD are lower than the apportionment tonnages, therefore the apportionment tonnages have been used to calculate the required future waste capacity, in order to be compliant with the London Plan.
- 3.9 As this assessment only covers the interim period between now and when the revised ELWP is adopted (i.e. no later than 2026), the apportionment tonnages for the next five years have been calculated, up to 2026 (as shown in Table 3.2 and Figure 3.1).

Table 3.2 Apportionment Tonnages for 2021 to 2026

Borough	Apportionment Target	Apportionment Tonnages					
		2021	2022	2023	2024	2025	2026
London Borough of Barking and Dagenham	6.1%	505,000	506,600	508,200	509,800	511,400	513,000

Source: Publication London Plan. Apportionment tonnages have been calculated by estimating the annual growth rate between the 2021 and 2026 waste arisings for London and applying the LBBD apportionment target. A linear growth rate per annum has been assumed.

Figure 3.1 Forecasted Apportionment Tonnages



3.3 Construction, Demolition and Excavation Waste

3.3.1 Context

- 3.10 Historically LBBB has been an area closely linked with the construction sector; playing host to the likes of Cemex and Hansons. Working in symbiosis, the borough also hosts a significant number of construction, demolition & excavation (CD&E) waste reprocessors and transfer stations.
- 3.11 The National Planning Practice Guidance (NPPG) requires waste planning authorities to plan for the management of CD&E waste. In addition, the Publication London Plan encourages waste planning authorities identify suitable additional capacity for CD&E waste. The Publication London Plan also states that as the reliability of CD&E waste data is low, apportionments for this waste stream are not set out.

3.3.2 Current Arisings

- 3.12 The current CD&E waste arisings have been sourced using the Environment Agency's (EA) Waste Data Interrogator (WDI) (Ref 39). The CD&E waste arisings have been identified within the WDI under the European Waste Code (EWC) Chapter 17 (Construction and Demolition) (please see Appendix B for a description of EWC chapters). The CD&E waste arisings recorded with an origin of LBBB over the past five years have been provided in Table 3.3.
- 3.13 Uncontaminated soils excavated during the construction of a development which are to be reused on the same site for the purposes of construction, are not considered to be a waste and will therefore not be given an EWC code. If the soil is to be exported from the site (even to be reused as fill on another site), the soil must be classified using an EWC code. Hence, there may be some excavation waste generated from LBBB which is not received by waste management facilities and will therefore not be included in Table 3.3.

Table 3.3 CD&E Waste Arising from LBBB over the Past 5 Years (Tonnes)

Waste Stream	2015	2016	2017	2018	2019
Total CD&E Waste	352,248	199,634	244,020	207,538	605,573
<i>Recycled Aggregate*</i>	<i>14,875</i>	<i>14,875</i>	<i>14,875</i>	<i>14,875</i>	<i>14,875</i>
<i>CD&E waste received by exempt facilities*</i>	<i>600</i>	<i>600</i>	<i>600</i>	<i>600</i>	<i>600</i>

* These waste arisings are not included within this capacity assessment, further information is provided Appendix E.

Source: EA WDI

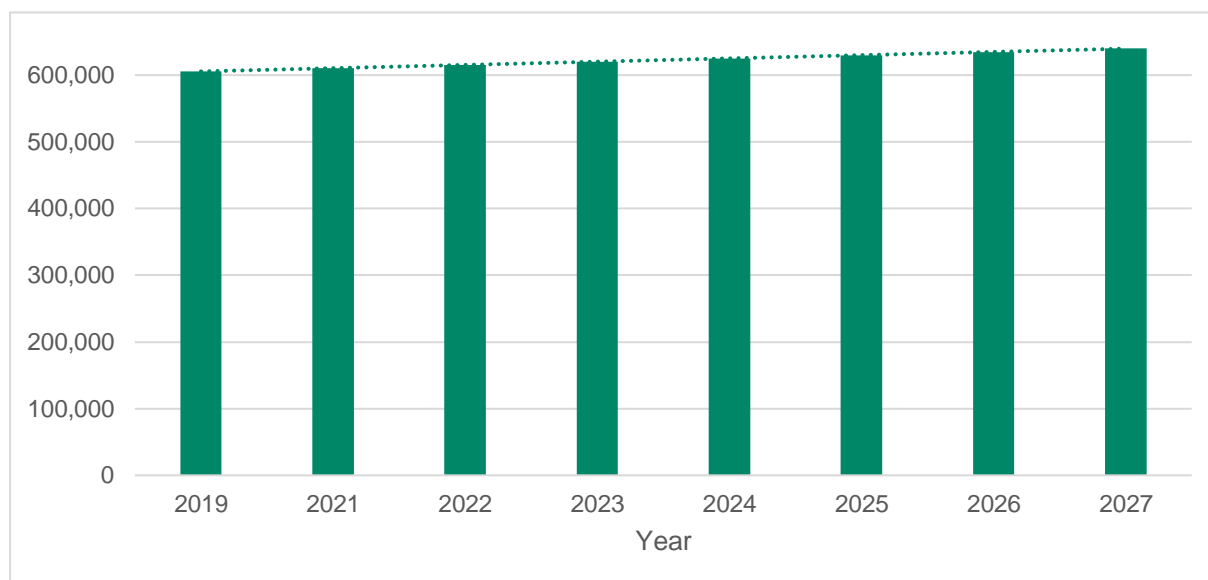
3.3.3 Future Arisings

- 3.14 CD&E waste arisings have been projected by using the GLA's London labour market projections (Ref 40). The projections are broken down into sectors and boroughs. To calculate CD&E forecasted arisings for this assessment, the projections from the construction sector and the London Borough of Barking and Dagenham were chosen (a link to the full datasets can be found in Ref 41).
- 3.15 The growth rate per annum for the construction sector employment projection and the LBBB borough employment projection was calculated and then combined to form a final growth rate. The final growth rate was applied to the 2019 CD&E waste arisings (shown in Table 3.3) to forecast the CD&E waste arisings in a linear fashion for the following seven years, until 2026. It has been assumed that the 2019 to 2020 growth rate is the same as the calculated 2020 to 2021 growth rate. The resulting forecasted CD&E waste arisings can be found in Table 3.4 and
- 3.16 Figure 3.2.

Table 3.4 Forecasted CD&E Waste Arising from LBBD in the Period 2020 to 2026

Waste Stream	2020	2021	2022	2023	2024	2025	2026
Total CD&E Waste	610,452	615,332	620,212	625,092	629,972	634,852	639,732

Figure 3.2 Forecasted CD&E Arisings



- 3.17 The generation of CD&E waste is expected to fluctuate around the values that have been forecasted and shown in Figure 3.2. This is because CD&E waste arisings are not likely to grow in a linear fashion, they are dependent on the number and size of construction projects happening in LBBD.
- 3.18 To give an indication of possible CD&E waste producers, Table 3.5 provides a list of significant planned developments in LBBD which are likely to progress within the period between now and 2026. It is expected that the management of waste arising as a result of a development has been planned for as part of the project, therefore the waste arising from the developments described within Table 3.5 has not been specifically considered when forecasting CD&E waste arisings in LBBD.

Table 3.5 Significant Planned Developments in LBBD between 2021 and 2025

Name of Project	Details	Expected Construction Dates
Consolidation of the City of London Markets	Wholesale food market totalling a maximum of 237,946 m ² GEA.	Planning application submitted June 2020 – Completion 2025
Made in Dagenham Studios	Six sound stages (totalling ~140,000 ft ² , flexible accommodation, conversion of two buildings into workshops and a landmark office building.	Planning granted July 2020 – Operational by 2023
Barking Riverside	10,800 residential units, facilities for healthcare, shopping, community and leisure, and new public transport links.	Comprises several phases to be built over a number of years. Planning granted in 2007 – no estimated completion date for the full masterplan.

3.4 Other waste streams

3.4.1 Hazardous Waste

- 3.19 Waste is considered hazardous when it contains substances that are harmful to humans or the environment. Hazardous waste can include certain chemicals, batteries, asbestos and pesticides: for a full list of wastes that are classified as hazardous, please refer to the List of Wastes (England) Regulations 2005 (Ref 42). Due to the harmful nature of hazardous waste, specialist collection, treatment and disposal

methods should be adopted so as to minimise the potential impacts on human health and the environment.

- 3.20 The Publication London Plan states that London sends approximately 3% of the national total of hazardous waste to landfill outside of London. As the amount of hazardous waste has continued to grow, waste planning authorities should continue to identify hazardous waste capacity, and work with neighbouring authorities to consider the necessary facilities when planning for hazardous waste.
- 3.21 The current hazardous waste arisings have been sourced using the EA Hazardous WDI (Ref 43) as it is considered to be the most robust data source for hazardous waste arisings.
- 3.22 Hazardous waste arisings have been forecast using the growth rate indicated by the projected C&I waste arisings found within the GLA's 'Waste Forecasts and Apportionments – Task 1'. There is no growth of the projected C&I waste arisings in LBBB between 2021 and 2031, therefore a growth rate of zero has also been applied to the forecasted hazardous waste arisings. The resulting forecasted hazardous waste arisings are shown in Table 3.6.
- 3.23 Although it is important to show how the hazardous waste arisings generated by LBBB might change in the future, there is no specific separate hazardous waste apportionment within the London Plan. Hazardous waste has already been included within the HIC apportionment tonnages listed within the Publication London Plan (as shown in Table 3.1) and CD&E waste arisings forecasted in this assessment (shown in Table 3.4) and therefore to avoid double counting, the hazardous waste arisings shown in Table 3.6 should not be added to the HIC apportionment tonnages or CD&E waste arisings.

Table 3.6 Current and Forecasted Hazardous Waste Arising from LBBB in the period 2020 to 2026

Waste Stream	2020	2021	2022	2023	2024	2025	2026
Hazardous Waste	5,111	5,111	5,111	5,111	5,111	5,111	5,111

Source: EA Hazardous WDI

3.4.2 Agricultural Waste

- 3.24 Agricultural waste is defined as 'waste from premises used for agriculture within the meaning of the Agricultural Act 1947' (Ref 44). Agricultural waste is now covered under the Waste Management (England and Wales) Regulations 2006 (Ref 45), therefore meaning that legislation requires farmers to either send their waste for disposal at a licensed facility, or to apply for a permit to dispose of their waste on their farm.
- 3.25 The agricultural waste arising from LBBB over the last 5 years have been sourced using the EA WDI (EWC code 02 01) and are shown in Table 3.7.

Table 3.7 Agricultural Waste Arisings Recorded within LBBB over the Past 5 Years (Tonnes)

Waste Stream	2015	2016	2017	2018	2019
Agricultural Waste	70	11	36	31	0

Source: EA WDI

- 3.26 It can be seen from Table 3.7 that only a small amount of agricultural waste was generated from LBBB over the past five years (less than **0.02%** of LBBB's apportionment target), therefore it can be determined that there is no need to consider specific future waste management capacity for agricultural waste within LBBB.

3.4.3 Wastewater

- 3.27 Wastewater is defined as water that has been contaminated by use in the home, business or as part of an industrial process. Wastewater can also contain substances such as human waste, food scraps, oils, soaps and traces of chemicals.
- 3.28 Thames Water is responsible for treating wastewater generated within LBBB. Thames Water is the largest water and wastewater services company with over 15 million customers. Thames Water supplies 2.6 billion litres of drinking water each day and treats 4.4 billion litres of wastewater per day (Ref 46).
- 3.29 It is not possible to calculate wastewater arisings with the available datasets from the EA. Moreover, the management of wastewater primarily falls under the jurisdiction of the regulated water utility companies.

The provision of treatment facilities is usually considered on a case-by-case basis in discussion with developers. Consequently, it is not considered necessary to make strategic provision for such facilities.

3.4.4 Low Level Radioactive Waste

3.30 Radioactive waste is described as any waste which falls within the scope of the Radioactive Substances Act 1993 (Ref 47). Radioactive waste will either contain radioactive material or has been contaminated by radioactivity. In the UK, radioactive waste can be classed as one of four categories according to the type and amount of radioactivity it contains and the amount of heat it could generate (Ref 48), as shown in Table 3.8.

Table 3.8 Description of the Categories for Radioactive Waste

Category	Description
High Level Waste (HLW)	High Level Waste (HLW) accounts for less than 1% of all radioactive waste and is produced as a by-product of reprocessing spent nuclear reactor fuel. The temperature of HLW may rise significantly and therefore has to be stored and disposed of carefully.
Intermediate Level Waste (ILW)	Intermediate Level Waste (ILW) accounts for around 6% of all radioactive waste and is mainly composed of components from nuclear reactors and sludges from the treatment of radioactive waste. ILW does not generate significant amounts of heat, however it contains larger amounts of radioactivity than Low Level Waste (LLW).
Low Level Waste (LLW)	Low Level Waste (LLW) accounts for the vast majority of radioactive waste (around 94%). Most LLW is generated by the decommissioning of nuclear plants and can contain items such as waste paper, clothing and contaminated tools. As well as generating minimal amounts of heat, LLW also contains low levels of radioactivity, not exceeding 4 giga-becquerel (GBq) per tonne of alpha radiation or 12 GBq per tonne of beta/gamma radiation.
Very Low Level Waste (VLLW)	Very Low Level Waste (VLLW) has specific limits it needs to comply with. VLLW can contain rubble or soil arising from the decommissioning and demolition of nuclear plants. VLLW can be disposed of at permitted landfill facilities.

3.31 There are no nuclear power plants operating within LBB. In addition, the EA holds a public register: Environmental Permitting Regulations – Radioactive Substances (Ref 49) containing details of any non-nuclear organisations keeping/using radioactive waste and disposing of radioactive waste. There are no non-nuclear organisations located within LBB that appear on the public register, therefore it can be determined that there is no requirement for LBB to provide waste management infrastructure for the treatment of low level radioactive waste.

4. Waste Capacity Assessment

- 4.1 According to the 'Proximity Principle' (Article 16 of the WFD), waste should be treated and disposed of as close to its point of origin as possible, as it is recognised that transporting waste has significant environmental, social and economic costs. Waste planning authorities are therefore required to follow the proximity principle, plan to manage current waste volumes and predicted future waste volumes. By doing so the authority is able to identify if the waste management capacity within the region is sufficient or if additional capacity is required.
- 4.2 Policy SI 8 of the Publication London Plan includes a target for the equivalent of 100% of London's waste to be managed within London by 2026 (also known as a net self-sufficiency rate). The Publication London Plan doesn't include inert (excavation) waste when considering net self-sufficiency.
- 4.3 The NPPG requires waste planning authorities to identify the existing waste management capacity in order to establish if there is a need for new facilities, and further requires waste planning authorities to obtain sufficient details on existing waste management facilities such as site location details, type of facility, licence details and capacity information.
- 4.4 The Publication London Plan also requires that London boroughs plan to meet their waste apportionment target, and identify suitable additional capacity for waste, including those waste streams not apportioned by the Publication London Plan where practicable (i.e. CD&E waste for example).

4.1 Waste Activities and Facilities

- 4.5 The Publication London Plan states that the activities listed below can be classified as "managing waste within London" and are therefore activities which count towards the apportionment targets:
 - Waste being used for energy recovery;
 - The production of Solid Recovered Fuel (SRF) or Refuse Derived Fuel (RDF) (providing the RDF meets Defra's definition of RDF as a minimum);
 - Waste is sorted or bulked for reuse or recycling; and
 - Waste is reused or recycled (including anaerobic digestion).
- 4.6 Although landfill is a final destination for waste, it does not meet the GLA's London Plan apportionment criteria. There are no landfill sites within LBBB for the management of HIC waste and so it has no bearing on the apportionment capacity.
- 4.7 An explanation of each waste management activity and associated type of facility has been provided in Table 4.1. Whilst some waste management facilities only perform one type of waste management activity, other waste management facilities perform multiple activities.

Table 4.1 Description of Waste Management Activities within London

Waste Management Activity	Description
Energy Recovery	The conversion of residual waste into usable heat, electricity or fuel through either combustion, gasification, pyrolysis or landfill gas recovery.
Production of Refuse Derived Fuel (RDF)	Consists of residual waste that is subject to a contract with an end-user for use as a fuel in an energy from waste facility. The contract must include the end-user's technical specifications relating as a minimum to the calorific value, the moisture content, the form and quantity of the RDF.
Sorting Waste	Depending on the nature of the material, there are a number of sorting activities that can be used, from hand-picking operations to mechanical facilities.
Bulking Waste	Waste is delivered by collection vehicles to a temporary storage facility (i.e. a transfer station), where waste is then compacted and reloaded in more efficient loads onto a larger vehicle. The waste is then taken to treatment and/or disposal facilities.
Preparing for Reuse	Reuse is the use of a waste item either for its original purpose or to fulfil an alternative function.
Recycling	Recycling is the process of collecting and processing waste materials into new materials and products.

Waste Management Activity	Description
Anaerobic Digestion (AD)	Anaerobic digestion is the process of using microorganisms to break down organic waste (e.g. food waste) in the absence of oxygen to produce biogas and fertilising material.

- 4.8 Due to the nature of the activities carried out at waste management facilities, there is a possibility that the facilities could cause harm to human health or the health of the environment. Therefore, the Environment Agency regulates waste management facilities by requiring them to hold an environmental permit, and waste management facilities requiring a permit are known as a 'permitted facilities'.
- 4.9 There are also a number of facilities within LBBB which perform smaller scale waste activities, most often these activities require a permit exemption. Although it is recognised that permit exempt waste sites have an important role to play, they are far smaller in scale and related output and so it has been recognised that their operation will not be a determining factor in the strategic planning and need for waste facilities, more information is provided in paragraph 4.2.1.3. Information on both permitted facilities and exempt facilities can be found online on the EA's Public Register website (Ref 50)

4.2 Current Capacity

4.2.1 Methodology

4.2.1.1 Waste Management Facility Capacity

- 4.10 In order to understand LBBB's capacity in meeting their waste apportionment target, the current waste management capacity within the borough has been calculated based on data from the Environment Agency. Data on the waste received by permitted waste management facilities in LBBB has been examined through the EA's WDI for the years 2015 – 2019, a detailed methodology is provided in Appendix E.
- 4.11 Using the GLA's guidance, the operational capacity of each facility has been assessed, and the percentage of HIC and CD&E waste handled by each facility obtained to ascertain the capacity of the facilities which counts towards the Publication London Plan apportionment target for LBBB.

4.2.1.2 Waste Transfer Station Capacity

- 4.12 Waste transfer stations play an important role in waste management. Although the main purpose of waste transfer stations is the bulking of waste before sending it on for recovery/treatment/disposal, they can also undertake the sorting of wastes and the production of RDF. As shown in Table 4.1 the bulking and sorting of waste, as well as production of RDF are attributable to the GLA's apportionment targets.
- 4.13 The recyclable outputs of waste transfer stations, (as well as RDF production) have therefore been taken into consideration when looking at the amount of capacity available for GLA apportionment. This has been done via establishing an "apportionment rate" for each WTS which includes all waste activities as advised through the GLA's guidance on criteria for waste activities. A detailed methodology is provided in Appendix E of this Assessment.

4.2.1.3 Permit Exempt Sites

- 4.14 There are a number of sites located within LBBB which perform smaller scale waste activities, most often these sites only require a permit exemption. Waste management facilities must meet certain criteria to be exempt from requiring an environmental permit.
- 4.15 Waste exemptions can be classified using the following four categories:
- U1 to U16 – Using Waste (e.g. using waste in construction or burning it as fuel);
 - D1 to D8 – Disposing of Waste (e.g. Disposing sanitary waste or agricultural waste);
 - T1 to T33 – Treating Waste (e.g. treating waste wood); and
 - S1 to S3 – Storing Waste (e.g. storing certain waste materials in secure containers).

- 4.16 Information on the exempt sites located within LBBD was obtained from the EA Public Register: Register of Waste Exemptions (Ref 52) and has been included in Appendix D.
- 4.17 An exemption is limited to three years from the date of registration, however there is no requirement to remove the exemption from the register once it has been completed within the three-year period. In addition, waste processed at certain exempt sites (for example S1 to S3 exempt sites) will go on to be managed further at a permitted waste management facility; including these exempt sites would result in double counting waste management capacity. It is also important to note that there is no cost to register an exempt site, and therefore some registrations may be on a precautionary basis and end up not being used.
- 4.18 In conclusion, although it is acknowledged that exempt sites have an important role to play in the management of waste, they have not been included when estimating the waste management capacity in this Assessment.

4.2.2 Results

- 4.19 By following the methodology described in Section 4.2.1, the current capacity for each waste management facility has been calculated. To see a full list of capacities for each waste management facility, please see Appendix C and Appendix D.
- 4.20 The following types of waste management facilities have been excluded when calculating operational capacity:
- Waste management facilities that are now closed – excluded as these facilities are no longer able to process waste material.

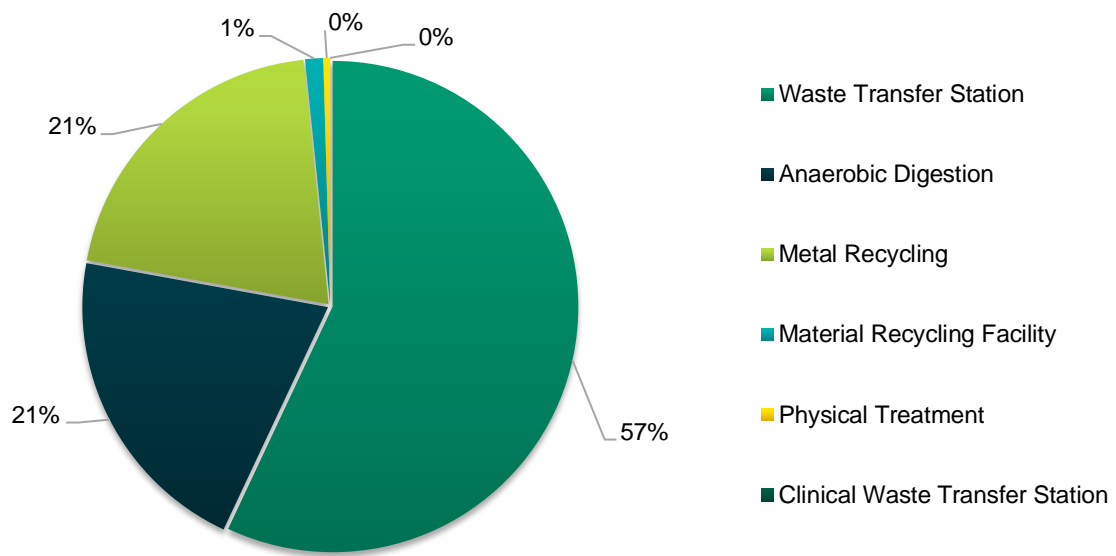
4.2.2.1 HIC Apportionment

- 4.21 Table 4.2 and Figure 4.1 show the capacity available to manage apportioned HIC waste in LBBD, categorised by facility type.
- 4.22 Waste transfer stations provide the majority of the available capacity, excluding clinical waste transfer stations which only provide a small proportion of the total capacity. Metal recycling and anaerobic digestion facilities also provide a significant amount of the available capacity. The total capacity available to managed HIC waste in LBBD is **629,654 tonnes** per annum.

Table 4.2 Current HIC Waste Management Capacity in LBBD

Type of Facility	Capacity available for HIC Apportionment (tpa)
Waste Transfer Station	358,858
Anaerobic Digestion	131,434
Metal Recycling	129,115
Material Recycling Facility	7,426
Physical Treatment	2,818
Clinical Waste Transfer Station	4
Total Capacity	629,654

Figure 4.1 Current HIC Waste Management Capacity in LBBD



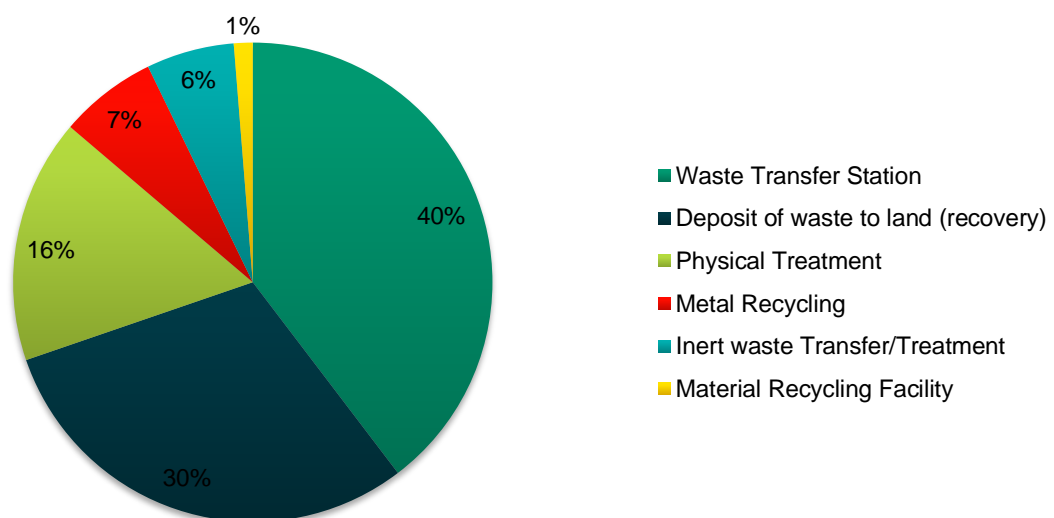
CD&E Waste

- 4.23 Table 4.3 and Figure 4.2 show the capacity available to manage CD&E waste in LBBB split by type of facility.
- 4.24 Although the throughput for the only landfill site in LBBB (for the disposal of inert waste) is 126,035 tpa, the remaining capacity has been calculated using the EA 2019 Remaining Landfill Capacity dataset (Ref 54). According to this dataset, the landfill site has no more remaining capacity.
- 4.25 In addition, according to the EA's Standard rules SR2015 No.39 on the use of waste in a deposit for recovery operation (Ref 55), the maximum storage of waste at any one time is limited to 60,000 m³. However, it has been assumed that the stored waste is likely to be removed for use and more waste will therefore be received by the development. Taking this into account, the throughput has been used to calculate the capacity for the only deposit to land recovery site located within LBBB.
- 4.26 Table 4.3 and Figure 4.2 show that, similar to HIC apportionment, waste transfer stations provide the majority of the capacity available to manage CD&E waste in LBBB, closely followed by deposit to land recovery operations. The type of waste facilities providing the next two largest amounts of capacity available for managing CD&E waste in LBBB are inert waste transfer stations and physical treatment facilities. This is expected as there are a number of construction manufacturing plants in LBBB which will make use of the products generated by the physical treatment plants. Table 4.3 shows the total capacity available for managing CD&E waste as **902,441 tonnes** per annum.

Table 4.3 Current CD&E Management Capacity in LBBB

Type of Facility	Capacity available for CD&E waste
Waste Transfer Station	357,782
Deposit to Land Recovery Operation	271,523
Physical Treatment	148,768
Metal Recycling	59,403
Inert Waste Transfer/Treatment	53,476
Material Recycling Facility	11,459
Total Capacity	902,411

Figure 4.2 Current CD&E Management Capacity in LBBB



4.3 Future Capacity

4.27 In order to understand the future capacity, first the existing waste management facilities that have been safeguarded for the future have been identified, and any land that has been safeguarded for the development of waste management facilities has also been listed. Following on from this, the potential future waste capacity has been determined through identifying any planning applications that have been submitted for the development of future waste management facilities. The option of expanding the capacity of existing waste management facilities within LBBB has also been explored in this section.

4.3.1 Safeguarded Sites

- 4.28 Sufficient waste management infrastructure is essential to support a modern economy. Therefore, it is important to safeguard existing waste management facilities and land to accommodate future waste capacity. The Publication London Plan refers to this in Policy SI 9 where it states that existing waste management sites should be safeguarded unless provision is made elsewhere for an equivalent capacity.
- 4.29 The ELWA Joint Waste DPD (2012) provides a list of the waste management facilities that have been safeguarded by ELWA. A list of the safeguarded waste management facilities located within LBBB has been provided in Table 4.4. The Joint Waste DPD was prepared in 2012 and therefore information on some of the safeguarded waste management facilities is likely to be out of date. As a result, the current status of the LBBB waste management facilities safeguarded in the Joint Waste DPD has been established and included within Table 4.4, as well as any additional notes that have been deemed important to include.
- 4.30 Table 4.4 shows that three of the safeguarded LBBB waste management facilities are still currently operational. However, four of the facilities have been difficult to trace and it is likely that the facilities may have either changed owner or may have ceased to operate.

Table 4.4 Safeguarded Waste Management Facilities within LBBB

Reference in Joint Waste DPD	Facility Name	Process	Facility Type	Annual Permitted Tonnage	Current Status	Additional Notes
80105	Frizlands Lane Reuse & Recycling Centre	Recycling	A13 – Household Waste Amenity Site	80,000	Operational	Operated by Renewi.
-	White Mountain Roadstone Ltd	Recycling	A15 – Material Recycling Treatment Facility	12,000	Unconfirmed	White Mountain Roadstone Ltd changed their name to Lagan 108 in the 2000s and are now based in Cheshire, Warrington. This Site may now be owned by Eurovia Roadstone and/or HKS metals/Hanson.
80759	Closed Loop Recycling	Recycling	A15 – Material Recycling Treatment Facility	25,000	Operational	Operated by Veolia Dagenham. The capacity has been increased to 75,000 tonnes.
80759	SITA UK Ltd, Barking	Recycling	A15 – Material Recycling Treatment Facility	75,000	Operational	Inputs showed a significant reduction to 6 tonnes for the MRF in 2019, whilst the transfer station processed >140,000 tonnes.
80120	Reuse Collection Limited	Recycling	A14 – Transfer Station taking Non-Biodegradable Waste	260,000	Unconfirmed	Reuse Collection Limited changed their name to URM and are now based in Tilbury. Inputs under the original name can be seen until 2017. This Site may now be operated by Edwards Recycling.
80091	Jewometals (UK) Ltd	Recycling	A20 – Metal Recycling (mixed MRSs)	24,000	Unconfirmed	Unable to trace Jewometals (UK) Ltd.
80620	Hunts Wharf	Recovery	A16 – Physical Treatment Facility	150,000	Unconfirmed	Inputs were received for this Site up until 2017. This Site may have merged with HKS Recycling.

4.3.2 Safeguarded Land

- 4.31 As well as safeguarding the waste management facilities shown in Table 4.4, ELWA also safeguarded the land listed within Table 4.5 within the ELWA Joint Waste DPD with the intention that the land will be used to develop new waste management facilities. A plan showing the safeguarded land has been taken from the Joint Waste DPD and is shown in Figure 4.3.
- 4.32 The medium scale AD plant (run by Refood UK Limited) and the small scale IVC plant (run by East London Biogas Opco Limited) listed within Table 4.5 are now operational. A planning application has been submitted for the medium scale recovery plant, construction began in 2018 but has since been halted and an application has been submitted for a variation of conditions (see Table 4.6 for more details).

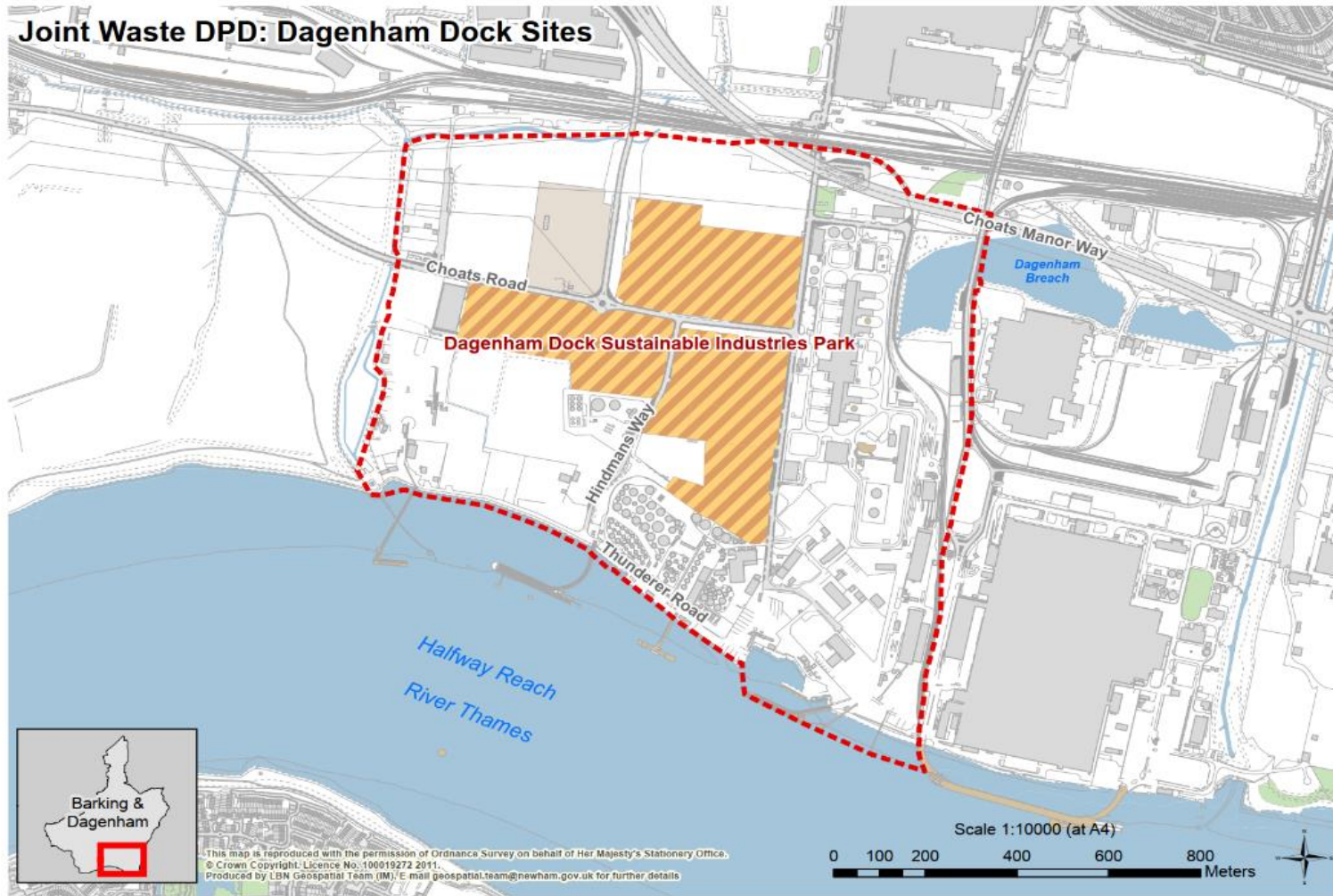
Table 4.5 Safeguarded Land within LBBD to be used for the Development of New Waste Management Facilities

Area	Scale of Planned Facilities	Type	Existing Use	Landowner	Timescale	Current Status	Additional Notes
Dagenham Dock Sustainable Industries Park	1 Medium Scale	Recovery	Strategic Industrial Location	London Thames Gateway Urban Development Corporation	2010-2020	To be determined	Application has been submitted in 2010 by Thames Gateway Power for the development of an energy generation facility to generate low carbon renewable combined heat and power. This development would utilise 120,000 tonnes of non-recyclable waste using 3.34 hectares of land in the northern part of the Sustainable Industries Park. (Application references: 13/01134/FUL, 18/01501/FUL).
	1 Medium Scale	AD				Operational	Operated by Refood UK Limited.
	1 Small Scale	IVC				Operational	Operated by East London Biogas Opco Limited.

4.3.3 Capacity to be Determined

- 4.33 Table 4.4 and Table 4.5 show the existing and planned waste management facilities which has been safeguarded for the future. Table 4.6 identifies planning applications for future waste management facilities within LBBD and therefore potential future waste capacity for LBBD.
- 4.34 Table 4.6 shows that there have been two planning applications submitted for waste management developments in LBBD that are yet to be constructed. One application for the development of an energy from waste facility at 75-77 Chequers Lane is still being determined, but if this development is approved it will provide an additional 57,600 tonnes of waste capacity for LBBD. Construction has begun on the gasification plant on North Choats Road listed in the second planning application, however construction has since ceased, and an application has been submitted for a variation of conditions. If the plant is fully built, it will provide an additional 200,000 tonnes of waste capacity for LBBD.

Figure 4.3 Safeguarded Land within LBB for the Development of Waste Management Facilities



Source: ELWA Joint Waste DPD

Table 4.6 Planning Applications for Waste Development in LBBD

Date	Status	Application Reference	Location	Applicant	Description of Development	Type	Processing Capacity	Additional Notes
2020: Planning application submitted	Being Determined (Application stage 5 – Consultation complete)	20/00331/CTY	Connect Waste Ltd, 75-77 Chequers Lane, Dagenham, RM9 6QJ	Mr Neil Richardson (Riverside Energy Limited)	Development of an energy from waste facility and associate infrastructure based on the processing of non-hazardous fuels at 75-77 Chequers Lane, Dagenham.	-	57,600 tonnes	-
November 2014: Planning application approved December 2018: Construction began August 2019: Application submitted for variation of conditions (and approved)	Construction started but halted	13/01134/FUL 18/01501/FUL	Plot 2, North Choats Road, Barking, RM9 6LF	Thames Gateway Waste to Energy Ltd	Construction to date: foundations and drainage infrastructure. Variation of conditions: 2 (plan numbers), 3 (maximum waste throughput of 200,000), 20 (hard landscaping) and 21 (car parking).	Gasification	200,000 tonnes	Google maps satellite imaging shows the site as overgrown and no construction activities appear to be taking place.

Source: LBBD Planning Portal (Ref 56)

4.4 Future Need for Waste Management Facilities

- 4.35 The NPPG requires waste planning authorities to identify any waste capacity gaps in total and for each waste stream. By identifying if there are any waste capacity gaps, waste planning authorities can assess whether there is a need for additional waste management facilities in the future.
- 4.36 As this assessment is only to cover the interim period between now and when the revised ELWP is adopted, the waste capacity gap has only been assessed for the next five years (i.e. until 2026).
- 4.37 Overall LBBB will be required to manage **1,154,758 tonnes** of waste in 2026 and will have a capacity to manage **1,532,065 tonnes**. Therefore, it can be seen that LBBB currently has enough capacity to manage the HIC apportionment target (with a surplus of 116,654 tonnes) and the CD&E waste (with a surplus of 262,679 tonnes) generated from the borough and will have a total surplus capacity of **687,417 tonnes**. However, it is recognised that waste is a cross-boundary issue and LBBB imports and exports significant amounts of both HIC and CD&E waste; for more information on imports and exports please see Section 5.

4.4.1 HIC Waste

- 4.38 The HIC apportionment targets have been compared to the current capacity within existing waste management facilities in LBBB.
- 4.39 The apportionment target for 2026 and the total waste capacity available is shown in Table 4.7. It can be seen that the capacity within LBBB available for the HIC apportionment is sufficient and that there is additional capacity of 116,654 tonnes per annum.

Table 4.7 Summary of Capacity Available for 2026 HIC Apportionment compared to the Apportionment Target

Apportionment Target (tpa)	Total Capacity Available for HIC Apportionment (tpa)	Surplus Capacity (tpa)
513,000	629,654	116,654

4.4.2 CD&E Waste

- 4.40 The forecasted CD&E waste arisings have been compared to the current capacity within existing waste management facilities in LBBB for managing CD&E waste.
- 4.41 The forecasted CD&E waste arising for 2026 and the total waste capacity available for managing CD&E waste are shown in Table 4.8. Therefore, it can be seen that the capacity available for managing CD&E waste generated from LBBB is sufficient and that there is additional capacity of 262,679 tonnes per annum for managing CD&E waste.

Table 4.8 Summary of 2026 Capacity Available for CD&E Waste compared to the Forecasted Arisings

Forecasted CD&E Waste Arising (tpa)	Total Capacity Available for CD&E Waste (tpa)	Surplus Capacity (tpa)
639,732	902,411	262,679

5. Imports and Exports

5.1 Introduction

- 5.1 Although it is understood that waste should be treated in line with the proximity principle (treated and disposed of as close to its origin as possible) and waste planning regions should aim to be self-sufficient, there are a number of reasons why waste materials may be sent across borders to be treated in waste management facilities located within other waste planning regions. As well as some waste streams requiring specialist treatment facilities located outside of the waste planning region and some local authorities being unable to provide space for waste management facilities (such as the City of London), it is also understood that some waste management companies have long-term contractual obligations which means that waste flows across borders.
- 5.2 The Localism Act (introduced in 2011) (Ref 57) places a legal duty on local planning authorities, county councils and other prescribed bodies to engage constructively and actively on an ongoing basis in relation to strategic matters. This is known as the 'Duty to Co-operate'. The NPPF includes the following as a strategic matter that should be covered:
- The provision of infrastructure for transport, telecommunications, **waste management**, water supply, wastewater, flood risk and the provision of minerals and energy (including heat).
- 5.3 According to the Publication London Plan, in 2015 London managed 7.5 million tonnes (mt) of its own waste, exported 11.4 mt of waste and imported 3.6 mt of waste, giving London a net self-sufficiency rate of ~60%.
- 5.4 The Mayor of London is planning to work with London boroughs and regional technical advisory bodies to address the issue of cross-boundary waste flows. In order to understand how self-sufficient LBBB is as a whole is important to recognise the amount of waste imported and exported from LBBB.

5.2 Imports

5.2.1 Methodology

- 5.5 The EA's WDI was used in order to calculate the amount of waste imported into LBBB and data was taken for the years 2015-2019. A full methodology for imports and exports is provided in Appendix E.

5.2.2 Results

- 5.6 Table 5.1 shows that on average only 5% of waste received by waste management facilities in LBBB originates from Barking and Dagenham. The majority of the waste (on average 53%) comes from London (excluding LBBB) and the rest (on average 42%) comes from other areas outside of London. The split between the origin of the waste received in LBBB waste management facilities over the years 2015 to 2019 appears to have stayed reasonably consistent.

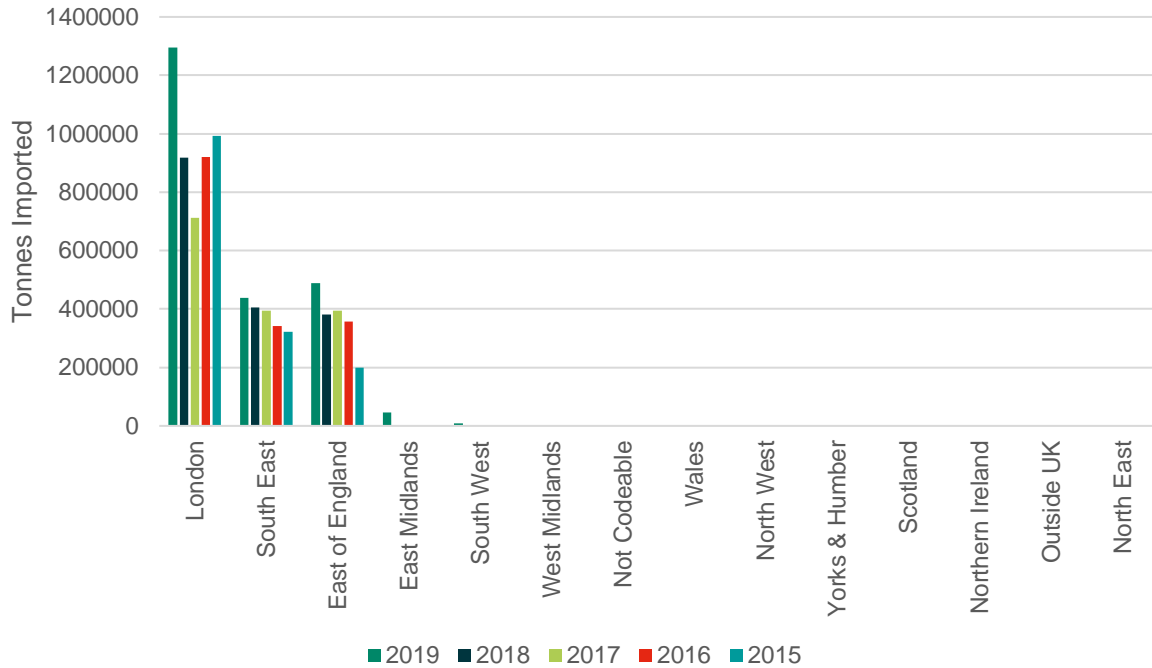
Table 5.1. Split between the Origin of Waste Received by Waste Management Facilities in LBBB between 2015 and 2019

Year	LBBB		London		Other Areas		Total	
	Tonnes	%	Tonnes	%	Tonnes	%	Tonnes	%
2019	118,591	5%	1,295,887	54%	987,127	41%	2,401,605	100%
2018	74,299	4%	918,054	52%	790,677	44%	1,783,030	100%
2017	49,712	3%	713,134	46%	792,090	51%	1,554,936	100%
2016	106,465	6%	921,202	53%	701,141	41%	1,728,808	100%
2015	92,566	6%	993,390	61%	526,239	33%	1,612,195	100%
Total	441,633	-	4,841,667	-	3,797,274	-	9,080,574	-
Average	88,327	5%	968,333	53%	759,455	42%	1,816,115	100%

Source: EA WDI

5.7 Figure 5.1 clearly demonstrates the split between the origin regions. The majority of imported waste received by waste management facilities in LBBD comes from other boroughs within London. The only other two regions appearing to send a significant amount of waste to waste management facilities within LBBD are the East of England and the South East which is anticipated as both regions are close to London.

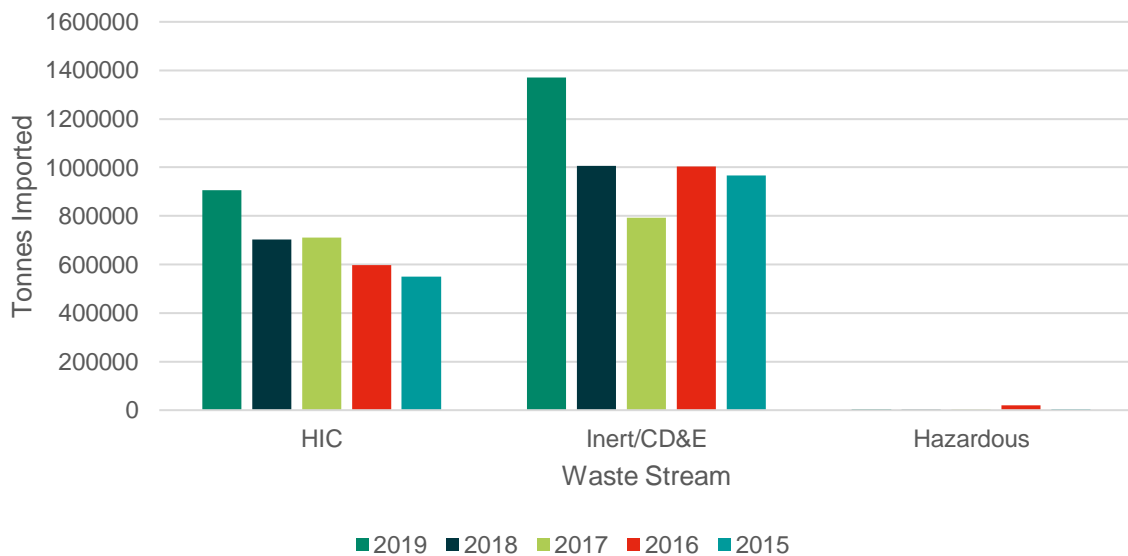
Figure 5.1 Origin Regions of Waste Imported to Waste Management Facilities in LBBD between 2015 and 2019



Source: Data used to prepare Figure 5.1 has been taken from EA WDI

5.8 Figure 5.2 identifies Inert/CD&E as being the most imported waste stream, with a smaller but still significant amount of HIC waste stream being imported. Only a small amount of hazardous waste appears to be imported into waste facilities within LBBD.

Figure 5.2 Type of Waste Imported into Waste Management Facilities in LBBD between 2015 and 2019



Source: Data used to prepare Figure 5.2 has been taken from EA WDI

5.3 Exports

5.3.1 Results

5.9 Table 5.2 shows that the majority of the waste removed from waste management facilities in LBBB was sent to areas outside of London (on average 88%), only 10% on average was sent to waste management facilities located in other London boroughs. Table 5.2 also shows internal movements of waste within LBBB. On average, around 2% of waste exported from waste management facilities in LBBB will be sent to another facility also located within LBBB.

Table 5.2 Split between the Destination of the Waste Exported by Waste Management Facilities in LBBB between 2015 and 2019

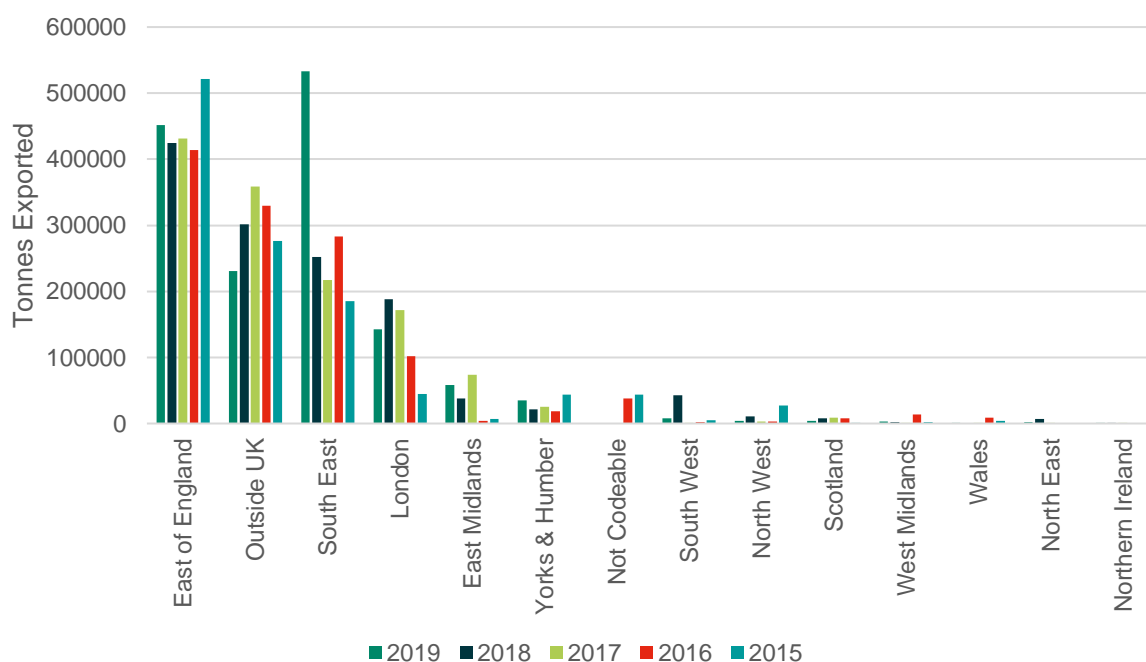
Year	LBBB		London		Other Areas		Total	
	Tonnes	%	Tonnes	%	Tonnes	%	Tonnes	%
2019	94,352	6%	143,023	9%	1,329,183	85%	1,566,558	100%
2018	35,308	3%	188,551	14%	1,108,161	83%	1,332,020	100%
2017	15,097	1%	171,850	13%	1,120,304	86%	1,307,251	100%
2016	11,943	1%	101,538	8%	1,124,288	91%	1,237,769	100%
2015	22,552	2%	45,087	4%	1,113,810	94%	1,181,449	100%
Total	179,252	-	650,049	-	5,795,746	-	6,625,047	-
Average	35,850	2%	130,010	10%	1,159,149	88%	1,325,009	100%

Source: EA WDI

5.10 It can be seen from Figure 5.3 that, on average, the majority of waste exported from waste management facilities in LBBB is sent to the East of England. Significant amounts of waste are also sent to facilities in the South East of England, and also sent to countries outside of the UK. This corresponds to the data published in the Publication London Plan, which states that in 2015, approximately 5 mt (49%) of waste exported from London went to the East of England and 4.2 mt (42%) went to the South East, with 1.5 mt being sent overseas.

5.11 Figure 5.3 also shows that a reasonable amount of waste is also sent from facilities in LBBB to other London boroughs.

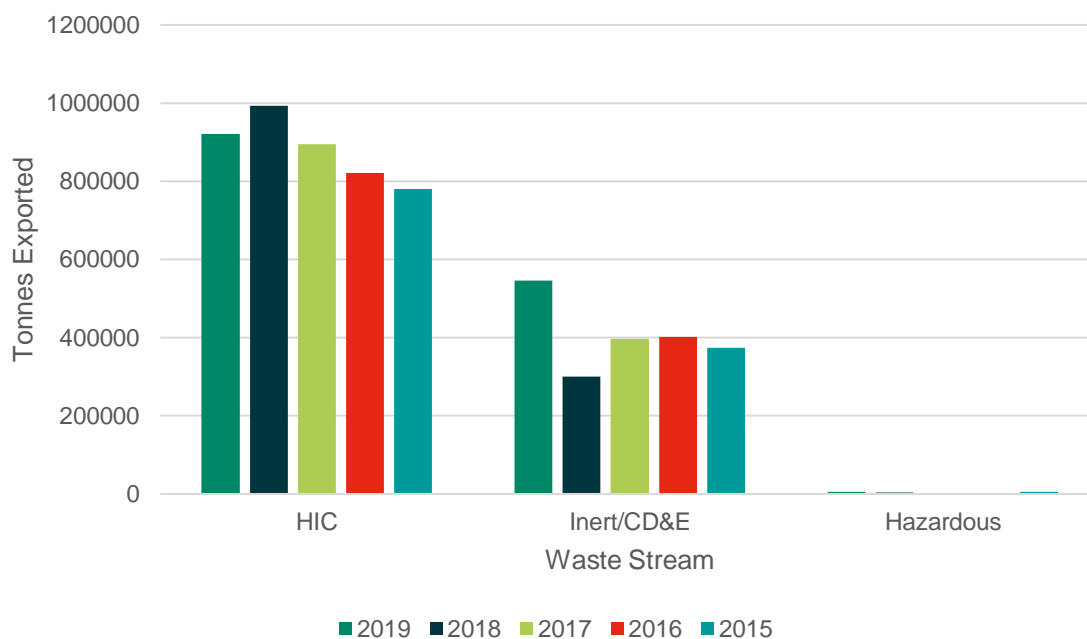
Figure 5.3 Destination Regions of Waste Exported from Waste Management Facilities in LBBB between 2015 and 2019



Source: Data used to prepare Figure 5.3 has been taken from EA WDI

- 5.12 Figure 5.4 identifies HIC as being the most exported waste stream from waste management facilities in LBBD. This is different to the trends highlighted within the Publication London Plan, which identifies that the bulk of the waste exported from London as a whole is CD&E waste.
- 5.13 Similar to imported waste into LBBD facilities, only a small amount of hazardous waste appears to be exported from LBBD.

Figure 5.4 Type of Waste Exported from Waste Management Facilities in LBBD between 2015 and 2019



Source: Data used to prepare Figure 5.4 has been taken from EA WDI

- 5.14 The reliability of the EA WDI data used to calculate the amount of waste imported into and exported from LBBD is reliant on the accuracy with which the operators report the waste movements. It can be seen in both Figure 5.1 and Figure 5.3 that there is a certain proportion of the waste which has an origin of “non codable”. This is because waste operators are not required to provide the origin or destination of the waste received/removed. In addition, the origin code of waste can be lost as it is processed through a facility and mixed with other wastes, and there is no regulatory impetus for waste importers to state the origin of wastes they receive. Therefore, it should be taken into consideration that there are some limitations on the accuracy of the recorded amount of waste imported into and exported from LBBD.

5.1 Imports and Exports Summary

- 5.15 On average 1,727,788 tonnes of waste per annum were imported into waste management facilities in LBBD from regions outside of Barking and Dagenham. The biggest source of imported waste was London, with the East of England and the South East being the only two other significant sources of imported waste. Inert/CD&E waste was the most imported type of waste to facilities in LBBD.
- 5.16 On average 1,289,159 tonnes of waste per annum were exported from waste management facilities in LBBD to regions outside of Barking and Dagenham. The majority of exported waste was sent to the East of England, with significant amount of waste also sent to the South East of England and outside of the UK. HIC waste was the most exported type of waste from waste management facilities in LBBD.
- 5.17 Overall, the waste management facilities within LBBD import more waste than is exported.

6. Conclusions and Recommendations

6.1 The Need for Future Waste Capacity

6.1.1 HIC Waste

- 6.1 As described within Section 3.2, this assessment uses the GLA apportionment targets and tonnages for HIC waste (as set out in the Publication London Plan) to determine if LBBB has sufficient waste management capacity available within the borough. The waste management capacity currently available within LBBB and any potential future capacity has been determined in Section 4.
- 6.2 To summarise, the GLA apportionment target for HIC waste in 2026 is **513,000 tonnes** and the total waste capacity currently available within LBBB for the HIC apportionment is **629,654 tonnes**. Therefore, there is a surplus of **116,654 tonnes** of capacity available within LBBB.
- 6.3 In conclusion, the waste management capacity within LBBB available for HIC apportionment is sufficient.

6.1.2 CD&E Waste

- 6.4 The Publication London Plan does not provide apportionment targets for CD&E waste, therefore CD&E waste arisings have been forecasted using the GLA's London labour market projections. The forecasted CD&E waste arisings can be found in Section 3.3.
- 6.5 The forecasted CD&E arising for 2026 is **639,732 tonnes**, and LBBB has a total capacity of **902,411 tonnes** available to manage CD&E waste. This leaves a surplus capacity of **262,679 tonnes** per annum.

6.1.3 Other Waste Streams

- 6.6 As required by the NPPG, this assessment has also considered hazardous waste, agricultural waste, wastewater and low-level radioactive waste.
- 6.7 Hazardous waste arisings have been included within the HIC apportionments and CD&E waste arisings and therefore the hazardous waste arisings should not be added to the total capacity.
- 6.8 Only a small amount of agricultural waste was generated in LBBB over the past five years (less than **0.02%** of LBBB's apportionment target), therefore it can be concluded that there is no need to consider specific future waste management capacity for agricultural waste in LBBB.
- 6.9 It is not possible to calculate wastewater arisings with the available datasets from the EA. Moreover, the management of wastewater primarily falls under the jurisdiction of Thames Water. The provision of treatment facilities is usually considered on a case-by-case basis in discussion with developers, and consequently, it has not been considered necessary to make strategic provision for such facilities over the assessment period.
- 6.10 There are no nuclear power plants operating within LBBB, and there are no non-nuclear organisations located within LBBB appearing on the public register as keeping/using or disposing of radioactive waste. Therefore, it can be concluded that there is no requirement for LBBB to provide waste management infrastructure for the treatment of low-level radioactive waste.

6.1.4 Imports and Exports

- 6.11 On average **1,727,788 tonnes** of waste per annum were imported into waste management facilities within LBBB from regions outside of Barking and Dagenham. Around **53%** of the waste received by waste management facilities in LBBB originated from other London boroughs. Of the **42%** of waste received from other areas outside of London, the two regions sending significant amount of waste to LBBB are the East of England and the South East of England.
- 6.12 On average **1,289,159 tonnes** of waste per annum were exported from waste management facilities in LBBB to regions outside of Barking and Dagenham. The majority of the waste removed from waste management facilities in LBBB (**88%**) was exported to regions outside of London, and only **10%** was sent

to other London boroughs. The majority of the waste was sent to the East of England, with significant amounts of waste also exported to the South East of England and also to countries outside of the UK. Around 2% of the waste exported from waste management facilities in LBBB was sent to other facilities also located within Barking and Dagenham.

- 6.13 Overall, more waste is imported into than is exported from waste management facilities in LBBB.

7. Future Trends and Potential Impacts

- 7.1 Through the Environment Bill (Ref 58), resource and waste policy instruments are due to be rolled out from the early 2020s. As described in Section 2, policy such as consistent collections, digital waste tracking, extended producer responsibility and improved labelling on household consumable products may see a change in the composition of household, industrial and commercial wastes received by facilities in the borough and an increase in recycling rates; with both MRFs and waste transfer stations able to produce a higher output of recyclable material as a result. Conversely, should EPR act as a strong incentive for producers to design products which last longer and/or are repairable then the overall tonnages of HIC waste received within LBBB could be reduced.
- 7.2 Dependent on the nature of its roll out, a national deposit return scheme for on the go drinks containers could also impact the ELWA's revenue stream; as materials such as PET plastic bottles (which provide an important source of income for local authorities) may be managed and collected independently of the authority. With a potentially significant decrease in materials such as aluminium, plastic bottles and glass, for MRFs (and waste transfer stations with an element of sorting) within LBBB, there may also be a need for changes or recalibration of MRF operations to capture separate recycling streams, and an overall change to the funding profiles of these facilities. There are two MRFs in LBBB which receive HIC waste; Veolia E S (UK) Limited, and Suez Recycling and Recovery UK Ltd, both companies have a national presence across the waste industry and are well positioned to accommodate changes to waste compositions in the future.
- 7.3 Following in Scotland's footsteps, legislation mandating the separate collections of food waste for England is due to be rolled out from 2023. LBBB is home to two anaerobic digestion installations, ReFoods Ltd and East London Biogas Ltd and so it may be that tonnages received by these facilities increase with the introduction.
- 7.4 The GLA's Circular Economy Statements require referable developments to provide details of how their building will be designed in accordance with circular economy principles and may in turn also reduce the amount of CD&E waste produced and influence how it is managed. The UK's ratification of the EU's Circular Economy Package, and its associated targets may further influence future waste arisings for LBBB. For example, indicative studies suggest that prevention efforts in commerce and industry may also reduce rates of waste generation per employee. In particular, with increasing servitisation (the replacement of purchasing goods by hiring them instead, goods may be leased by customers, and subsequently returned to producers for re-manufacturing, rather than entering the waste stream. Reductions from circular economy initiatives have indicated that a high uptake of urban analytic systems, leased assets, and exchange/sharing platforms could significantly reduce commercial and industrial waste production by up to 45% by 2031 (Ref 59).
- 7.5 There are a number of events to consider when looking ahead to the future of recycling and waste within the Borough of Barking and Dagenham. The ongoing COVID-19 crisis has seen a significant shift in behaviours, which have in turn impacted the UK's recycle and waste markets. Whilst the long-term impacts of the COVID-19 pandemic are unknown, it may be that a reduction in paper usage has been further sped up via a prioritisation of reduced hand and personal contact. Improvements in data security and storage with increasing reliance on information technology could further lead to a reduction in the long-term; conservative estimates based on household consumption behaviours suggest that this could equate to a 20% reduction in use of newspapers, magazines and other papers (Ref 60). However, It is impossible to determine whether these trends are permanent at the time of writing, and whether the policy interventions expected in the early 2020s will have the same impact.

- 7.6 Moreover, consideration of the neighbouring boroughs, and planning applications currently being determined will also need to be considered in relation to the impact on the capacity requirements of LBBB. LBBB is a part of the ELWA and it is recognised that the borough will need to work with its neighbours either through the Duty To Cooperate, or as part of joint working on a joint plan.

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- Ref 6. Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste.
- Ref 7. Directive (EU) 2018/850 of the European Parliament and of the Council of 30 May 2018 amending Directive 1999/31/EC on the landfill of waste.
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Appendix A Additional Legislation and Policies

Barking and Dagenham Local Plan (2010)

- i. The justification for Policy CR3 is provided in Paragraph 5.3.1 in the Barking and Dagenham Local Plan.
- ii. Paragraph 5.3.1 states that “the Council is committed to help the delivery of national and regional targets for recycling and composting as set out in the Waste Strategy for England 2007 and the London Plan.” A summary of the targets for recycling and composting have been provided in Table A.

Table A. Recycling and Composting Targets

Recycling and Composting Targets	2010	2015	2020
Municipal Waste	40%	45%	50%
Commercial & Industrial Waste	-	-	70%
Construction & Demolition Waste	-	-	95%

- iii. Paragraph 5.3.1 also states the following in relation to the targets provided in Table A:
 - *“To ensure London meets its responsibility to help achieve these targets, the London Plan sets out ‘Waste Apportionments’ for each London Borough to meet by 2020. Building on the Council’s good working relationship established through the East London Waste Authority (ELWA), and in order to plan for waste strategically, the Council is working with the London Boroughs of Havering, Newham and Redbridge on a Joint Waste DPD. This document will identify existing waste management capacity within the four Boroughs which already contribute towards meeting the joint waste apportionment and which will therefore be safeguarded. It will also clarify our preferred locations for the additional facilities necessary to fully meet the Borough’s apportionment, and set out criteria based policies to be used in assessing planning applications for waste management facilities. This will ensure the ELWA boroughs fulfil their duty to help meet the challenging targets which the London Plan sets out to ensure there are sufficient facilities available within the region to manage the majority of waste arising within London by 2020.*
 - *The Joint Waste DPD will assist the Borough in meeting its own ambitious aspirations for sustainable waste management, as set out in the London Borough of Barking and Dagenham Waste Strategy, which seeks to ensure Barking and Dagenham:*
 - *Has the cleanest streets in London.*
 - *Has the greatest waste reduction and highest recycling and composting rates in London.*
 - *Delivers effective, efficient and customer focused services that demonstrates value for money.”*

London Plan (2016)

- iv. The London Plan (2016) is the overall strategic plan for London, setting out an integrated economic, environmental, transport and social framework for the development of London over the next 20–25 years. It provides a London-wide policy context within which boroughs should set their detailed local planning policies. The aim of the Plan’s waste policies is to achieve net self-sufficiency for household and commercial waste by 2026.
- v. The current plan supersedes the previous London Plan (2011). The relevant policies and paragraphs of the London Plan have been provided within Table B.

Table B. Policies and Paragraphs within the London Plan which are relevant to this Assessment

Policy/Paragraph	Description
Paragraph 5.65	States inter alia that: <i>"The Mayor is committed to a policy framework for waste management which starts from the position the best approach is to reduce the amount of waste that arises in the first place. Where this is not possible, he supports an approach based on the waste hierarchy that emphasises re-use, and then recycling and composting, before energy recovery and disposal... The Mayor believes that making better use of waste has a major role to play in tackling climate change and that London's waste is a valuable resource that should be exploited for London's benefit, and not solely a disposal problem."</i>
Paragraph 5.67	States that: <i>"London should manage as much of the capital's waste within its boundaries as practicable, enabling London and Londoners to receive environmental and economic benefits from its management. The Mayor acknowledges that waste contracts do not recognise administrative boundaries and that waste flows across borders. Consequently the aim of his waste policies is to achieve net self-sufficiency for household and commercial waste by 2026."</i>
Policy 5.16: Waste Net Self-Sufficiency	<ul style="list-style-type: none"> States that the Mayor will work with London boroughs and waste authorities and others to manage as much of London's waste within London as practicable, working towards managing the equivalent of 100% of London's waste within London by 2026. States that this will be achieved by: <ul style="list-style-type: none"> Minimising waste; Encouraging the reuse of and reduction in the use of materials; Exceeding recycling/composting levels in local authority collected waste (LACW) of 45% by 2015, 50% by 2020 and aspiring to achieve 60% by 2031; Exceeding recycling/composting levels in commercial and industrial waste of 70% by 2020; Exceeding recycling and reuse levels in construction, demolition and excavation (CD&E) waste of 95% by 2020; Improving London's net self-sufficiency through reducing the proportion of waste exported from the capital over time; and Working with neighbouring regional and district authorities to coordinate strategic waste management across the greater south east of England.
Policy 5.17: Waste Capacity	<ul style="list-style-type: none"> States that the Mayor supports the need to increase waste processing capacity in London, and that he will work with London boroughs and waste authorities to identify opportunities for introducing new waste capacity, including strategically important sites for waste management and treatment, and resource recovery parks/consolidation centres, where recycling, recovery and manufacturing activities can co-locate. Sets out the criteria against which proposals for waste management should be evaluated against, and states with regard to Local Development Framework (LDF) preparation that <i>"boroughs must allocate sufficient land and identify waste management facilities to provide capacity to manage the tonnages of waste apportioned in this Plan"</i>, noting that boroughs may wish to collaborate by pooling their apportionment requirements. The Plan's apportionment target for the LBB is 404,000 tonnes per annum (tpa) by 2021, and 502,000 tpa by 2036 (6.1% of share of waste to be managed in London).
Policy 5.18: Construction, Excavation and Demolition Waste	<ul style="list-style-type: none"> States inter alia with regard to planning decisions that new CD&E waste management facilities should be encouraged at existing waste sites, and that waste should be removed from construction sites, and materials brought to the site, by water or rail transport wherever that is practicable. States that <i>"LDFs should require developers to produce site waste management plans to arrange for the efficient handling of CD&E waste and materials."</i>
Policy 5.19: Hazardous Waste	<ul style="list-style-type: none"> States that development proposals that would result in the loss of existing sites for the treatment and/or disposal of hazardous waste should not be permitted unless compensatory hazardous waste site provision has been secured. States that LDFs should: <ul style="list-style-type: none"> <i>"Make provision for hazardous waste treatment plants to achieve, at regional level, the necessary waste management requirements;</i> <i>As part of meeting waste apportionment identify suitable sites for the storage, treatment and reprocessing of relevant or a range of hazardous waste streams; and</i> <i>Identify sites for the temporary storage, treatment and remediation of contaminated soils and demolition waste during major developments."</i>
Policy 5.20: Aggregates	<ul style="list-style-type: none"> Encourages the <i>"re-use and recycling of construction, demolition and excavation waste within London"</i>. States that the Mayor will work with strategic partners to achieve targets of 95% recycling/re-use of construction, demolition and excavation waste by 2020, and 80% recycling of that waste as aggregates by 2020.

Appendix B Description of European Waste Code (EWC) Categories

EWC Chapter	Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
02	Waste from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing
03	Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard
04	Wastes from the leather, fur and textile industries
05	Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal
06	Wastes from inorganic chemical processes
07	Wastes from organic chemical processes
08	Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks
09	Wastes from the photographic industry
10	Waste from thermal processes
11	Wastes from chemical surface treatment and coating of metals and other materials; non-ferrous hydrometallurgy
12	Wastes from shaping and physical and mechanical surface treatment of metals and plastics
13	Oil wastes and wastes of liquid fuels (except edible oils and those in chapters 05, 12 and 19)
14	Waste organic solvents, refrigerants and propellants (except those found in chapters 07 and 08)
15	Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified
16	Wastes not otherwise specified in the list
17	Construction and demolition wastes (including excavated soil from contaminated sites)
18	Wastes from human or animal health care and/or related research (except kitchen and restaurant wastes not arising from immediate health care)
19	Waste from waste management facilities, off-site wastewater treatment plants and the preparation of water intended for human consumption and water for industrial use
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions

Appendix C Full List of Permitted Waste Management Facilities and their Capacity

Name of Site Operator (Licence Holder)	Site Name	Permit Number	Waste Management Licence Number	Address	Permit / Exemption Type	Type of facility	Licensed Capacity (tpa)	Operational capacity (tpa)	Capacity available for HIC Apportionment (tpa)	Capacity available for CDE (tpa)	Years Active
Biffa Waste Services Ltd	Barking Waste Transfer And Recycling Facility	JP3896NV/V 003	80109	Maybell Farm, Ripple Road, Barking, Essex, IG11 0TT,	A11 : Household, Commercial & Industrial Waste Transfer Stn	Waste Transfer Station	160,250	105,356	87,689	111	>5
Citron Hygiene Uk Limited	Cannon Hygeine Barking Waste Facility	HB3804FZ/T 001	402973	Unit 3, New England Industrial Estate, Gascoigne Road, Barking, Essex, IG11 7NZ,	S0824 : Clinical Waste Transfer Station	Clinical Waste Transfer Station	74,999	431	4	-	3
Connect Waste Management Ltd	75 - 77 Chequers Lane	N/A	N/A	75-77 Chequers Lane, Dagenham, Essex, RM9 6QJ,	Site closed	Site closed	-	-	-	-	>5
Creek Metals Limited	Alfreds Way, Barking	JP3296NM/V004	80111	Eastern Works, Alfreds Way, Barking, Essex, IG11 0AT,	A20 : Metal Recycling Site (mixed MRS's)	Metal Recycling	109,500	12,668	42	12,504	>5
D B Cargo (U K) Limited	Barking Eurohub	GB3003GR/V002	404661	Barking Eurohub, Box Lane, Renwick Road, Barking, Essex, IG11 0SQ,	S0905 : Inert and excavation WTS	Waste Transfer Station	250,000	174,306	-	-	2
E L G Haniel Metals Limited	E L G Haniel Metals Ltd	AB3409GT/A001	400638	12-14 River Road, Barking, Essex, IG11 0DG,	S0821 : Metal recycling site	Metal Recycling	74,999	24,500	10,877	13,623	>5

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East London Biogas Opco limited	Organic Waste Treatment Facility EPR/PP3437 WR	PP3437WR	Waste Installation	London Sustainable Industries Park, Halyard Street, Dagenham Dock, Dagenham, RM9 6LF,	T02 : AD installation	Anaerobic Digestion	999,999	38,804	38,804	-	3
Edwards Recycling Ltd	Edwards Recycling Ltd	CB3507KZ/A001	402132	Perry Road, Off Chequers Lane, Dagenham, Essex, RM9 6QD,	S0803 : HCI Waste TS + treatment	Waste Transfer Station	74,999	7,881	-	-	1
Edwards Waste Paper Ltd		LP3693EQ/V002	80765	The Recycling Centre, Gallions Close, Off Thames Road, Barking, Essex, IG11 0JD,	A11 : Household, Commercial & Industrial Waste Transfer Stn	Waste Transfer Station	74,999	68,035	17,553	-	>5
G & S Tyre Services Ltd	G & S Tyre Services Ltd	VP3299VX/A001	102554	G & S Tyre Services Ltd, Kingsbridge Road, Barking, Essex, IG11 0BD,	S0803 : HCI Waste TS + treatment	Waste Transfer Station	74,999	1,518	1,518	-	>5
Hanson Quarry Products Europe Ltd	Dagenham Dock Aggregate Recycling Facility	BB3005TG/A001	401033	Dagenham Dock Aggregate Recycling Facility, Land On Breach Lane, Dagenham, London, RM9 6QD,	A15 : Material Recycling Treatment Facility	Material Recycling Facility	249,999	11,459	-	11,459	>5
HKS Dagenham Limited	HKS Dagenham Ltd	RP3539QY	Waste Installation	Dagenham Docks, Perry Road, Dagenham, RM9 6QD,	TM1 : Metal Recycling installation	Metal Recycling	150,000	39,445	39,434	11	2
Ingrebourne Valley Ltd	Marks Warren Quarry Landfill	CP3190VE/T001	210001	Marks Warren Quarry Landfill, Whalebone Lane North, Romford, Essex, RM6 6RB,	L05 : Inert LF	Inert LF	244,000	126,085	-	-	>5
Jac Skip Hire Limited	Jac Skip Hire	FB3109HT/A001	404048	11 Atcost Road, Barking, Essex, IG11 0EQ,	S1506 No 6: 75kte HCI Waste TS + treatment	Waste Transfer Station	74,999	7,484	-	5,675	2
London Recycling Services Limited	Media Park	FB3900CS/T001	403475	Media Park, 40 A & B River Road, Barking, Essex, IG11 0DW,	S1506 No 6: 75kte HCI Waste TS + treatment	Waste Transfer Station	75,000	9,851	-	7,860	3

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M M S Supplies Limited	M M S Recycling	FB3805CH/ A001	404533	2 Chequers Lane, Dagenham, Essex, RM9 6QJ,	S1506 No 6: 75kte HCl Waste TS + treatment	Waste Transfer Station	99,999,999	13,892	-	13,892	2
Manns Waste Management Ltd	Manns Waste Management Ltd	HP3098VH/ V002	101645	Old Bus Depot, Perry Road, Chequers Lane, Dagenham, Essex, RM9 6QD,	S0803 : HCl Waste TS + treatment	Waste Transfer Station	74,999	48,627	8,992	35,500	>5
Mc Grath Brothers (Waste Control) Limited	Mc Grath Bros (Waste Control) Ltd	TP3697NP/ V009	80535	54 - 60 River Road, Barking, Essex, IG11 0DS,	A11 : Household, Commercial & Industrial Waste Transfer Stn	Waste Transfer Station	480,000	315,544	123,021	191,600	>5
Muckit Recycling Limited (Purchased by SRC Group)	Barking Riverside Development Park	XP3095VD/ A001	Waste Carrier	Barking Riverside Recycling Park, River Road, Barking, Essex, IG11 0XF,	S0906 : Inert and excavation WTS with treatment	Inert Waste Transfer / Treatment	249,999	53,476	-	53,476	4
Multi Services Kent Limited	Docklands Wharf Transfer Station	KP3797NW/ V004	80525	Docklands Wharf Transfer Station, 72 - 76 River Road, Barking, Essex, IG11 0DY,	A9 : Special Waste Transfer Station	Waste Transfer Station	414,700	80,000	1,495	74,502	>5
N/A	Thames Gateway Waste to Energy Ltd (Applicant)	N/A	N/A	Plot 2, North Choats Road		(Proposed) Thermal treatment	200,000	N/A	N/A	N/A	N/A
N/A	Riverside Energy Limited (Applicant)	N/A	N/A	75 - 77 Chequers Lane, Dagenham, Barking And Dagenham		(Proposed) Thermal treatment	57,600	N/A	N/A	N/A	N/A
Neptune Contract Services Limited	Thunderer Road	DB3806UM/ A001	403070	Thunderer Road, Chequers Lane, Dagenham, Essex, RM9 6QD,	A16 : Physical Treatment Facility	Physical Treatment	175,000	107,809	2,818	100,890	4
Plasterzone Ltd	0	EB3403XA/ V003	403490	11 Atcost Road, Barking, London, IG11 0EG,	Site closed	Site closed	74,999	20,727	-	-	4

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R White Waste Management Ltd	75 - 77 Chequers Lane	DD3307GX/V002	80583	75-77 Chequers Lane, Dagenham, Essex, RM9 6QJ,	A9 : Special Waste Transfer Station	Waste Transfer Station	170,256	39,107	3,963	21,380	>5
ReFood UK Limited	Hitch Street AD Plant EPR/QP3735 DL	QP3735DL	Waste Installation	ReFood UK, 1 Hitch Street, Dagenham, Essex, RM9 6FA,	T02 : AD installation	Anaerobic Digestion	160,000	92,642	92,630	-	3
Renewi U K Services Limited	Frizlands Lane Reuse & Recycling Centre	GB3003MB/T001	80105	Frizlands Depot, Rainham Road North, Dagenham, Essex, RM10 7HX,	A11 : Household, Commercial & Industrial Waste Transfer Stn	Waste Transfer Station	80,000	19,400	13,307	1,037	3
S Norton & Co Ltd	S Norton & Co Ltd	CB3807HV/V002	103643	72-76 River Road, Barking, Essex, IG11 0DS,	S0821 : Metal recycling site	Metal Recycling	200,000	112,038	78,761	33,266	>5
S U C Exc U K Ltd	S U C Exc U K Ltd	GB3438RL/V002	104126	Unit 2, Choats Road, Dagenham, London, RM9 6RJ,	SR2010 No12 : Treatment of waste to produce soil <75,000 tpy	Physical Treatment	74,999	47,878	-	47,878	>5
Suez Recycling & Recovery South East Ltd	Barking Transfer Station	AB3507MZ/V003	80572	New Free Trade Wharf, 40 River Road, Barking, Essex, IG11 0DW,	A11 : Household, Commercial & Industrial Waste Transfer Stn	Waste Transfer Station	182,500	124,673	98,162	397	>5
Suez Recycling And Recovery U K Ltd	Barking Materials Recycling Facility	JP3596EB/V002	101756	Docklands Wharf, 72-76 River Road, Barking, London, IG11 0DS,	S0814 : Materials Recycling Facility	Material Recycling Facility	74,999	6	6	-	1
T. E. Scudder Limited	Dagenham Stamping & Tooling Operations	CBDU120529	Waste Carrier/broker	Chequers Lane, Dagenham, Essex, RM9 6SA,	A25 : Deposit of waste to land as a recovery operation	Deposit of waste to land (recovery)	230,000	271,523	-	271,523	2
Titan Waste Solutions Ltd	Titan Waste Solutions Limited	HB3202MM/A001	406084	Box Lane, Barking, London, IG11 0SQ,	S1506 No 6: 75kte HCl Waste TS + treatment	Waste Transfer Station	75,000	5,971	-	5,795	1

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Veolia E S (U K) Limited	Materials Recovery Facility	CB3106GQ/ V002	80759	Materials Recovery Facility, Choats Road, Dagenham Dock, Dagenham, Essex, RM9 6LF,	S0814 : Materials Recycling Facility	Material Recycling Facility	75,000	7,420	7,420	-	4
Wastecare	Wastecare - London	EP3494VG/ V004 RP3539QY	101134	Units 4 - 10, Atcost Road, Barking, Essex, IG11 0EQ,	A11 : Household, Commercial & Industrial Waste T Strn, Also have temp storage of haz waste	Waste Transfer Station	25,000	6,785	3,158	34	3

Appendix D Full List of Exempt Waste Management Facilities and their Capacity

Name of Site Operator (Licence Holder)	Site Name	Permit Number	Waste Management Licence Number	Address	Postcode	Permit / Exemption Type	Type of facility	Licensed Capacity (tpa)	Operational capacity (tpa)	Capacity available for HIC Apportionment (tpa)	Capacity available for CDE (tpa)
A M Forktrucks Ltd	A M Forktrucks Ltd	Exempt Site	Not Applicable	UNIT 1-4, RIVERSIDE INDUSTRIAL ESTATE, THAMES ROAD, BARKING, IG11 0ND	IG11 0ND	D7 D6	Permit Exempt Site	5	5	-	-
construction london limited	cc construction london limited	Exempt Site	Not Applicable	RIPPLE ROAD, BARKING, IG11 0SN	IG11 0SN	S2 T4 S1 U1 T10 D7 T12	Permit Exempt Site	150,000	5,000	-	-
cc construction london limited	cc construction london limited	Exempt Site	Not Applicable	RIPPLE ROAD, BARKING, IG11 0SN	IG11 0SN	T10	Permit Exempt Site	520	520	-	-
cc construction london limited	cc construction london limited	Exempt Site	Not Applicable	RIPPLE ROAD, BARKING, IG11 0SN	IG11 0SN	T12	Permit Exempt Site	60	60	-	-
Techmedia (uk) Ltd	Techmedia (uk) Ltd	Exempt Site	Not Applicable	9 Muirhead Quay, Freshwharf Estate, Barking, Essex, IG11 7BW	IG11 7BW	T11	Permit Exempt Site	1,000	500	-	-
S Norton & Co Ltd	S Norton & Co Ltd	Exempt Site	Not Applicable	72-76, River Road, Barking, IG11 0DS	IG11 0DS	T11	Permit Exempt Site	1,000	500	-	-
GOODCAR E DUSKS LTD	GOODCAR E DUSKS LTD	Exempt Site	Not Applicable	279, HEATHWAY, DAGENHAM, RM9 5AQ	RM9 5AQ	T12	Permit Exempt Site	60	60	-	-

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Edwards Recycling Ltd	Edwards Recycling Ltd	Exempt Site	Not Applicable	GALLIONS CLOSE, BARKING, IG11 0JD	IG11 0JD	T4	Permit Exempt Site	150,000	5,000	-	-
MSK Waste Management & Recycling Ltd.	MSK Waste Management & Recycling Ltd.	Exempt Site	Not Applicable	72-76, RIVER ROAD, BARKING, IG11 0DS	IG11 0DS	T4	Permit Exempt Site	150,000	5,000	-	-
CSM Haulage Contractors Ltd	CSM Haulage Contractors Ltd	Exempt Site	Not Applicable	CHEQUERS LANE, DAGENHAM, RM9 6PR	RM9 6PR	T4	Permit Exempt Site	150,000	5,000	-	-
Veolia ES (Uk) Ltd	Veolia ES (Uk) Ltd	Exempt Site	Not Applicable	16, CHOATS ROAD, DAGENHAM, RM9 6LF	RM9 6LF	T4	Permit Exempt Site	150,000	5,000	-	-
Ford Motor Company Ltd	Ford Motor Company Ltd	Exempt Site	Not Applicable	DAGENHAM, RM9 6SA	RM9 6SA	T4	Permit Exempt Site	150,000	5,000	-	-
Ford Motor Company Ltd	Ford Motor Company Ltd	Exempt Site	Not Applicable	DAGENHAM, RM9 6SA	RM9 6SA	U11 T23	Permit Exempt Site	400	400	-	-

Appendix E Full methodology

Construction, Demolition and Excavation waste

- Information on the quantity of waste considered suitable for recycled aggregates has been extracted from the most recent London local aggregate assessment (2018) (Ref 61). This has been divided by 32 (32 London Boroughs - with an assumption that each borough produces the same amount of recycled aggregate) and then a ratio of recycled aggregate (hard inert) to recycled soils has been applied.
- No data on recycled aggregates was provided for the year 2019, so it has been assumed that the amount of recycled aggregates in 2019 will be congruent with 2018. As CD&E waste received by permitted facilities has already been considered when calculating the CD&E waste arisings, a decision has been made to exclude recycled aggregate from the CD&E waste arisings and instead provide a separate commentary, in order to avoid double counting.
- It is understood that most CD&E waste will be managed by U1 exemptions (Use of Waste in Construction), so only U1 exemptions have been considered. A list of exempt sites located within the plan area has been extracted from the EA Waste Exemptions dataset. As there are no requirements to report on the amount of waste disposed of under exemptions, 600 tonnes of waste have been estimated to be managed at each U1 exempt site (Ref 53).
- There is considerable uncertainty when estimating the amount of CD&E waste received by each exempt site. In addition, the purpose of this assessment is to assess the need for additional planned waste management capacity; it is unlikely that waste managed by exempt sites will require planned provision in the future. Therefore, as with recycled aggregate, a decision has been made to exclude waste received by exempt sites from the CD&E waste arisings and instead provide a separate commentary.

Waste Management Facility Capacity

- In order to understand if LBBB has sufficient capacity to meet their waste apportionment target, the current waste management capacity within the borough has been calculated based on data from the Environment Agency. This has been done for permitted waste management facilities as follows:
- Data on the waste received by permitted waste management facilities was downloaded from the EA's WDI for the years 2015 - 2019.
- The data was filtered to only include waste received by facilities in LBBB.
- The GLA advise against using permitted capacity in order to assess the operational capacity of a facility. This is because the EA permits are often banded thresholds and therefore not necessarily a true reflection of what the facility is able to process. In order to provide a robust estimate on available capacity, data on the operational throughput from the last five years (i.e. 2015 to 2019) was used to calculate an average operational capacity for each facility.
- As some facilities handle both HIC and CD&E waste, the data was further distinguished by establishing each facility's proportion of hazardous, HIC and CD&E wastes received (through its basic high level waste categorisation).
- The percentage of HIC waste handled for facilities was then applied to the total operational waste capacity of each facility, to ascertain the capacity of the facilities which counts towards the Publication London Plan apportionment target for LBBB. This is listed under "Capacity available for HIC Apportionment".

Waste Transfer Station Capacity

- Waste transfer stations play an important role in waste management. Although the main purpose of waste transfer stations is the bulking of waste before sending it on for recovery/treatment/disposal, they can also undertake the sorting of wastes and the production of RDF. As shown in Table 4.1 the

bulking and sorting of waste, as well as production of RDF are attributable to the GLA's apportionment targets.

- The recyclable outputs of waste transfer stations, (as well as RDF production) have therefore been taken into consideration when looking at the amount of capacity available for GLA apportionment. This has been done via establishing an “apportionment rate” for each WTS.
- Data on “Wastes removed” from LBBDD active sites is available from the EA WDI. The waste removed tonnages can be determined as either non-recyclable or recyclable waste, by examining the Recovery and Disposal code (R&D code) (Ref 51) of the tonnage. The relevant R&D codes and whether they have been considered in establishing the apportionment rate are listed in Table 8.1 Description of Recovery and Disposal (R&D) Codes.
- Firstly, the quantity of recyclable materials is then applied to the total amount of waste removed, to produce a “recycling rate” for each waste transfer station. As the data on “wastes removed” from the Environment Agency only included the R&D codes for facilities from 2017 onwards, the recycling rate for waste transfer facilities has been developed using an average from 2017-19.¹
- The recycling rate is then applied to the operational capacity of the waste transfer station.
- The GLA's criteria for waste activities also includes the production of RDF, as classified by DEFRA definition:
- Refuse derived fuel (RDF) consists of residual waste that is subject to a contract with an end-user for use as a fuel in an energy from waste facility. The contract must include the end-user's technical specifications relating as a minimum to the calorific value, the moisture content, the form and quantity of the RDF.
- RDF can be identified in the EA WDI through the EWC code 19 12 10 – *combustible waste (refuse derived fuel)*. RDF produced has been calculated by looking at the wastes removed and filtering by the 19 12 10 EWC code to ascertain if any of the waste transfer stations are producing RDF (noting that whilst MRFs also produce RDF we have already assumed that all of their capacity is apportionable).
- We then include that proportion of RDF within the sites “recycling rate %” to produce an overall apportionment rate for the waste transfer sites.

Table 8.1 Description of Recovery and Disposal (R&D) Codes

R&D Code	End Process	Classified as Recycling (Yes/No)
D01	Landfill	No
D05	Landfill	No
D08	Mechanical and/or Biological Treatment	No
D09	Physio-chemical Treatment	No
D10	Incineration	No
D13	Transfer (transfer/treatment of waste to enable its disposal)	No
D14	Transfer (repackaging prior to submission to operations D1 to D13)	No
D15	Transfer (storage of waste pending operations D1 to D14)	No
R01	Energy from Waste	No
R03	Recycling/Recovery (of organic substances not used as solvents)	Yes
R04	Recycling/Recovery	Yes

¹ *Whilst the “waste fate” (meaning the fate of the waste .e.g. landfill, incineration, recovery, treatment or transfer) of wastes removed is available for years prior to 2017 in the WDI, the categories of “recovery, treatment, and transfer” are broad and both recyclable and non-recyclable R&D codes fall under each category. It is therefore recognised that the data from 2017 onwards defined by Recovery and Disposal code, is more detailed than previous years, and by utilising it to ascertain a recycling rate for waste transfer stations, will avoid potential exaggeration/underestimate in recycling rates for facilities by simply using the “waste fate” of tonnages.

R&D Code	End Process	Classified as Recycling (Yes/No)
	(of metals and metal compounds)	
R05	Recycling/Recovery (of other inorganic materials)	Yes
R09	Recovery (oil re-refining or other reuses of oil)	Yes
R10	Land Treatment (resulting in benefit to agriculture or ecology)	Yes
R12	Recovery (exchange of waste for submission to operations R1 to R12)	Yes
R13	Transfer (storage of waste pending operations R1 to R12)	Yes

Source: Waste Framework Directive

Exports and imports

- In order to calculate the amount of waste imported into LBBB, data was taken for the years 2015 to 2019 from the EA WDI 'waste received' and filtered to only show receiving waste facilities located in LBBB. The data for each year was then organised to show the total amount of waste received from each recorded origin (including Barking and Dagenham).
- To calculate the split between the type of waste imported into waste management facilities in LBBB, the total amount of waste received has been filtered by the basic waste categories ('Hazardous', 'Household/Industrial/Commercial' and 'Inert/C+D'), and waste with a recorded origin of Barking and Dagenham has been excluded.
- In order to calculate the amount of waste exported from LBBB, data was taken for the years 2015 to 2019 from the EA WDI 'waste removed' and filtered to only show waste facilities located in LBBB. The data for each year was then organised to show the total amount of waste sent to each recorded destination (including Barking and Dagenham).
- To calculate the split between the type of waste exported from waste management facilities in LBBB, the total amount of waste removed has been filtered by the basic waste categories ('Hazardous', 'Household/Industrial/Commercial' and 'Inert/C+D'), and waste with a recorded destination of Barking and Dagenham has been excluded.

