

Waste Needs Assessment

**Hertfordshire Minerals and Waste
Local Plan 2040**

Hertfordshire County Council



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For information about this document please contact:

Minerals and Waste Planning Policy

Spatial Planning Unit

Hertfordshire County Council

Tel: +(44) 01992 556227

Email: MineralsandWaste@hertfordshire.gov.uk

hertfordshire.gov.uk/mwlp

Spatial Planning Unit CHN216

Hertfordshire County Council

County Hall

Hertford

SG13 8DN

If you require assistance interpreting or translating this document, please contact
0300 123 4040.

Table of Contents

1. Introduction	1
2. Background	2
<i>Review of Minerals and Waste Local Plans</i>	2
<i>Purpose of the Waste Needs Assessment</i>	2
<i>Resources and Waste Strategy</i>	4
<i>Net Zero Strategy: Build Back Greener</i>	4
<i>Sustainable Hertfordshire Strategy</i>	4
3. Limitations & Assumptions	5
<i>Data Quality – Waste Arisings</i>	5
<i>Data Quality – Future Arisings</i>	7
<i>Data Quality – Facility Capacity</i>	7
4. Hertfordshire Waste Arisings	8
<i>Local Authority Collected Waste</i>	8
<i>Commercial and Industrial Waste</i>	9
<i>Construction, Demolition & Excavation Waste</i>	12
<i>Hazardous Waste</i>	15
<i>Residual Waste Arisings</i>	16
<i>Summary of Arisings</i>	16
5. Projection of Waste Arisings	18
<i>Local Authority Collected Waste</i>	18
<i>Commercial and Industrial Waste</i>	21
<i>Construction, Demolition & Excavation Waste</i>	22
<i>Hazardous Waste</i>	25
<i>Summary of Projections</i>	26
6. Waste Movements	27
<i>Waste imports from other WPAs</i>	28
<i>Waste exports to other WPAs</i>	30
7. Waste Management Capacity & Gaps	32
<i>Estimated existing capacity</i>	32
<i>Anticipated future needs</i>	34
8. Conclusions	37
Appendix 1	38

1. Introduction

- 1.1. This Waste Needs Assessment (WNA) is intended to be read alongside the Hertfordshire Minerals & Waste Local Plan (July 2022) document.
- 1.2. The WNA's purpose is to assess the county's present and planned waste management capacity to meet likely future needs and quantify any assumed shortfall in capacity that exists in Hertfordshire's waste management sector. This provides an indication as to how much additional waste management capacity will be required over the Plan period of the new Minerals & Waste Local Plan (MWLP).
- 1.3. The WNA breaks the waste management sector into three key waste streams and provides data regarding the historical arisings, projected arisings and existing management capacities of each waste stream. From this information, capacity gaps are calculated to show how much additional waste management capacity is required to manage waste for Hertfordshire to become 'net self-sufficient'. An explanation of the assumptions used to ascertain the figures is provided for each waste stream.

2. Background

Review of Minerals and Waste Local Plans

- 2.1. Hertfordshire County Council (HCC) is the Waste Planning Authority (WPA) for Hertfordshire and has a statutory responsibility to prepare a Waste Local Plan (WLP) in line with national policy and regulations. The county council has an adopted WLP which comprises the Waste Core Strategy and Development Management Policies Development Plan Document (DPD) (adopted 2012) and the Waste Site Allocations DPD (adopted 2014).
- 2.2. The Waste Core Strategy and Development Management Policies DPD (WCS&DM) sets out the strategic, spatial element of the WLP and contains development management policies against which planning applications for waste management in the county can be assessed. The Waste Site Allocations DPD (WSA) identifies sites and Employment Land Areas of Search (ELAS) required to meet the need for additional waste management capacity in the county. In addition, the Employment Areas of Search Supplementary Planning Document (2015) (ELAS SPD) was produced to accompany the WLP by providing further guidance into the suitability of waste-related development on the ELAS identified within the WSA DPD.
- 2.3. The WSA DPD states that ‘the plan will be reviewed in full every five years and a partial review may be undertaken sooner than that if required’¹. The council began reviewing the WLP in 2017, and was also in the process of reviewing the Minerals Local Plan. By 2021, the Waste Local Plan review had reached Draft Plan stage. In December 2021 however, the council made the decision to discontinue reviewing the Minerals and Waste plans separately and to bring the emerging Plans together into a single Minerals and Waste Local Plan.

Purpose of the Waste Needs Assessment

- 2.4. The WNA is an important part of the evidence base for the development of the emerging MWLP as it quantifies the need for additional waste management capacity in the county. The estimated capacity gap will help to justify the allocation or exclusion of additional waste management infrastructure in the emerging MWLP and will help to shape the policies

¹ Waste Site Allocations DPD (adopted 2014) paragraph 3.10

which will be used to determine individual planning applications throughout the plan period.

- 2.5. The purpose of the WNA is to inform the plan-making process for Hertfordshire by:
- providing an up-to-date representation of the amount of waste currently generated (arisings), the amount of waste anticipated to arise over the plan period and existing waste management capacity;
 - identifying Hertfordshire's future waste management needs (and the extent to which existing capacity satisfies anticipated future needs) and identify the broad types of management methods that may be required to manage waste appropriately;
 - giving consideration to wider waste management needs – specifically London's non-apportioned household and C&I waste arising to be exported to other WPAs for non-hazardous disposal (landfill); and
 - identifying and discussing strategic waste movements and any potential Duty-to-Cooperate matters that should be addressed throughout plan-preparation.
- 2.6. The WNA quantifies three elements of waste management for the key waste streams identified:
- Past waste arisings
 - Forecasted waste arisings
 - Existing capacity of operational and pre-operational waste facilities.
- 2.7. By combining these three elements, existing and future gaps in the county's waste management capacity have been identified.
- 2.8. The circumstances for waste planning constantly change with the publication of new regulations, policy and guidance, and the approval of new planning consents. The WNA has been written at a specific point in time and accords with the timeline of the MWLP review as well as the county council's cycles for the Authority's Monitoring Report (AMR) and annual waste surveying. The WNA primarily uses the latest data provided by the Environment Agency (up to calendar year ending 2020).

Resources and Waste Strategy

- 2.9. In December 2018 the Department for Environment Food & Rural Affairs (Defra) published a policy paper setting out a new waste strategy for England to align with the government's 25 Year Environment Plan. The strategy sets out the following main targets:
- 50% recycling rate for household waste by 2020
 - 75% recycling rate for packaging by 2030
 - 65% recycling rate for municipal solid waste by 2035
 - Municipal waste to landfill 10% or less by 2035
- 2.10. The WNA serves an additional purpose by providing a useful basis for anticipating whether Hertfordshire is on track to meet the above targets.

Net Zero Strategy: Build Back Greener

- 2.11. As part of reforms to the resources and waste system, the Department for Business, Energy & Industrial Strategy (BEIS) published their Net Zero Strategy setting out policies and proposals for decarbonising all sectors of the UK economy to meet a net zero target by 2050.
- 2.12. The strategy also sets out aspirations to move towards a circular economy, improve resource efficiency, and achieve near elimination of biodegradable waste to landfill from 2028.

Sustainable Hertfordshire Strategy

- 2.13. Hertfordshire County Council made a Climate Emergency Declaration in July 2019 and subsequently committed to develop a Sustainable Hertfordshire Strategy, intended to set out initial policies and strategies needed to embed sustainability across all council operations and services and throughout the county.
- 2.14. The Sustainable Hertfordshire Strategy and action plan was published in 2020 and sets out a number of ambitions and targets. A waste specific target of reducing what we throw away in our own operations by sending nothing to landfill by 2030 was set and this has been considered within the WNA.

3. Limitations & Assumptions

- 3.1. There are inherent uncertainties and difficulties involved in recording waste management and forecasting future waste arisings. Information on waste arisings, imports, exports and capacity is incomplete and varies by waste stream and from local authority to local authority.
- 3.2. The WNA justifies all the methodologies and sources of information used in its production. The document describes the options that were considered by the WPA for all aspects of the WNA and explains the reasoning for the selections and omissions made. This provides the reader with a transparent understanding of the processes used throughout the study and will ensure robustness of the report's findings.
- 3.3. Uncertainties related to waste data remain. Quality of waste data nationwide has been historically poor due to inconsistent data gathering, incomplete coverage of studies and varied interpretations of waste types and surveys. Limitations must be borne in mind and are briefly summarised below.
- 3.4. The primary source of waste data is taken from the Waste Data Interrogator (WDI). The WDI is published annually by the Environment Agency and compiles all the information from individual waste transfer notes which registered waste carriers must complete for each of their transactions of waste material under the Duty of Care system. The WDI gives waste-types, waste origins, its destination and facility-type.
- 3.5. The data contained in the WDI is limited to reported waste deposits at permitted facilities where the operator has given information as to the geographical 'origin' of the waste. It is the most comprehensive 'arisings' data available but does not include waste that was sent to exempt waste facilities, disposed of illegally or that went directly for recycling, recovery or export.

Data Quality – Waste Arisings

- 3.6. The majority of waste arisings are not systematically measured and as such, there are discrepancies in the robustness of figures for different waste streams. Due to the exhaustive data capture needed, it would be impossible to record and predict waste arisings on a material-by-material basis (i.e.

plastics, wood, and paper). Instead, waste is mainly categorised by its source. The common categories of waste are:

- Local Authority Collected Waste (LACW)
- Commercial and Industrial Waste (C&I)
- Construction, Demolition and Excavation Waste (CD&E)
- Hazardous Waste
- Radioactive Waste
- Agricultural Waste
- Waste Water

- 3.7. This categorisation can lead to further difficulties because particular aspects of waste can be produced by multiple sources, thereby requiring similar processing and being included in more than one notional waste stream. However, this is the commonly accepted way of recording waste data and provides consistency with other Waste Planning Authorities, previous studies and most-readily available sources of waste data.
- 3.8. Using this categorisation, Local Authority Collected Waste (LACW) has the most robust data as it is recorded by or on behalf of local authorities during kerbside collections from households or at Household Waste Recycling Centres (RCs). Although the composition of LACW and Commercial and Industrial (C&I) waste streams may be similar, there is no obligation for businesses to monitor the amount of waste they produce so the C&I waste data is gathered from national or independent sources. This can give rise to issues of double counting and accuracy when assessed at the local scale.
- 3.9. Construction, Demolition and Excavation (CD&E) waste arisings have a limited range of data sources with data primarily gathered from the WDI. Additionally, much of its management occurs either on-site or at sites with permit exemptions that have either not been through the planning system or are not directly regulated by the Environment Agency. This means that not all waste arisings are recorded.
- 3.10. Waste recorded through intermediate facilities (including clinical, non-hazardous and hazardous waste transfer stations) was removed from the WDI dataset. The reasoning for removing this component is that waste recorded at intermediate facilities is then transferred onto another facility for further processing and/or treatment (and is then captured again under this facility), where waste is transferred outside of Hertfordshire it is reasoned that this waste should be captured as originating from the WPA when

received at the processing/treatment facility. Waste recorded through intermediate facilities identified as transfer/treatment in the WDI, as the facility involves some form of preparation for re-use and/or recycling, has been captured under materials recycling at a rate of 25% of the recorded consignment.

Data Quality – Future Arisings

- 3.11. As with historical arisings, predictions for future waste arisings must be considered with variable amounts of certainty depending on the waste category. Even the most robust predictions incorporate estimates that cannot be considered certain.
- 3.12. LACW projections, for example, are provided by the Waste Disposal Authority (WDA) who has access to accurate waste recordings. The future projections are based on estimates that could take account of population changes, production of waste by individual households, collection service changes and the implementation of district and borough planning permissions. This is the most certain waste stream, and projections for others, such as CD&E waste, should be viewed with less certainty.

Data Quality – Facility Capacity

- 3.13. Waste facilities frequently do not run at full capacity and facilities may even be constructed at a capacity less than that specified in planning permission or in an environmental permit. Furthermore, some sites with a 'standard rules' environmental permit may have a permitted capacity far in excess of what they may be treating due to the nature of the permitting regime. Also, the capacity of a facility may be affected by operational or management practises that do not require changes in planning permission or permit.
- 3.14. Therefore, whilst the regulatory bodies for waste management may know the theoretical maximum capacity of an individual site, they may never know the practical capacity. This means the WPA needs to make a judgement on how to determine the capacity of sites and whether this will change from site-to-site based on local investigations and assessment of recorded data from permitted waste management facilities.

4. Hertfordshire Waste Arisings

- 4.1. Future waste management must be planned for. The WNA accords with the methodology agreed by the East of England Waste Technical Advisory Body (EoEWTAB) and aims to minimise uncertainty where possible and provide an overview of potential capacity gaps for the MWLP plan period.

Local Authority Collected Waste

- 4.2. Municipal waste is also referred to as Local Authority Collected Waste (LACW), and generally consists of household waste and any other wastes collected from Household Recycling Centres (RCs)², commercial or industrial premises, and waste resulting from the clearance of fly-tipped materials and litter. Household waste makes up the majority of municipal waste and for Hertfordshire household waste accounts for 95% of municipal waste (based on 2020 figures).
- 4.3. Records of LACW are considered reliable due to the systematic processes of measuring the waste collected at kerbside by the Waste Collection Authorities (WCAs) or at Household Waste Recycling Centres by the Waste Disposal Authority (WDA). This data is collated nationally and is updated quarterly on a web-based database called WasteDataFlow (WDF) which is publically accessible at: <http://www.wastedataflow.org>

Methodology

- 4.4. Arisings for the baseline LACW data have been obtained from the Local Authority Collected Waste Management Statistics³, which sources the data from WasteDataFlow. Data for this waste stream is up-to-date and accurate.
- 4.5. Data for LACW is reported for financial years, whereas data reported through industry returns and surveys for other waste streams are generally for calendar years. For the purpose of the plan-making process the data will be taken to be on calendar year basis, e.g. data for the year 2020/21 will be taken as 2020; doing so will not significantly alter the results as the majority of the 2020/21 dataset is captured in 2020.

² Also referred to as civic amenity sites and Household Waste Recycling Centres (HWRCs)

³ <https://www.gov.uk/government/statistical-data-sets/env18-local-authority-collected-waste-annual-results-tables>

- 4.6. LACW generated within Hertfordshire and current management methods are summarised in the table below. Management methods were derived from the Defra Local Authority Collected Waste Management Statistics, Waste Data Flow database and council records.

Table 1 - LACW Arisings 2018-2020

<i>Million tonnes</i>	2018	2019	2020	% Of total for 2020
Total	0.516	0.510	0.541	
Recycling	0.141	0.140	0.151	28%
Composting	0.121	0.121	0.129	24%
Other treatment and recovery	0.184	0.173	0.182	34%
<i>EfW/ERF</i>	<i>0.177</i>	<i>0.166</i>	<i>0.173</i>	32%
<i>AD</i>	<i>0.007</i>	<i>0.007</i>	<i>0.009</i>	2%
Non-hazardous landfill	0.070	0.075	0.079	15%

- 4.7. Management of LACW is undertaken through various commercial contracts with the main forms of treatment including anaerobic digestion (AD), thermal treatment (referred to as an energy recovery facility (ERF) and energy from waste (EfW)) and mechanical biological treatment (MBT). Over 50% of LACW is recycled or composted and 15% sent to non-hazardous landfill.

Commercial and Industrial Waste

- 4.8. Commercial and Industrial waste (C&I) is waste produced by commercial businesses and industries. It is collected and measured by private waste companies who manage the waste stream. Individual companies will have records of the waste they collect and send for treatment or disposal but data for the original waste arisings (at point of origin) is not collated and remains unavailable to WPAs.

Methodology

- 4.9. Waste collected from businesses is subject to commercial contracts, and although waste collection companies collect data for their own operational purposes, this information is not available to WPAs. Waste operator returns are submitted to the Environment Agency (EA) through the Duty of Care system with the information collated through the Waste Data Interrogator (WDI) database, maintained by the EA.

- 4.10. The WDI only records waste that passes through a registered waste facility and is not a survey of all waste produced, however this is the most reliable source of data available from which to estimate the amount of waste originating in each WPA area.
- 4.11. The WDI combines figures for LACW and C&I waste together as a single basic waste category, Household, Industrial and Commercial waste (HIC). This is due to the previously mentioned similarity in the composition of the waste streams and the fact that waste managers will not necessarily know the exact origin of the waste. Because LACW is recorded accurately by the WCAs and WDAs in WasteDataFlow and separately by the WDA, it is possible to get a proxy for C&I waste arising by subtracting the WasteDataFlow figures from the WDI output for HIC waste.
- 4.12. It must be noted that although the Environment Agency carry out quality assurance before the WDI figures are published, errors are inevitable due to submission errors on the original waste transfer notes and an element of double-counting which occurs as a result of waste being managed at more than one facility.
- 4.13. HIC data originating from Hertfordshire was extracted from the WDI reporting on 2018 to 2020 industry returns. Each consignment includes a descriptor of the type of waste using the European Waste Code (EWC), these codes were used to filter the returns from the WDI to identify C&I waste.
- 4.14. The following waste types were considered out-of-scope and removed from the dataset for Hertfordshire: Chapter 02 and 19 sludges - including those from treatment of urban waste water (this is accounted for through waste water studies and is treated as sludge treatment centres), industrial waste water, landfill leachate and on-site effluent treatment; Chapter 01 and 19 CD&E waste – including those from mining and quarrying and treatment of minerals, and inert waste residues such as from soil remediation (these wastes are accounted for under CD&E waste stream); and Chapter 20 municipal waste.
- 4.15. Waste recorded through intermediate facilities (including clinical, non-hazardous and hazardous waste transfer stations) were removed from the dataset. The reasoning for removing this component is that waste recorded at intermediate facilities is then transferred onto another facility for further processing and/or treatment (and is then captured again under this facility), whereas for waste which is transferred outside of Hertfordshire it is reasoned

that this waste should be captured as originating from the WPA when received at the processing/treatment facility. Waste recorded through intermediate facilities identified as both transfer & treatment in the WDI, because the facility involves some form of preparation for re-use and/or recycling, has been captured under materials recycling at a rate of 25% of the recorded consignment.

- 4.16. The UK Statistics on Waste (published by Defra, March 2021), includes updated estimates for C&I waste for 2010 to 2019. The updated C&I estimates are derived from the application of the revised 'reconcile' methodology to calculate C&I waste generated in England. It should be noted that the Defra 2021 report clearly acknowledges that C&I waste generation remains extremely difficult to estimate owing to data limitations and data gaps. As a result, C&I estimates for England have a much higher level of uncertainty than municipal waste.
- 4.17. The latest estimates for C&I waste arisings indicate that a total of 37.2Mt was produced in England in 2019 (Defra 2021). Local estimates were produced by applying the plan area's percentage employee count (2.6% of England, NOMIS) for 2019 resulting in a figure of 0.887Mt. The dataset accompanying the Defra 2021 UK Statistics on Waste splits total generation of waste for England by NACE4 economic activities and EWC, in addition it can be filtered based on hazardous and non-hazardous waste (Defra 2021, Table 5.1). The total C&I generation figure significantly reduces when hazardous, CD&E and household wastes are removed; it is assumed that these are captured under their relevant waste streams.
- 4.18. In order to compare this to current arisings as managed the total GVA growth profile (taken from the East of England Forecast Model (EEFM 2019)⁵) was applied to extrapolate the data forward and identify estimated arisings for 2018, 2019 and 2020. It should be noted that the Defra 2021 dataset was not intended to be drilled down to plan area levels and so results derived using this method are acknowledged to represent an estimate only.

⁴ The Statistical classification of economic activities in the European Community, abbreviated as NACE (Nomenclature statistique des activités économiques dans la Communauté européenne).

⁵ The EEFM is maintained by Cambridge Econometrics on behalf of the East of England Local Government Association and can be accessed at <http://cambridgeshireinsight.org.uk/EEFM>

- 4.19. Estimated waste arisings derived from the WDI 2018 – 2020 and Defra 2021 datasets were compared for the purpose of sensitivity testing. In line with avoiding spurious accuracy and to reflect that WDI data is “as managed” (and as such may form a minimum) and that the Defra national arising estimates are not designed to be drilled-down to plan area levels (and so may not be an accurate local representation) the average of the estimates has been taken as the current arisings estimate to inform the plan making process.
- 4.20. In addition, an adjustment factor to account for the effects of the Covid-19 pandemic has been used for 2020 figures, taken from the House of Commons Regional economic indicators (2021).
- 4.21. An estimate of C&I generated within Hertfordshire and current management methods are summarised in the table below.

Table 2 - C&I Arisings 2018-2020

<i>Million tonnes</i>	2018	2019	2020	% Of total for 2020
Total	0.528	0.537	0.497	
Prep for reuse and recycling	0.087	0.163	0.152	31%
Inert recycling	0.009	0.004	0.014	3%
Composting	0.046	0.029	0.003	1%
Other treatment and recovery	0.091	0.093	0.079	16%
Inert recovery	0.000	0.000	0.000	0%
Total n-h landfill incl SNRHW	0.295	0.248	0.250	50%
<i>Non-haz landfill</i>	<i>0.048</i>	<i>0.099</i>	<i>0.122</i>	<i>25%</i>
<i>Non-haz (SNRHW) landfill</i>	<i>0.248</i>	<i>0.149</i>	<i>0.128</i>	<i>26%</i>
Disposal via incineration	0.000	0.000	0.000	0%

Construction, Demolition & Excavation Waste

- 4.22. CD&E waste means waste materials that arise from the construction or demolition of buildings and/or civil engineering projects, including hard construction and demolition waste and excavation waste (including soils). Hard construction and demolition waste may include concrete, bricks, tiles, bituminous mixtures and railway ballast and mixtures of the various components.
- 4.23. Excavation waste may include clean and contaminated soil, stone and rocks arising from land levelling, filling and/or general foundations. The majority of this type of waste is made from inert materials such as concrete, rubble and soils. A small amount of CD&E waste consists of non-inert materials such as

wood, metals and plastic that can be managed via non- hazardous waste treatment facilities. CD&E waste contains a high proportion of recyclable materials.

- 4.24. Data for CD&E waste is not extensive and has historically been considered unreliable. More recently, the data quality has been improving following changes to regulatory regimes which have led to fewer large tonnage exemptions which are instead recorded as permitted waste returns.
- 4.25. Waste operations treating CD&E waste have often been regarded as low risk in terms of protection of human health and the environment meaning that operators could apply for an exemption to the Environment Agency's permitting system and operate outside of the Waste Management Licence regulatory requirements. Operating under an exemption means that details of quantity and waste origin do not need to be submitted to the Environment Agency under the Duty of Care system so cannot be compiled and published in the WDI.
- 4.26. Owing to improvements in data quality it is acknowledged that the proportion of sites that use an exemption when applying waste to land has decreased over the last few years. The coverage of the national datasets for sites operating under the Waste Management Licence or Landfill Regulations is now considered to be more representative of the overall waste landscape than it used to be. The data held by recent publications of the WDI is considered to be a more accurate dataset than previous iterations.

Methodology

- 4.27. CD&E waste "as managed" is reported through the WDI; data on CD&E arisings is not available. Total inert wastes originating from Hertfordshire were extracted from the WDI (this includes wastes received and removed as per C&I wastes). As with other data extracted from the WDI, the inert dataset was cleansed by identifying waste classified as CD&E (including EWC Chapter 17 construction and demolition wastes, Chapter 01 wastes from mining and quarrying, as well as Chapters 19 and 20 soils, sand and stones) and removing waste recorded through intermediate facilities (non-hazardous and hazardous waste transfer sites and recycling centres).

- 4.28. As per the method applied to C&I waste arising, waste recorded through intermediate facilities was removed from the dataset, with waste recorded through transfer/treatment facilities captured under materials recycling at a rate of 25% of the recorded consignment.
- 4.29. The WDI 2018 returns indicate arisings (“as managed”) of 1.416Mt for 2018 from Hertfordshire. Of this around 0.272Mt was identified as wastes other than EWC 170504 non-hazardous soils and stones; the majority (81%) of which was received at facilities involving preparation for reuse, recycling and other forms of recovery. It is widely acknowledged that there is a significant quantity of CD&E waste that is reused on site; this unseen capacity is not captured through the WDI database.
- 4.30. The Defra 2020 UK statistics on waste sets out estimates of CD&E waste (including dredging) for England of 118.7Mt for 2018. Removing dredging spoils from the total CD&E results in a figure of 111.3Mt. Local estimates for 2018 were determined as a percentage of the total estimated CD&E arisings for England based on the gross dwelling completions for Hertfordshire as a percentage of the dwelling completions reported for England. This method produced estimated arisings figures of 2.246Mt for 2018.
- 4.31. National CD&E waste arising reports (Defra 2020) acknowledge that a significant percentage of construction and demolition waste arisings are managed or re-used on-site, or at exempt sites, and that this management capacity is unseen. This may go some way to explaining the variance between estimates and actual “as managed” CD&E arisings reported through surveys and the WDI; with the WDI forming the portion managed at permitted facilities and the remainder being the portion managed or re-used on-site, or at exempt sites.
- 4.32. As such, and in the absence of any more accurate local data, the WDI database is taken to form the best available data regarding CD&E waste requiring management at permitted facilities for which Hertfordshire is responsible for. The “as managed” figure derived from the WDI 2020 is to be taken as the current arisings to inform the plan making process.
- 4.33. An estimate of CD&E generated within Hertfordshire and current management methods are summarised in the table below.

Table 3 - CD&E Arisings 2018-2020

<i>Million tonnes</i>	2018	2019	2020	% Of total for 2020
Total CD&E	2.246	2.265	1.982	
CD&E as managed arisings	1.416	1.724	1.101	
Prep for reuse and recycling	0.033	0.087	0.025	2%
Compost	0	0	0.000	0%
Inert recycling	0.263	0.322	0.306	28%
Other treatment	0.007	0.007	0.003	0%
Soil treatment	0.031	0.047	0.023	2%
Inert recovery/landfill	0.867	1.106	0.572	52%
Total non-haz incl SNRHW	0.216	0.154	0.172	16%
<i>Non-haz landfill</i>	<i>0.168</i>	<i>0.112</i>	<i>0.133</i>	<i>12%</i>
<i>Non-haz (SNRHW) landfill</i>	<i>0.048</i>	<i>0.042</i>	<i>0.039</i>	<i>4%</i>
Incineration no energy recovery	0	0	0.000	0%

Hazardous Waste

- 4.34. Hazardous wastes are harmful to human health and to the environment. Owing to the potential harm from these waste streams, their management rarely occurs at facilities exempt from the Environment Agency's permitting system. Hazardous waste operators therefore submit waste transfer notes to the Environment Agency which can be collated in the WDI and the Hazardous Waste Data Interrogator (HWDI). The HWDI is regarded as the more accurate source and has been used in this study.

Methodology

- 4.35. The HWDI returns indicate arisings ("as managed") for all consignments arising in Hertfordshire. Waste recorded through intermediate facilities was removed from the hazardous waste dataset. The "as managed" figure derived from the HWDI is to be taken as the current arisings to inform the plan making process. This method accords with the EoEWTAB methodology.
- 4.36. An estimate of Hazardous generated within Hertfordshire and current management methods are summarised in the table below.

Table 4 - Hazardous Arisings 2018-2020

Million tonnes	2018	2019	2020	% Of total for 2020
Total	0.039	0.050	0.039	
Recovery & treatment	0.025	0.044	0.034	87%
<i>Recovery & recycling</i>	<i>0.017</i>	<i>0.023</i>	<i>0.014</i>	<i>37%</i>
<i>Recovery & thermal treatment</i>	<i>0.008</i>	<i>0.021</i>	<i>0.020</i>	<i>50%</i>
Landfill	0.013	0.006	0.004	10%
Incineration no EfW	0.001	0.001	0.001	3%

Residual Waste Arisings

- 4.37. Waste materials are also produced as a result of waste treatment processes. An increase in waste diverted from disposal to landfill, treated at sustainable waste management facilities, will result in an increase in residues arising as an output from waste treatment processes. Not all of this material needs be disposed of to landfill; it can be re-used within the operational cycle, further processed using other technologies, used in construction or recycled.
- 4.38. Potential residual waste arisings have been calculated to provide a broad guide to possible arisings over the plan period, however the application of such figures is heavily caveated. Estimated residue output rates are derived from a limited range of technologies that may not reflect the final technologies that come on stream during the plan period. This is due to the dynamic nature of the waste management industry and emerging technologies. Hence it is recognised that, although it is necessary to acknowledge the potential future capacity requirements for disposal, forecasts for residual arisings requiring disposal to landfill cannot be determined with any level of certainty.
- 4.39. The indicative future needs for the plan area do not include residual arisings (in addition to those captured through the WDI dataset) produced from other treatment processes due to the uncertainty associated with the figures.

Summary of Arisings

- 4.40. A summary of 2020 waste arisings totalled by broad management method is shown in the table below.

Table 5 - Summary of 2020 waste arisings (million tonnes)

Waste hierarchy level	Broad management method	2020
<i>Prep for re-use & recycling</i>	Materials recycling (LAC, C&I)	0.327
	Composting (LAC, C&I)	0.132
	Inert recycling (CD&E)	0.320
<i>Other recovery</i>	Treatment & energy recovery (LAC, C&I)	0.215
	Soil treatment (CD&E)	0.023
	Inert recovery (CD&E)	0.572
	Hazardous recovery & treatment	0.034
<i>Disposal</i>	Non-hazardous (LAC, C&I, CD&E)	0.500
	Hazardous Incineration	0.001
	Hazardous landfill	0.004

5. Projection of Waste Arisings

- 5.1. Forecasting waste arisings involves uncertainty but is required to determine whether or not a need exists to plan for additional waste management capacity in the future. The waste chapter of Planning Practice Guidance (PPG) provides advice on how WPAs should forecast arisings, although the advice leaves a degree of freedom for individual WPAs to consider the most appropriate methodology. As previously mentioned, the following projections were undertaken using the agreed EoEWTAB methodology as a starting point.
- 5.2. To understand the level of waste management provision that may be required, it is necessary to establish a suitable forecast as to the type, and amount, of waste likely to be generated in the plan area over the plan period. This will need to take account of wider influences such as expected growth in housing and population, economic growth and infrastructure development. It will also need to take account of the possible impacts of future efforts to avoid or minimise waste.
- 5.3. The arisings set out in Section 4 serve the basis as the baseline data from which projections have been made.

Local Authority Collected Waste

- 5.4. PPG advises that WPAs should prepare a 'growth profile' based on expected housing or population growth and waste arisings per household or per person. This should consider a range of different scenarios such as constant growth rates or a progressive reduction in growth due to waste minimisation initiatives for example.
- 5.5. LACW is the easiest waste stream to forecast with a high degree of certainty, in part due to the systematic historical recording. Waste Collection Authorities (WCAs) and Waste Disposal Authorities (WDAs) need to plan for their future services including the provision of kerbside collection services, RCs and subsequent disposal of residual waste. Therefore, growth projections are updated regularly and with input from teams across the local authorities, ensuring varying sources are incorporated. This provides an element of sense-checking and greater certainty in the findings.
- 5.6. LACW management is subject to commercial contracts that determine current and future management methods and rates. Hertfordshire County

Council as WDA has the following arrangements with waste management facilities outside of Hertfordshire to facilitate disposal/recovery of Hertfordshire's residual LACW. Hertfordshire as WDA aims to bulk up this waste stream for delivery to the facilities below.

Table 6 - Residual Waste Disposal Contract Capacity

Site	Facility Type	Contractual maximum tpa	Contract End Date
Greatmoor ERF and Bletchley Landfill, Buckinghamshire	ERF and Landfill	60,000	31/03/2023
Bletchley Landfill, Buckinghamshire	Landfill	30,000	31/03/2023
Edmonton EfW, North London	ERF	10,000	31/03/2023
Springfield Landfill, Buckinghamshire	Landfill	50,000	31/03/2023
Rookery ERF, Bedfordshire	ERF	40,000	31/03/2023
Ardley ERF, Oxfordshire	ERF	75,000	31/03/2023

- 5.7. In accordance with the Council's Sustainability Action Plan, the tendering opportunity for longer term contracts will prevent the use of landfill as a direct route for treatment of Hertfordshire's residual LACW.
- 5.8. In May 2020 the procurement of long-term (10 to 15 years duration) residual waste treatment/disposal contracts was agreed by Cabinet, to follow on from existing contracts and taking the management of this waste stream to roughly 2039, nearly to the end of the plan period.
- 5.9. Given that Hertfordshire has no non-hazardous landfill of its own, the Council's target of zero LACW to landfill by 2030 is achievable through the provision of new long-term waste contracts for alternative means of final waste disposal. This target has been incorporated into the projections for LACW.
- 5.10. For the purpose of the plan-making process the following target has also been used in projecting LACW arisings.
- 65% of LACW to be recycled or composted by 2035 (as set out in the Sustainable Hertfordshire Strategy 2020).
- 5.11. The following assumptions were made in preparing the LACW forecasts:
- Current recycling and composting rates will not decrease.

- Rates (%) applied to determine household and trade components of total LAC waste, tonnes per person per annum as well as recycling and composting are based on an average of figures over recent years (for the period 2018-2020) with data sourced from Defra LACW statistics, Waste Data Flow and council records.
- Application of targets was achieved by applying an even graduation from current rates (2020) up to the full target rate (applied at the target year).

5.12. LAC waste arisings averaged for the years 2018-2020 were projected from 2021 over the plan period (up to 2040) using a growth profile derived from total net dwelling projections and waste generation as tonnes per dwelling per annum. Planned growth for total net dwellings in Hertfordshire was based on 2018 household projections⁶. Waste generation as tonnes per dwelling per annum was taken at 1.05 tonnes per dwelling, calculated as the average over the last 3-years (2018-2020).

5.13. Existing (2020) and projected LACW arising and management methods over the plan period (at 5-year intervals) are detailed in the table below.

Table 7 – Existing and projected LACW arisings by management method up to 2040

<i>Million tonnes</i>	2020	2025	2030	2035	2040
Total	0.541	0.558	0.578	0.597	0.615
Recycling	0.151	0.165	0.186	0.208	0.215
Composting	0.129	0.143	0.161	0.180	0.185
Other treatment and recovery	0.182	0.250	0.231	0.209	0.215
<i>EFW/ERF</i>	<i>0.173</i>	<i>0.239</i>	<i>0.220</i>	<i>0.200</i>	<i>0.206</i>
<i>AD</i>	<i>0.009</i>	<i>0.011</i>	<i>0.010</i>	<i>0.009</i>	<i>0.010</i>
Non-hazardous landfill	0.079	0.000	0.000	0.000	0.000

5.14. Other biological waste management processes, such as AD, may take up compost capacity where the waste composition input into the facility captures that waste that would otherwise have been processed by composting.

⁶

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/householdprojectionsforengland/2018based>

Commercial and Industrial Waste

- 5.15. The generation of C&I waste has historically been linked to economic activity but recently, production of waste has anecdotally been de-coupled from economic development. This has been brought about by efficiencies in production and packaging that have been driven by a greater awareness of the importance of reducing waste for environmental and financial reasons. It is hard to quantify the exact effect of this de-coupling at a WPA or national scale so economic forecasts and population increases remain key to projecting C&I waste arisings.
- 5.16. An additional problem is that economic forecasts themselves are unreliable because of the number of assumptions they are based on. Nevertheless, economic forecasts are widely used (not just in the waste sector) and are updated regularly. They are considered the most reliable basis for future projections of C&I waste and provide consistency with previous models as well as methodologies for forecasting in other sectors.
- 5.17. Taking the PPG guidance into account, and in line with the agreed EoEWTAB Methodology, the WNA considered use of the EEFM as a basis for projecting growth in the C&I waste stream. The latest forecasts (EEFM 2019) were published in August 2020 and although economic indicators constantly change, this provides a relatively up-to-date basis with which to provide forecasts.
- 5.18. C&I targets have been applied in line with, but 5% less than, the targets to recycle/compost 65% of the LACW waste stream by 2035. For the purpose of the plan-making process targets of 90% recovery by 2030, rising to 95% by 2040 and a maximum 10% disposal to landfill by 2030, reducing to 5% by 2040 for all C&I waste are proposed. The proposed targets are based on overall recovery and disposal rates as this approach is considered to allow for flexibility regarding market demands and commercial contracts.
- 5.19. Growth profiles included both total GVA and total GVA annual % increase (EEFM). These growth profiles were applied to the estimates over the plan period to forecast arisings up to 2040. C&I waste arisings averaged for the years 2018-2020 were projected from 2021 over the plan period (up to 2040). This methodology accords with the EoEWTAB methodology and PPG (Waste, paragraph 032).

5.20. The following assumptions were made in preparing the C&I waste forecasts:

- Growth in C&I waste arisings is a direct factor of economic growth.
- Current recycling, composting and recovery rates will not decrease.
- Application of targets was achieved by applying an even graduation from current rates (2020) up to the full target rate (applied at the target year).
- Waste recorded at intermediate facilities (i.e. waste transfer stations) is subsequently managed, and accounted for, at other waste management facilities (e.g. MRF, treatment, landfill, etc.).
- Waste recorded through intermediate facilities identified as transfer/treatment in the WDI, as the facility involves some form of preparation for re-use and/or recycling, has been captured under materials recycling at a rate of 25% of the recorded consignment.

5.21. Projected C&I waste arising and management methods over the plan period (at 5-year intervals) are detailed in the table below.

Table 8 – Existing and projected C&I waste arisings by management method up to 2040

<i>Million tonnes</i>	2020	2025	2030	2035	2040
Total	0.497	0.557	0.592	0.632	0.674
Prep for reuse and recycling	0.152	0.178	0.236	0.302	0.322
Inert recycling	0.014	0.012	0.016	0.020	0.022
Composting	0.003	0.034	0.045	0.057	0.061
Other treatment and recovery	0.079	0.151	0.236	0.205	0.236
Inert recovery	0.000	0.000	0.000	0.000	0.000
Total n-h landfill incl SNRHW	0.250	0.182	0.059	0.047	0.034
<i>Non-haz landfill</i>	<i>0.122</i>	<i>0.062</i>	<i>0.020</i>	<i>0.016</i>	<i>0.012</i>
<i>Non-haz (SNRHW) landfill</i>	<i>0.128</i>	<i>0.120</i>	<i>0.039</i>	<i>0.031</i>	<i>0.022</i>
Disposal via incineration	0.000	0.000	0.000	0.000	0.000

Construction, Demolition & Excavation Waste

5.22. CD&E waste management is also subject to commercial contracts that determine current and future management methods and rates. As with C&I waste this information is not available to the council and the ability of the council to directly influence such matters is limited, however a similar range of legislative and market drivers (including the Aggregates Levy) are acting on operators to divert waste from landfill.

- 5.23. Because of the potential for significant quantities of CD&E waste arisings to be unseen and previously unrecorded, and because of the planned growth agenda for housing provision and urban regeneration proposed in the recently adopted and emerging District and Borough Local Plans in Hertfordshire, it was considered important to have a high growth scenario. However, due to the recent and rapid upturn in CD&E arisings recorded in the WDI, which in part is due to the upturn in development as the economy recovers out of recession, this rate of growth is unlikely to continue for a further 20 years.
- 5.24. Targets for CD&E waste are limited to that set out in the WFD requiring recovery of at least 70% of C&D wastes by 2020 (excluding naturally occurring material defined in category EWC170504 – non-hazardous soils and stones), including backfilling operations using waste to substitute other materials.
- 5.25. For the purpose of the plan-making process targets for CD&E waste (excluding EWC170504) of 95% recovery and a maximum 5% disposal to landfill by 2030 are proposed; these targets build on the existing WFD target. The proposed targets are based on overall recovery and disposal rates as this approach is considered to allow for flexibility regarding market demands and commercial contracts. Note that there is no block to exceeding the total recovery targets and further reducing landfill/disposal rates.
- 5.26. As previously outlined, and in line with the EoEWTAB methodology, the “as managed” figures derived from the WDI 2018-2020 were averaged and projected from 2021 over the plan period (up to 2040). Estimated waste arisings derived from the WDI 2020 and Defra 2020 datasets were also compared for the purpose of sensitivity testing, with the WDI figures identified as best representing waste requiring management within the plan area (whereas other estimates represented total arising’s, which includes a portion that is re-used or managed on-site or at exempt sites).
- 5.27. A growth profile, based on gross dwelling completions (forming a more conservative approach), was applied to the arisings as managed averaged for the years 2018-2020 were forecast from 2021 over the plan period to 2040.

- 5.28. Forecasts for gross dwelling completions were based on 2018 Household Projections, historic gross completion rates and estimates from LPA projected housing completions.
- 5.29. In addition, an adjustment factor to account for the effects of the Covid-19 pandemic has been used for 2021-2024 figures sourced from the Construction Products Association (CPA) January 2022 Winter Construction Industry Forecasts.
- 5.30. The following assumptions were made in preparing the CD&E waste forecasts:
- Gross dwelling completion forecasts indicate general construction activity likely to take place and waste generation.
 - Current recycling and recovery rates will not decrease.
 - Application of targets was achieved by applying an even graduation from current rates (2020) up to the full target rate (applied at the target year).
 - There is a significant quantity of CD&E waste that is reused on site, this will continue to be the case; this unseen capacity is not captured through the WNA forecasts or capacity analysis.
 - Waste recorded at intermediate facilities (i.e. waste transfer stations) is subsequently managed, and accounted for, at other waste management facilities (e.g. MRF, treatment, landfill, etc.).
 - Waste recorded through intermediate facilities identified as transfer/treatment in the WDI, as the facility involves some form of preparation for re-use and/or recycling, has been captured under materials recycling at a rate of 25% of the recorded consignment.
- 5.31. Projected CD&E waste arising and management methods over the plan period (at 5-year intervals) are detailed in the table below.

Table 9 – Existing and projected CD&E waste arisings by management method up to 2040

<i>Million tonnes</i>	2020	2025	2030	2035	2040
Total CD&E	1.982	1.446	1.424	1.408	1.285
CD&E as managed arisings	1.101	1.032	1.016	1.004	0.917
Prep for reuse and recycling	0.025	0.036	0.039	0.038	0.035
Compost	0.000	0.000	0.000	0.000	0.000
Inert recycling	0.306	0.237	0.250	0.247	0.226
Other treatment	0.003	0.005	0.005	0.005	0.005
Soil treatment	0.023	0.025	0.026	0.026	0.024
Inert recovery/landfill	0.572	0.630	0.645	0.638	0.582
Total non-haz incl SNRHW	0.172	0.098	0.050	0.050	0.045
<i>Non-haz landfill</i>	<i>0.133</i>	<i>0.075</i>	<i>0.038</i>	<i>0.038</i>	<i>0.034</i>
<i>Non-haz (SNRHW) landfill</i>	<i>0.039</i>	<i>0.023</i>	<i>0.012</i>	<i>0.012</i>	<i>0.011</i>
Incineration no energy recovery	0.000	0.000	0.000	0.000	0.000

5.32. In the table above, inert recovery includes beneficial deposit of inert waste to land associated with the restoration of mineral extraction sites with extant permission.

Hazardous Waste

5.33. There are no targets for the management of hazardous wastes. Hazardous wastes are generated from a wide array of uses and operations (from households, healthcare/medical and industry); as such the drivers that act on municipal, C&I and CD&E wastes also influence the generation and management of hazardous waste. Time series data for hazardous waste arisings was extracted from the HWDI for the last five years (2016-2020).

5.34. Commercial and industrial business sector operations are thought to account for a large proportion of hazardous wastes generated. The records presented in the HWDI are considered reliable and it is considered robust to extrapolate an average figure of the last three years (2018-2020) reported by the HWDI in line with the Total GVA projections from the EEFM. This approach links the production of hazardous wastes to commercial and industrial activity.

5.35. The following assumptions were made in preparing the C&I waste forecasts:

- Growth in hazardous waste reflects that of C&I waste.
- Current recycling and recovery rates will not decrease.

- Waste recorded at intermediate facilities (i.e. waste transfer stations) is subsequently managed, and accounted for, at other waste management facilities (e.g. MRF, treatment, landfill, etc.), as indicated in the WDI (e.g. Transfer (D) / Transfer (R) indicates waste transfer prior to disposal / recovery).

5.36. Projected hazardous waste arising and management methods over the plan period (at 5-year intervals) are detailed in the table below.

Table 10 – Existing and projected Hazardous waste arisings by management method up to 2040

Million tonnes	2020	2025	2030	2035	2040
Total	0.039	0.044	0.047	0.050	0.054
Recovery & treatment	0.034	0.035	0.037	0.040	0.042
<i>Recovery & recycling</i>	<i>0.014</i>	<i>0.019</i>	<i>0.020</i>	<i>0.021</i>	<i>0.022</i>
<i>Recovery & ther treatment</i>	<i>0.020</i>	<i>0.017</i>	<i>0.018</i>	<i>0.019</i>	<i>0.020</i>
Landfill	0.004	0.008	0.009	0.009	0.010
Incineration no EfW	0.001	0.001	0.001	0.001	0.001

Summary of Projections

5.37. A summary of the waste projections in this Section are shown in the table below, set out by broad management method.

Table 11 - Existing and projected waste arisings by management method up to 2040

Waste hierarchy level	Broad management method	2020	2025	2030	2035	2040
<i>Prep for re-use & recycling</i>	Materials recycling (LAC, C&I)	0.327	0.380	0.461	0.548	0.572
	Composting (LAC, C&I)	0.132	0.177	0.206	0.237	0.246
	Inert recycling (CD&E)	0.320	0.249	0.266	0.268	0.247
<i>Other recovery</i>	Treatment & energy recovery (LAC, C&I)	0.215	0.336	0.362	0.324	0.347
	Soil treatment (CD&E)	0.023	0.025	0.026	0.026	0.024
	Inert recovery (CD&E)	0.572	0.630	0.645	0.638	0.582
	Hazardous recovery & treatment	0.034	0.035	0.037	0.040	0.042
<i>Disposal</i>	Non-hazardous (LAC, C&I, CD&E)	0.500	0.280	0.109	0.097	0.079
	Hazardous Incineration	0.001	0.001	0.001	0.001	0.001
	Hazardous landfill	0.004	0.008	0.009	0.009	0.010

6. Waste Movements

- 6.1. It is important to note that waste does not necessarily remain within the authority, or even the region where it arises. This provides further uncertainty with regards to planning for waste's management. It is possible that some WPAs manage more waste than they generate and the level of inter-authority transfer can change significantly from year to year based on the development of new sites, changes to WCA services or merely commercial decision-making.
- 6.2. Not all waste can be managed within the boundary of the WPA from within which it arises. This is due to contractual arrangements, operational networks and capacity requirements as well as geographical convenience and other factors. There will normally be some movement of waste into and out of WPAs; this is reflected by the position of seeking net self-sufficiency.
- 6.3. The best source of data to record waste movements is the WDI which categorises waste as Household, Industrial and Commercial (HIC), Inert/Construction and Demolition (Inert/C&D) or Hazardous. In this instance, it was considered appropriate to leave LACW and C&I waste together (as HIC) rather than attempt to separate them.
- 6.4. Waste movements have been determined by analysing data extracted from the WDI 2020 based on all waste received at facilities within Hertfordshire (imports) and all waste received by other WPAs with waste originating from Hertfordshire (exports).
- 6.5. As with previous methodologies, waste recorded through intermediate facilities identified as both transfer & treatment in the WDI has been captured under materials recycling at a rate of 25% of the recorded consignment.
- 6.6. Waste under the EWC waste code 190805 sludges from treatment of urban wastewater (accounted for through wastewater studies and is treated as sludge treatment centres) was considered out-of-scope and removed from the dataset for imports and exports.
- 6.7. The source of Hazardous waste movements is the HWDI, with waste recorded through intermediate facilities removed from the hazardous waste dataset. All figures have also been rounded to the nearest 1,000 tonnes.

- 6.8. Overall Hertfordshire is a net importer of waste, with slightly more waste imported than exported in 2020. This demonstrates how waste movements can vary dependant on commercial contracts and market drivers.

Waste imports from other WPAs

- 6.9. Table 12 shows the waste imported to Hertfordshire by waste region. In 2020, a total of 1.665Mt was reported as being received at waste management facilities in the plan area, with the largest contribution being Inert/C+D waste.

Table 12 - 2020 Waste imports by region (million tonnes)

	Hhold/Ind/Com	Inert/C+D	Haz	Total
East Midlands	0.033	-	0.001	0.034
East of England	0.192	0.069	0.009	0.270
London	0.313	0.753	0.022	1.088
North East	-	-	-	-
North West	-	-	-	-
South East	0.164	0.049	0.007	0.220
South West	0.006	-	0.001	0.007
Wales	0.003	-	-	0.003
West Midlands	0.038	-	-	0.038
Yorks & Humber	0.002	-	0.003	0.005
Total	0.751	0.871	0.043	1.665

- 6.10. The above table shows that a quantity of waste greater than that of the combined LACW (Table 1) and C&I (Table 2) 2020 waste arisings (1.038Mt) in Hertfordshire was imported into the county, having arisen elsewhere. This adds a significant amount of waste to the Hertfordshire waste management sector.
- 6.11. Furthermore, the majority of imported waste originates from London. Negligible amounts of waste were received from the North East, North West, South West, Yorks & Humber and Wales.

Table 13 - 2020 HIC waste imports

Top 5 WPAs	HIC (t)
Essex	142,000
Buckinghamshire	54,000
Kent	42,000
Herefordshire	22,000
Lincolnshire	18,000

6.12. The five highest HIC imports from individual WPAs are shown in Table 11 above. When combined, they still comprise less waste than that which is imported from London. Essex contributes the largest proportion of HIC imports from the East of England region.

Table 14 - 2020 Inert/C+D waste imports

Top 5 WPAs	Inert/C+D (t)
Barnet	144,000
Enfield	60,000
Westminster City	59,000
Harrow	58,000
Brent	57,000

6.13. The five highest Inert/C+D imports from individual WPAs are shown in Table 14. All five WPAs shown are London WPAs, falling mostly in the Northern part of London. Over 85% of Inert/C+D waste imported originates from London

Table 15 - 2020 Hazardous waste imports

Top 5 WPAs	Haz (t)
Bexley	12,000
Essex	5,000
Hackney	3,000
Barnsley	3,000
Ealing	1,000

6.14. The five highest Hazardous imports from individual WPAs are shown in Table 15. The largest exporter of hazardous waste to Hertfordshire was the London Borough of Bexley, contributing over half of the total hazardous imports received from London. The total hazardous waste imports were a similar amount as the total waste arisings in Hertfordshire in 2020.

Waste exports to other WPAs

- 6.15. Table 16 shows the waste exported from Hertfordshire by waste region. In 2020, a total of 1.110Mt was reported as being received at waste management facilities outside of the plan area, with the largest contribution being CD&E waste.

Table 16 - 2020 Waste exports by region (million tonnes)

	Hhold/Ind/Com	Inert/C+D	Haz	Total
East Midlands	0.006	0.002	0.007	0.015
East of England	0.086	0.331	0.010	0.427
London	0.047	0.185	0.004	0.236
North East	0.006	-	-	0.006
North West	0.007	0.002	0.001	0.010
South East	0.305	0.077	0.005	0.387
South West	0.003	-	-	0.003
Wales	-	-	-	-
West Midlands	0.012	0.001	0.007	0.020
Yorks & Humber	0.001	0.007	-	0.008
Total	0.473	0.605	0.032	1.110

- 6.16. The above table shows that a total of 1.11Mt of waste was exported out of the county, having arisen within Hertfordshire. This is lower than the 1.665Mt of waste imported (Table 12), meaning that Hertfordshire is a net importer of waste.
- 6.17. Furthermore, the majority of exported waste was sent within the East of England, London and the South East. Negligible amounts of waste were exported to the North East, South West, Wales and Yorks & Humber.

Table 17 - 2020 HIC waste exports

Top 5 WPAs	HIC (t)
Milton Keynes	130,000
Oxfordshire	72,000
Buckinghamshire	60,000
Enfield	34,000
Kent	31,000

- 6.18. The five highest HIC exports to individual WPAs are shown in Table 17. The majority of HIC is exported to Milton Keynes, Oxfordshire and Buckinghamshire which corresponds to areas where Hertfordshire's WDA has waste contracts for LACW.

Table 18 - 2020 Inert/C+D waste exports

Top 5 WPAs	Inert/C+D (t)
Enfield	149,000
Central Bedfordshire	146,000
Bedford	62,000
Cambridgeshire	52,000
Essex	48,000

6.19. The five highest Inert/C+D exports to individual WPAs are shown in Table 18. Over half of the total Inert/C+D exports were sent to the East of England.

Table 19 - 2020 Hazardous waste exports

Top 5 WPAs	Haz (t)
Cambridgeshire	5,000
Thurrock	3,000
Sandwell	2,000
Northamptonshire	2,000
Wolverhampton	2,000

6.20. The five highest Hazardous exports to individual WPAs are shown in Table 19. Hazardous waste exports from Hertfordshire are well distributed to different regions with no singular authority receiving more than 16% of the total hazardous exports. This distribution highlights the fact that, owing to the small volumes of wastes involved, and the specialist nature of certain hazardous waste facilities, they are located at a greater than regional scale.

7. Waste Management Capacity & Gaps

Estimated existing capacity

- 7.1. The limitations related to the data used to determine the capacity of waste management facilities is discussed in paragraphs 3.13 and 3.14, which note that whilst the regulatory bodies for waste management may know the theoretical capacity of an individual site, they may not know the actual maximum quantity of waste that a facility will manage annually.
- 7.2. The WPA needs to make a judgement on how to determine the capacity of sites and whether this will change from site-to-site based on local investigations. This section provides an overview of waste management facilities in Hertfordshire as of 2020 to identify the current capacity.
- 7.3. There are many existing waste sites operating within the plan area that already contribute towards supporting sustainable communities and meeting future needs. The majority of these facilities are expected to continue to operate throughout the plan period. The estimated existing waste management capacity is set out in the tables below and is made up from a variety of facilities located throughout the plan area. Capacities of individual waste facilities in Hertfordshire are set out in Appendix 1.
- 7.4. Reviewing the WDI data by 'Site Category' and filtered to Hertfordshire for 'Facility WPA' gives an indicative capacity based on historical throughput of facilities. However, the county council's own annual surveys of local waste sites reveals discrepancies in the way that waste operators have reported annual waste throughput to regulatory bodies. As such, rather than base capacity on overall facility-type throughput from one source, each known waste site was analysed individually so that a capacity could be determined based on a combination of WPA survey returns, WDI figures, planning permissions and environmental permits. This gave an element of flexibility where evidence was limited for a facility and allowed the WPA to select what seemed the most appropriate figure for a realistic capacity.
- 7.5. Where available, returns for individual sites were collated from EA datasets (i.e. WDI and incinerator returns) for the period 2015 to 2020. The highest capacity over this six-year period has been taken to be the estimated existing capacity for the site (figures rounded to nearest 100 tonnes) and applied over the remaining plan period (2021 to 2040), unless other available information (as mentioned in paragraph 7.4) suggested otherwise (e.g. grant

of recent planning permission, planned closure or rationalisation of operator assets).

- 7.6. Where facilities have been identified as transfer stations that also include materials recycling processes, 25% of their capacity has been assumed to contribute towards capacity for materials recycling.

Table 20 - Estimated existing and future waste management capacity (million tonnes per annum)

Waste hierarchy level	Broad management method	2020	2025	2030	2035	2040
<i>Prep for re-use & recycling</i>	Materials recycling (LAC, C&I)	0.598	0.598	0.598	0.598	0.598
	Composting (LAC, C&I)	0.127	0.127	0.127	0.127	0.127
	Inert recycling (CD&E)	0.276	0.276	0.276	0.276	0.276
<i>Other recovery</i>	Treatment & energy recovery (LAC, C&I)	0.355	0.355	0.355	0.355	0.355
	Soil treatment (CD&E)	0.032	0.032	0.032	0.032	0.032
	Inert recovery (CD&E)	1.118	1.118	0.923	0.000	0.000
	Hazardous recovery & treatment	0.073	0.073	0.073	0.073	0.073
<i>Disposal</i>	Non-hazardous (LAC, C&I, CD&E)	0.000	0.000	0.000	0.000	0.000
	Hazardous Incineration	0.000	0.000	0.000	0.000	0.000
	Hazardous landfill	0.000	0.000	0.000	0.000	0.000

- 7.7. Information regarding planned closures has been incorporated in order to inform the capacity over the plan period and identification of future needs (i.e. fluctuations in capacity gaps), where no information on planned closures was available the planning permission end date has been applied.
- 7.8. It is important to note that capacity for sites that do not have planning permission has not been included. In addition, capacity of exempt sites has also not been included. The capacity estimates only capture the capacity of operational sites with extant planning permission.
- 7.9. Some sites have reported reduced (or zero) throughput in recent years, this is generally associated with smaller metal recycling and End of Life Vehicle facilities. However this capacity is assumed to be available to be utilised or raised to previous levels for future years and has been included where considered appropriate.

- 7.10. Additional capacity for inert recovery throughout the plan period is expected to come from mineral sites arising from areas allocated within the emerging Minerals and Waste Local Plan. Some of these areas currently have planning applications in progress or have received permission in principle and so there is good prospect for their implementation.

Anticipated future needs

- 7.11. In this section (and in Table 21 below), a 'gap' or shortfall in waste management capacity is shown as a negative figure (representing the additional capacity needed to close the gap) and an excess in capacity is shown as a positive figure.
- 7.12. Hertfordshire signed a Memorandum of Understanding with all the WPAs in the East of England which committed all the authorities to plan for net self-sufficiency and plan positively to meet any shortfalls in recovery and disposal capacity. Each WPA is planning for enough waste management capacity to manage an amount of waste equivalent to the arisings of their own county. This does not prevent the importation and exportation of waste but seeks to reduce the need to export waste great distances and ensure that the region as a whole can manage its own waste.
- 7.13. In order to ascertain future needs the capacity gaps must be identified, this is the difference between the existing/future capacity and the forecasted waste arisings requiring management. The future needs represent the capacity required to manage waste appropriately to achieve relevant targets and deliver net self-sufficiency over the plan period. These should be taken as indicative figures.
- 7.14. The indicative future needs (i.e. that needed in addition to the existing estimated capacity) over the plan period are set out in the table below.

Table 21 - Summary of current (2020) and future waste needs 2025 to 2040

Waste hierarchy level	Broad management method	2020	2025	2030	2035	2040
Prep for re-use & recycling	Materials recycling (LAC, C&I)	0.271	0.219	0.137	0.050	0.027
	Composting (LAC, C&I)	-0.005	-0.050	-0.079	-0.110	-0.120
	Inert recycling (CD&E)	-0.045	0.026	0.009	0.008	0.028
Other recovery	Treatment & energy recovery (LAC, C&I)	0.111	-0.010	-0.036	0.001	-0.021
	Soil treatment (CD&E)	0.008	0.006	0.006	0.006	0.008
	Inert recovery (CD&E)	0.547	0.488	0.277	-0.638	-0.582
	Hazardous recovery & treatment	0.039	0.038	0.036	0.034	0.031
Disposal	Non-hazardous (LAC, C&I, CD&E)	-0.500	-0.280	-0.109	-0.097	-0.079
	Hazardous Incineration	-0.001	-0.001	-0.001	-0.001	-0.001
	Hazardous landfill	-0.004	-0.008	-0.009	-0.009	-0.010

- 7.15. Overall, the plan area is relatively well placed in terms of net self-sufficiency for waste management, having sufficient capacity with regards to net self-sufficiency for materials recycling, inert recycling, soil treatment and hazardous recovery and treatment throughout the plan period; and inert recovery for most of the plan period.
- 7.16. By the end of the plan period management types with gaps are all anticipated to be below 0.1Mtpa, with the exception of composting and inert recovery.
- 7.17. Hazardous arisings sent to incineration and hazardous landfill are small amounts currently exported to facilities outside of Hertfordshire. These waste streams requiring management at specialist waste facilities are considered to be managed by wider geographical markets and there is currently no evidence to warrant development of facilities for the management of hazardous wastes within the plan area.
- 7.18. With regard to CD&E waste managed via inert recovery, it is anticipated that mineral extraction sites allocated within the Plan will require inert waste material for restoration use (with restoration required through policies in the Plan), thus filling anticipated gaps for inert recovery. The three allocated sites; The Briggens Estate, Hatfield Aerodrome and Land adjoining Coopers Green Lane, are anticipated to provide a combined total of 20.32Mt of potential workable reserves. Just 25% of this amount required as inert waste

for restoration use would provide sufficient capacity to meet the anticipated inert recovery gaps which span the period from 2033-2040. The exact figure will vary dependant on landform and volume to waterbodies to be created. This example demonstrates the importance of diverting suitable CD&E waste from landfill in order to facilitate delivery of appropriate restoration outcomes.

- 7.19. There is also a potential need for composting capacity (0.12Mtpa by 2040). Composting capacity for LACW is currently supplemented by a combination of internal and external waste contracts. An expansion of existing capacity and new privately owned organic waste facilities in the County would increase competition and bolster resilience and would therefore be supported and enabled by policies in the Plan.
- 7.20. Capacity gaps for the disposal of non-hazardous waste is expected to go from 0.500Mtpa in 2020 and decrease to 0.079Mtpa by the end of the plan period. The procurement of regional disposal contracts with ERFs is anticipated to fulfil the need in the short term at the start of the plan period. It is unlikely that additional disposal capacity will be brought forward as new non-hazardous landfill and waste incineration (with no energy recovery) would not be supported by policies in the Plan.
- 7.21. In May 2020 the procurement of long-term (10 to 15 years duration) residual waste treatment/disposal contracts were agreed by Cabinet. This means the WDA will be reliant on regional, or potentially national, treatment and disposal facilities depending on available capacity and cost with competition for the use of facilities from other authorities and waste management companies.
- 7.22. Existing contracts for the treatment and disposal of residual LACW are in place up until the end of March 2023 with an option to extend these arrangements until the end of March 2024, should both parties agree.
- 7.23. In January 2022, the council published procurement documents for long-term residual waste disposal seeking non-landfill solutions from bidders. Contracts are currently in the process of being agreed and finalised and will take the management of this waste stream to 2034 with the option to extend to 2039, nearly to the end of the plan period.

8. Conclusions

- 8.1. The focus of the County Council is to seek to provide sufficient capacity to manage the equivalent to the anticipated waste arisings in Hertfordshire over the plan period and direct greater levels of waste away from final disposal.
- 8.2. Waste arisings for Hertfordshire totalled around 2.178Mtpa in 2020; this includes municipal, C&I, CD&E and hazardous waste. Forecasts indicate that waste arisings could increase to 2.260Mtpa by the end of the plan period (2040).
- 8.3. For most broad management methods there is sufficient capacity to manage anticipated waste arisings to the end of the plan period, with other management methods anticipated to have relatively small gaps by the end of the plan period.
- 8.4. There is sufficient waste management capacity within Hertfordshire with respect to: materials recycling, inert recycling, soil treatment and hazardous recovery and treatment throughout the plan period; and inert recovery for most of the plan period.
- 8.5. Although there is a shortfall in inert recovery capacity this additional capacity can be accommodated by void space associated with restoration of mineral extraction sites. No new inert landfill or recovery sites (not associated with restoration of mineral extraction sites) are required over the plan period.
- 8.6. The waste stream with the largest short-term shortfall in capacity is non-hazardous waste requiring disposal. This gap will mostly be met through regional disposal contracts at ERFs which will be in place up to 2039, by which time increases in recycling rates are anticipated to bring non-hazardous arisings requiring disposal below 0.1Mtpa.

Appendix 1

Site name	Operator	Post Code	Planning Permission Capacity (tpa)	EA permitted capacity (tpa)	Highest WDI operational capacity	WNA Management Type	Capacity as of 2020
St Albans H W R C	Amey Cespa (East) Ltd	AL1 4AP	-	24,000	5,683	HWRC	5,683
Redbournbury Treatment Plant - EPR/BW3281IA	Veolia ES (UK) Limited	AL3 6PR	-	76,950	64,183	Hazardous treatment	64,183
St Albans Service Centre	Veolia E S (U K) Limited	AL4 0JY	70,000	50,000	62,742	Non-hazardous Transfer	62,742
Pearce Recycling Limited	Pearce Recycling Company Ltd	AL4 0JZ	-	-	116,656	Material recycling facilities	116,656
Factory Unit Y	Blancomet Recycling U K Limited	AL4 0LB	16,200	-	976	Metal recycling and End of life vehicles (ELV)	976
North London Anaerobic Digestion Facility EPR/MP3934QN	Severn Trent Green Power (North London) Limited	AL4 0PG	48,500	-	72,460	AD and other biological treatment	72,460

Site name	Operator	Post Code	Planning Permission Capacity (tpa)	EA permitted capacity (tpa)	Highest WDI operational capacity	WNA Management Type	Capacity as of 2020
Tyttenhanger Landfill Site	Tarmac Aggregates Limited	AL4 0PG			759,514	Inert recovery	922,620
Sandridge Gate Transfer Station	Veolia E S (U K) Limited	AL4 9XR	-	7,000	2,110	Non-hazardous Transfer	2,110
Harpenden H W R C	Amey Cespa (East) Ltd	AL5 1QB		8,000	5,128	HWRC	5,128
Tewin Rd Depot, Welwyn Gc	Urbaser Limited	AL7 1BD	-	24,999	5,473	Hazardous Transfer	5,473
Welwyn Garden City Hazardous Waste Treatment and Transfer Facility - EPR/ZP3535T	The Honeywagon Co. Ltd.	AL7 4SR	-	52,000	9,190	Hazardous treatment	9,190
Ground Waste Recycling Ltd	Ground Waste Recycling Ltd	AL7 4SR	-	75,000	52,884	Material recycling facilities	13,221
Burnside	B P Mitchell (Haulage Contractors) Ltd	AL9 5RB	-	154,000	4,260	Material recycling facilities	4,260

Site name	Operator	Post Code	Planning Permission Capacity (tpa)	EA permitted capacity (tpa)	Highest WDI operational capacity	WNA Management Type	Capacity as of 2020
Burnside No 2 Transfer Station	Peters Brothers Ltd	AL9 5RB	25,000	-	23,030	Inert recycling	5,758
A W A Refiners Ltd	A W A Refiners Ltd	CM20 2SE	-	-	809	Metal recycling and End of life vehicles (ELV)	809
Carmageddon Salvage	Stevens Carl	CM21 0LX	-	-	483	Metal recycling and End of life vehicles (ELV)	483
The Jaguars	C & C Metal Trading Limited	CM22 6SJ	-	-	13,510	Metal recycling and End of life vehicles (ELV)	13,510
Bishops Stortford H W R C	Amey Cespa (East) Ltd	CM23 5RG	-	24,999	4,626	HWRC	4,626
Etteridge Farm Depot	A H Nicholls & Sons Limited	EN10 7QP	-	49,999	40,654	Inert recycling	40,654
Froom & Co Essex Road	Stratford David	EN11 0AS	-	-	17,628	Non-hazardous Transfer	17,628
Hoddesdon H W R C	Amey Cespa (East) Ltd	EN11 0BZ	-	24,999	2,626	HWRC	2,626
The Geddings	Advanced Demolition Limited	EN11 0BZ	-	75,000	22	Material recycling facilities	6

Site name	Operator	Post Code	Planning Permission Capacity (tpa)	EA permitted capacity (tpa)	Highest WDI operational capacity	WNA Management Type	Capacity as of 2020
Robert Gibbs (Contracting) Co. Ltd	Robert Gibbs (Contracting) Company Limited	EN11 0EW	-	120,000	51,325	Metal recycling and End of life vehicles (ELV)	51,325
Hoddesdon EfW Plant EPR/UP3038WA	Hoddesdon Energy Ltd	EN11 0RF	100,000	112,915	38,874	EfW - thermal treatment	100,000
Hoddesdon AD Facility EPR/KP3138EV	Tamar Renewable Power (Hoddesdon) Ltd	EN11 0RF	60,000	-	55,225	AD and other biological treatment	55,225
Willen Biogas Ltd	Willen Biogas Ltd	EN2 8AU	-	<75,000 tpy	17,829	AD and other biological treatment	17,829
Cattlegate Farm - EPR/KP3939RQ	Willen Biogas Limited	EN2 8AU			24,686	Compost	24,686
Potters Bar H W R C	Amey Cespa (East) Ltd	EN6 3JN	-	24,999	5,085	HWRC	5,085
Cranbourne Road Ind Estate, Potters Bar	Coley Ltd	EN6 3JN	-	20,000	21,887	Non-hazardous Transfer	21,887

Site name	Operator	Post Code	Planning Permission Capacity (tpa)	EA permitted capacity (tpa)	Highest WDI operational capacity	WNA Management Type	Capacity as of 2020
South Mimms Composting Site - EPR/LP3734QT	Severn Trent Green Power (Hertfordshire) Limited	EN6 3NA	75,000	75,000	52,544	Compost	52,544
Broxbourne Business Centre, Cheshunt	Borough Of Broxbourne	EN8 0NP	-	5,000	11,150	Non-hazardous Transfer	11,150
Turnford H W R C	Amey Cespa (East) Ltd	EN8 0NP	-	24,999	5,609	HWRC	5,609
Hunts Carbreakers, Cupid Green	Hunt Martin	HP2 7AZ	-	-	2,546	Metal recycling and End of life vehicles (ELV)	2,546
Cupid Green Depot	Dacorum Borough Council	HP2 7BA	-	73,200	45,184	Hazardous Transfer	45,184
J F Bishop & Son	J F Bishop & Son Ltd	HP2 7BW	-	-	42,685	Material recycling facilities	10,671
Hemel Hempstead H W R C	Amey Cespa (East) Ltd	HP2 7DU	-	24,999	5,538	HWRC	5,538
Holywell Hemel Hempstead	Holywell Haulage Ltd	HP2 7DX	75,000	-	39,364	Material recycling facilities	9,841
Peter John Brown	Brown Peter John	HP2 7JH	-	-	1,357	Metal recycling and End of life	1,357

Site name	Operator	Post Code	Planning Permission Capacity (tpa)	EA permitted capacity (tpa)	Highest WDI operational capacity	WNA Management Type	Capacity as of 2020
						vehicles (ELV)	
Chesham Road, Wiggington	A G Evans Ltd	HP23 6JG	-	25,000	13,973	Metal recycling and End of life vehicles (ELV)	13,973
Berkhamsted H W R C	Amey Cespa (East) Ltd	HP4 1TL	-	24,999	2,799	HWRC	2,799
Dog Kennel Farm	T O C Recycling Ltd	LU2 8LQ	24,999	24,999	488	Metal recycling and End of life vehicles (ELV)	488
Hertfordshire Skip Hire Ltd Treatment And Transfer Facility	Herts Skiphire Limited	SG1 2BP	-	-	6,189	Material recycling facilities	6,189
Leyden Road HW TS EPR/SP3130RY	Biffa Waste Services Limited	SG1 2BP	-	-	3,630	Hazardous Transfer	3,630
Stevenage H W R C	Amey Cespa (East) Ltd	SG1 2DF	-	12,000	10,098	HWRC	10,098
Stevenage Borough Council, Cavendish Road	Stevenage Borough Council	SG1 2ES	25,000	25,000	28,155	Hazardous Transfer	28,155

Site name	Operator	Post Code	Planning Permission Capacity (tpa)	EA permitted capacity (tpa)	Highest WDI operational capacity	WNA Management Type	Capacity as of 2020
Alchemy Metals Limited	Alchemy Metals Limited	SG1 2EU	-	-	23,555	Metal recycling and End of life vehicles (ELV)	23,555
Ultratec House	Ultratec Limited	SG1 4SZ	75,000	75,000	259	Waste electrical and electronic equipment (WEEE)	259
The Vineries	Guy & Wright Limited	SG10 6JJ	36,500	10,000	28,784	MBT/MHT and production of SRF/RDF	28,784
Ware H W R C	Amey Cespa (East) Ltd	SG12 0EL	10,000	24,999	4,005	HWRC	10,000
Rye Meads Waste Import Facility	Thames Water Utilities Limited	SG12 8JY			175,395	Other/Storage	-
Hunsdon Skips Ltd	Hunsdon Skip Hire Limited	SG12 8QA	-	-	7,393	Material recycling facilities	1,848
Lower Hatfield Road	Aggregate Industries U K Ltd	SG13 8LE	75,000	75,000	31,654	Soil treatment	31,654
Cole Green H W R C	Amey Cespa (East) Ltd	SG14 2NL	-	24,999	3,679	HWRC	3,679

Site name	Operator	Post Code	Planning Permission Capacity (tpa)	EA permitted capacity (tpa)	Highest WDI operational capacity	WNA Management Type	Capacity as of 2020
Panshanger Quarry	B P Mitchell (Haulage Contractors) Ltd	SG14 2NL			234,362	Inert recovery	195,843
Highfields	B P Mitchell (Haulage Contractors) Limited	SG14 2NR	-	200,000	199,540	Inert recycling	199,540
Altigo Ltd	Altigo Limited	SG14 3NU	5,000	5,000	408	Metal recycling and End of life vehicles (ELV)	408
Bridge Works	Nationwide Metal Recycling Ltd	SG4 0SA	-	25,000	28,063	Metal recycling and End of life vehicles (ELV)	28,063
Wallace Way Metal Recycling Facility EPR/WP3539RL	Metal and Waste Recycling Ltd	SG4 0SE	-	280,000	247,896	Metal recycling and End of life vehicles (ELV)	247,896
Winters House	Uskip Hire Limited	SG4 0TJ	-	75,000	39,216	Material recycling facilities	9,804
The Envirowaste Recycling Centre	Stevenage Skip Hire Ltd	SG4 7EQ	75,000	75,000	14,729	Other forms of treatment - physical, physical	3,682

Site name	Operator	Post Code	Planning Permission Capacity (tpa)	EA permitted capacity (tpa)	Highest WDI operational capacity	WNA Management Type	Capacity as of 2020
						chemical, chemical, etc.	
Langley Elv	Mr Hugh Neave	SG4 7PQ	-	-	116	Metal recycling and End of life vehicles (ELV)	116
Mk Cars	Khan Mohammed	SG4 8LS	-	-	28	Metal recycling and End of life vehicles (ELV)	28
Hitchin Transfer Station	F C C Waste Services (U K) Limited	SG5 1RT	-	74,999	38,576	Material recycling facilities	9,644
Letchworth H W R C	Amey Cespa (East) Ltd	SG6 1HB	-	24,999	6,893	HWRC	6,893
Electronic Waste Recycling Ltd	Electronic Waste Recycling Ltd	SG6 1LA	25,000	-	291	Waste electrical and electronic equipment (WEEE)	291
Eco Waste And Recycling Ltd	Eco Waste And Recycling Ltd	SG7 5JX	5,000	75,000	7,796	Material recycling facilities	1,949
Bygrave Lodge Anaerobic Digestion Plant -	Biogen (UK) Limited	SG7 6QX	48,500	54,000	51,082	AD and other biological treatment	51,082

Site name	Operator	Post Code	Planning Permission Capacity (tpa)	EA permitted capacity (tpa)	Highest WDI operational capacity	WNA Management Type	Capacity as of 2020
EPR/VP3932EG							
Royston H W R C	Amey Cespa (East) Ltd	SG8 5HF	-	3,300	2,985	HWRC	2,985
Cumberlow Green Farm EPR/QP3097NT	Hodge ; Hodge ; Hodge ; Hodge	SG9 0QD	40,000	40,000	31,763	Compost	31,763
Buntingford Depot	Urbaser Limited	SG9 9ER	-	-	50,900	HWRC	50,900
Buntingford H W R C	Amey Cespa (East) Ltd	SG9 9PA	-	24,999	943	HWRC	943
Park N Load	Mr Martin Keith Waller & Mr Colin Young	SG9 9RH	-	75,000	724	Material recycling facilities	724
Wiggenhall Depot	Veolia E S (U K) Ltd	WD18 0FB	-	5,000	1,502	Non-hazardous Transfer	1,502
Kerville Properties Ltd	Kerville Properties Ltd	WD2 4BZ	(60,000tpa in application statement)	-	77,569	Non-hazardous Transfer	77,569

Site name	Operator	Post Code	Planning Permission Capacity (tpa)	EA permitted capacity (tpa)	Highest WDI operational capacity	WNA Management Type	Capacity as of 2020
Waterdale H W R C	Amey Cespa (East) Ltd	WD25 0PR	-	24,999	8,273	HWRC	8,273
Waterdale Transfer Station	Hertfordshire County Council	WD25 0PR	-	300,000	192,325	Non-hazardous Transfer	192,325
Green Resources Recycling (G R R) Ltd	Green Resource Recycling (G R R) Ltd	WD25 7DL	950	-	171	Material recycling facilities	171
Blackbirds Farm Broadfield Compost Site	Pinkerton Alexander	WD25 8BS	23,500		6,283	Compost	6,283
School Field, Blackbirds Farm Compost Site	Pinkerton Alexander	WD25 8BS	23,500		11,647	Compost	11,647
F M S Recovery	Baker Christopher	WD25 8BT	-	12,000	9,374	Metal recycling and End of life vehicles (ELV)	9,374
The Conifers	M E C Grab Services Limited	WD25 8HD	-	-	35,099	Non-hazardous Transfer	35,099
Rickmansworth H W R C	Amey Cespa (East) Ltd	WD3 1BN	-	24,999	6,050	HWRC	6,050
Hartnell Metals	Hartnell Peter	WD3 3AT	-	25,000	61	Metal recycling and End of life vehicles (ELV)	61

Site name	Operator	Post Code	Planning Permission Capacity (tpa)	EA permitted capacity (tpa)	Highest WDI operational capacity	WNA Management Type	Capacity as of 2020
Maple Lodge WWTW	Viridor Waste (Thames) Limited	WD3 9SQ			102,248	Other forms of treatment - physical, physical chemical, chemical, etc.	25,562
A S M Metal Recycling Limited	A S M Metal Recycling Ltd	WD4 8JE	-	150,000	16,747	Metal recycling and End of life vehicles (ELV)	16,747
Leewood Recycling	Leewood Skip Hire Limited	WD4 8JJ	-	-	4,578	Material recycling facilities	1,145
Elstree H W R C	Amey Cespa (East) Ltd	WD6 3LS	-	24,999	3,808	HWRC	3,808
Harper Lane Quarry	Tarmac Aggregates Limited	WD7 7HX	-	30,000	118,243	Inert recycling	29,561