

Cambridgeshire County Council and Peterborough City Council

Waste Needs Assessment

**Cambridgeshire and Peterborough Minerals and
Waste Local Plan**

May 2018



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Executive summary

Jointly, Cambridgeshire and Peterborough currently (2016) produce around 2.702 million tonnes per annum (Mtpa) of various types of waste, this includes: 0.426 million tonnes (Mt) of municipal waste (16%); 0.731Mt of commercial and industrial (C&I) waste (27%); 1.501Mt of construction, demolition and excavation (CD&E) waste (56%); and 0.044Mt of hazardous waste (2%). In general, three quarters of waste can be attributed to Cambridgeshire with a quarter to Peterborough. Forecasts indicate that waste arisings could increase to 3.133Mtpa by the end of the plan period (2036).

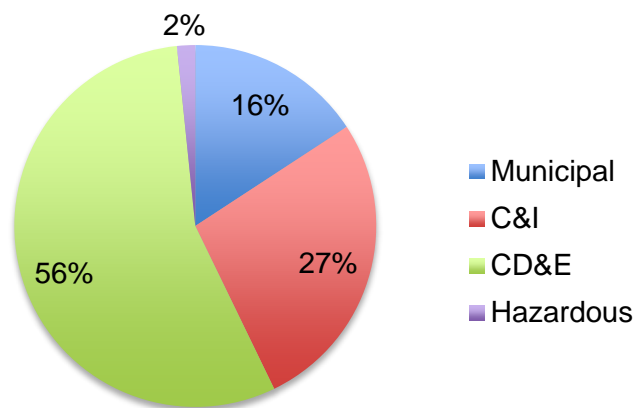


Figure ES1: Waste arisings for Cambridgeshire and Peterborough 2016

The majority of waste produced in Cambridgeshire and Peterborough is currently (2016) managed via the following broad methods: processing of waste in preparation for reuse or recycling accounts for around a third, inert recovery accounts for another third, other recovery and treatment accounts for around a tenth and disposal to landfill accounts for another third (with inert disposal making up less than a tenth overall). Of this around half a million tonnes was exported to surrounding authorities where over three quarters was received at facilities for processing in preparation for recycling and reuse (including composting and inert recycling) and the remainder was otherwise treated or disposed of to landfill (non-hazardous and inert).

A significant amount (almost four times that exported) of waste is also imported into the Plan area with over half of waste imported from other authorities disposed of to either inert landfill or non-hazardous landfill. Overall the Plan area is a net importer of waste. Such arrangements are subject to commercial contracts however with other authorities also seeking to increase their waste management capacity movements should reduce in the future although some movements will still occur.

Cambridgeshire and Peterborough do not produce low-level radioactive waste (LLW) from the nuclear industry. A very small amount of LLW is produced from the non-nuclear industry from Cambridgeshire; no LLW from the non-nuclear industry was recorded for Peterborough. In addition agricultural waste and waste water are also produced.

Waste arisings forecasts over the plan period (2016 to 2036) and management methods (incorporating relevant targets) are summarised in Table ES1.

In addition some residual waste will be produced as an output from waste treatment processes. This means that some disposal to landfill, albeit the least preferred option, will continue to be necessary where such residues cannot be reused or recycled.

Table ES1: Waste arisings and management methods over the plan period 2016 – 2036 (million tonnes)

		2016	2021	2026	2031	2036
Total waste arisings		2.702	2.816	2.931	3.031	3.133
Cambridgeshire		2.000	2.083	2.171	2.246	2.325
Peterborough		0.702	0.733	0.760	0.785	0.808
Preparing for reuse and recycling	Recycling	0.582	0.634	0.685	0.732	0.776
	Inert recycling	0.106	0.108	0.110	0.110	0.110
	Compost and/or other similar processes	0.171	0.181	0.199	0.213	0.223
	Hazardous recycling	0.026	0.028	0.031	0.034	0.037
Other recovery	Other forms of recovery/ treatment	0.204	0.285	0.377	0.460	0.489
	Soil treatment	0.071	0.073	0.074	0.075	0.075
	Inert recovery	0.725	0.735	0.740	0.742	0.747
	Hazardous treatment	0.009	0.010	0.011	0.012	0.013
Disposal	Non-hazardous landfill (London's municipal and C&I non-apportioned waste for disposal to landfill)	0.592 (0.045)	0.543 (0.027)	0.485 (0)	0.430 (0)	0.439 (0)
	Inert landfill	0.207	0.209	0.209	0.209	0.211
	Hazardous disposal to landfill	0.007	0.007	0.008	0.009	0.009
	Hazardous disposal - incineration with no energy recovery	0.003	0.003	0.003	0.004	0.004

** Note that the non-hazardous landfill figures include estimates for London's municipal and C&I non-apportioned waste for disposal to landfill indicated in brackets.*

Currently there is sufficient waste management capacity within Cambridgeshire and Peterborough (jointly) with respect to the preparation of wastes for reuse and recycling, composting, soil treatment and disposal of non-hazardous waste to landfill.

At the mid-point of the plan period there may be a need for additional recovery (treatment) capacity, with a future need at the end of the plan period of 0.127Mtpa. The future capacity needs could be accommodated by extensions to existing sites and new sites involving a combination of AD with energy recovery, thermal treatment with energy recovery or other suitable treatment processes.

Although there is a short-fall in inert recovery capacity this additional capacity is able to be accommodated by void space associated with restoration of mineral extraction sites, both with extant permission and additional future capacity created by mineral extraction over the plan period. It is therefore assumed that there will be a continued need for inert fill to be directed towards mineral extraction sites to support restoration works throughout the plan period. No new inert landfill or recovery sites (not associated with restoration of mineral extraction sites) are required over the plan period.

There is sufficient permitted void space to accommodate the Plan areas disposal needs and (some of) London's non-apportioned household and C&I waste to be exported for disposal. However the ability of the Plan area to accommodate any on-going need regarding disposal of residues, let alone any wider needs, is uncertain. Monitoring of disposal to non-hazardous landfill (including residues) and remaining void space will be necessary to ensure that wastes are managed and any necessary capacity planned for appropriately.

There is also a potential need for hazardous waste recycling and disposal capacity. However, such waste tends to be managed at a regional to national scale and are generated in significantly lower quantities. As such it is not possible for every WPA to achieve self-sufficiency with respect to hazardous wastes.

Waste planning context

National and European policy

1. The National Planning Policy Framework (NPPF) was published March 2012 and although it does not specifically address waste matters, it does influence waste planning and related matters. Detailed waste planning policies are set out in the National Planning Policy for Waste (NPPW), published in October 2014. The NPPW is to be read in conjunction with the NPPF, the National Waste Management Plan for England and National Policy Statements (NPS) for waste water and hazardous waste.
2. In relation to the preparation of plans the NPPW requires Waste Planning Authorities (WPAs) to 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. Spurious precision should be avoided. In addition Local Plans should identify sufficient opportunities to meet the identified needs of their area for the management of waste streams and in doing so:
 - drive waste management up the waste hierarchy;
 - recognise the need for a mix of types and scale of facilities, and that adequate provision must be made for waste disposal (including for residues from treated wastes);
 - identify tonnages and percentages of waste requiring different types of management over the plan period;
 - consider the extent to which existing operational facilities would satisfy any identified need;
 - consider wider waste management needs; and
 - work collaboratively (with other WPA's through the Duty to Cooperate) to provide a suitable network of facilities to deliver sustainable waste management.
3. Local Plans, should also identify sites and/or areas for waste management facilities and in doing so:
 - identify the broad type(s) of facility that would be appropriate;
 - take account of the proximity principle (particularly regarding disposal and the recovery of municipal waste) and recognise the role of catchment areas in securing economic viability;
 - consider opportunities for on-site waste management;
 - consider a broad range of locations including industrial sites, and consider opportunities to co-locate waste management facilities together and with complementary activities; 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.

4. The NPPW also sets out criteria against which the identification of sites/areas for waste management facilities should be assessed.
5. In relation to the wider policy context the Waste Framework Directive (WFD) (2008/98/EC) sets out the concept of the waste hierarchy (prevention, preparation for re-use, recycling, other recovery e.g. energy recovery and disposal), proximity principle and self-sufficiency. It also requires that waste is recovered or disposed of without endangering human health or causing harm to the environment. Article 28 of the WFD, concerning Waste Management Plans, requires an assessment of how the current waste management (including treatment and disposal) capacities will shift over time in response to the closure of existing waste management facilities and the need for additional waste installation infrastructure.
6. The UK Waste Regulations 2011 transposes the WFD to UK law.
7. The Landfill Directive (99/31/EEC) aims to prevent or reduce as far as possible negative effects on the environment from the landfilling of waste, and setting targets for the reduction of biodegradable municipal waste going to landfill.

Cambridgeshire and Peterborough Minerals and Waste Local Plan

8. Cambridgeshire County Council and Peterborough City Council are the WPAs for the administrative areas of Cambridgeshire and Peterborough City (respectively)¹. The Cambridgeshire and Peterborough Minerals and Waste Development Plan (MWDP) Core Strategy Development Plan Document (DPD) and Site Specific Proposals DPD were adopted in July 2011 and February 2012 (respectively). The NPPF requires Local Plans to be kept up-to-date, the National Planning Policy Guidance (NPPG) states that most Local Plans are likely to require updating in whole or in part at least every five years. As such, in line with national policy and guidance, a review of the adopted MWDP is underway, with the emerging Minerals and Waste Local Plan (MWLP) to replace the Core Strategy and Site Specific Proposals DPDs.
9. The waste arisings and future capacity needs identified through the adopted MWDP were based on the best available data, policy requirements and targets relevant at the time (2006). Rolling the adopted MWDP waste forecasts forward would be unlikely to be found sound as these do not capture recently released data and other information, may not comply with current policy requirements (including targets) and do not reflect changes in local circumstance and emerging trends.
10. The emerging MWLP has a proposed plan period of 2016 to 2036 and requires an updated evidence base to inform and support the plan-making

¹ Herein referred to as the Plan area.

process; this includes a Waste Needs Assessment (WNA). Other elements of the adopted MWDP and associated evidence base documents are also being updated to reflect local circumstance, emerging trends and more closely align with the NPPF and NPPW (published after the MWDP was adopted).

11. WPAs should plan for the sustainable management of waste produced within their administrative area including: municipal waste (also referred to as Local Authority Collected Waste, LACW); commercial and industrial (C&I) waste; construction, demolition and excavation (CD&E) waste; hazardous waste; radioactive wastes; agricultural waste; and waste water.

Waste Needs Assessment

12. The purpose of the WNA is to inform the plan-making process by:
 - providing an up-to-date picture for Cambridgeshire and Peterborough 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 Cambridgeshire and Peterborough's future management needs (and the extent to which existing capacity satisfy identified future needs) and identify the broad type(s) of facility(ies) that may be required to manage waste appropriately and facilitate delivery of net self-sufficiency;
 - 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.
13. This WNA examines waste arisings for the major waste streams of municipal, C&I and CD&E wastes as well as hazardous and radioactive waste. Consideration will also be given to agricultural waste and waste water. The common baseline used for all waste streams is 2016, however where data for this year is not available the most recent data will be used (particularly in the case of radioactive and agricultural waste).
14. The format and broad matters addressed through this report are outlined below:
 - Current waste arisings – Identifies current waste arisings for waste streams, including methodology and data sources.
 - Forecasting waste arisings over the plan period – Identifies waste forecasts for waste streams by management method over the plan period incorporating relevant targets, including methodology and data sources.

- Waste movements – Identifies waste movements into and out of the Plan area as well as those considered strategic in nature and the identification of any DtC matters or matters to be taken into consideration through the plan-making process. Consideration of wider waste management needs, in particular London’s non-apportioned household and C&I waste arising to be exported to other WPAs for non-hazardous disposal (landfill). Methodology and data sources used will also be identified.
 - Waste management capacity – Identifies the existing waste management capacity and the capacity required to manage waste appropriately to achieve relevant targets and deliver net self-sufficiency (including future needs). Methodology and data sources used will also be identified.
 - Conclusion – Overview of the assessment outcomes and summary tables for waste arisings, forecasts and capacity needs.
15. Cambridgeshire and Peterborough are located within the East of England (EoE) region and are active members of the existing regional Waste Technical Advisory Board (WTAB). An assessment of arisings in the other WPA areas in the EoE region has been undertaken, and is presented, in the Suffolk Waste Study (September 2017) – there is no need to reiterate this information in this report however it forms a useful reference point in relation to the wider EoE context.

Methodology and data sources

16. The NPPG sets out guidance regarding how WPAs should identify the need for new waste management facilities, assessing existing waste management capacity, forecasting waste arisings over the plan period, data sources and monitoring and planning for London’s waste (refer NPPG, Waste, paragraphs 022 to 044 www.gov.uk/guidance/waste).
17. The EoE have an agreed outline methodology, the EoE WTAB Waste Arisings Methodology Paper (Draft – February 2017), for determining waste arisings and forecasts and consultation thresholds for DtC matters (available on the Councils website).
18. Detail regarding the methodology applied to this study, how the EoE WTAB methodology has been taken into account, and data sources for each waste stream is set out under relevant sections of this report.
19. This WNA reports data in million tonnes (Mt), rounded to the nearest 1,000 tonnes to avoid spurious precision. For this reason there may be some minor discrepancies where figures in text and tables of the report are totalled (i.e. numbers may not add exactly to totals shown or to 100%).
20. Periods for data reported through this WNA are based on calendar years.

Current waste arisings

Municipal waste

21. 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 (HRCs)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, for Cambridgeshire and Peterborough household waste accounts for 93% of municipal waste.
22. Data for municipal waste is collected and reported by waste collection and disposal authorities (being the District Councils as well as Peterborough City Council as a unitary authority and Cambridgeshire County Council). This data is collated nationally through the Waste Data Flow database, maintained by the Department for Environment, Food and Rural Affairs (Defra). Data for this waste stream is up-to-date and accurate.
23. Data for municipal waste 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, that is data for the year 2016/17 will be taken as 2016; doing so will not significantly alter the results as three-quarters of the 2016/17 dataset is captured in 2016.
24. This method accords with the EoE WTAB methodology.
25. Municipal waste generated within Cambridgeshire and Peterborough and current management methods are summarised in the table below.

Table 1: Municipal waste arisings and management, 2016 (million tonnes)

Total municipal waste	0.426
Cambridgeshire (79%)	0.338
Peterborough (21%)	0.089
Preparation for reuse and recycling	0.112 (26%)
Composting	0.103 (24%)
Treatment and other forms of recovery	0.080 (19%)
Disposal to landfill	0.130 (31%)

26. Management of municipal waste 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 mechanical biological treatment. In addition a very small amount of waste (clinical) is disposed of through incineration without energy recovery.

² Also referred to as civic amenity sites.

27. Management methods were derived from the Waste Data Flow database and council records (with preliminary data used for the last quarter of 2016 reporting year).

Commercial and industrial waste

28. C&I waste is defined as “waste from premises used mainly for trade, business, sport, recreation or entertainment” (Environmental Protection Act 1990 s5.75(7)). It will generally consist of a wide range of wastes (such as mixed wastes, mineral wastes, chemical wastes, metals, discarded equipment, animal and vegetable waste including food waste, healthcare waste and others) and contains a high proportion of recyclable materials.
29. 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.
30. C&I waste is grouped with municipal waste and reported jointly as “household, industrial and commercial (HIC) waste” through the EA WDI. There is also potential for overestimation where waste is handled at intermediate facilities such as transfer stations. As such it is necessary to cleanse data extracted from the database.
31. HIC data originating from Cambridgeshire and Peterborough (both received at facilities within Cambridgeshire and Peterborough and removed from Cambridgeshire and Peterborough) was extracted from the EA WDI reporting on 2016 industry returns (referred to as the WDI 2016). Each consignment includes a descriptor of the type of waste using the European Waste Code (EWC). The following waste types were removed from the dataset for Cambridgeshire and Peterborough: EWC 190805 which is defined as sludges from treatment of urban waste water (this is accounted for through waste water studies and is treated as sludge treatment centres operated by Anglian Water); CD&E wastes, of relevance to the 2016 dataset included EWC 191302 solid wastes from soil remediation (these wastes are accounted for under CD&E waste stream); and municipal waste, including EWC Chapter 20 wastes.
32. In addition 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), where waste is transferred outside of Cambridgeshire and Peterborough it is reasoned that this waste should be captured under the

field “removed/originating from” when received at the processing/treatment facility.

33. It is important to acknowledge that the EA WDI database may contain errors due to data entry and particularly in relation to omissions in information fields on the returns, including origin and destination (resulting in some waste recorded as “not codeable”).
34. The WDI 2016 returns indicate arisings (“as managed”) of 0.663Mt for 2016 from Cambridgeshire and Peterborough.
35. As per the EoE WTAB methodology, the results of the Defra Commercial and industrial waste survey 2009 were also utilised in determining current arisings. The Defra 2009 report estimates arisings for England of 47.928Mt, of which hazardous wastes account for 7%, leaving 44.573Mt. The EoE region is reported to account for 4.507Mt or around 9% of England’s arisings (refer Defra 2009, Table ES 3 and Table 23). Data from the Office for National Statistics (NOMIS 2009 to 2016) was used to identify the count and percentage of commercial and industrial sector business’ and business employee count present within the Plan area and the proportion that this represented (of the EoE region and England), this allowed for identification of arisings by both a percentage based on business sector representation (based on employee count 15.4%) and by waste type and broad business sectors. The NOMIS database also provides detail at the individual authority level, indicating that the percentage of the total employee count for Cambridgeshire and Peterborough was 74.2 / 25.8% for 2009 and 73.9% / 26.1% for 2016. The WDI 2016 dataset indicates a similar split with regards to origin of total as managed arisings of 76.7% / 23.3%. For the purpose of the WNA the average figures 75% for Cambridgeshire and 25% for Peterborough have been applied to determine arisings for individual authority areas and management needs.
36. The Defra report was based on 2009 data, in order to compare this to current WDI 2016 arisings as managed, historic economic growth factors for both individual business sector GVA and total GVA (obtained from the Cambridge Econometrics (CE) East of England Forecasting Model 2016 baseline results updated August 2016) were applied to the 2009 data to extrapolate the data forward and identify estimated arisings for 2016. It should be noted that Defra 2009 data 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. Results from extrapolating the Defra 2009 data forward to 2016 were compared with the WDI 2016 arisings as managed. Arisings for 2016 ranged between 0.663Mt and 0.799Mt. 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 2009 national arisings are not designed to be drilled-down to Plan area levels (and so may be inaccurate) the decision was taken to apply the mid-point to identify an estimate for the

current arisings to inform the plan making process, producing figure of 0.731Mt for 2016.

37. This method accords with the EoE WTAB methodology.
38. C&I waste generated within Cambridgeshire and Peterborough and current management methods are summarised in the table below.

Table 2: C&I waste arisings and management, 2016 (million tonnes)

Total C&I waste	0.731
Cambridgeshire (75%)	0.548
Peterborough (25%)	0.183
Preparation for reuse and recycling	0.329 (45%)
Composting	0.059 (8%)
Treatment and other forms of recovery	0.168 (23%)
Disposal to landfill	0.175 (24%)

39. Management methods were derived by comparing management methods for the Defra 2009, WDI 2016 and the Defra 2016 UK statistics on waste. All of the datasets were broadly comparable and so in order to best reflect local circumstance and trends (e.g. available management options, contracts, etc.) the percentages for management methods derived from the WDI 2016 were applied.

Construction, demolition and excavation waste

40. CD&E waste means waste materials that arise from the construction or demolition of buildings and/or civil engineering infrastructure, including hard construction and demolition waste and excavation waste (and soils). Hard construction and demolition waste may include concrete, bricks, tiles, bituminous mixtures and railway ballast and mixtures of the various components. 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 is non-inert materials such as wood, metals and plastic that can be managed via non-hazardous waste treatment facilities. CD&E waste may also include hazardous waste materials such as lead, asbestos, liquid paints, oils, etc. CD&E waste contains a high proportion of recyclable materials.
41. CD&E waste “as managed” is also reported through the WDI, data on CD&E arisings is not available. Inert wastes originating from Cambridgeshire and Peterborough (both received at facilities within Cambridgeshire and Peterborough and removed from Cambridgeshire and Peterborough) were extracted from the EA WDI. As with C&I data extracted from the WDI, the inert dataset was cleansed by identifying waste classified as CD&E (this included EWC Chapter 17 construction and demolition wastes - including

excavated soil from contaminated sites, 010101 wastes from mineral metalliferous excavation, 191205 glass, 191209 minerals - for example sand, stones and 200202 soil and stones) and removing waste recorded through intermediate facilities (non-hazardous and hazardous waste transfer sites and civic amenity sites).

42. The WDI 2016 returns indicate arisings (“as managed”) of 1.501Mt for 2016 from Cambridgeshire and Peterborough. Of this around 0.367Mt was identified as wastes other than EWC170504 non-hazardous soils and stones; the majority (85.7%) 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 EA WDI database.
43. Estimates based on national figures were also determined for the purpose of sensitivity testing. National estimates for CD&E arisings are set out in the Defra 2016 UK statistics on waste (Table 3.1). Arisings were determined as a percentage of the total estimated CD&E arisings for England based on the proportion of construction activity (dwelling completions) attributed to Cambridgeshire and Peterborough (2.5%). This method produced a figure of 1.21Mt for 2014. This figure was extrapolated forward using growth factors based on dwelling completions for the period 2014 to 2016 and produced results that are broadly comparable (1.3Mt) with the WDI 2016 figure. Dwelling stock completions data was sourced from Ministry of Housing, Communities and Local Government (MHCLG) Housing supply: Net additional dwellings 2001-02 to 2016-17 dataset. This database also provides detail at the individual authority level, indicating that the average percentage of the total dwelling completions for Cambridgeshire and Peterborough (2010 to 2016) was 74.3% / 25.7%. The WDI 2016 dataset indicates a similar split with regards to origin of total as managed arisings of 69.9% / 30.1%. For the purpose of the WNA the average figures 72% for Cambridgeshire and 28% for Peterborough have been applied to determine arisings for individual authority areas and management needs.
44. As a comparison the percentage of England’s total population attributed to Cambridgeshire and Peterborough (1.5% based on Office of National Statistics mid-year estimates) was also applied, but yielded a significantly lower figure (0.75Mt) than reported through the WDI 2016 and so this method was discounted from future consideration.
45. Previously national surveys were undertaken to estimate CD&E arisings (1998, 2003 and 2005) however the data includes a large margin of error and does not form the most up-to-date and best available data. As such these surveys have not been taken into account.
46. Although the WDI database provides an “as managed” figure that may be seen to form a minimum, in the absence of any other local data, it is the best

available data. The “as managed” figure derived from the WDI 2016 of 1.501Mt is to be taken as the current arisings to inform the plan making process.

47. This method accords with the EoE WTAB methodology.
48. CD&E waste generated within Cambridgeshire and Peterborough and current management methods are summarised in the table below.

Table 3: CD&E waste arisings and management, 2016 (million tonnes)

Total CD&E waste	1.501
Cambridgeshire (72%)	1.081
Peterborough (28%)	0.420
Preparation for reuse and recycling	0.160 (11%)
Inert processing/recycling	0.096 (6%)
Treatment	0.072 (5%)
Inert recovery (beneficial deposit of inert waste to land)	0.681 (45%)
Disposal to landfill	0.492 (33%)

49. Management methods were derived from the WDI 2016 as these figures best reflect local circumstance and trends.

Hazardous waste

50. Hazardous waste has historically been considered material that poses the greatest risk to human health or the environment, including materials such as asbestos, oils, solvents and chemical wastes. The Landfill Directive refers to some wastes as ‘hazardous’, rather than ‘special’, broadening the definition to include everyday items such as fluorescent tubes, monitors and televisions that have reached the end of their lives. Hazardous materials are subject to strict controls on carriage, treatment and disposal. Even so, as hazardous waste is generated from such a wide array of uses and operations (from households, healthcare/medical and industry) the way that it is recorded is not the same; this may result in data omissions or anomalies.
51. The most accurate data available on hazardous waste arisings is from the Hazardous Waste Data Interrogator (HWDI). Data held on the HWDI is derived from waste operator returns submitted to the EA, who maintain the HWDI.
52. The HWDI 2016 returns indicate arisings (“as managed”) of 0.044Mt for 2016 for all consignments arisings in Cambridgeshire and Peterborough. The WDI 2016 dataset indicates a split (with regards to origin of total as managed arisings) of 77.2% for Cambridgeshire and 22.8% for Peterborough. For the purpose of the WNA the figures 77% for Cambridgeshire and 23% for Peterborough have been applied to determine arisings for individual authority areas and management needs. As with data extracted from the WDI, waste recorded through intermediate facilities was removed from the hazardous

waste dataset. The “as managed” figure derived from the HWDI 2016 of 0.044Mt is to be taken as the current arisings to inform the plan making process. This method accords with the EoE WTAB methodology.

53. Hazardous waste generated within Cambridgeshire and Peterborough and current management methods are summarised in the table below.

Table 4: Hazardous waste arisings and management, 2016 (million tonnes)

Total hazardous waste	0.044
Cambridgeshire (77%)	0.034
Peterborough (23%)	0.010
Recovery (includes preparation for reuse and recycling)	0.026 (59%)
Treatment and other recovery (includes incineration with energy recovery)	0.009 (20%)
Disposal via incineration without energy recovery	0.003 (6%)
Disposal to landfill	0.007 (15%)

54. Management methods were derived from the HWDI 2016 as these figures best reflect local circumstance and trends.

Radioactive waste

55. It is essential that all radioactive waste and materials be safely and appropriately managed in ways that pose no unacceptable risks to people or the environment. The decommissioning of nuclear power reactors produces the majority of radioactive waste in the UK, with other sources including the generation of electricity in nuclear power stations and from the associated production and processing of the nuclear fuel, use of radioactive materials in industry, medicine and research, extraction of materials which include some naturally occurring radioactive materials, and from military nuclear programmes.
56. Radioactive waste is divided into categories according to how much radioactivity it contains and the heat that this radioactivity produces, the main categories including high, intermediate and low level waste. Low level radioactive waste (LLW) may comprise building rubble, soil and steel items arising from the decommissioning and clean-up of nuclear reactors, facilities and sites as well as paper, plastics and scrap metal items from the operation of nuclear facilities.
57. The Nuclear Decommissioning Authority (NDA) 2016 Inventory does not identify any radioactive waste produced within Cambridgeshire and Peterborough.
58. The Department of Energy and Climate Change (DECC) undertook a survey to provide an overall view of the waste arisings and disposals from the non-nuclear sector “Data collection on solid low-level waste from the non-nuclear sector November 2008”, this report identifies estimates of LLW arisings by

WPA. Estimates of LLW from the non-nuclear industry (DECC 2008, Table 3) indicate arisings of 37.61m³ or 770kg for Cambridgeshire (0.07% of the total non-nuclear arisings reported through the survey for England, Scotland and Wales) and none for Peterborough for the reporting year 2007. Though dated this is the best available information on radioactive waste arisings from the non-nuclear industry.

59. Arisings of radioactive waste from both nuclear and non-nuclear industries within Cambridgeshire and Peterborough are very low; the Plan area is not a significant producer of radioactive wastes. There is currently no capacity for radioactive waste management within the Plan area.

Other wastes

60. Agricultural waste and wastewater are also generated within Cambridgeshire and Peterborough. There are no national or local targets for the management of such wastes, however these wastes have been taken into consideration at an appropriate level (outlined below).
61. Agricultural waste is waste material that is generated from agricultural premises; the majority of agricultural waste is not classified as controlled wastes. The majority of agricultural wastes are bulk materials such as animal manure and waste slurries. Non-natural agricultural wastes include discarded pesticide containers, plastics, bags and sheets, tyres, batteries, clinical waste, old machinery, oil, packaging waste, etc. The WFD captures non-natural components of this waste stream, which account for a very small amount³ (<1%) and are thought to be managed via the use of HRCs and transfer to others (contractors). The EA 2000 Strategic Waste Management Assessment: East of England (Table 2.7) estimated total agricultural arisings of 0.508Mt for Cambridgeshire (includes Peterborough); of which 0.007Mt was made up of non-natural waste (vegetable/plant waste and animal matter making up 0.501Mt or 98.7%). Very little data is available on waste arisings within the agricultural sector, particularly at a local level. As such the WNA assumes that the non-natural component of agricultural waste is captured under either trade waste received at HRCs or within the C&I waste stream.
62. Sewage and wastewater is managed by Anglian Water within Cambridgeshire and Peterborough. Water cycle studies, flood risk assessments and water management plans have been undertaken by the District Councils, Peterborough City Council (as a unitary authority) and Cambridgeshire County Council with the purpose of identifying major issues associated with the planned growth for the area such as sewage treatment, water quality, supply and efficiency, flood risk management and sustainable

³ EA 2001 Towards sustainable agricultural waste management (R&D Technical Report P1-399/1) indicated arisings of non-natural components for 2000 of 0.5Mt for the UK. Figures for agricultural waste cannot account for wastes stockpiled on site (at farms).

drainage systems. The emerging MWLP will include policies that are generally supportive of an increase in sewage treatment capacity where required to serve existing or planned development in accordance with the Development Plan.

Forecasting waste arisings over the plan period

63. In order to plan for provision of new capacity it is first necessary to forecast waste arisings over the plan period. This has been done separately for each of the waste streams (municipal, C&I, CD&E and hazardous waste) due to the different factors that drive waste arisings and affect growth. Waste arising projections for individual streams are detailed below.

Municipal waste

64. Municipal waste management is subject to commercial contracts that determine current and future management methods and rates. Within Cambridgeshire municipal waste is managed through commercial contracts at the following facilities types: MBT, In-vessel (IV) and open windrow (OW) composting, HRCs, baling and shredding (tyres), landfill as well as incineration and rotoclave (clinical wastes). One contract covers the majority of municipal for waste processing (MBT, compost, HRC, and landfill facilities); this contract extends up to 0.500Mtpa to March 2036 (can be extended to up to March 2041). There may be opportunities to increase future recovery rates under this contact dependent on the contractor's operational arrangements. Processing of waste through the MBT reduces the amount sent to landfill (predominantly through moisture loss); current rates suggest around 30% loss.
65. Within Peterborough municipal waste is managed through commercial contracts at the following facilities types: AD, OW composting, ERF – thermal treatment with energy recovery, MRF, HRCs and landfill.
66. The contract for waste processing through the ERF facility is for up to 0.085Mtpa to March 2046. The ERF was officially opened in March 2016 and is located in Fengate, Peterborough. Around 55% of Peterborough's municipal waste is recovered through the ERF with waste processed through AD (with energy recovery) adding to the recovery rate.
67. The existing waste management contracts have been incorporated into targets and projections to the fullest extent possible based on information supplied.
68. The Cambridgeshire and Peterborough Waste Partnership (RECAP) are responsible for preparing the Joint Municipal Waste Management Strategy

(JMWMS) for Cambridgeshire and Peterborough. The adopted JMWMS period is for 2008 to 2022. A review has not yet commenced and so it is not available to inform the plan-making process at this stage. However, in preparing this WNA officers have liaised closely with waste management teams for Cambridgeshire and Peterborough in order to reflect future intent regarding municipal waste management at an appropriate level. The economic and political climate influences waste management contracts and practices at both district and unitary/county council levels. Contractual arrangements and recent trends suggest that the targets set out in the JMWMS may not be realistic across all authorities. Targets included in the JMWMS include:

- 50 to 55% of household waste recycled and/or composted by 2015 – This target was achieved with an overall rate of 53.4% in 2015 (Cambridgeshire 57.3% and Peterborough 38.7%).
- 55 to 65% of household waste recycled and/or composted by 2020 – This target may be challenging for Peterborough due to contractual arrangements (2016 household recycling and composting 36.7%) but is achievable for Cambridgeshire with rates currently just below the target range (2016 household recycling and composting 53.8%).

69. Targets in the JMWMS exceed the WFD target of 50% of municipal waste to be reused and/or recycled by 2020.
70. For the purpose of the plan-making process alternative targets are proposed, set out in the table below. The proposed targets are based on overall recovery and disposal rates as this approach is considered to allow for flexibility between authority areas and to reflect contracts.
71. Although separately Peterborough would not meet the WFD target based on the proposed targets due to contractual arrangements, jointly Cambridgeshire and Peterborough would do. The proposed targets would result in 51.6% of municipal waste being reused and/or recycled, with an overall recovery rate of 75.6% by 2020.

Table 5: Municipal waste targets

WPA	Waste hierarchy level	Target
Joint WPAs (Cambridgeshire and Peterborough)	Total recovery	90% by 2030 onwards (55% preparation for reuse and recycling and 35% other recovery)
	Disposal (non-hazardous landfill)	Maximum 10% from 2030 onwards
Cambridgeshire	Total recovery	90% by 2030 onwards (60% preparation for reuse and recycling and 30% other recovery)
	Disposal (non-hazardous landfill)	Maximum 10% from 2030 onwards
Peterborough	Total recovery	Minimum of 90% from 2017 onwards (35-40% preparation for reuse and recycling and 55-60% other recovery*)
	Disposal (non-hazardous landfill)	Less than 10% from 2017 onwards

**Dependent on future contract arrangements.*

72. The following assumptions were made in preparing the municipal waste forecasts:
- Current recycling and composting rates will not decrease.
 - Rates (%) applied to determine household and trade components of total municipal 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 2011-2016) with data sourced from Waste Data Flow and council records.
73. Municipal waste arisings for the year 2016 (of 0.426Mt) were forecast over the plan period (up to 2036) using a growth profile derived from population projections and waste generation per person per annum. Population data was sourced from the CE 2016 dataset with data supplemented with estimates from the Cambridge Insight July 2017 Population and dwelling stock estimates and 2015-based population and dwelling stock forecasts. Waste generation per person per annum was assumed at 0.5 tonnes per person for Cambridgeshire and 0.45 tonnes per person for Peterborough. This method accords with both the EoE WTAB methodology and the NPPG (Waste, paragraph 029).
74. Forecast municipal waste arising and management methods over the plan period (at five year intervals) are detailed in the table below.

Table 6: Municipal waste forecast by management method, 2016 to 2036 (million tonnes)

		2016	2021	2026	2031	2036
Total municipal waste arisings		0.426	0.451	0.484	0.501	0.510
Cambridgeshire		0.338	0.354	0.379	0.393	0.402
Peterborough		0.089	0.097	0.104	0.108	0.108
Preparing for reuse and recycling	Recycling	0.112	0.127	0.140	0.149	0.152
	Compost	0.103	0.108	0.119	0.126	0.129
Other recovery	Other forms of treatment (e.g. ERF, AD, MBT)	0.080	0.114	0.150	0.180	0.183
Total recovery		0.296	0.348	0.410	0.455	0.463
Disposal (landfill)		0.131	0.103	0.074	0.046	0.047

75. Note that a small amount of municipal (clinical) waste (80 tonnes) is disposed of via incineration without energy recovery and this is expected to continue over the plan period potentially increasing (to up to 100 tonnes).
76. 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.

Commercial and industrial waste

77. C&I waste management is subject to commercial contracts that determine current and future management methods and rates. Information regarding individual contracts is not available to the council and the council is not able to exert direct influence over such matters. However a range of legislative and market drivers exist (e.g. landfill tax, targets and producer responsibility measures) that are driving change and seeing more waste diverted from landfill.
78. Targets for C&I waste, are limited to packaging recycling and recovery targets as set out in the Packaging and Packaging Waste Directive 94/62/EC. Packaging waste targets have recently been reviewed by Defra with updated targets including 75.4% of packaging waste recycled and 82% recovered (in total) by 2020. Current arisings “as managed” from the WDI 2016 indicate 0.033Mt of packaging waste (EWC Chapter 15) was generated from within Cambridgeshire and Peterborough, of which 98.5% is recycled, another 1.5% is otherwise recovered and less than 0.1% is disposed of to non-hazardous landfill.

79. For the purpose of the plan-making process targets of 90% recovery and a maximum 10% disposal to landfill by 2030 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. Current management method rates for arisings as managed sourced from the WDI 2016 indicate total recovery rate of 76.9%. The WDI 2016 dataset also indicates that of the wastes currently sent for disposal the majority of this is potentially recoverable.
80. As previously outlined, and in line with the EoE WTAB methodology, estimates for current arisings were determined as a percentage of the region's total arisings from the Defra 2009 report with figures taken forward to 2016 (to enable comparison with the WDI 2016 arisings as managed figure), using growth profiles based on both total GVA and individual business sector GVA annual increase (CE 2016). Results were compared with WDI 2016 arisings as managed. Estimated arisings for 2016 ranged between 0.663Mt and 0.799Mt.
81. Waste arisings estimates derived from both the Defra 2009 report and WDI 2016 database were forecast over the plan period (up to 2036). Growth profiles included both total GVA and individual business sector GVA annual increase. Results were compared and the mid-point applied to produce both current and forecast arisings to inform the plan making process, producing figure of 0.731Mt for 2016. This methodology accords with the EoE WTAB methodology and NPPG (Waste, paragraph 032).
82. Rates for management methods derived from WDI 2016 data have been applied and increased incrementally to achieve targets as relevant.
83. 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 and composting rates will not decrease.
 - The proportion of waste types attributed to business sectors identified through the Defra 2009 report is transferable to Cambridgeshire and Peterborough.
 - 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.).

Table 7: C&I waste forecast by management method, 2016 to 2036 (million tonnes)

		2016	2021	2026	2031	2036
Total C&I waste arisings		0.731	0.805	0.884	0.967	1.058
Cambridgeshire (75%)		0.548	0.603	0.663	0.726	0.794
Peterborough (25%)		0.183	0.201	0.221	0.242	0.265
Preparing for reuse and recycling	Recycling	0.329	0.362	0.398	0.435	0.476
	Compost	0.058	0.064	0.071	0.077	0.085
Other recovery		0.168	0.220	0.279	0.339	0.370
Total recovery		0.555	0.646	0.748	0.851	0.931
Disposal (landfill)*		0.175	0.159	0.136	0.116	0.130

* Disposal includes some inert disposal of waste matter from waste processing - around 0.015, 0.016, 0.018, 0.019 and 0.021Mtpa for the years 2016, 2021, 2026, 2031 and 2036.

Construction, demolition and excavation waste

84. 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.
85. 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. Current arisings “as managed” from the WDI 2016 indicate that a total of 0.367Mt of CD&E waste (excluding EWC170504, which accounted for 1.135Mt) was generated from within Cambridgeshire and Peterborough, of which 58.7% is recycled, another 27.1% is otherwise recovered (totalling 85.7% total recovery) with less than 15% disposed of to landfill. The WDI 2016 dataset also indicates that of the wastes (scoped in) currently sent for disposal a significant proportion of this is potentially recoverable.
86. For the purpose of the plan-making process targets for CD&E waste (excluding EWC170504) of 90% recovery and a maximum 10% 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.
87. As previously outlined, and in line with the EoE WTAB methodology, current arisings were also estimated for the purpose of sensitivity testing based on national figures. Estimates were determined as a percentage of construction activity (dwelling completions) attributed to Cambridgeshire and Peterborough (2.5%) compared to the total for England and estimated CD&E

arisings for England; producing a figure of 1.21Mt for 2014. This figure was extrapolated forward using growth factors based on dwelling completions for the period 2014 to 2016 and produced results that are broadly comparable (1.3Mt) with the WDI 2016 figure. Results were compared with WDI 2016 arisings as managed (1.501Mt for 2016).

88. The current estimate for CD&E waste arisings is taken to be 1.501Mt as per the WDI 2016. This figure was applied to forecast over the plan period (up to 2036). The growth profiles applied to the CD&E waste stream was based on a conservative approach and reflect dwelling stock forecasts. Generation of CD&E waste is different from other waste streams in that it is tied to construction and/or demolition projects (e.g. redevelopment, housing construction, infrastructure projects, etc.) and so does not grow year-on-year but is time-limited (i.e. stops and starts along with each project). Where the annual increase forecast for dwelling stocks remains steady (i.e. the same year-on-year) no growth was forecast however where the forecast indicated an increase or decrease the percentage increase or decrease was applied to the CD&E forecast. Forecasts for dwelling stock were sourced from CE 2016 dataset with data supplemented with estimates from the Cambridge Insight July 2017 Population and dwelling stock estimates and 2015-based population and dwelling stock forecasts. The forecasts indicate that there may be some fluctuations but overall the arisings remain the same with very little change.
89. There are no specific significant planned regeneration or major infrastructure projects identified within the plan area as per the National Infrastructure Delivery Plan (NIDP) 2016 to 2021 that would result in a significant increase in waste generation (not accounted for through dwelling stock forecasts). The NIDP identifies the Cambridge-Milton Keynes-Oxford corridor for delivery of proposals for unlocking growth, housing and jobs, in addition it identifies potential projects for the Plan area including improvements to the A14 between Cambridge and Huntingdon, A1 East of England (2020-25) and new hospital facilities to be provided in Cambridgeshire (by 2021). The A14 upgrade is under construction, due for completion in 2021. No specific detail is set out regarding other proposals. The proposed Northstowe development, a proposed new town providing 10,000 new homes alongside town centre, community facilities and commercial space set to be developed on the former Oakington Barracks site to the north of Cambridge, has been accounted for through dwelling stock forecasts.
90. The approach applied to forecasting arisings for CD&E strikes a balance between reflecting growth patterns and forecasting based on waste arisings remaining constant over time. This methodology accords with the EoE WTAB methodology and NPPG (Waste, paragraph 033).
91. Rates for management methods derived from WDI 2016 data have been applied and increased incrementally to achieve targets as relevant.

92. The following assumptions were made in preparing the CD&E waste forecasts:
- Growth in CD&E waste is tied to construction and/or demolition projects and so does not continually grow year-on-year.
 - Dwelling stock forecasts indicate general construction activity likely to take place and waste generation.
 - Current recycling and recovery rates will not decrease.
 - 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.).

Table 8: CD&E waste forecast by management method, 2016 to 2036 (million tonnes)

		2016	2021	2026	2031	2036
Total CD&E waste arisings		1.501	1.512	1.510	1.504	1.501
Cambridgeshire (72%)		1.081	1.089	1.087	1.083	1.080
Peterborough (28%)		0.420	0.423	0.423	0.421	0.420
Preparing for reuse and recycling	Recycling	0.151	0.154	0.157	0.158	0.158
	Compost	0.009	0.009	0.009	0.009	0.009
	Inert recycling	0.096	0.098	0.100	0.100	0.100
Other recovery	Soil treatment	0.071	0.073	0.074	0.075	0.074
	Inert recovery	0.681	0.687	0.687	0.684	0.683
Total recovery		1.009	1.022	1.026	1.027	1.025
Disposal (landfill)	Inert	0.192	0.192	0.192	0.190	0.190
	Non-hazardous	0.300	0.298	0.292	0.287	0.287

* Inert recovery may include restoration of mineral extraction sites.

Hazardous waste

93. 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. The HWDI as managed data indicates a steady increase from 0.034Mtpa to current levels of 0.044Mtpa.
94. Commercial and industrial business sector operations are thought to account for a large proportion of hazardous wastes generated. As such the growth profile applied to C&I waste was also applied to hazardous waste. This growth profile was applied to the “as managed” figure derived from the HWDI

2016 of 0.044Mt. As there are no targets for hazardous waste the management methods from the HWDI 2016 were applied over plan period.

95. This method accords with the EoE WTAB methodology and the NPPG (Waste, paragraph 034).
96. 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.).

Table 9: Hazardous waste forecast by management method, 2016 to 2036 (million tonnes)

		2016	2021	2026	2031	2036
Total hazardous waste arisings		0.044	0.048	0.053	0.058	0.064
Cambridgeshire (77%)		0.034	0.037	0.041	0.045	0.049
Peterborough (23%)		0.010	0.011	0.012	0.014	0.015
Recovery	Reuse and recycling	0.026	0.028	0.031	0.034	0.037
Other recovery	Treatment and incineration with energy recovery	0.009	0.010	0.011	0.012	0.013
Total recovery		0.035	0.038	0.042	0.046	0.050
Disposal	Hazardous landfill	0.007	0.007	0.008	0.009	0.009
	Incineration (no energy recovery)	0.003	0.003	0.003	0.004	0.004

Low Level Radioactive Waste

97. Forecasts for LLW have not been prepared as part of this WNA given the very low arisings previously recorded and the reduced evidence base on which forward projections can be based.

Residual waste arisings

98. 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.
99. 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.

100. Residue output rates (per one tonne of waste input) applied to determine potential arisings are: processing of recyclables (e.g. MRF) 15% of input; composting 15% of input; MBT processing may reduce the amount of waste input by around 20% with outputs potentially including recyclable material (up to around 30% of input), organic output suitable as a refuse derived fuel (up to 50% of input) and disposed of to landfill (up to 20% of input); and thermal treatment with energy recovery (e.g. incineration) (20%). Small amounts of hazardous residual waste may also be produced from thermal treatment processes (3% of input). Outputs vary widely and are dependent on the technology employed, scale of facility, waste composition, type of waste input, quality of waste input (e.g. contaminant level and calorific value) and operational efficiency of individual plant/facility. It is estimated that residues could account for: non-hazardous waste in the amount of an additional 0.177Mtpa by 2026 and 0.209Mtpa by 2036 (that may also be able to be subject to further treatment or disposed of to landfill); incinerator bottom ash in the amount of an additional 0.030Mtpa by 2026) and 0.039Mtpa by 2036 that could be recycled; and hazardous wastes in the amount of an additional 0.011Mtpa by 2026 and 0.015Mtpa by 2036.
101. The indicative future needs for the Plan area do not include residual arisings produced from other treatment processes due to the uncertainty associated with the figures.

Monitoring future arisings

102. Where possible future arisings (actuals and estimates) will be monitored from the best available information sources as part of the annual monitoring report.

Waste movements

103. 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.

104. Waste movements have been determined by analysing data extracted from the WDI 2016 based on all waste received at facilities within Cambridgeshire and Peterborough (imports) and all waste removed from Cambridgeshire and Peterborough to other WPAs (exports).
105. A total of 5.597Mt of waste was reported as being received at waste management facilities within Cambridgeshire and Peterborough (including at intermediate facilities such as transfer stations). Of this 3.551Mt was reported as originating from within Cambridgeshire and Peterborough (with 0.942Mt attributed to intermediate facilities).
106. The remaining 2.036Mt of waste was reported as being received at facilities within Cambridgeshire and Peterborough that originated from other WPA's. Of this 0.094Mt was attributed to intermediate facilities, leaving 1.942Mt of waste imported from other WPAs for management (including disposal). Detail on waste imports is set out in the following section.
107. A total of 0.720Mt of waste was reported as being removed from Cambridgeshire and Peterborough for management at other WPAs. Of this 0.206Mt was attributed to intermediate facilities, leaving 0.514Mt of waste exported to other WPAs for management (including disposal). Detail on waste exports is also set out in the following section.
108. Overall Cambridgeshire and Peterborough are net importers of waste, with significantly more waste imported than exported.
109. Waste movement also occur within the Plan area, with 0.039Mt waste from Cambridgeshire into Peterborough and 0.040Mt from Peterborough into Cambridgeshire; movements within the Plan area are roughly self-balancing.

Waste imports and exports

Waste imported from other WPAs

110. In total 2.036Mt of waste was reported as being received at facilities within Cambridgeshire and Peterborough that originated from other WPA's. Of this 0.094Mt was attributed to intermediate facilities, leaving 1.942Mt of waste imported from other WPAs for management (including disposal).
111. Rates for the various management method include:
 - biological processing 0.157Mt or 8.1% (composting 6.5%, AD 1.4% and MBT 0.3%);
 - preparing for reuse and recycling 0.024Mt or 1.2%;
 - preparing for reuse and recycling of metals and end of life vehicles 0.224Mt or 11.5%;
 - preparing for reuse and recycling of inert materials 0.130Mt or 6.7%;
 - treatment 0.033Mt or 1.7%; soil treatment 0.028Mt or 1.4%;
 - inert recovery 0.024Mt or 1.2%;

- inert landfill 0.517Mt or 26.7% (a large proportion of which could be considered as beneficial inert fill of quarries); and
 - non-hazardous landfill 0.535Mt or 27.7%.
112. Another 0.271Mt or 14% was reported as sewage sludge treatment.
113. Over half of waste imported from other WPAs is disposed of to either inert landfill or non-hazardous landfill. The main sites receiving waste include: Non-hazardous landfill - Buckden North, Dogsthorpe, Eye North Eastern, Milton and Thornhaugh I; and inert landfill – Barrington Works and Witcham Meadlands.
114. Waste imported into Cambridgeshire and Peterborough by region and WPA include:
- East Midlands 0.345Mt - the largest contributors were Lincolnshire 0.127Mt and Northamptonshire 0.157Mt, others include Derby, Derbyshire, Leicester, Leicestershire, Rutland, Nottingham and Nottinghamshire
 - East of England 0.695Mt - the largest contributors were Hertfordshire 0.129Mt, Norfolk 0.122Mt, Suffolk 0.094Mt and Bedford, Central Bedfordshire, and Luton combined 0.093Mt with others including Essex, Hertfordshire, Luton and Southend-on-Sea. A total of 0.182Mt was reported as WPA not codeable but arising from within the East of England region.
 - London 0.678Mt - the largest contributors were Ealing 0.454Mt (0.451Mt inert fill), Hounslow 0.075Mt, with others including Barking & Dagenham, Barnet, Bexley, Brent, Bromley, Camden, City of London, City of Westminster, Croydon, Enfield, Greenwich, Hackney, Hammersmith & Fulham, Haringey, Harrow, Havering, Hillingdon, Islington, Kensington & Chelsea, Kingston Upon Thames, Lambeth, Lewisham, Merton, Newham, Redbridge, Richmond Upon Thames, Southwark, Sutton, Tower Hamlets, Waltham Forest and Wandsworth. A total of 0.029Mt was reported as WPA not codeable but arising from South London.
 - North East of England 0.001Mt – WPAs include County Durham, Hartlepool, Middlesbrough, Newcastle-upon-Tyne, North Tyneside, Redcar & Cleveland, Stockton-on-Tees and Sunderland.
 - North West of England 0.001Mt – WPAs include Blackburn with Darwen, Bolton, Bury, Cheshire East, Cheshire West and Chester, Cumbria, Halton, Knowsley, Lancashire, Manchester, Merseyside, Oldham, Rochdale, Salford, Sefton, St Helens, Trafford and Wigan.
 - South East 0.174Mt - the largest contributors were Milton Keynes 0.032Mt, Oxford 0.016Mt, Kent 0.016Mt, with others including Berkshire, Bracknell Forest, Brighton & Hove, Buckinghamshire, East Sussex, Hampshire, Isle of Wight, Medway, Portsmouth, Reading, Slough, Southampton, Surrey, West Berkshire, West Sussex, Windsor

& Maidenhead and Wokingham. A total of 0.083Mt was reported as WPA not codeable but arising from the South East.

- South West <0.001Mt – WPAs include Bath & North East Somerset, Bournemouth, Bristol, Cornwall, Exeter, Devon, Gloucestershire, North Somerset, Poole, Somerset, South Gloucestershire, Swindon, Torbay and Wiltshire.
 - West Midlands 0.033Mt - the largest contributors were Coventry 0.004Mt, Warwickshire 0.004Mt, with others including Birmingham City, Dudley, Sandwell, Shropshire, Solihull, Staffordshire, Stoke-on-Trent, Telford & Wrekin, Walsall, Wolverhampton and Worcestershire. A total of 0.022Mt was reported as WPA not codeable but arising from the West Midlands.
 - Yorks & Humber 0.005Mt – WPAs included Barnsley, Bradford City, Calderdale, Doncaster, East Riding of Yorkshire, Kingston Upon Hull, Kirklees, Leeds, North Lincolnshire, North Yorkshire, Rotherham, Sheffield, Wakefield and York.
115. Small amounts of waste were also reported as being imported from outside of England with 417 tonnes from Scotland and 1,218 tonnes from Wales. An additional 161 tonnes was also reported as being imported from outside of the UK.
116. Of all waste imported into Cambridgeshire and Peterborough CD&E wastes accounted for 0.812Mt (EWC Chapter 17 wastes and EWC 191209 minerals e.g. sand and stones) with disposal being the main end fate, including inert recovery 0.021Mt, inert landfill 0.509Mt and 0.179Mt non-hazardous landfill. The largest contributors of inert waste disposed of to landfill included Ealing 0.451Mt, Hertfordshire 0.043Mt, Brent 0.041Mt, South East (not codeable) 0.049Mt, South London (not codeable) 0.020Mt, Northamptonshire 0.017Mt, Norfolk 0.010Mt and Essex 0.010Mt. Physical processing of inert material (0.096Mt) also accounted for a significant proportion of imported CD&E.

Waste exported to other WPAs

117. In total 0.720Mt of waste was reported as being removed from Cambridgeshire Peterborough for management at other WPAs. Of this 0.206Mt was attributed to intermediate facilities, leaving 0.514Mt of waste exported to other WPAs for management (including disposal).
118. Rates for the various management methods include: biological processing 0.051Mt or 9.9% (composting 9.5%, AD 0.3% and MBT 0.1%); preparing for reuse and recycling 0.078Mt or 15.1%; preparing for reuse and recycling of metals and end of life vehicles 0.241Mt or 46.9%; preparing for reuse and recycling of inert materials 0.029Mt or 5.6%; treatment 0.015Mt or 3%; soil treatment <0.001Mt or 0.01%; inert landfill 0.013Mt or 2.5%; and non-hazardous landfill 0.025Mt or 4.8%. Another 0.063Mt or 12.3% was reported as sewage sludge treatment.

119. The majority of waste exported to other WPAs was reported as being received at metal recycling, car breaker and materials recycling facilities.
120. Waste exported from Cambridgeshire and Peterborough by region and WPA include:
- East Midlands 0.119Mt – the majority of waste removed to Northamptonshire 0.058Mt (0.048Mt attributed to sewage sludge); Lincolnshire 0.030Mt, Leicester 0.018Mt, with others including Derby, Derbyshire, Nottingham, and Nottinghamshire.
 - East of England 0.097Mt – the majority of waste removed to Norfolk 0.019Mt, Essex 0.017Mt, and Suffolk 0.015Mt, with others including Bedford, Central Bedfordshire, Luton and Hertfordshire. A total of 0.038Mt was reported as WPA not codeable but removed to WPAs within the East of England.
 - London 0.003Mt – WPAs included Barking & Dagenham, Brent, Ealing, Enfield, Hammersmith & Fulham, Hounslow, Islington and Newham. A total of 0.001Mt was reported as WPA not codeable but removed to WPAs within London.
 - North East 0.002Mt – the majority was reported as WPA not codeable North East however small amounts were attributed Middlesbrough and Stockton-on-Tees.
 - North West 0.011Mt – the majority was reported as WPA not codeable North West however WPAs included Cumbria, Cheshire, Lancashire, Liverpool, Manchester, Rochdale, Stockport, Tameside and Wigan.
 - South East 0.034Mt – the majority of waste removed to Kent 0.004Mt, Milton Keynes 0.004Mt, with others including Berkshire, Brighton & Hove, Buckinghamshire, Hampshire, Southampton, Surrey and West Sussex. A total of 0.024Mt was reported as WPA not codeable but removed to WPAs within the South East.
 - South West 0.007Mt – WPAs included Bristol, Devon, Dorset, Gloucestershire and Poole.
 - West Midlands 0.045Mt – the majority of waste removed to Birmingham City 0.009Mt, Wolverhampton 0.005Mt, with others including Coventry, Dudley, Sandwell, Shropshire, Staffordshire, Stoke-on-Trent, Telford & Wrekin, Walsall, Warwickshire and Worcestershire. A total of 0.021Mt was reported as WPA not codeable but removed to WPAs within the West Midlands.
 - Yorks & Humber 0.036Mt – the majority of waste removed to Kingston Upon Hull 0.005Mt, Doncaster 0.003Mt, East Riding of Yorkshire 0.003Mt, with others including Calderdale, Kirklees, Leeds, North-East Lincolnshire, North Yorkshire, Rotherham, Sheffield and York. A total of 0.025Mt was reported as WPA not codeable but removed to WPAs within Yorks & Humber.
 - Not Codeable 0.008Mt (no destination details reported).

121. A total of 0.154Mt was reported as being exported outside of the UK, all for recycling. A total of 0.012Mt was exported to Wales the majority reported as not codeable (physical treatment) and Newport (car breaker). A small amount was also exported to Scotland 321 tonnes.
122. Removal via intermediate facilities totalled 0.206Mt with the majority exported to Northamptonshire 0.041Mt, Lincolnshire 0.032Mt, Suffolk 0.010Mt and Bedfordshire (combined authorities) 0.01Mt, with others including Berkshire, Birmingham City, Buckinghamshire, Coventry, Derby, Derbyshire, Doncaster, Enfield, Essex, Hertfordshire, Kent, Kirklees, Leeds, Leicester, Leicestershire, Manchester, Milton Keynes, Norfolk, Nottingham, Nottinghamshire, Rutland, Sheffield, Solihull, South London, South Yorkshire, Staffordshire, Stockport, Stoke-on-Trent, Wakefield, Walsall and Warwickshire as well as Wales 0.014Mt, Scotland 0.008Mt and outside of the UK 0.017Mt. A total of 0.033Mt was reported as WPA not codeable with the majority attributed to East of England 0.030Mt, with others including East Midlands 0.003Mt and small amounts to the West Midlands and Yorks & Humber.
123. Selecting the received to option for each WPA in the WDI database did not produce correlating results and so it is difficult to determine with confidence the end fate of the exported wastes.
124. Of all waste exported from Cambridgeshire and Peterborough CD&E wastes accounted for 0.075Mt (EWC Chapter 17 wastes and EWC 191209 minerals e.g. sand and stones) with another 0.050Mt reported through intermediate facilities.

Wider waste management needs – London’s waste

125. The Draft London Plan, November 2017 (Table 9.3 and paragraphs 9.8.1 – 9.8.2) reports that in 2015 18.9Mt of waste was produced, of which 11.4Mt was exported; around 5Mt (49%) of this went to the East of England and 4.2Mt (42%) to the South East. Most of this waste was CD&E waste. Of waste received into the East of England 2.9Mt was disposed of to landfill. Although the Draft London Plan is not an adopted plan this summary provides a useful and consistent basis from which to project future needs on. London produced 8.100Mt of household and C&I waste in 2015, of which 3.449Mt was exported to other WPAs.
126. The adopted London Plan includes the intent to achieve greater net self-sufficiency in London (refer London Plan Policies 5.16 - 5.19). The adopted London Plan includes targets to manage as much of London’s waste within London as practicable, work towards managing the equivalent of 100% of London’s waste within London by 2026, zero biodegradable or recyclable waste sent to landfill by 2026 and the re-use and recycling of 95% of CD&E waste by 2020. It also seeks to reduce the proportion of household and C&I

waste exported from the capital over time and to work with neighbouring authorities to co-ordinate strategic waste management across the greater South East of England.

127. In line with the NPPW requirement to consider the need for additional waste management capacity of more than local significance, the MWLP looks to make provision for a declining amount of imported household and C&I waste (from London) to be landfilled in Cambridgeshire and Peterborough. It is expected that London's exports of waste to Cambridgeshire and Peterborough for disposal to landfill will gradually decline in line with the London Plan.
128. The adopted London Plan sets out projected household and C&I waste arisings up to 2036 in Table 5.2, with Table 5.3 apportioning waste to be managed by London boroughs. Table 5.4 identifies non-apportioned waste, which is to be exported. It is anticipated that 1.95Mt of waste will be exported from London in 2016, decreasing to 1.19Mt in 2021 and zero by 2026. The London Plan does not set out how much of this is anticipated to be sent for disposal to landfill. No figures are identified for CD&E or hazardous wastes. However it is recognised that the majority of hazardous waste is currently sent to landfill, mostly within the South East and East of England regions.
129. The MWLP will need to reflect this transition as London adjusts to greater self-sufficiency and reduces its landfill demands on other WPAs. This will be done by setting out, in the MWLP, what is considered to be an appropriate provision to be made for disposal of household and C&I waste to non-hazardous landfill over the plan period.
130. London WPAs were contacted as part of the strategic waste movements survey and asked to provide information regarding planned future waste imports from London to Cambridgeshire and Peterborough over the plan period, as well as identify any strategic matters as per the DtC. The outcome of which indicated that future imports from London WPAs requiring disposal of household and C&I waste to non-hazardous landfill are anticipated to reflect that set out in the adopted London Plan, however it was noted that the Draft London Plan was recently published for consultation.
131. In line with the most recent information available regarding London's exports, data for 2015 was extracted from the WDI for waste received at facilities within the Plan area. A total of 0.337Mt was reported for all wastes received from London's waste. The majority (0.230Mt or 68%) of waste received was CD&E waste with most of this disposed of to inert landfill (0.199Mt) or non-hazardous landfill (0.029Mt) and smaller amounts subject to physical treatment and inert recovery. Household, industrial and commercial waste reported as received at non-hazardous landfill sites within Cambridgeshire and Peterborough in 2015 accounted for around 0.079Mt. The WDI 2016 data reports a total of 0.112Mt, an increase from the previous year.

Comparable data for exports from London waste authorities for 2016 is not available. For this reason, being to provide consistency with the most up-to-date information available from the London waste authorities regarding exports, the figure of 0.079Mt will be applied for the purpose of informing the plan-making process.

132. Overall waste management rates for London’s waste received into Cambridgeshire and Peterborough (for 2015) include: preparing for reuse and recycling (including biological treatment, metal recycling and ELVs) 8.6%; other recovery (physical-chemical treatment) 0.1%; inert landfill/recovery 59%; and non-hazardous landfill 32.3%.
133. As previously noted, in 2015 London exported 3.449Mt of household and C&I waste, of this 0.079Mt was disposed of at non-hazardous landfill sites within Cambridgeshire and Peterborough; accounting for 2.3% of London’s non-apportioned household and C&I waste for export. This percentage will be applied to projected exports of non-apportioned household and C&I waste (identified in Table 5.4 of the adopted London Plan) in order to account for waste received to non-hazardous landfill sites within Cambridgeshire and Peterborough (from London) assumed to decrease to zero by 2026, as set out in the table and illustrated in the graph below.
134. It should be acknowledged that some residual wastes arising as outputs from waste treatment methods are likely to require disposal to landfill, meaning that Cambridgeshire and Peterborough may continue to dispose of London’s waste, in addition to its own waste. However, at this stage no information is available on the quantum of residues arising from London that may require disposal to landfill. Based on this data, and in lieu of more specific information regarding anticipated management methods and destination of exports from London, over the period 2016 to 2036 a total of 0.271Mt of non-hazardous landfill void space is needed to accommodate London’s non-apportioned household and C&I waste for export.

Table 10: London’s non-apportioned household and C&I waste to be exported for disposal to non-hazardous landfill in Cambridgeshire and Peterborough, 2016 to 2026 onwards (million tonnes)

	2016	2021	2026	2031	2036
London’s non-apportioned household and C&I waste for export	1.948	1.186	0	0	0
London’s household and C&I waste for disposal to non-hazardous landfill within Cambridgeshire and Peterborough	0.045	0.027	0	0	0

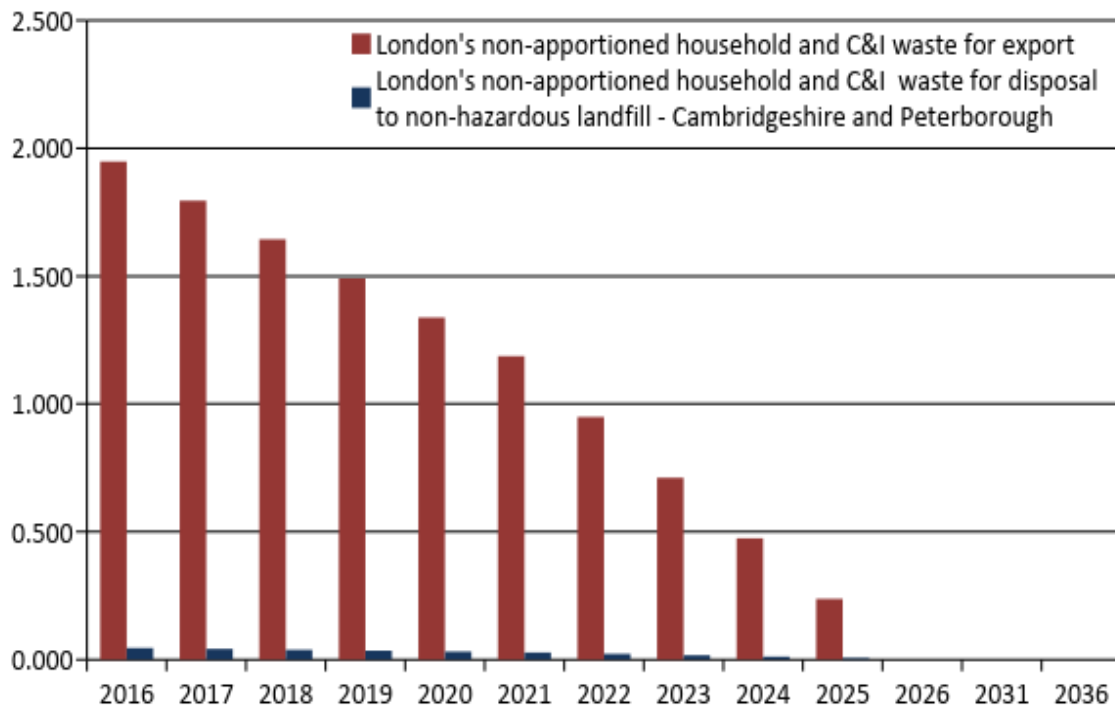


Figure 1: London's non-apportioned household and C&I waste to be exported for disposal to non-hazardous landfill in Cambridgeshire and Peterborough, 2016 to 2026 onwards (million tonnes)

135. Under the Draft London Plan the quantity of household and C&I waste exported to Cambridgeshire and Peterborough for disposal to non-hazardous landfill would be just over 150% more than under the adopted London Plan (0.073Mt at 2016, 0.040Mt by 2021 and zero from 2026 onwards, with a total of 0.417Mt over the plan period).

Identification of strategic movements and the Duty to Cooperate

136. In line with the DtC strategic waste movements were identified using the WDI 2016 and local authority contracts and records.

137. Waste movements for general consultation were defined as per the EoE WTAB 2014 agreed thresholds, which include: non-hazardous waste 2,500tpa, inert waste 5,000tpa and hazardous waste 100tpa. These figures were used as a starting point⁴ for deciding which receiving authorities should be examined regarding strategic waste movements, as per the EoE method.

138. Strategic movements were then identified as a sub-set, with thresholds defined relative to Cambridgeshire and Peterborough, including any movement (i.e. import or export) of over 10,000 tonnes per annum (tpa) from

⁴ When taken in context of the Plan area total waste arisings it can be seen that the EoE thresholds capture less than >0.5% of waste arisings for the waste streams. In addition these thresholds do not consider specific facilities or sites.

an individual WPA to an individual waste management site, the exception being hazardous waste for which the threshold was 500 tpa and waste exported from London authorities for disposal. By refining the waste movements dataset a more focussed view can be taken regarding strategic movements and identification of potential DtC matters. The reasoning for the 10,000 tpa threshold is that movements below this level would seem to indicate once-off or ad-hoc arrangements which are by their nature not strategic, or are smaller quantities that may be able to be accommodated at another facility. Hazardous waste arisings and movements tend to be of a reduced scale when compared with other waste streams and so a strategic threshold is lower, in addition facilities for the management of hazardous waste tend to involve more specialised processes and as such have a much wider catchment area.

139. Over a third of all waste imported (into Cambridgeshire and Peterborough) originated from London (0.678 Mt) with the majority being disposed of to inert landfill, particularly from Ealing (0.451Mt inert fill). All exports of municipal and C&I waste from London authorities for disposal to landfill were captured (and totalled per WPA) as the London Plan makes a strong commitment to reducing such movements. In addition the limited void space for non-hazardous landfill places an increased emphasis on such movements.
140. The following matters are typically considered to be of a strategic⁵ nature (of relevant to waste planning) that could potentially affect another authority and therefore could form a DtC matter: indicative waste management capacity needs, the spatial strategy for waste development (particularly non-hazardous disposal to landfill), and the proposed allocations/designations for waste development. It is only where the movement of waste is of a particularly large volume or of a specialised nature (e.g. hazardous or radioactive waste) that this could be considered a strategic issue and therefore become relevant to the identified DtC matters.
141. Following identification of waste movements, relevant WPAs were surveyed, the purpose of which was to: confirm the general scale of movements; gain an understanding of what other WPAs considered as strategic movements; identify any DtC matters; and identify if there were any planning restrictions or other consideration regarding the continuation of movements.
142. Authorities that responded to the DtC survey regarding waste movements included: Barnet, North London Waste Authorities, Bedford Borough and Central Bedfordshire, Bexley, Bristol City, Buckinghamshire, Cheshire East, Cheshire West and Chester, Devon, Dorset, East Riding of Yorkshire, East Sussex, Essex, Greenwich, Halton Knowsley Liverpool Sefton St.Helens and

⁵ It is for the authorities of Cambridgeshire and Peterborough to determine what is a strategic matter (in line with Zurich Assurance Ltd v Winchester CC & South Downs NPA 2014 that how the authority goes about deciding what is a strategic matter is a matter for their judgement).

Wirral, Hampshire Portsmouth and Southampton, Hertfordshire, Kensington and Chelsea, Kent, Kingston upon Hull, Kirklees, Lambeth, Leicestershire, Lincolnshire, Greater Manchester authorities (Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford and Wigan), Medway, Norfolk, North East Lincolnshire, North Lincolnshire, North Yorkshire, Northamptonshire, Nottinghamshire, Oxfordshire, Rotherham, Rutland, Solihull, Staffordshire, Surrey, Telford and Wrekin, Wakefield, Wandsworth, Warwickshire, West Sussex, Westminster City, Wolverhampton and Worcestershire.

143. Overall, responses received agreed with the use of the EoE thresholds as well as the occurrence and quantum of waste movements (as identified from the WDI 2016). Some variance in data returned from the EA WDI was noted, this may be as a result of the way that data was reported and queried (e.g. received to / removed from) particularly for waste processed through intermediate facilities, also it was noted that figures for some WPAs working jointly were not totalled but addressed separately. Overall the general the scale of movements was reflected and agreed upon.
144. The following responses were of note: that existing landfill capacity should be safeguarded with regards to landfill diversion targets and planning for new infrastructure higher up the hierarchy (residual waste treatment) so that landfill sites are only used for specialist waste and non-recoverable and non-recyclable waste; that the plan should include a policy enabling development of hazardous waste facilities in appropriate locations; and that hazardous waste was acknowledged to move greater distances (than non-hazardous waste) across administrative boundaries, due to commercial contracts and economies of scale associated with waste treatment and transportation costs. It was also acknowledged that additional landfill capacity was unlikely to be planned for, apart from at existing sites as extensions, and so this places increased pressure on existing landfill capacity and meant that current movements would be likely to continue until such time as capacity comes online to divert waste from landfill. Cambridgeshire and Peterborough agree, in principle, with all of the above points raised.
145. Potential strategic matters that were raised related to the availability of non-hazardous landfill capacity within the Plan area as well as hazardous waste and LLW disposal capacity associated with the East Northants Resource Management Facility (ENRMF) that has a planning permission end date of 2026.
146. No DtC issues or general planning policy considerations that would affect movements over the plan period were identified, however it was noted that, in line with national policy, WPAs are seeking to achieve net self-sufficiency and so movements may reduce as treatment capacity increases (however some movements will still occur due to commercial contracts and operational arrangements). It was noted that some sites have planning permission end

dates that expire before the end of the plan period, including inert fill sites associated with restoration of mineral extraction sites and the ENRMF in Northamptonshire. Cambridgeshire and Peterborough will continue to work with relevant authorities in relation to waste movements and any strategic waste planning matters as appropriate. It is important to note that commercial contracts are largely outside the WPAs remit, however the Councils are committed to planning positively and work with industry to develop the additional capacity to address the Plan areas future needs, and wider needs as appropriate.

147. Of the 3.551Mt reported as originating from, and being received at facilities within, Cambridgeshire and Peterborough in 2016 0.942Mt was attributed to intermediate facilities. This leaves 2.609Mt of waste received to management and disposal facilities. Rates for the various management method include: biological processing 0.358Mt or 13.7% (7.9% composting, 1.8% AD and MBT 4%); preparing for reuse and recycling (e.g. MRF) 0.263Mt or 10.1%; preparing for reuse and recycling of metals and end of life vehicles 0.024Mt or 0.9%; preparing for reuse and recycling of inert materials 0.051Mt or 2%; treatment 0.240Mt or 9.2%; soil treatment 0.081Mt or 3.1%; inert recovery 0.270Mt or 10.4%; inert landfill 0.653Mt or 25% (a large proportion of which could be considered as beneficial inert fill of quarries); and non-hazardous landfill 0.564Mt or 21.6%. Another 0.105Mt or 4% was reported as sewage sludge treatment.

Waste management capacity

Existing capacity

148. 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. Details of waste commitments are set out in Appendix 1.
149. The existing capacity was determined by collating information from several existing sources including council planning application and permission records, operator returns and reports, WDI 2016 dataset, other EA datasets (including incinerator returns, waste licence and permit registers and waste infrastructure inventory) and officer estimates where necessary. In addition 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. The permitted capacity has been supplemented with information from these datasets and other sources in order to identify estimated existing capacity over the plan period. Capacity for sites that do not have planning permission has not been included.

150. Not all of the permitted capacity is operational; this is evidenced by the WDI and operator returns, which reports zero throughput in 2016 for some sites. However this capacity is available to be utilised or brought online for future years.

Table 11: Existing non-hazardous waste management capacity and landfill void space utilised as of December 2016 (million tonnes)

Waste hierarchy level	Authority	Waste stream	Management method	2016
Preparing for reuse and recycling	Cambridgeshire	Mixed	Materials recycling facility	0.748
		CD&E	Inert recycling	0.440
		Mixed	Metal recycling	0.031
		Mixed	End of life vehicle (ELV) facilities	0.135
		Mixed	Compost	0.321
		Mixed	Other preliminary treatment e.g. mechanical biological treatment/processing to produce RDF	0.114
		Sub-total		
	Peterborough	Mixed	Materials recycling facility	0.053
		CD&E	Inert recycling	0.445
		Mixed	Metal recycling	0.000
		Mixed	ELVs	0.071
		Mixed	Compost	0.011
		Mixed	Other preliminary treatment e.g. mechanical biological treatment/processing to produce RDF	0.000
		Sub-total		
	Joint	Mixed	Materials recycling facility	0.801
		CD&E	Inert recycling	0.885
		Mixed	Metal recycling	0.031
		Mixed	ELVs	0.206
		Mixed	Compost	0.332

Waste hierarchy level	Authority	Waste stream	Management method	2016	
		Mixed	Other preliminary treatment e.g. mechanical biological treatment/processing to produce RDF	0.114	
		Sub-total		2.368	
Other recovery	Cambridgeshire	Mixed	Thermal treatment (energy from waste, EfW)	0.049	
		Mixed	Anaerobic digestion (AD) with energy recovery	0.073	
		Mixed	Other treatment	0.026	
		CD&E	Soil treatment	0.093	
		CD&E	Inert recovery (fill)	0.132	
		Sub-total		0.372	
	Peterborough	Mixed	Thermal treatment (EfW)	0.080	
		Mixed	AD with energy recovery	0.000	
		Mixed	Other treatment	0.000	
		CD&E	Soil treatment	0.010	
		CD&E	Inert recovery (fill)	0.162	
		Sub-total		0.253	
	Joint	Mixed	Thermal treatment (EfW)	0.130	
		Mixed	AD with energy recovery	0.073	
		Mixed	Other treatment	0.026	
		CD&E	Soil treatment	0.103	
		CD&E	Inert recovery (fill)	0.294	
		Sub-total		0.624	
	Disposal	Cambridgeshire	CD&E	Inert landfill - disposal	0.065
			CD&E	Inert landfill (beneficial - restoration)	0.835
			Inert landfill sub-total		0.900
Mixed			Non-hazardous (includes SNRHW)	0.726	
Peterborough		CD&E	Inert landfill - disposal	0.270	
		CD&E	Inert landfill (beneficial - restoration)	0.000	
		Inert landfill sub-total		0.270	
		Mixed	Non-hazardous (includes SNRHW)	0.373	
Joint		CD&E	Inert landfill - disposal	0.335	
		CD&E	Inert landfill (beneficial - restoration)	0.835	

Waste hierarchy level	Authority	Waste stream	Management method	2016
			Inert landfill sub-total	1.170
		Mixed	Non-hazardous (includes SNRHW)	1.099

Note:

Facilities identified as transfer stations that also include materials recycling processes 25% of their capacity assumed to contribute towards existing capacity for preparing for re-use and recycling.

The capacity for ELV sites has primarily been derived from EA permit thresholds as such there may be significant variation in the actual capacity. This capacity will not be taken forward into calculations for total re-use and recycling capacity, as it would very likely produce significant overestimate of existing capacity.

Implementation of several sites is uncertain, these sites could add another 0.12Mtpa recycling and 0.02Mtpa AD (and potentially energy recovery capacity associated with the Energy10 facility) were the facilities to be brought on-line.

Table 12: Existing hazardous waste management capacity as of December 2016 (million tonnes)

Waste hierarchy level and management method	Authority	2016
Preparing for reuse and recycling - Recycling	Cambridgeshire	0.004
	Peterborough	0.003
	Joint	0.008
Recovery – Physical and/or chemical treatment	Cambridgeshire	0.031
	Peterborough	0.000
	Joint	0.031
Recovery – Incineration or other thermal treatment with energy recovery	Cambridgeshire	0.021
	Peterborough	0.000
	Joint	0.021
Disposal - Hazardous landfill or incineration without energy recovery	Cambridgeshire	0.000
	Peterborough	0.000
	Joint	0.000

151. The information collated on existing capacity and void space fed into determining future needs.

152. The estimated remaining landfill void space as of January 2017 (up to 2036) for the Plan area was 10.147Mt of non-hazardous landfill, 14.231Mt of inert landfill (of which almost 80% or 11Mt is associated with restoration of mineral extraction sites), 0.363Mt of inert recovery and 0Mt of hazardous landfill.

Future needs

153. In order to ascertain future needs the capacity gap must be identified, this is the difference between the existing capacity and the management capacity resulting from forecasts. 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.
154. The indicative future needs (i.e. that needed in addition to the existing capacity) over the plan period are set out in the tables below.

Table 13: Summary of waste arisings and future needs over the plan period – non-hazardous waste management

			Indicative total waste management capacity needs				
			2016	2021	2026	2031	2036
Non-hazardous waste management – Recovery (million tonnes per annum)							
Preparing for re-use and recycling	Materials recycling (Mixed - Municipal, C&I)	Forecast arisings	0.582	0.634	0.685	0.732	0.776
		Existing capacity	0.832	0.939	0.939	0.939	0.939
		Capacity gap	+0.250	+0.305	+0.254	+0.207	+0.163
	Composting (Mixed - Municipal, C&I)	Forecast arisings	0.171	0.181	0.199	0.213	0.223
		Existing capacity	0.332	0.407	0.407	0.407	0.407
		Capacity gap	+0.161	+0.226	+0.208	+0.194	+0.184
	Inert recycling (CD&E)	Forecast arisings	0.106	0.108	0.110	0.110	0.110
		Existing capacity	0.885	1.096	1.061	1.061	1.061
		Capacity gap	+0.779	+0.988	+0.951	+0.951	+0.951
Other recovery	Treatment and energy recovery processes (Mixed - Municipal, C&I)	Forecast arisings	0.204	0.285	0.377	0.460	0.489
		Existing capacity	0.262	0.355	0.362	0.362	0.362
		Capacity gap	+0.058	+0.070	-0.015	-0.098	-0.127
	Soil treatment (CD&E)	Forecast arisings	0.071	0.073	0.074	0.075	0.075
		Existing capacity	0.103	0.204	0.204	0.204	0.204
		Capacity gap	+0.032	+0.131	+0.130	+0.130	+0.130

* Treatment and energy recovery processes refers to AD, EfW and other treatment processes

Table 14: Summary of waste arisings and future needs over the plan period –non-hazardous waste disposal and inert disposal/recovery

			Indicative total waste management capacity needs					Total need	Remaining void space	Balance
			2016	2021	2026	2031	2036			
Non-hazardous waste management – Deposit to land and disposal (million tonnes)										
Other recovery	Inert recovery (fill)*	CD&E	0.725	0.735	0.740	0.742	0.747	15.499	0.657	-14.842
Disposal	Inert landfill*	CD&E	0.207	0.209	0.209	0.209	0.211	4.388	15.401	11.013
	Non-hazardous landfill	Mixed - Municipal, C&I	0.592	0.543	0.485	0.430	0.439	10.350	11.246	0.896

** Inert recovery and landfill have a total indicative need of 19.887Mt over the plan period, with estimated remaining void space of 16.057Mt (around 80% of which is associated with restoration of mineral extraction sites), leaving a deficit of 3.830Mt that is able to be accommodated through void space created from mineral extraction operations currently permitted and permitted over the plan period.*

155. Overall, the Plan area is quite well placed in terms of moving towards achieving net self-sufficiency. There may be a need for additional recovery (treatment) capacity as of the mid-point of the plan period (2026), increasing up to the end of the plan period to 0.127Mtpa. Future needs for specific management methods are more pronounced when viewed separately (i.e. at individual WPA level).
156. There is also a potential need for hazardous waste recycling. However, as previously acknowledged, such waste tends to be managed at a regional to national scale due to commercial contracts and economies of scale associated with waste treatment and transportation costs and that they are generated in significantly lower quantities. As such it is not possible for every WPA to achieve self-sufficiency with respect to hazardous wastes. The Plan's policies will enable proposals for such development to come forward.
157. Based on the indicative future needs the potential facility requirements for the Plan area may be accommodated by a combination of AD with energy recovery, thermal treatment with energy recovery or other suitable treatment processes. This capacity may be taken up by extensions to existing facilities or by facilities currently not operational coming online or new sites.
158. The waste management industry is becoming more flexible. Emerging technologies, changing industry practices, commercial arrangements and operational networks makes for a dynamic and complex environment. Sites are more commonly being developed as integrated waste management sites, accommodating more than one facility type, which reduces overall landtake. As such it is difficult to ascertain the exact number of facilities and landtake required to accommodate future needs, however a broad estimate can be made of up to 2 new facilities with a total landtake of around 3 ha (reducing where capacity taken up at existing sites).

Landfill void space

159. The non-hazardous landfill void space at the start of the plan period was estimated at 11.246Mt. If waste management targets are achieved this is sufficient to accommodate the Plan area's disposal needs (10.350Mt). In addition the amount of London's non-apportioned household and C&I waste to be exported for disposal to non-hazardous landfill is around 0.271Mt for the plan period, producing a total of 10.621Mt for both the Plan area and London's waste; leaving a very small surplus of around 0.625Mt void space. This does not account for residues arising from waste treatment processes that may, taking a conservative view, be around 0.200Mtpa by the end of the plan period.
160. If other WPAs fail to increase their waste management capacity, diverting waste from landfill, or if residues from treatment processes are not reused, recycled or otherwise recovered there may be a future need for additional

void space to accommodate this on-going need, this may also include residues from the treatment of waste from other authorities including London.

161. The ability of the Plan areas non-hazardous landfill sites to accommodate an on-going need regarding disposal of residues is uncertain due to lack of data. Monitoring of disposal to non-hazardous landfill (including residue arisings) and remaining non-hazardous landfill capacity will be necessary in order to consider future options in the long term (i.e. towards the end of the plan period), address any on-going need for disposal and ensure that residues are managed appropriately.
162. The inert landfill and inert recovery void space at the start of the plan period was estimated at 15.401Mt and 0.657Mt respectively (16.057Mt combined). Almost 80% (12Mt) of inert landfill void space is associated with the restoration of mineral extraction sites. As such the availability of void space is linked to timeframes for restoration works, with existing permissions expiring between 2018 and the end of the plan period. The forecast total need for deposit of inert waste over the plan period (19.887Mt) can be accommodated by permitted void space (inert recovery and inert landfill) with the deficit (3.830Mt) accommodated at void space created as a result of permitted and future mineral extraction. As the Minerals Planning Authorities for the Plan area, there is a requirement to facilitate delivery of a steady and adequate supply of aggregates over the plan period (though, for example, identification of site-specific allocations). Extraction from these sites will create additional inert landfill or recovery void space as inert fill is for infilling to re-profile land as part of restoration works. It is therefore assumed that there will be a continued need for inert fill to be directed towards mineral extraction sites to support restoration works throughout the plan period. However, no new inert landfill or recovery sites (not associated with restoration of mineral extraction sites) are required.
163. There is currently no permitted capacity for hazardous landfill within the Plan area. Hazardous waste for disposal is currently exported for disposal. For the reasons outlined earlier regarding hazardous waste it is not possible for every WPA to achieve self-sufficiency with respect to hazardous wastes.

Conclusion

164. Waste arisings for Cambridgeshire and Peterborough totalled around 2.702Mtpa in 2016; this includes municipal, C&I, CD&E and hazardous waste. Forecasts indicate that waste arisings could increase to 3.133Mtpa by the end of the plan period (2036).

165. There is sufficient waste management capacity within Cambridgeshire and Peterborough (jointly) with respect to the preparation of wastes for reuse and recycling, composting, soil treatment and disposal of non-hazardous waste to landfill.
166. At the mid-point of the plan period there may be a need for additional recovery (treatment) capacity, with a future need at the end of the plan period of 0.127Mtpa. The future capacity needs could be accommodated by extensions to existing sites and new sites involving a combination of AD with energy recovery, thermal treatment with energy recovery or other suitable treatment processes.
167. Although there is a short-fall in inert recovery capacity this additional capacity is able to 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.
168. There is sufficient permitted void space to accommodate the Plan areas disposal needs and (some of) London's non-apportioned household and C&I waste to be exported for disposal. Monitoring of disposal to non-hazardous landfill (including residues) and remaining void space will be necessary to ensure that wastes are managed and any necessary capacity planned for appropriately.
169. There is also a potential need for hazardous waste recycling and disposal capacity. As such waste tends to be managed at a regional to national scale and are generated in significantly lower quantities it is not possible for every WPA to achieve self-sufficiency.

Appendix 1: Waste management sites with extant planning permission

Table A1.1: Waste management (non-hazardous and inert)

Waste Planning Authority	Site	Facility	Permission reference & end date
Cambridgeshire	Wisbech Road, Westry, March, PE15 0BA	Anaerobic digestion	
Cambridgeshire	Envar Composting The Heath, Woodhurst, St Ives, PE28 3BS	Composting	H/5001/07/CW
Cambridgeshire	Waterbeach Waste Management Park, Waterbeach	Composting	S/0013/15/CW
Cambridgeshire	Bury Lane Farm Ramsey PE26 2RW,	Composting	H/5016/11/CW
Cambridgeshire	Fenton Manor Farm Fenton, PE28 2NS	Composting	H/5024/06/CW
Cambridgeshire	Manor Farm Doddington, PE15 0TN	Composting	
Cambridgeshire	Cambridge Recycling Centre, Ely Road, Waterbeach, CB5 9PG	Composting	
Cambridgeshire	Rutland Stud Composting Facility, School Road, Newmarket, CB8 9RX	Composting	E/3009/06/CW
Cambridgeshire	Soham Hasse Road	Composting	
Cambridgeshire	Greens Mettleham Transfer Station, Mettleham Farm Centre, Hasse Road, Soham, CB7 5UW	Composting	
Cambridgeshire	Woodhatch Farm, Thrapston Road, Ellington PE28 0AE	Composting	
Cambridgeshire	Hainey Farm, CB7 5TZ	Composting	
Cambridgeshire	Bluntisham, Bluntisham Heath Road, Warboys, Huntingdon PE17	HWRC	H/00359/93/CW H/05029/02/CW
Cambridgeshire	Thriplow, Gravel Pit Hill, Thriplow, Royston, SG8	HWRC	S/00001/05/CC S/00250/09/CC
Cambridgeshire	St Neots, Huntingdon Street, St. Neots, Huntingdon, PE19	HWRC	H/00386/92/CW H/00260/00/CW
Cambridgeshire	Milton, Butt Lane, Milton,	HWRC	S/0032/03/CM

Waste Planning Authority	Site	Facility	Permission reference & end date
	CB4 6DQ		S/0289/91/F
Cambridgeshire	Wisbech, Boleness Road, Wisbech, PE13	HWRC	F/00788/91/CW
Cambridgeshire	Whittlesey, New Road, PE7 1SZ	HWRC	
Cambridgeshire	Witchford, Stirling Way, Ely CB6 3NR	HWRC	
Cambridgeshire	Alconbury, Wood Walton Road, PE28 4LH	HWRC	
Cambridgeshire	March, Hundred Road, PE15 8QJ	HWRC	
Cambridgeshire	Buckden Recycling Centre PE18 9UH	HWRC	
Cambridgeshire	Bluntisham, Bluntisham Heath Road, Warboys, Huntingdon PE17	HWRC	H/00359/93/CW H/05029/02/CW
Cambridgeshire	Chear Fen Farm, Long Drove, Cottenham, CB24 8AH	Inert recovery	S/0329/11
Cambridgeshire	Dernford Farm Agricultural Reservoir, CB22 3DG	Inert recovery	S/0201/16/CM 31/12/2017
Cambridgeshire	Saxon Pit, Peterborough Road, PE7 1PD	Inert recovery	F/2014/17/CW 28/09/2018
Cambridgeshire	Waterbeach Waste Management Park, Waterbeach, CB25 9PG	Inert recycling	S/0014/15/CW
Cambridgeshire	Lancaster Way, CB6 3NW	Inert recycling	
Cambridgeshire	Former Whitemoor, Marshalling Yard, Hundred Road, March	Inert recycling	F/2006/09/CW
Cambridgeshire	Chesterton Sidings, land of Cowely Road, CB4 0JL	Inert recycling	S/0876/15/CW
Cambridgeshire	St Ives Aggregates Facility PE27 4LG	Inert recycling	
Cambridgeshire	Station Road, Warboys	Inert recycling	H/5008/08/CWH/05 013/11/CW H/05016/12/CW H/5007/14/CW
Cambridgeshire	Padnal Sidings, Ely Road, Prickwillow, Ely, CB7 5UJ	Inert recycling	
Cambridgeshire	Station Farm, Brampton Road, Buckden, Huntingdon PE19 5UH	Inert recycling	
Cambridgeshire	Wimblington, March	Inert recycling	F/2015/05/CW

Waste Planning Authority	Site	Facility	Permission reference & end date
Cambridgeshire	St Ives, Meadow Lane	Inert recycling	
Cambridgeshire	New Farm, Hemingford Abbots	Inert recycling	H/1424/98
Cambridgeshire	Wisbech	Inert recycling	F/02012/04/CW
Cambridgeshire	Waterbeach recycling facility, Waterbeach, CB25 9PG	Inert recycling	
Cambridgeshire	Plantation Farm, CB8 7QJ	Inert recycling	
Cambridgeshire	Little Paxton	Inert recycling	H/5034/02/CW
Cambridgeshire	Eaton Tractors, Pitt Farm, Little Paxton, St Neots, PE19 6HD	Inert recycling	H/05007/04/CW
Cambridgeshire	Buckden, PE19 5UH	Inert recycling & composting	
Cambridgeshire	Buckden, Station Farm, Brampton Road, Buckden,	Inert recycling & composting	H/05041/09/CW H/5020/03/CWH/14 28/96/CW
Cambridgeshire	East Anglian Resources Ltd, Yard 1, Benwick Rd PE7 2HD	Non-inert recycling (wood)	
Cambridgeshire	Waterbeach Waste Management Park, Waterbeach	Non-inert recycling (wood)	
Cambridgeshire	Mayer Parry Snailwell, 111 Fordham Road, Snailwell, Newmarket, Suffolk, CB8 7ND	Recycling (metal)	E/0830/91/CWE/30 08/10/CW
Cambridgeshire	A P Bouland Rampton Car Breakers, 2 Cuckoo Lane, Rampton, CB4 8QH	Recycling (metal)	
Cambridgeshire	Porters Depot, 29 Oldfield Lane, Wisbech, PE13 2RJ	Recycling (metal)	
Cambridgeshire	Cambridgeshire Salvage 2b Doddington Road, Chatteris, PE16 6UA	Recycling (metal)	
Cambridgeshire	James Fuller & Son , 51 Huntingdon Road, Chatteris, PE16 6ED	Recycling (metal)	
Cambridgeshire	Rb Car Spares, Leverington Common, Wisbech, PE13 5JN	Recycling (metal)	
Cambridgeshire	G J Webster G W Car Repairs, Angle Common Vehicle Dismantlers, Unit 1 Angle Common, Soham,	Recycling (metal)	

Waste Planning Authority	Site	Facility	Permission reference & end date
	Ely, CB7 5HX		
Cambridgeshire	Barnwell Junction Railway Sidings, Swanns Road, CB5 8JZ	Recycling (metal)	
Cambridgeshire	Ely Motorcycle Spares Black Bank, Little Downham, Ely, CB6 2UB	Recycling (metal)	
Cambridgeshire	Burton's Car Disposal Cockbrook Lane, Old Weston, Huntingdon, PE28 5LU	Recycling (metal)	
Cambridgeshire	Cambridge Parts Centre 32, Cave Industrial Estate, Fen Road, CB4 1UN	Recycling (metal)	
Cambridgeshire	Fenland Breakers 19-27 Commercial Road, March, PE15 8QP	Recycling (metal)	
Cambridgeshire	Aldridge Motor Salvage & Recovery, Foxlands, Long Drove, Cottenham, CB4 4RL	Recycling (metal)	
Cambridgeshire	Glebe Farm Exports, Glebe Farm, Green Lane, Upton, Huntingdon, PE28 5YE	Recycling (metal)	
Cambridgeshire	Charlton Recycled Autoparts Ltd Gravel Pit Hill, Thriplow, Duxford, SG8 7HZ	Recycling (metal)	
Cambridgeshire	B Ayres - Home Farm Alconbury Huntingdon, PE17 5DL	Recycling (metal)	
Cambridgeshire	Lodge Farm, Knights End Road, Floods Ferry, March, PE15 0YN	Recycling (metal)	
Cambridgeshire	Autoshells Ashley Lodge, Conquest Drove, Farcet, PE7 3DH	Recycling (metal)	
Cambridgeshire	Gerald Montgomery - Ramsey Breakers, Factory Bank, Ramsey, Huntingdon, PE26 2RD	Recycling (metal)	
Cambridgeshire	J Blake - C F C Disposals Roffco Works, Main Street, Christchurch, March, PE14	Recycling (metal)	

Waste Planning Authority	Site	Facility	Permission reference & end date
	9LF		
Cambridgeshire	Ashwell & Morden Station Goods Yard, Station Road, Odsey, Baldock, Hertfordshire, SG7 5RT	Recycling (metal)	
Cambridgeshire	Brook Farm, Brook Road, Bassingbourn, Hertfordshire, SG8 5NP	Recycling (metal)	
Cambridgeshire	Slate Hall Farm, Huntingdon Road, Lolworth, CB3 8HB	Recycling (metal)	
Cambridgeshire	D M R Recycled Autoparts, Wilburton, Station Road, Wilbuton, CB6 3PZ	Recycling (metal)	
Cambridgeshire	H & A Woodfield – Bluntisham, Station Yard, Huntingdon, PE17 3PA	Recycling (metal)	
Cambridgeshire	C W Sworder - Molesworth Village Breakers, The Hangers, Brookside, Molesworth, PE28 0QH	Recycling (metal)	
Cambridgeshire	Autos & Son, The Homestead, Newmarket Road, Bottisham, CB5 9BD	Recycling (metal)	
Cambridgeshire	Staughton Moor, Vehicle Dismantlers Yard, Staughton Moor, Great Staughton, Huntingdon, PE19 5BJ	Recycling (metal)	
Cambridgeshire	Wisbech, 29 Oldfield Lane, Wisbech, PE13 2RJ	Recycling (metal)	
Cambridgeshire	Idris A Khans - R M S, Bashir House, Station Road West, Whittlesford, CB2 4NL	Recycling (metal)	
Cambridgeshire	Shelton Motors / M C Tractors, Factory Bank, Ramsey, PE26 2RD	Recycling (metal)	
Cambridgeshire	W Smith Scrap Metals – Linton, Hill View, Balsham Road, Linton, CB1 6LD	Recycling (metal)	
Cambridgeshire	West Street, St.Ives, Cambs	Recycling (metal)	
Cambridgeshire	Sita Mr Cambridge Limited The Foundry, Unit 2	Recycling (metal)	

Waste Planning Authority	Site	Facility	Permission reference & end date
	Factory Bank, Ramsey, PE26 2RD		
Cambridgeshire	Smith's Scrap Metals Hill View, Balsham Road, Linton, CB1 6LD	Recycling (metal)	
Cambridgeshire	Leverington Common, Osborne Road, Wisbech	Recycling (metal) & transfer	
Cambridgeshire	Glazewing, Port Of Wisbech, Dock Cottage, Crab Marsh, Wisbech, PE13 3JG	Recycling (metal) & transfer	
Cambridgeshire	Alconbury Hill Stangate Business Park	Recycling & transfer	
Cambridgeshire	Cottenham	Recycling & transfer	
Cambridgeshire	Wisbech Waste Transfer Station, Algores Way, Wisbech PE13 2TQ	Recycling & transfer	
Cambridgeshire	Waterbeach Waste Management Park, Waterbeach	Recycling & transfer	
Cambridgeshire	6 & 7 Marston Rd, St Neots, PE19 2HB	Recycling & transfer	
Cambridgeshire	Melbourne Avenue, March	Recycling & transfer	
Cambridgeshire	County Highways Depot, Dullingham, PE15 0NE	Recycling & transfer	
Cambridgeshire	County Highways Depot, Station Road, Whittlesford, CB22 4NL	Recycling & transfer	S/00014/80/CC S01117/03/CC
Cambridgeshire	County Highways Depot, Stanton Way, Huntingdon PE29 6PY	Recycling & transfer	
Cambridgeshire	County Highways Depot, Witchford Road, Ely, CB6 3NR	Recycling & transfer	E/00101/91/CC E/00198/80/CC
Cambridgeshire	Chesterton Sidings Frimstone Ltd, Cowley Road, Cambridge	Recycling & transfer	S/0245/17/CM
Cambridgeshire	Woodford Waste Management, Warboys	Recycling & transfer	H/5014/16/CWH/50 12/15/CW
Cambridgeshire	Brittania Way WTS Wisbech	Recycling & transfer	
Cambridgeshire	Cambridge Waste	Recycling &	C/05044/12/CW

Waste Planning Authority	Site	Facility	Permission reference & end date
	Management Centre Cowley Road, CB4 0DN	transfer	
Cambridgeshire	Cowley Road, Cambridge	Recycling & transfer	C/05007/13/CW
Cambridgeshire	Chapsmith Services Recycling Centre, PE28 3LJ	Recycling & transfer	
Cambridgeshire	Dockerill Plant Hire Ltd, Babraham, CB22 3AX	Recycling & transfer	
Cambridgeshire	P J Thory Ltd, Coates, PE7 2DD	Recycling & transfer	
Cambridgeshire	Ely Recycling Centre	Recycling & transfer	
Cambridgeshire	Dawson Recycling Facility, CB24 4QJ	Recycling & transfer	
Cambridgeshire	Longstanton	Transfer	
Cambridgeshire	Cambridge Transfer Station, Cowley Road	Transfer	
Cambridgeshire	Hardwicke Road, Gt Gransden	Transfer	
Cambridgeshire	John Henry Former Goods Yard, CB4 5DS	Transfer	
Cambridgeshire	The Old Cold Store	Transfer	
Cambridgeshire	Toft transfer station CB3 7RQ	Transfer	
Cambridgeshire	Woodhatch Farm	Transfer	H/05005/13/CW
Cambridgeshire	Buckden	Transfer	
Cambridgeshire	Isleham Station Road	Transfer	
Cambridgeshire	Isleham (W.F. Soils)	Transfer	
Cambridgeshire	Duxford (Hexcel)	Transfer	
Cambridgeshire	Littleport (Ten Mile Bank)	Transfer	
Cambridgeshire	Waterbeach Waste Management Park, Waterbeach	Transfer	
Cambridgeshire	Westwood Histon	Treatment - bio beds	
Cambridgeshire	Waterbeach Waste Management Park, Waterbeach	Treatment - mechanical biological	S/2438/06/CW
Cambridgeshire	Alconbury Airfield	Treatment - mechanical biological	
Cambridgeshire	Buckden Leachate Treatment Plant, Station Farm, Brampton	Treatment - physical	

Waste Planning Authority	Site	Facility	Permission reference & end date
	Road, Buckden, PE19 5UH		
Cambridgeshire	Saxon Recycling Ltd, Saxton Brickworks, CB2 4WL	Treatment - physical	
Cambridgeshire	Buckden Effluent Treatment Plant, PE19 5UH	Treatment - physio-chemical	
Cambridgeshire	Mepal Soil And Aggregate Treatment Facility, CB6 2AY	Treatment -soils	
Cambridgeshire	Liberty Barn, Mead Construction CB25 0LA	Treatment -soils	
Cambridgeshire	Sutton Recycling Facility Former Mepal Airfield, Mepal Road, Sutton, Cambridge, CB6 2PZ	Treatment -soils	
Cambridgeshire	Plantation Farm, CB8 7QJ	Treatment -soils	
Cambridgeshire	Waterbeach Waste Management Park Waterbeach, Cambridge CB25 9PG	Treatment -soils	
Cambridgeshire	Mandley Brothers First Furlong Farm, First Furlong Drove, Chatteris, Cambs, PE16 6TA	Treatment -soils	
Cambridgeshire	Addenbrooke's Hospital Incinerator Hills Road, CB2 2QQ	Treatment – thermal	
Cambridgeshire	Woodhatch Farm, Thrapston Road, Brampton PE28 4NJ	Treatment – thermal	
Cambridgeshire	Energy 10, Thrapston Road, Brampton PE28 4NJ	Treatment – thermal	
Cambridgeshire	Computer Displays, Unit 5 Lakeside Business Units, Block Fen, Ely, CB6 2AY	WEEE recycling	
Cambridgeshire	St Ives Resource Recovery Facility, PE27 3LS	WEEE recycling	
Peterborough	Dogsthorpe Landfill Site, Welland Road, Dogsthorpe	Anaerobic digestion	12/01236/MMFUL
Peterborough	Dogsthorpe Landfill Site Welland Road, Dogsthorpe, Peterborough, Cambridgeshire, PE1 3DT	Composting	10/00590/WCMM
Peterborough	Eyebury Quarry, Eyebury	Composting	14/01307/MMFUL

Waste Planning Authority	Site	Facility	Permission reference & end date
	Road, Eye, PE6 7UQ		
Peterborough	Dogsthorpe Householders Waste Recycling Centre, PE1 3DT	HWRC	2019
Peterborough	Dodson House, PE1 5FS	HWRC & WEEE recycling	14/00063/M4FUL
Peterborough	Hampton Leys South, Hampton, PE7 3EW	Inert recovery	05/00560/FUL 05/01085/FUL 2020
Peterborough	Eye North Landfill site Eyebury Quarry, Eyebury Road, Eye, PE6 7UQ	Inert recycling	14/01307/MMFUL 10/00650/WCMM
Peterborough	Dogsthorpe Landfill Site, Welland Road, Dogsthorpe	Inert recycling	12/01236/MMFUL
Peterborough	Oxney Road Industrial Estate, Oxney Road, PE1 5YW	Inert recycling	14/00354/MMFUL
Peterborough	Apex Plant Hire Ltd, Construction House, Fengate, PE1 5PE	Inert recycling	12/00206/MMFUL
Peterborough	Dogsthorpe Landfill Site, Welland Road, Dogsthorpe	Inert recycling	15/01214/MMFUL 31/12/2019
Peterborough	Mick George, Welland Road, Dogsthorpe, PE1 3TD	Inert recycling	14/01542/MMFUL
Peterborough	Pasture House Farm, The Causeway, Thorney, PE6 0QL	Inert recycling	15/01839/MMFUL 02/10/2042
Peterborough	Eyebury Quarry, Eyebury Road, Eye, PE6 7UQ	Inert recycling	10/00650/WCMM 31/12/2021
Peterborough	Universal Cars, 38 Ivatt Way, Westwood, PE3 7PN	Recycling (metal)	
Peterborough	Sims Recycling Facility Fourth Drove, Fengate, PE1 5UR	Recycling (metal)	07/00736/MMFUL 08/00439/WCMM
Peterborough	A S R Autobreakers Warehouse B1, First Drove, Fengate, PE1 5BJ	Recycling (metal)	
Peterborough	Peterborough Auto Spares Limited, Unit B3 - B4, First Drove, Fengate, PE1 5BJ	Recycling (metal)	
Peterborough	Unit J, Oxney Road Ind Est, Oxney Road, PE1 5YN	Recycling (metal)	
Peterborough	D K Salvage Company	Recycling (metal)	

Waste Planning Authority	Site	Facility	Permission reference & end date
	Third Drove, Fengate, PE1 5YT		
Peterborough	Wryde Works, New Cut, Knarr Cross, Thorney, PE6 0TW	Recycling (metal)	
Peterborough	Oxney Road Storage Site, Peterborough Export, ackers Ltd, Oxney Road, PE1 5YW	Recycling (metal)	05/01909/MMFUL
Peterborough	Apex Plant Hire, PE1 5BH	Recycling & transfer	10/01276/FUL
Peterborough	M D N Concrete, Station Road, Thorney, PE6 0QE	Recycling & transfer	05/00985/MMFUL 09/00814/MMFUL 98/00925/MMFUL 08/01190/MMFUL
Peterborough	World Of Tyres, Vicarage Farm Road, Fengate, PE1 5TP	Recycling & transfer	17/00394/MMFUL 15/00035/MMFUL
Peterborough	Former Dogsthorpe , Brickworks, PE1 3TD	Transfer	
Peterborough	Nursery Lane Depot, PE1 5BG	Transfer	
Peterborough	Rose Plant Hire Transfer Station, PE1 5XL	Transfer	
Peterborough	Unit B Oaklea House, PE3 8YQ	Transfer	
Peterborough	Maxey Mill, Mill Road, Maxey, Peterborough, PE6 9EZ	Treatment (oil)	
Peterborough	Oxney Road Industrial Estate, Oxney Road, PE1 5YW	Treatment -soils	
Peterborough	Peterborough Energy Recovery Facility, Fourth Drove, Fengate, PE1 5UR	Treatment - thermal	
Peterborough	Unit 1 & 2 Global Business Centre, Newark Road, Fengate, PE1 5YD	WEEE recycling	

Table A1.2: Inert waste disposal and recovery

Waste Planning Authority	Site	Permission reference & end date
Cambridgeshire	Barrington Works Landfill Site	S/01080/10/CW Dec 2017
Cambridgeshire	Buckden Landfill Site	H/01010/87/CW
Cambridgeshire	Cow Lane Landfill Site, Godmanchester	H/05001/08/CW 06/12/2020
Cambridgeshire	Kennett Hall Farm Quarry	E/3011/05/CM E/3000/14/CW 3 years from commencement or 31/12/2021
Cambridgeshire	Mepal Airfield Landfill Site	E/03016/07/CW
Cambridgeshire	Mepal Landfill Extension	
Cambridgeshire	Witcham Meadlands Landfill Site, Mepal	F/02013/07/CW F/2000/17/CW F/02020/11/CW E/03012/11/CW
Cambridgeshire	March Landfill Site	F/02002/12/CW F/02003/12/CW 31/12/2024
Cambridgeshire	Dimmock Cote Quarry, Wicken	E/0422/987/CM E/3020/05/CM E/03010/12/CM 31/12/2025
Cambridgeshire	Somersham Landfill Site	
Peterborough	Cook's Hole Quarry, Thornhaugh	15/00229/MMFUL 31/12/2034
Peterborough	Cross Leys Quarry, Wansford	10/00488/WCMM 12/01189/WCMM 31/07/2012
Peterborough	Pasture House Farm Quarry, Thorney	15/01839/MMFUL 02/10/2042
Peterborough	Land at Leicester Road Quarry, Wansford	14/01716/MMFUL 5 years from commencement or 10/04/2026
Peterborough	Thornhaugh Quarry II	12/00030/REFPP 31/12/2029
Peterborough	Willow Hall Farm Quarry, Thorney	17/00279/WCMM 02/06/2029

Table A1.3: Non-hazardous waste disposal

Waste Planning Authority	Site	Permission reference & end date
Cambridgeshire	Buckden Landfill Site	H/01010/87/CW
Cambridgeshire	Grunty Fen Landfill Site, Ely	E/01071/88/CW, E/03002/09/CW 31/12/2026
Cambridgeshire	March Landfill Site	F/02002/12/CW, F/02003/12/CW 31/12/2024
Cambridgeshire	Milton Landfill Site, Cambridge	S/00289/91/CW, S/00511/08/CW 31/12/2020
Cambridgeshire	Warboys Landfill Site	H/5014/16/CW, H/5012/15/CW 31/12/2018
Cambridgeshire	Witcham Meadlands Landfill, Mepal	F/02013/07/CW, F/2000/17/CW
Cambridgeshire	Waterbeach Waste Management Park, Ely Road Landfill Site, Waterbeach	S/0013/15/CW, S/0013/15/CW/N1 31/12/36
Peterborough	Dogsthorpe Landfill Site	13/01562/WCMM 31/12/18
Peterborough	Eye Quarry Landfill	15/01059/WCMM 31/12/2021
Peterborough	Thornhaugh Quarry I Landfill Site	17/00726/WCMM 31/12/2034

Table A1.4: Hazardous waste management and disposal

Waste Planning Authority	Site	Permission reference & end date
Cambridgeshire	Cambridge Pet Crematorium, Thriplow	S/1356/94/CW S/00434/99/CW S/00496/05/CW S/00008/16/CW
Cambridgeshire	Malary Oil Treatment Plant, Cottenham	
Cambridgeshire	Lion Yard Site, Whittlesford	S/00082/10/CW
Cambridgeshire	Hinghingbrooke Hospital, Huntingdon	H/00157/96/CW
Cambridgeshire	Lancaster Way, Huntingdon	
Cambridgeshire	Cowley Road Depot, Cambridge	C/05004/12/CW C/00149/07/CW
Peterborough	Unit 2 Vicarage Farm Road	

Appendix 2: Existing waste treatment capacity over the plan period

The following figures illustrate the existing capacity of facilities permitted for the treatment of waste and how this capacity may fluctuate over the plan period.

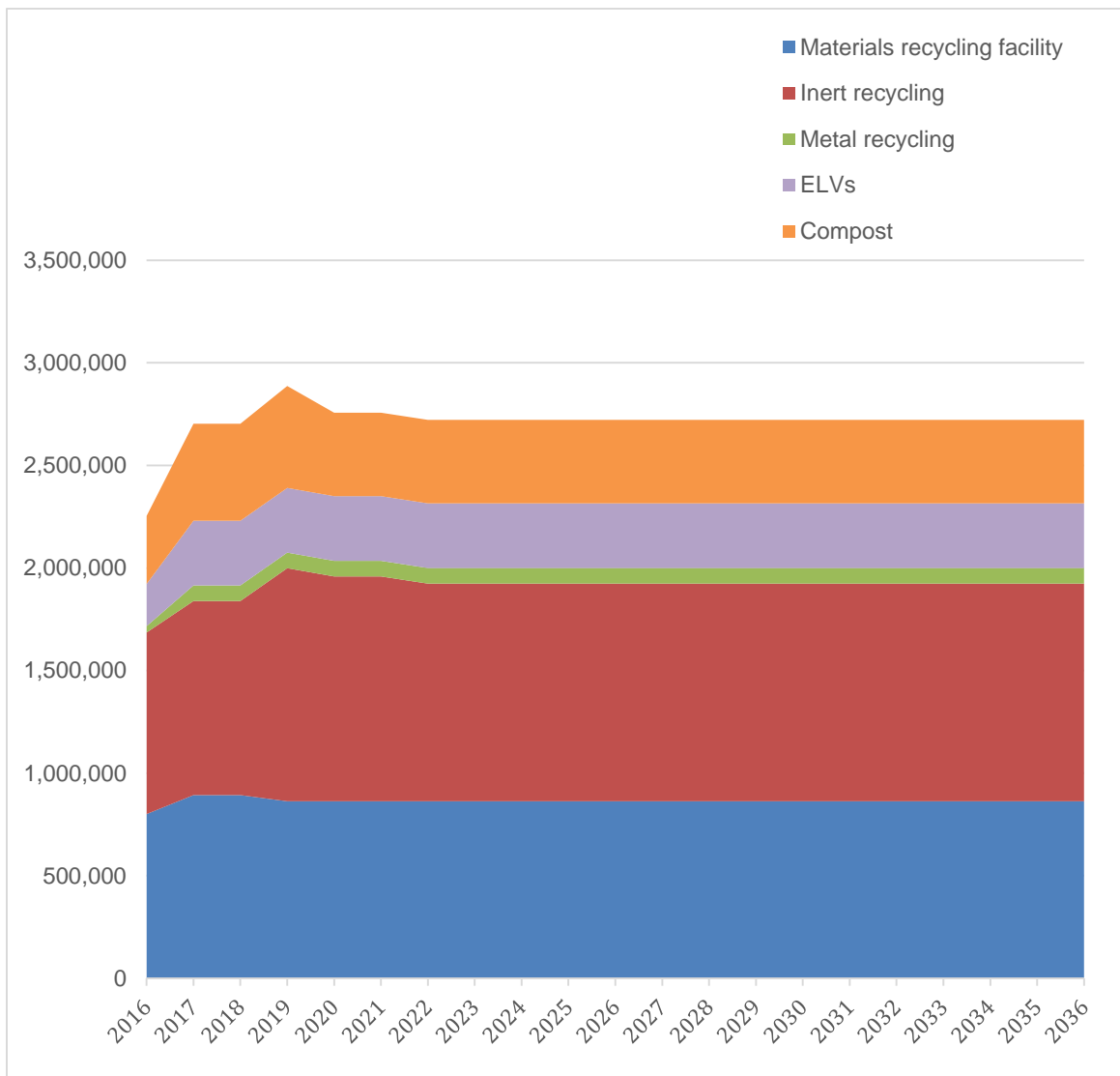


Figure A2.1: Existing recycling capacity over the plan period (tonnes)

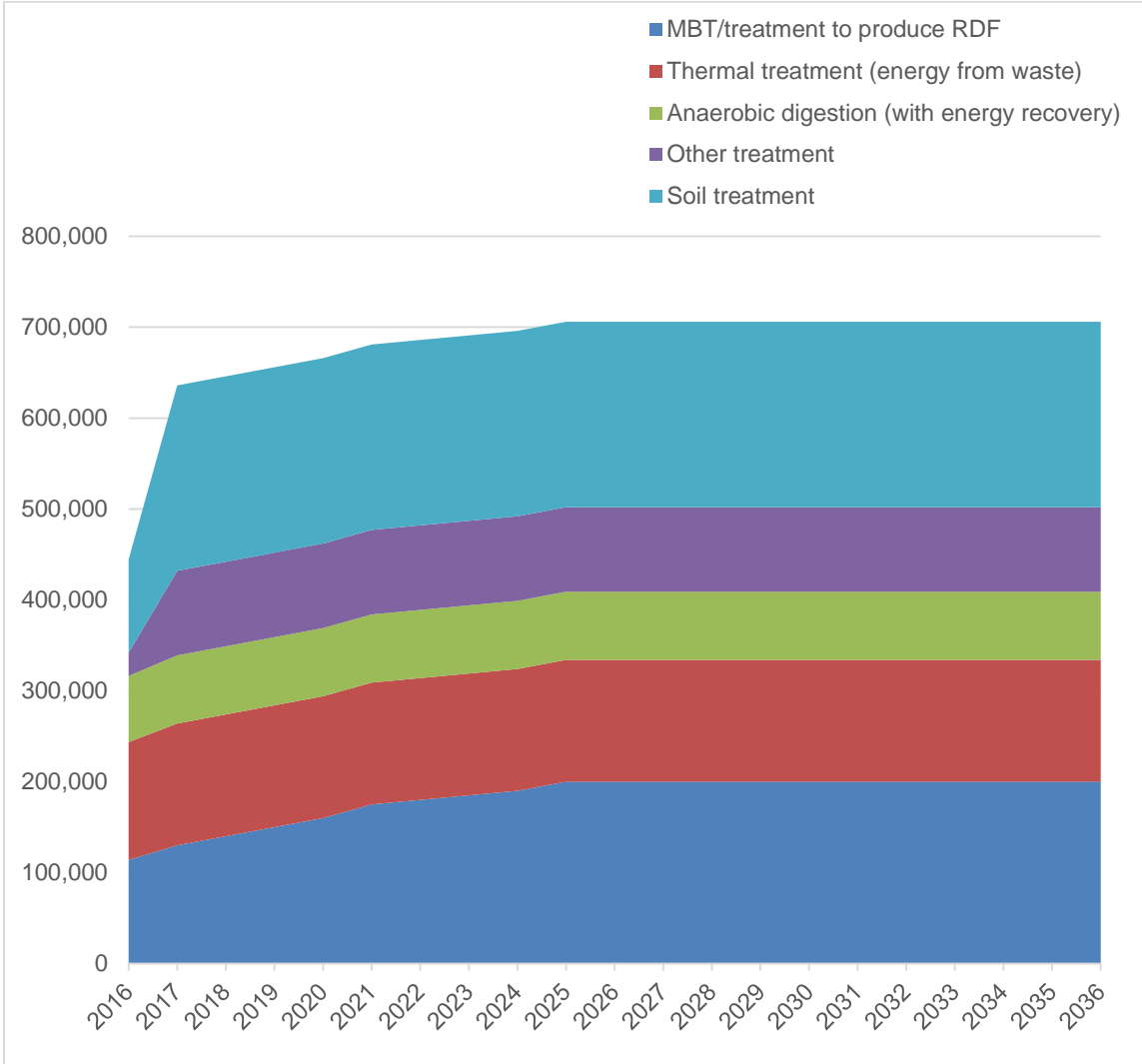


Figure A2.2: Existing treatment capacity over the plan period (tonnes)

Appendix 3: Reference list

A list of references used in preparing the WNA is provided below with links to websites where available. References are grouped under the broad areas that the information/dataset was used to inform preparation of the WNA.

Planning policy and local context

Landfill Directive

http://ec.europa.eu/environment/waste/landfill_index.htm

Packaging and Packaging Waste Directive

http://ec.europa.eu/environment/waste/packaging/index_en.htm

Waste Framework Directive

<http://ec.europa.eu/environment/waste/framework/>

National Planning Policy Framework

<https://www.gov.uk/guidance/national-planning-policy-framework>

National Planning Policy Guidance

<https://www.gov.uk/government/collections/planning-practice-guidance>

National Planning Policy for Waste

<https://www.gov.uk/government/publications/national-planning-policy-for-waste>

National Waste Management Plan for England

<https://www.gov.uk/government/publications/waste-management-plan-for-england>

National Policy Statements

<https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/national-policy-statements/>

UK Waste Regulations 2011

<http://www.legislation.gov.uk/ukxi/2011/988/contents/made>

National Infrastructure Delivery Plan 2016 to 2021

<https://www.gov.uk/government/publications/national-infrastructure-delivery-plan-2016-to-2021#history>

Shaping the future of England's strategic roads

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/666965/shaping-the-future-of-englands-strategic-roads.pdf

Highways England improvements and major road projects - A14 Progress report

<http://roads.highways.gov.uk/projects/a14-cambridge-to-huntingdon/>

London Plan, March 2016

<https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan>

Draft London Plan, November 2017

<https://www.london.gov.uk/what-we-do/planning/london-plan/new-london-plan>

East of England WTAB Waste Arisings Methodology Paper, Draft, February 2017

Available for download from Cambridgeshire and Peterborough MWLP evidence base library

Cambridgeshire and Peterborough Waste Partnership RECAP Joint Municipal Waste Management Strategy for Cambridgeshire and Peterborough 2008 to 2022

<http://www.recap.co.uk/about-recap/>

Suffolk Waste Study, September 2017

<https://www.suffolk.gov.uk/assets/planning-waste-and-environment/Minerals-and-Waste-Policy/Suffolk-Waste-Study-Final-Report-September-2017.pdf>

Identify historic and current arisings and management methods

Defra Local authority collected waste: annual results tables January 2010 to March 2017

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

Waste DataFlow database

<http://www.wastedataflow.org>

EA Waste Data Interrogator database

<https://data.gov.uk/dataset/c7c3c433-4656-44e9-9e1c-a4a565bf7b56/waste-data-interrogator-2016>

EA Hazardous Waste Data Interrogator database

<https://data.gov.uk/dataset/babc04fe-17a6-4834-8a22-176e5fea8a78/hazardous-waste-interrogator-2016>

Defra Commercial and industrial waste survey 2009

- Available for download from Cambridgeshire and Peterborough MWLP evidence base library
- Defra 2016 UK statistics on waste
<https://www.gov.uk/government/publications/waste-management-for-england-2016>
- NDA 2016 Inventory
<https://ukinventory.nda.gov.uk/>
- DECC Data collection on solid low-level waste from the non-nuclear sector November 2008
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/254394/Data-collection-lowlevel-waste-nonnuclear.pdf
- EA Towards sustainable agricultural waste management, 2001
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/291600/geho0003bieo-e-e.pdf
- EA Strategic Waste Management Assessment: East of England, 2000
Available for download from Cambridgeshire and Peterborough MWLP evidence base library
- Identifying growth factors and apportioning waste arisings to authority levels and sectors/activity**
- MHCLG Housing supply: Net additional dwellings 2001-02 to 2016-17
<https://www.gov.uk/government/statistical-data-sets/live-tables-on-net-supply-of-housing>
- Office of National Statistics Mid-year population estimates
<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates>
- Office for National Statistics NOMIS
<https://www.nomisweb.co.uk>
- Cambridgeshire Municipal waste model 2011-2015
Available on request
- Cambridgeshire Insight Population and dwelling estimates 2011-2015, and 2015-based population and dwelling stock forecasts 2015-2036, July 2017

<https://www.peterborough.gov.uk/council/about-peterborough/population/>

Cambridgeshire Insight Population data

<https://cambridgeshireinsight.org.uk/population/>

Cambridge Econometrics East of England Forecasting Model 2016 baseline results updated August 2016

<https://cambridgeshireinsight.org.uk/eefm/>

Identifying waste management capacity

EA Waste Data Interrogator database

<https://data.gov.uk/dataset/c7c3c433-4656-44e9-9e1c-a4a565bf7b56/waste-data-interrogator-2016>

EA Hazardous Waste Data Interrogator database

<https://data.gov.uk/dataset/babc04fe-17a6-4834-8a22-176e5fea8a78/hazardous-waste-interrogator-2016>

EA Incinerator waste returns

<https://ea.sharefile.com/share/view/s31aa5db2501493fb>

Environmental Permitting Regulations - Waste sites

<https://data.gov.uk/dataset/1683346b-abf9-4712-ba84-02871a318212/environmental-permitting-regulations-waste-sites>

EA Environmental Permitting Regulations – Waste operations

<https://environment.data.gov.uk/public-register/view/search-waste-operations>

Waste infrastructure inventory, 2010

<https://data.gov.uk/dataset/5b6fa219-e3e8-4f89-aedc-332d05eecdcd/waste-infrastructure-report-and-maps-2010>

<https://ea.sharefile.com/share/view/s70b58f0c1af4fe3a>

EA Remaining landfill capacity

<https://data.gov.uk/dataset/remaining-landfill-capacity>

Environmental Permitting Regulations - Landfill sites

<https://data.gov.uk/dataset/f32df1eb-e571-440c-8d1c-75a5233f92f5/environmental-permitting-regulations-landfill-sites-quarterly-summary>

EA Register of waste exemptions

<https://environment.data.gov.uk/public-register/view/search-waste-exemptions>

Cambridgeshire Planning Application database

<http://planning.cambridgeshire.gov.uk/swift/apas/run/wchvarylogin.display>

Peterborough Planning Application database

<https://planpa.peterborough.gov.uk/online-applications/search.do?action=simple&searchType=Application>

Appendix 4: Compliance checklist – Waste Framework Directive

The schedule below sets out how the emerging MWLP and WNA complies with the WFD as per the Guidance for local planning authorities on implementing planning requirements of the European Union Waste Framework Directive (2008/98/EC).

Table A4.1: WFD Compliance checklist

Does the Local Plan ...	Yes / No	Evidence
Set out how the key planning objectives in national policy, including the waste hierarchy, will be delivered?	Yes	To be detailed in the MWLP vision, objectives and policies Waste needs assessment (WNA)
Provide an assessment of existing and future generation of waste arising over the plan period?	Yes	WNA To be detailed in the MWLP waste planning matters section
Identify where the waste will be managed?	Yes	To be detailed in the MWLP policy(ies) addressing the spatial strategy for waste management and allocations/designations for waste-related development
Consider and clearly identify waste management capacity from existing waste management facilities?	Yes	WNA To be detailed in the MWLP waste planning matters section
Consider and clearly identify future capacity from existing waste management facilities?	Yes	WNA To be detailed in the MWLP waste planning matters section
Identify the number and type of waste management facilities required - including existing facilities - along with specific sites or broad locations?	Yes	To be detailed in the MWLP policy(ies) addressing the spatial strategy for waste management and allocations/designations for waste-related development Proposals Map WNA

As evidenced in the compliance checklist above, the Local Plan is compliant with requirements set out through the WFD.