

Nottinghamshire and Nottingham Waste Needs Assessment

Nottinghamshire County Council and Nottingham City
Council

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Quality information

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Glossary of Terms

Term	Definition
Aggregates	Granular material used in construction (can include sand, gravel, crushed stone and recycled concrete).
Agricultural waste	Waste from premises used for agriculture within the meaning of the Agricultural Act 1947.
Anaerobic digestion	Anaerobic digestion is the process of using microorganisms to break down organic waste (e.g. food waste) in the absence of oxygen to produce biogas and fertilising material.
Biodegradable waste	Any waste organic matter than can be broken down into carbon dioxide, water, methane or other simple organic molecules by microorganisms.
Circular economy	An economic system of closed loops in which products lose as little of their value as possible. In contrast to the take-make-dispose linear model, a circular economy is regenerative by design and aims to gradually decouple growth from the consumption of finite resources.
Clinical waste	Waste produced from healthcare and similar activities that may pose a risk of infection (for example, swabs, bandages and dressings).
Commercial and Industrial (C&I) waste	Waste generated by retail units, offices, and any other business, trade or factory use. Some C&I waste is collected by local authorities, however the majority is collected by private waste collection companies.
Construction, Demolition and Excavation (CD&E) waste	Waste produced by construction, demolition or excavation activities.
Courtauld commitments	Series of 10-year voluntary agreements aimed at identifying priorities, developing solutions and implementing changes to cut the carbon and waste associated within food and drink. The first commitment was launched in 2005, with the most recent commitment running up to 2025.
Deposit Return Scheme (DRS)	A small deposit will be added to the price of a drinks container brought to a store. Once the container has been used, the consumer will dispose of it in a reverse vending machine and the deposit will be returned to the consumer.
Energy recovery / energy from waste (EfW)	Any type of process which generates either heat or power from the combustion of waste.
European Waste Catalogue (EWC)	A standard coding system used to identify the type of waste stream.
Evidence base	Includes a number of studies, assessments and background documents that inform the development of a new Local Plan.
Extended Producer Responsibility (EPR)	A policy approach through which a producer's responsibility for a product is extended to the post-use stage. This incentivises producers to design their products to make it easier for them to be reused, dismantled and/or recycled at end of life.
Food waste	Any food, and inedible parts of food removed from the food supply chain to be recovered or disposed.
Garden waste	Waste generated from the garden (for example grass clippings, branches and weeds).

Term	Definition
Hazardous waste	Waste is generally considered hazardous if it (or the material or substances it contains) are harmful to humans or the environment. This can be determined on the basis of either a) the source of waste (some types of waste are always deemed to be hazardous) or b) the concentration of hazardous substances within the waste.
Household waste	Waste from domestic properties including waste from residual refuse collections, material collected for recycling and composting, plus waste from educational establishments, nursing and residential homes and street cleansing waste.
Local Authority Collected Waste (LACW)	Household and commercial and industrial waste collected by the local authority. Includes waste streams such as recyclable materials, food waste and residual waste as well as clinical waste, garden waste and bulky waste items (i.e. mattresses or white goods).
Mining waste	Waste produced through the prospecting, extraction, treatment and storage of mineral resources and the working of quarries. This can include waste solids or slurries left over after the minerals have been removed and treated, waste rock and topsoil.
Municipal waste	Household waste and waste similar in nature and composition to household waste.
Proximity principle	Waste should be disposed of as close to its place of origin as possible. The proximity principle is defined within the EU Waste Framework Directive (2008/98/EC).
Radioactive waste	Waste which falls within the scope of the Radioactive Substances Act 1993.
Recovery and Disposal Code	Coding system used to describe a treatment or disposal option. Recovery and disposal codes are defined within the EU Waste Framework Directive (2008/98/EC).
Recyclable waste	Materials that can be processed and used to create new products.
Refuse Derived Fuel (RDF)	Consists of residual waste that is subject to a contract with an end-user for use as a fuel in an energy from waste facility. The contract must include the end-user's technical specifications relating as a minimum to the calorific value, the moisture content, the form and quantity of the RDF.
Residual waste	The remaining part of the waste stream excluding any source-segregated materials (also known as non-recyclable waste/general waste).
Safeguarded sites	Areas and sites which may be required to serve development needs in the long term.
Secondary materials	Wastes which have been recovered to the point where they are no longer waste, or by-products from a manufacturing process, which can be used in place of virgin raw materials.
Self-sufficiency principle	Requires that most waste should be treated or disposed of within the region it was produced. The self-sufficiency principle is defined within the EU Waste Framework Directive (2008/98/EC).
Waste capacity	The quantity of waste each facility or region can process.
Waste hierarchy	The waste hierarchy ranks waste management practices according to what is best for the environment i.e. Prevention, Re-use, Recycling, Recovery, Disposal.
Waste management facility	Any site used to store, treat, recover, process or dispose of waste.

Term	Definition
Waste Needs Assessment	Identifies the waste management capacity that will be needed during a certain period of time as well as assessing the existing facilities available to manage this waste. A Waste Needs Assessment also considers the needs for additional facilities to manage the forecast requirements.
Waste Planning Authority (WPA)	The local authority responsible for waste development, planning and control. The role of waste planning authority is held by county councils, unitary authorities and national park authorities.
Wastewater	Water that has been contaminated by use in the home, business or as part of an industrial process.

Table of Abbreviations

Abbreviation	Term
AD	Anaerobic Digestion
C&I	Commercial and Industrial
CA	Civic Amenity
CD&E	Construction, Demolition and Excavation
CEP	Circular Economy Package
Defra	Department for Environment, Food and Rural Affairs
DPD	Development Plan Document
DRS	Deposit Return Scheme
EA	Environment Agency
EfW	Energy from Waste
EPR	Extended Producer Responsibility
EU	European Union
EWC	European Waste Code
GBq	Giga-becquerel
HIC	Household, Industrial and Commercial
HLW	High Level Waste
ILW	Intermediate Level Waste
LACW	Local Authority Collected Waste
LLW	Low Level Waste
MRF	Material Recycling Facility
MSW	Municipal Solid Waste
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
NPPW	National Planning Policy for Waste
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project

Abbreviation	Term
R&D Code	Recovery and Disposal Code
RDF	Refuse Derived Fuel
Reg	Regulation
tpa	Tonnes per annum
UK	United Kingdom
VLLW	Very Low Level Waste
WCA	Waste Collection Authorities
WDA	Waste Disposal Authority
WDI	Waste Data Interrogator
WFD	Waste Framework Directive
WMP	Waste Management Plan
WPA	Waste Planning Authority
WTS	Waste Transfer Station

Executive Summary

Introduction

- i. This assessment updates Nottinghamshire County Council's and Nottingham City Council's preliminary waste needs assessment to supplement the evidence base of the Nottinghamshire and Nottingham new Joint Waste Local Plan.
- ii. The assessment estimates future arisings of local authority collected waste (LACW), commercial and industrial (C&I) waste and construction, demolition and excavation (CD&E) waste up to 2038. These future arisings are compared to the existing and committed waste management capacity, in order to identify any gaps in capacity provision. The assessment also reviews current flows of waste into and out of the plan area.

LACW and C&I waste

- iii. LACW and C&I waste arisings to 2038 were forecast based on current arisings, changes over recent years, the projected growth in the local economy and population, and future trends in the rate of waste generation per household or per employee. A number of different forecasting scenarios were developed to account for future recycling rates in 2038:

Scenario	LACW Recycling Rate	C&I Waste Recycling Rate
Low	39.4% (current rate)	70.1% (current rate)
Medium	55%	75%
High	65%	80%

- iv. Based on the preferred forecasting scenario, approximately 590,000 tonnes of LACW and 990,000 tonnes of C&I waste are predicted to be generated by the end of the plan period (i.e. 2038).
- v. The waste arisings were compared with the current and committed available management capacity. This assessment showed:
 - Sufficient capacity provided by recycling/composting facilities within the plan area to manage the plan area's LACW and C&I waste up to 2038
 - Current insufficient capacity for energy recovery and landfill within the plan area to manage the plan area's LACW and C&I waste, with further decline to 2038, with the exception of the high recycling scenario, in which case there would be a small surplus energy recovery capacity at the end of the plan period.
 - Landfill capacity within the plan area is currently effectively exhausted, and even in the high recycling scenario, the assessment shows that up to 3.5 million tonnes of waste may require landfilling within the plan period.

CD&E Waste

- vi. CD&E waste within the plan area has been broadly consistent since 2013, and has been estimated at remaining at this level during the plan period, meaning that approximately 1.19 million tonnes of CD&E waste are predicted to be generated in 2038.
- vii. The waste arisings were compared with the current and committed available management capacity. This assessment showed:
 - Sufficient recycling/recovery capacity for managing CD&E waste during the plan period.
 - Currently sufficient landfill capacity for CD&E waste, but a deficit is likely to arise during the plan period.

Hazardous Waste

- viii. It is predicted that 42,896 tonnes of hazardous waste will be generated within the plan area in 2038. There is sufficient capacity within the plan area to manage hazardous waste arisings (146,120 tpa capacity).
- ix. In accordance with national policy, the provision of any significant hazardous waste facilities will take place at a national level.

Waste Movements

- x. There are significant flows of waste into and out of the plan area: based on recent data, approximately 1.4 million tonnes of waste originating from outside of the plan area is being imported into waste management facilities located in the plan area (equivalent to 38% of the total waste managed by facilities in the plan area), with approximately 670,000 tonnes of waste originating from the plan area being exported. The plan area is therefore a net importer of waste, with most of this being waste imported for treatment within the plan area.

1. Introduction

1.1 Scope and Aims

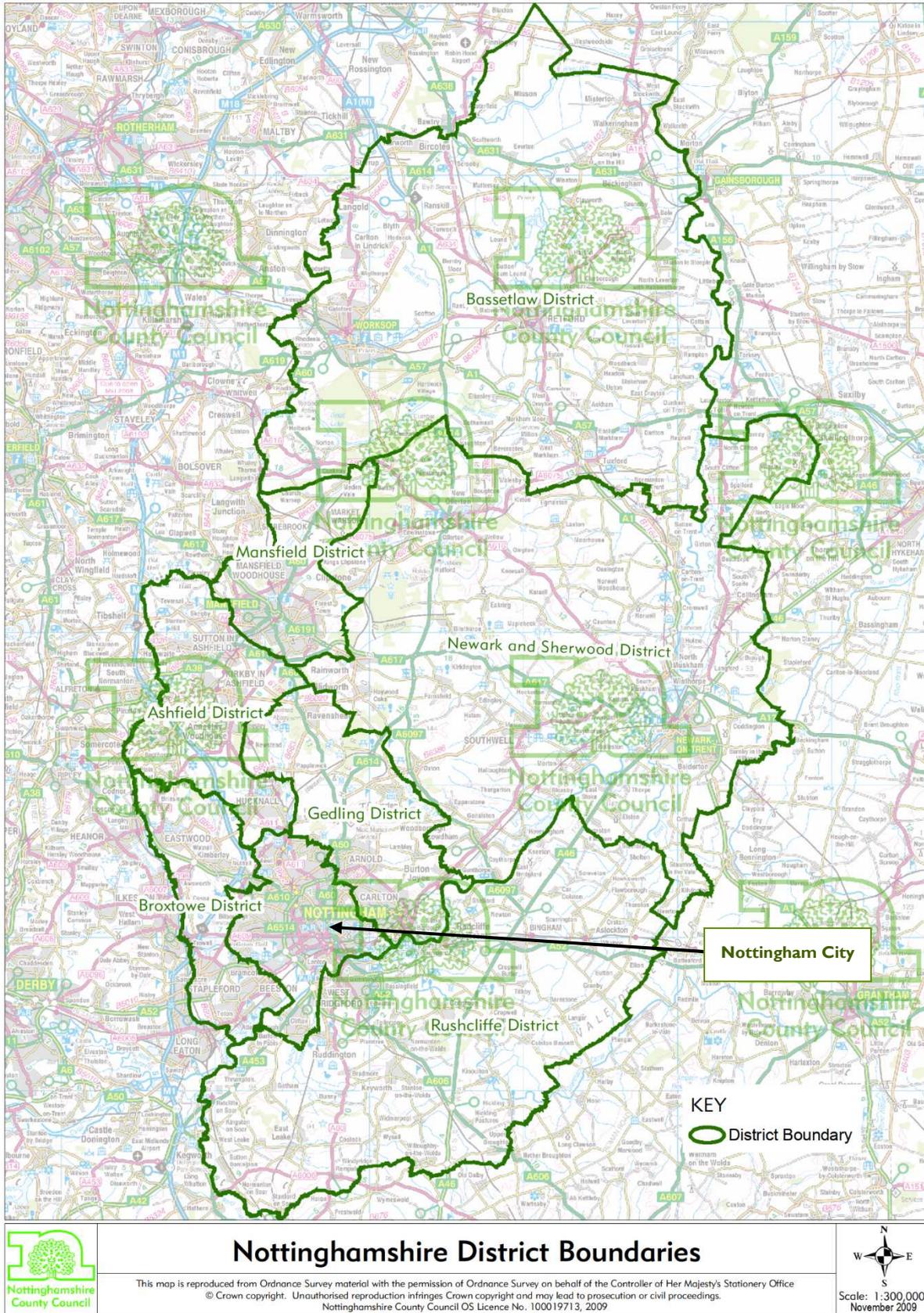
- 1.1 This assessment updates Nottinghamshire County Council's and Nottingham City Council's waste needs assessment to supplement the evidence base of the Nottinghamshire and Nottingham new Joint Waste Local Plan. The Plan will provide the future planning strategy for waste management in Nottinghamshire and Nottingham until 2038 and will identify the required waste management capacity to meet future needs.
- 1.2 The COVID-19 pandemic has reinforced the importance of providing essential public services, including waste management. This assessment will underpin Nottinghamshire County Council and Nottingham City Council's planning for essential waste services over the next 17 years (i.e. until 2038). Planning for future waste capacity is also vitally important in response to climate change and ensuring that Nottinghamshire and Nottingham's waste is managed in an environmentally responsible way over the long-term.
- 1.3 The new Joint Waste Local Plan is currently at an early stage. As of May 2021, it has completed a consultation on scope, issues and options (Regulation 18). The final new joint Waste Local Plan is expected to be adopted in July 2023.
- 1.4 This assessment identifies the current quantity of waste generated within Nottinghamshire and Nottingham (hereafter referred to as the 'plan area') for the following waste streams and predicts how these quantities are likely to change in the future (up until 2038):
 - Local Authority Collected Waste (LACW).
 - Commercial and Industrial (C&I) Waste.
 - Construction, Demolition and Excavation (CD&E) Waste.
 - Hazardous Waste.
 - Agricultural Waste.
 - Mining Waste.
 - Low-Level Radioactive Waste.
- 1.5 The assessment also provides information on the existing waste management capacity within the plan area, identifies any planned waste management facilities and assesses whether the waste management capacity in the plan area will be sufficient to accommodate the quantity of waste to be generated within the plan area in 2038.

1.2 Context

- 1.6 The study area for this Waste Needs Assessment comprises the county of Nottinghamshire, including the City of Nottingham, as shown in Figure 1.

- 1.7 Nottinghamshire County Council is the first-tier local authority for the county of Nottinghamshire excluding the City of Nottingham. The second tier of local government in the Nottinghamshire County Council area is the seven borough/district councils – Ashfield, Bassetlaw, Broxtowe, Gedling, Mansfield, Newark and Sherwood, and Rushcliffe.
- 1.8 The seven borough/district councils in Nottinghamshire are the Waste Collection Authorities (WCA): they are responsible for collecting waste from households in their district. The waste collected by these local authorities must then be managed by the Waste Disposal Authority (WDA), which is Nottinghamshire County Council. The County Council, as WDA, also has responsibility for waste planning within its area.
- 1.9 The City of Nottingham is an independent unitary authority run by Nottingham City Council, responsible for both the collection and disposal of its waste from households, and for waste planning.

Figure 1. Map showing Nottinghamshire District Boundaries



Source: Nottinghamshire County Council (Ref. 1)

2. Policy Context

2.1 Introduction

- 2.1 This section presents the waste and planning policies applicable to the waste needs assessment. They cover issues relating to the climate, recycling, waste prevention, economic growth, development, and waste management capacity. They are all policies which need to be followed by Nottinghamshire County Council and Nottingham City Council when planning for future waste needs. This includes policies set by the EU, which have been transposed into UK and/or English law, as well as policies set by national and local government.
- 2.2 Table 1 provides a summary of the relevant legislation and policy documents; the primary purpose of each document; and how they are connected. A full description of each policy document has been provided in Appendix B.

Table 1. Summary of the Legislation and Policy Documents found within this Section

Location	Document Name	Primary Purpose
European (EU)	Waste Framework Directive (WFD)	Principle EU legislation for waste. Sets out the basic concepts and definitions related to waste management.
	Landfill Directive	Regulates the management of landfills in the EU.
	Circular Economy Package (CEP)	Legislative framework which revises a number of existing frameworks by introducing measures on adopting a circular economy.
National	National Planning Policy for Waste (NPPW)	Sets out detailed waste planning policies and should be read in conjunction with the National Planning Policy Framework (NPPF).
	National Planning Policy Framework (NPPF)	Sets out planning policies for a wide range of topics including housing, business, economic development, transport and the natural environment.
	National Planning Practice Guidance (NPPG)	Adds further context to the NPPF and is updated when necessary. Should be read in conjunction with the NPPF.
	Build Back Better: our plan for growth	Sets out the government's plan to re-build following the COVID-19 pandemic.
	Our Waste, Our Resources: A Strategy for England	Sets out how the government plans to help England preserve material resources by minimising waste, double resource productivity, eliminate avoidable waste of all kinds and move towards a circular economy.
	A Green Future: Our 25 Year Plan to Improve the Environment	Sets out what the government will do to improve the environment within a generation.

Location	Document Name	Primary Purpose
	Waste Management Plan for England	High-level document, bringing current and planned waste management policies together in one place, focusing on waste arisings and their management.
Nottinghamshire and Nottingham	Nottinghamshire and Nottingham Waste Local Plan	Original waste local plan for Nottinghamshire and Nottingham. It has been partially replaced by the Waste Core Strategy Part 1.
	Nottinghamshire and Nottingham Waste Core Strategy (Part 1)	First part of the plan to replace the original waste local plan. Provides a plan on how waste produced by Nottinghamshire and Nottingham will be managed but excludes specific information on allocated sites for waste management use.
	Nottinghamshire and Nottingham New Draft Waste Local Plan – Consultation on Issues and Options	First stage of the review for the new Waste Local Plan (to replace both the original waste local plan and the waste core strategy).
	Nottinghamshire Preliminary Waste Needs Assessment	Prepared as part of the Issues and Options consultation to provide an initial overview of the waste produced by Nottinghamshire and Nottingham and the existing waste management capacity.

3. Waste Arisings

3.1 General

3.1 This section describes how the current waste arisings have been assessed, and how future waste arisings have been forecast. The waste types considered are:

- Local authority collected waste (which includes household waste).
- Commercial and industrial waste.
- Construction and demolition waste.
- Hazardous waste.
- Agricultural waste.
- Mining waste.
- Low-level radioactive waste.
- Wastewater.

3.2 By modelling waste arisings in these sectors, an overall forecast of waste arisings in the plan area can be made. It is then possible to anticipate what level of waste capacity is required to manage this quantity of waste, and whether the capacity is expected to exist up to 2038.

3.2 Local Authority Collected Waste (LACW)

3.2.1 Introduction

3.3 Historically in the UK, the term ‘municipal waste’ was used to refer to waste collected by local authorities. However, Defra’s 2011 definition of municipal waste “*household waste or waste similar in composition to household waste*” (Ref. 2) includes a significant proportion of waste generated by businesses and not collected by local authorities (most business waste is collected by private waste management companies). The term Local Authority Collected Waste (LACW) will be used in this assessment to describe all waste collected by the local authority. This includes household waste and the fraction of the waste generated by business which is also collected by the local authority.

3.4 This section identifies the current LACW arisings generated by the plan area, and forecasts LACW generation from the baseline year (2019) until 2038. It sets out three forecasting scenarios; identifies the preferred scenario (Scenario 2); and sets out the results of Scenario 2.

3.2.2 Current Waste Arisings

3.2.2.1 Methodology

3.5 Local authorities report data on their LACW arisings to Government using WasteDataFlow (Ref. 3). This was used to extract data on the current LACW arising within the plan area. Local authorities have a legal requirement to

report LACW data to WasteDataFlow, therefore it is considered to be a robust source of data.

- 3.6 More information on the methodology used to calculate the current LACW arisings can be found in Appendix C.

3.2.2.2 Results

- 3.7 Table 2 and Figure 2 show the current LACW arisings from 2007 to 2019, split into total waste from households, waste per household and total waste not from households.
- 3.8 LACW arisings have remained relatively stable over the past 13 years (from 2007 to 2019).
- Overall, total LACW arisings are highest in 2007 at 625,805 tonnes.
 - After 2007, total LACW arisings gradually decline to reach an overall low point in 2013 (537,507 tonnes).
 - Between 2014 and 2018 total LACW arisings remain fairly consistent, fluctuating between 555,000 tonnes and 575,000 tonnes per annum. Total LACW arisings slightly increase above these values in 2019 to reach 576,846 tonnes.
- 3.9 LACW per household is consistently lower in the Nottingham City Council area than in Nottinghamshire County Council. This is likely to be because larger built up areas contain a higher proportion of single person households (Ref. 4) and a smaller household typically produces less waste. The overall trend for waste per household shows a decline from 2007 to 2018, with a small increase (by 0.02 tonnes per household) between 2018 and 2019 (as shown in Figure 3).
- 3.10 Waste not from households (i.e. waste from business with a local authority waste collection and road sweepings) has shown a gradual but small increase between 2007 and 2019. Nottingham City Council has a higher proportion of LACW from non-household sources.

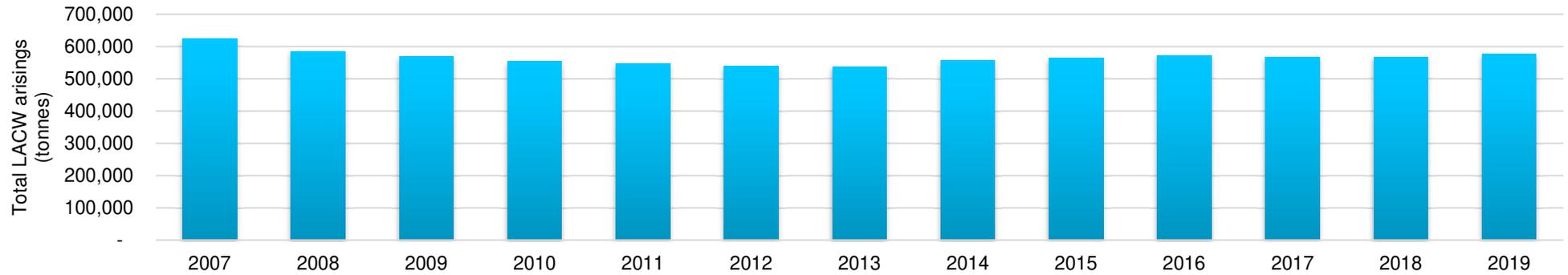


What do we mean by LACW Arisings? Waste produced by households and a small number of businesses which is collected by the local authority.

Table 2. Current LACW Arisings (000s tonnes), 2007 – 2019

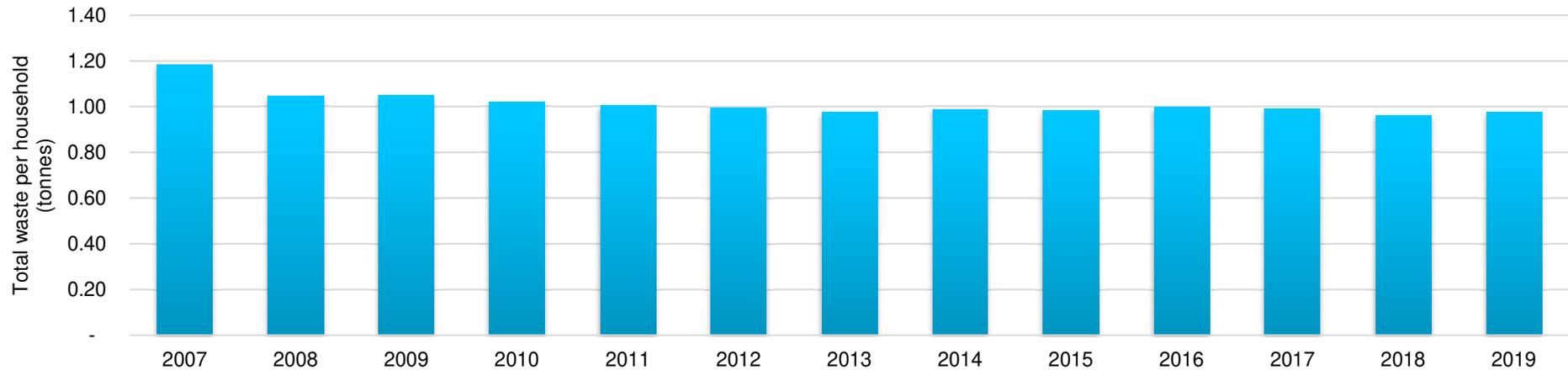
Area	Parameter	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Nottingham City Council	Total waste from households	126	115	121	115	116	116	114	111	111	114	115	112	113
	<i>Waste per household</i>	0.97	0.89	0.92	0.88	0.88	0.88	0.86	0.83	0.83	0.84	0.84	0.81	0.82
	Waste not from households	56	44	38	37	34	32	36	44	50	46	42	53	50
	Total LACW arisings	182	160	159	152	150	148	151	155	161	160	156	165	164
Nottinghamshire County Council	Total waste from households	432	379	378	373	367	364	359	371	371	378	378	371	380
	<i>Waste per household</i>	1.26	1.11	1.10	1.08	1.05	1.04	1.02	1.05	1.04	1.06	1.05	1.02	1.04
	Waste not from households	12	47	32	29	29	27	28	31	32	35	34	32	33
	Total LACW arisings	444	426	410	402	397	392	387	402	403	413	412	403	413
Total (Plan Area)	Total waste from households	558	495	499	488	483	481	473	482	482	491	493	483	493
	<i>Waste per household</i>	1.18	1.05	1.05	1.02	1.01	1.00	0.98	0.99	0.98	1.00	0.99	0.96	0.98
	Waste not from households	68	91	70	66	63	59	64	75	82	82	76	85	83
	Total LACW arisings	626	586	569	554	547	540	538	557	564	573	568	568	577

Figure 2. Current LACW Arisings (tonnes), 2007 - 2019



What do we mean by waste per household? This is the amount of waste produced by one house/apartment per year.

Figure 3. Waste per Household (tonnes), 2007 - 2019



3.2.3 Forecasting Waste Arisings

3.2.3.1 Methodology

3.11 The NPPG recommends forecasting LACW arisings by establishing a 'growth profile' which is based on two factors:

1. *"Household or population growth."*
2. *Waste arisings per household or per capita."*

3.12 The NPPG recommends establishing the growth profile by:

- "Calculating arisings per head by dividing annual arisings by population or household data to establish short and long term average annual growth rates per household."
- Factoring in a range of different scenarios, e.g. constant rate of growth, progressively lowering growth rates due to waste minimisation initiatives."

3.13 The final forecast can then be modelled with scenarios based on the long and short term change in waste arisings per household, together with forecasts of the number of households. The forecasts of household numbers, as provided by Nottinghamshire County Council and Nottingham City Council, have been calculated using the government's standard methodology for 2020 (Ref. 5). The forecasts of household numbers have been applied to the baseline number of households for 2019 (extracted from WDF).

3.14 More information on the methodology used to forecast LACW arisings can be found in Appendix C.

3.15 Historic trends indicate that waste per household is likely to continue to decline within the plan area. Therefore, two reduction scenarios have been chosen when forecasting waste arising per household, as well as a 'business as usual' scenario which assumes that there will be no reduction in waste per household generation rates, and they will be equal to the waste per household in 2019. The scenarios are described in Table 3.

3.16 The decline in waste arisings per household needs to be set against increases in the number of households, such that even if arisings per household decline or remain stable, the total waste generated may increase.

Table 3. LACW Forecasting Scenarios for tonnes of waste per household (tph)

Scenario	Percentage Change*	Description
Scenario 1 (High decline)	<ul style="list-style-type: none"> 1.48% annual decline in waste per household for Nottinghamshire. 1.35% annual decline in waste per household for Nottingham. 	Reflects the historic trend seen between 2007 and 2019: <ul style="list-style-type: none"> Annual decline of 0.019 tph for Nottinghamshire. Annual decline of 0.013 tph for Nottingham.
Scenario 2 (Low decline)	<ul style="list-style-type: none"> 0.58% annual decline in waste per household for Nottinghamshire. 0.75% annual decline in waste per household for Nottingham. 	Reflects the historic trend seen between 2008 and 2019, excluding the possible recessionary impact** between 2007 and 2008: <ul style="list-style-type: none"> Annual decline of 0.006 tph for Nottinghamshire. Annual decline of 0.007 tph for Nottingham.
Scenario 3 (No change)	<ul style="list-style-type: none"> 0% change in waste per household. 	Business as usual, no change in the most recent household waste generation rates (2019 has been taken as the baseline): <ul style="list-style-type: none"> Fixed quantity of 1.04 tph per year for Nottinghamshire. Fixed quantity of 0.82 tph per year for Nottingham.

*The total decline over the period (in tonnes) has been divided by the number of years to calculate the annual decline.

**The time series data from 2007 to 2019 shows a large drop in household waste arisings between 2007 and 2008, likely due to the recession, and may therefore not be representative of longer-term trends.

3.17 LACW also contains a small proportion of non-household waste. There are a number of variables which could affect the quantities of non-household waste in the future, including:

- Market trends.
- Policy drivers (e.g. waste policies set by national government).
- Local authority drivers.
- State of the economy.
- Technological innovations.

3.18 Due to the number of variables, it is impractical to forecast non-household waste collected by local authorities. In addition, it can be seen in Table 2 that LACW waste not from households has remained fairly stable between 2007 and 2019. Therefore, it has been assumed that there will be no change in the most recent non-household LACW generation rate (2019 has been taken as the baseline).

3.2.3.2 Results

3.19 A full description of the predicted LACW arisings forecast using the scenarios identified in Table 3 can be found in Appendix E, and they are summarised in **Error! Reference source not found.** and Figure 4.

3.20 Scenario 1 forecasts a decrease of over 100,000 tonnes per annum of LACW arisings by 2038 whilst Scenario 3 forecasts an overall increase of around 80,000 tonnes per annum by 2038.

3.2.3.3 Preferred scenario

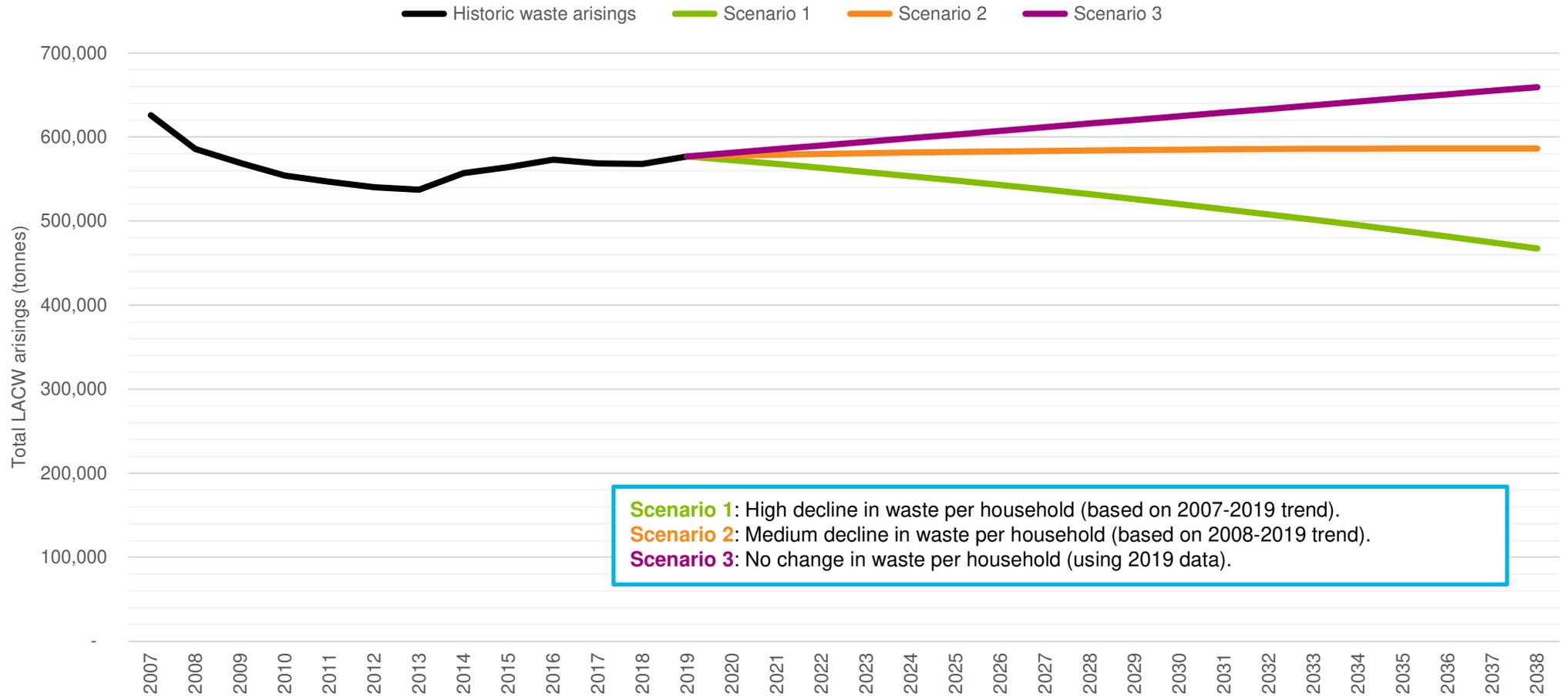
3.21 In conclusion, Scenario 2 is considered the most realistic scenario and has been used for assessing the need for additional waste capacity in this assessment. This is because:

- Scenario 1 includes the 2007-2008 period when, as a result of the recession, households and businesses produced significantly less waste. This single-year drop skews the data and this scenario is therefore considered to be unrepresentative of future trends.
- Waste reduction measures, such as the creation of charges for single-use plastic items in the Environment Bill (Ref. 6), are expected to result in a reduction of the quantity of waste generated per household. Scenario 3 assumes that waste arisings will remain static in the future. It does not take into account any measures which are aimed at reducing waste generation, nor the historic trends observed in household waste generation and is therefore also seen as unrepresentative.

Table 4. Summary of Forecasted LACW Arisings (in five-year intervals) (000s tonnes), 2019 - 2038

Area	Scenario	2019	2024	2029	2034	2038
Nottingham City Council	Scenario 1	164	160	156	151	146
	Scenario 2	164	165	166	166	166
	Scenario 3	164	170	176	183	188
Nottinghamshire County Council	Scenario 1	413	393	370	344	322
	Scenario 2	413	416	418	420	420
	Scenario 3	413	429	444	459	472
Total (Plan Area)	Scenario 1	577	553	526	495	467
	Scenario 2	577	581	584	586	586
	Scenario 3	577	599	620	642	659

Figure 4. Forecasted LACW Arisings in Context of Historic Waste Arisings (tonnes), 2007 - 2038



3.2.4 Forecast Methods of Waste Management

3.22 In order to estimate the capacity required for each waste facility type (i.e. recycling facilities, Energy from Waste (EfW), landfill etc.), the proportion of waste predicted to be sent to each waste facility type at the end of the plan period (2038) has been forecast using a number of scenarios. It is important to predict the capacity required for each type of waste facility, so requirements for specific types of additional capacity can be identified.

3.2.4.2 Methodology

3.23 In order to estimate the future methods of managing LACW (and therefore predict the capacity required for each type of waste facility), the recycling scenarios provided in Table 5 have been applied.

Table 5. Recycling Scenarios for LACW

Recycling Scenario	Description	Justification
Low	39.4% recycling rate for all years to 2038.	Business as usual, no change in the current recycling rate by 2038. The current recycling rate has been extracted from WasteDataFlow for 2019 (for household waste), and can be verified by the 2018/19 recycling rate found in the Waste Local Plan Annual Monitoring Report (Ref. 7) which gives a recycling rate of 38.8% for the plan area.
Medium	55% recycling rate by 2038.	The 55% recycling rate has been influenced by the target for 50% of municipal waste to be recycling or composted by 2020 (from WFD), and the 52% recycling target by 2020 set for Veolia in their contract with Nottinghamshire County Council. It represents a considerable improvement on the current recycling rate, whilst still falling short of the national target.
High	65% recycling rate by 2035 continuing to 2038.	The target recycling rate for England (in Our Waste, Our Resources: A Strategy for England) is 65% for MSW by 2035. The updated WFD also sets a target for 65% of MSW to be recycled by 2030.

3.24 National and EU policy also sets a target of 10% or less of MSW to be sent to landfill by 2035, which has been applied to each recycling scenario. It has been assumed that the remainder of the non-recyclable/compostable waste that is not sent to landfill will either be recovered in an EfW facility or subject to other disposal methods.

3.2.4.3 Results

3.25 The recycling scenarios have been applied to the forecast LACW arisings from Scenario 2. The resulting tonnage of LACW by management method are shown in Table 6 and representative pie charts have been provided in Appendix D.

Table 6. Waste Management Profile for LACW in 2038 (000s tonnes)

Recycling Scenario	Recycled/Composted	Landfill	Recovery/Other Disposal
Low (39.4% recycling rate)	231	59	297
Medium (55% recycling rate)	322	59	205
High (65% recycling rate)	381	59	147

3.26 The NPPF states that local plans will be assessed as sound if they are consistent with national policy (including national recycling rates and landfill targets). In addition, forecasting the management of waste in line with targeted recycling rates is consistent with the vision stated in Nottinghamshire and Nottingham’s Waste Core Strategy “*Together we will be producing less waste than at the start of the plan period, re-using more and striving to exceed national recycling targets*”. Taking into account UK policy drivers as well as targets for the plan area, the high recycling scenario has been selected as the preferred scenario for LACW, C&I and CD&E waste streams for the capacity gap analysis.

3.3 Commercial and Industrial (C&I) Waste

3.3.1 Introduction

- 3.27 Commercial and industrial (C&I) waste consists of waste generated by businesses and industrial operations, including retail units, offices and any other business, trade or factory use. A small proportion of C&I waste is collected by the local authority and has been included within the LACW arisings.
- 3.28 This section estimates the amount of C&I waste currently generated within the plan area, and forecasts future C&I waste arisings from the baseline year (2019) up until 2038.

3.3.2 Current Waste Arisings

3.3.2.1 Methodology

3.29 C&I waste arisings have been calculated by adapting the Defra 'Reconcile' methodology (Ref. 8) (used to estimate waste generation for England) for use at the WPA level. This methodology is widely recognised to be the best fit for calculating C&I waste arisings for the purpose of waste infrastructure planning.

3.30 The Defra 'Reconcile' methodology includes:

- Waste received by permitted facilities (with a waste origin of the plan area).
- Waste received by incineration facilities (with a waste origin of the plan area).
- Waste received by exempt sites (located within the plan area).

3.31 The following wastes are excluded:

- LACW, CD&E, hazardous, agricultural and mining waste streams (as these are covered elsewhere in this assessment).
- Waste received by transfer station facilities (in order to avoid the double counting of waste).

3.32 More information on the methodology used to calculate current C&I waste arisings is provided in Appendix C.

3.3.2.2 Results

3.33 The estimated C&I waste arisings for years 2010 to 2019 are shown in Table 7 and Figure 5.

3.34 The total C&I waste arisings generated within the plan area over the past 10 years have fluctuated.

- Arisings in 2010 and 2011 were around 1 million tonnes per annum, increasing to nearly 1.4 million tonnes in 2013. It is possible that the



What is a transfer station?

The main role of a transfer station is to temporarily store waste, bulking it into more efficient loads before it is moved on to a final destination.

Waste received by transfer stations has been excluded to avoid double counting as the waste will be reported twice (once when it is received by the transfer station and once when it arrives at its final destination).

lower waste arisings in 2010 and 2011 are due to the impact of the recession.

- After 2014, C&I waste arisings decline to 800,000 tonnes per annum and continue to fluctuate between around 500,000 tonnes and 800,000 tonnes per annum between 2015 and 2018.
- There is an increase in waste arisings in 2019, reaching around 950,000 tonnes.

3.35 The decline in C&I waste arisings after 2014 is largely caused by a decline in coal-fired power station wastes, caused by a shift from coal-fired power stations towards more renewable energy sources. There is a requirement by the UK government to close remaining coal-fired power stations by 2025, therefore coal-fired power station wastes (identified as waste with an EWC code of 10 01) have been removed from the baseline C&I waste arisings used for C&I waste forecasting.

3.36 The data has also been analysed to identify why the reported C&I waste arisings in 2019 are significantly higher than 2018. The reasoning for this is as follows:

- An increase in the amount of EWC Chapter 19 and 20 waste received by permitted facilities. There have been major changes in waste markets over the last two to three years, including closure of certain export markets. The data shows a significant increase in the amount of C&I waste being sent to four specific sites – Leadenham landfill, Kirby on Bain landfill, Rugby Solid Recovered Fuel facility and Stoke Bardolph sewage treatment works. It is suspected that some of this increase is from material that was previously being exported as Refuse Derived Fuel (RDF).

3.37 It is not clear whether the increase in reported C&I waste arisings in 2019 represents a new higher baseline or a statistical anomaly. The 2019 data has been used for forecasting purposes in this assessment, bearing in mind the need for a robust needs assessment which does not underestimate the future need.

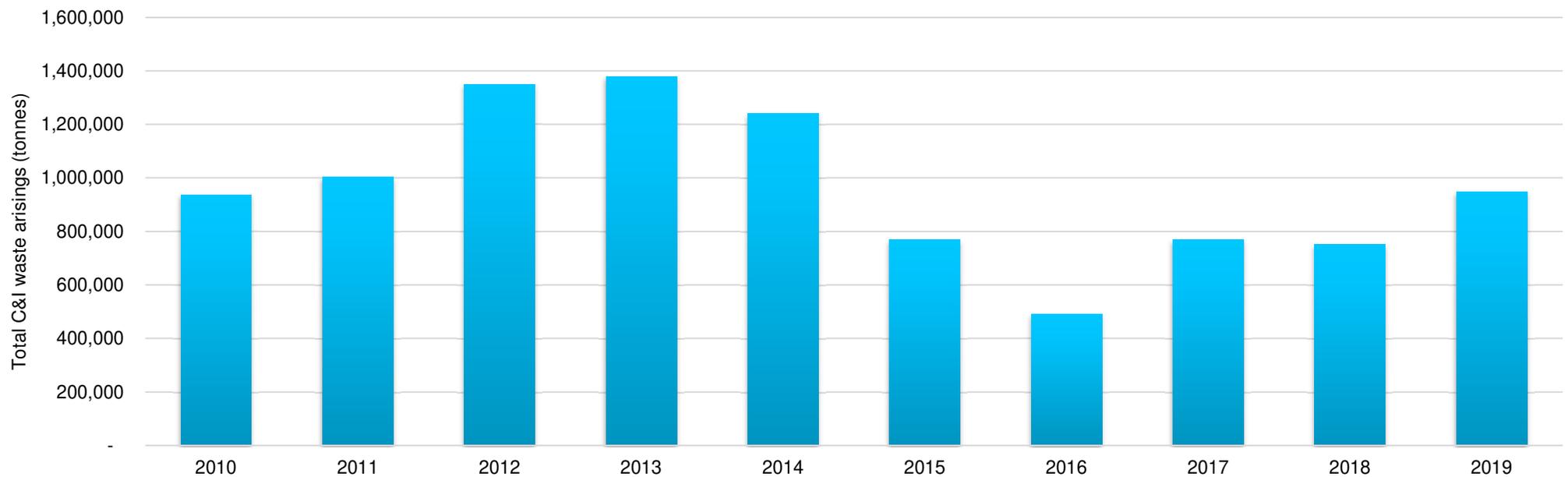


What are C&I waste arisings? Commercial and industrial waste produced by businesses and industrial units (excluding waste from businesses which is collected by the local authority).

Table 7. Current C&I Waste Arisings (000s tonnes), 2010 - 2019

Area	Parameter	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Nottingham City Council	Total C&I waste arisings	137	167	149	141	128	106	88	148	172	339
Nottinghamshire County Council	Total C&I waste arisings	800	836	1,201	1,238	1,113	663	402	621	579	609
Total (Plan Area)	Total C&I waste arisings	937	1,003	1,350	1,379	1,241	768	490	768	751	947

Figure 5. Current C&I Waste Arisings (tonnes), 2010 – 2019



3.3.3 Forecasting Waste Arisings

3.3.3.1 Methodology

3.38 For forecasting C&I waste arisings, the NPPG recommends:

“Waste planning authorities can prepare growth profiles, similar to municipal waste, to forecast future commercial and industrial waste arisings. In doing so, however, they should:

- Set out clear assumptions on which they make their forecast, and if necessary forecast on the basis of different assumptions to provide a range of waste to be managed.”
- Be clear on rate of growth in arisings being assumed. Waste planning authorities should assume a certain level of growth in waste arisings unless there is clear evidence to demonstrate otherwise.”

3.39 When forecasting C&I waste arisings, it is important to note the impact of the COVID-19 pandemic on businesses and employment levels. The Nottingham Employment Land Needs Study (Ref. 9) reports the estimated impact of the pandemic on employment within the plan area. It has been forecasted that there will be a further fall in employment in 2021, before a protracted recovery which will see employment levels return to pre-COVID 19 levels by 2024.

3.40 In light of this information, employment (and therefore C&I waste generation rates) have been assumed to remain at current levels from 2019 to 2024, after which the proposed growth rate will be applied. However, the economic impact of COVID-19 is far from certain at the time of reporting (June 2021) and hence this assumption should be subject to on-going monitoring.

3.41 The forecasting scenarios for C&I waste described in Table 8 reflect changes in future waste generation rates per employee, combined with employee projections from the Nottingham Employment Land Needs Study. The Nottingham Employment Land Needs Study only includes projections for six of the Nottinghamshire local authorities (excludes Bassetlaw) and includes Erewash instead (located in Derbyshire). As Bassetlaw is a comparable size (both geographically and in population) to Newark and Sherwood, to calculate employment projections, the same employment projection for Newark and Sherwood has been applied to Bassetlaw.

Table 8. C&I Waste Forecasting Scenarios

Scenario	Percentage Change*	Description
Scenario 1 (No change)	<ul style="list-style-type: none"> • 0% change in C&I waste generation rate. 	<p>Business as usual, no change in the most recent annual C&I waste arisings (2019 has been chosen as the baseline)</p> <ul style="list-style-type: none"> • Fixed quantity of 563,894 tonnes per year for Nottinghamshire. • Fixed quantity of 338,831 tonnes per year for Nottingham.
Scenario 2 (Medium growth)	<ul style="list-style-type: none"> • 5% decline in waste generation rate per employee from 2009 to 2031. • 11% increase in the number of employees for Nottinghamshire. • 17% increase in the number of employees for Nottingham. 	<p>C&I waste generation rate per employee is forecast to decline by 5% per employee from 2009 to 2031 due to waste reduction initiatives and circular economy measures (Ref. 10) (decline of 0.0042 tonnes per employee (tpe) per year for Nottinghamshire and 0.0039 tpe per year for Nottingham); the number of employees grow in line with predictions:</p> <ul style="list-style-type: none"> • 33,000 additional employees in Nottingham by 2038. • 32,900 additional employees in Nottinghamshire by 2038. <p>No change in C&I waste generation rate between 2019 and 2024.</p>
Scenario 3 (High growth)	<ul style="list-style-type: none"> • 0% change in waste generation rate per employee. • 11% increase in the number of employees for Nottinghamshire. • 17% increase in the number of employees for Nottingham. 	<p>C&I waste generation rate per employee stays the same (fixed quantity of 1.85 tpe per year for Nottinghamshire and 1.70 tpe per year for Nottingham); number of employees grow in line with predictions:</p> <ul style="list-style-type: none"> • 33,000 additional employees in Nottingham by 2038. • 32,900 additional employees in Nottinghamshire by 2038. <p>No change in C&I waste generation rate between 2019 and 2024.</p>

**The total decline over the period (in tonnes) has been divided by the number of years to calculate the annual decline.*

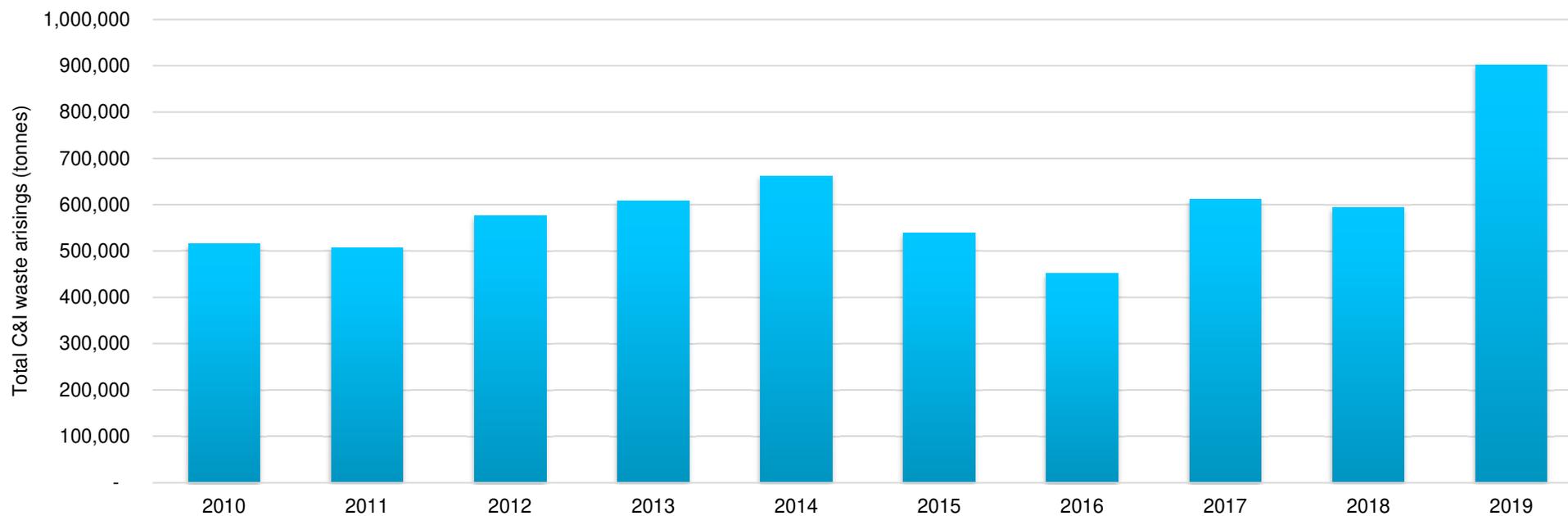
- 3.42 The amount of waste per employee in Nottinghamshire is 0.15 tonnes per annum higher than in Nottingham. This can be explained by the inclusion of the waste category ‘sludges from treatment of urban waste water’ in Nottinghamshire C&I waste arisings, but not Nottingham.
- 3.43 As described in paragraph 3.35, coal-fired power station waste (EWC code of 10 01) has been removed when calculating the baseline from which the forecast is made. The baseline is shown in
- 3.44
- 3.45
- 3.46 Table 9 and Figure 6.

What is a baseline? The baseline is the starting point from which forecasts are made. The numbers in the baseline differ from the C&I waste arisings due to the removal of coal-fired power station wastes (waste with an EWC code of 10 01) (see paragraph 3.35).

Table 9. C&I Waste Arisings Baseline used for Forecasting (000s tonnes), 2010 – 2019

Area	Parameter	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Nottingham City Council	Total C&I waste arisings baseline	137	167	149	141	124	96	86	148	172	339
Nottinghamshire County Council	Total C&I waste arisings baseline	378	340	428	467	538	444	365	464	422	564
Total (Plan Area)	Total C&I waste arisings baseline	515	507	577	608	622	539	451	612	594	903

Figure 6. C&I Waste Arisings Baseline used for Forecasting (tonnes), 2010 – 2019



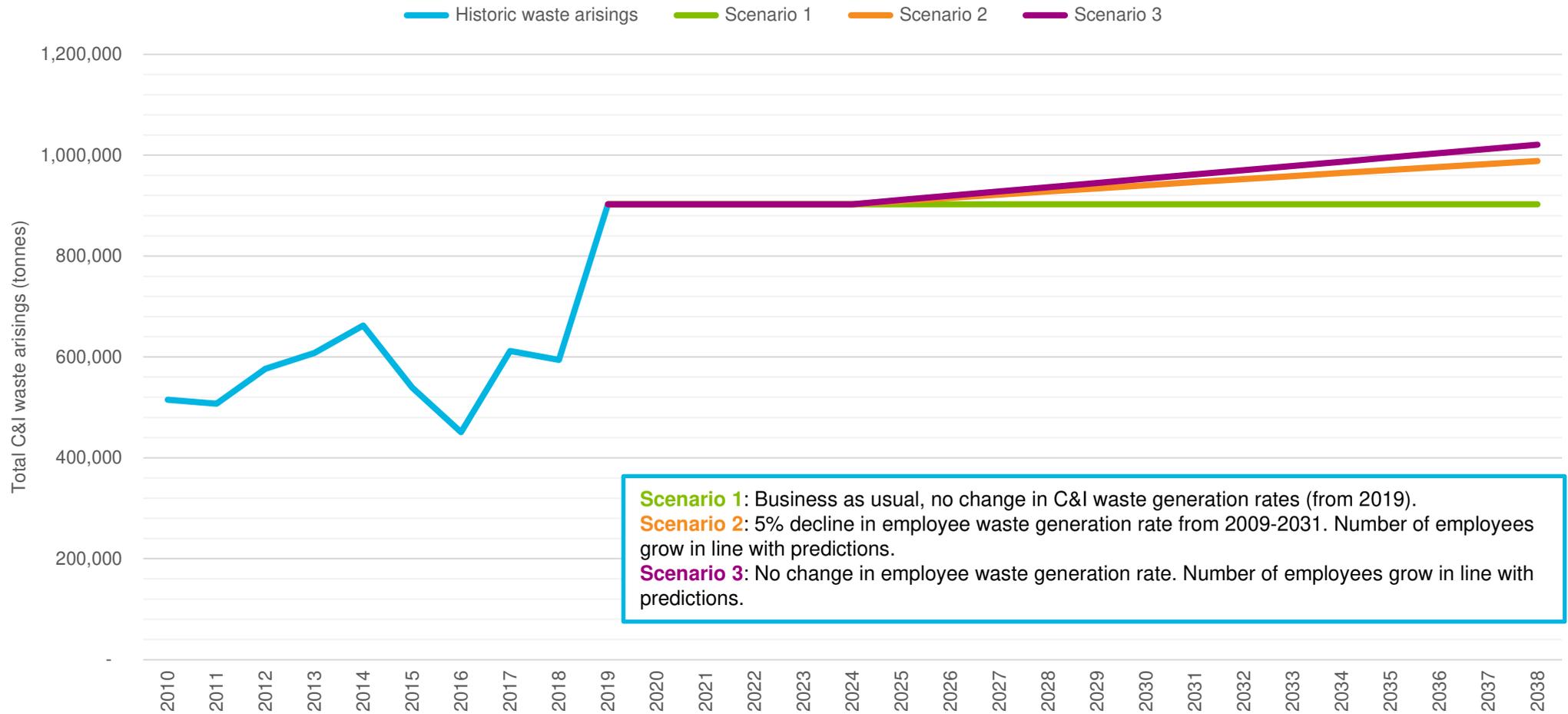
3.3.3.2 Results

- 3.44 The future C&I waste arisings have been forecast using the scenarios described within Table 8. A summary of the results is presented in Table 10 and Figure 7. A full list of results is provided within Appendix E.
- 3.45 Scenario 1 predicts C&I waste generation based on historic data, but does not take into account future economic predictions and assumes that the economy will remain static. Taking into account the Local Industrial Strategy prepared by D2N2 (Ref. 11), it is more likely that measures set out in the Strategy (i.e. upskilling the workforce) will result in a growth in the local economy after 2024. In addition, the following measures are due to be implemented in the near future, all of which can reasonably be assumed to have an impact on the amount of waste produced per employee (discounting Scenario 3 as it does not take into account waste reduction measures):
- Extended Producer Responsibility (EPR) which is due to come into force in 2023 (paragraph 0 provides an explanation of EPR).
 - Circular economy initiatives such as the adoption of leasing or rental business models.
 - The Courtauld Commitment 2025 which aims to reduce food waste by 20% between 2015 and 2025 (Ref. 12).
- 3.46 Taking these factors into account, Scenario 2 has been selected as the most appropriate scenario for assessing future capacity needs.

Table 10. Summary of Forecasted C&I Waste Arisings (in five-year intervals) (000s tonnes), 2019 – 2038

Area	Scenario	2019	2024	2029	2034	2038
Nottingham City Council	Scenario 1	339	339	339	339	339
	Scenario 2	339	339	355	371	383
	Scenario 3	339	339	359	379	396
Nottinghamshire County Council	Scenario 1	564	564	564	564	564
	Scenario 2	564	564	579	594	605
	Scenario 3	564	564	586	608	625
Total (Plan Area)	Scenario 1	903	903	903	903	903
	Scenario 2	903	903	934	965	988
	Scenario 3	903	903	945	987	1,021

Figure 7. Forecasted C&I Waste Arisings in Context of Historic Waste Arisings (tonnes), 2010 – 2038



3.3.4 Forecast Methods of Waste Management

3.3.4.1 Methodology

3.47 In order to estimate the future waste management method and therefore predict the capacity required for each type of waste management facility, the recycling scenarios in Table 11 have been applied to the selected forecasting scenario for C&I waste arisings.

Table 11. Recycling Scenarios for C&I Waste

Scenario	Description	Justification
Low	70.1% recycling rate for all years to 2038.	Business as usual, no change in the current recycling rate. The current recycling rate has been extracted from the EA WDI.
Medium	75% recycling rate by 2038.	Assumes there has been some transition between the current recycling rate and the high recycling rate.
High	80% recycling rate by 2038.	The Nottinghamshire and Nottingham Waste Core Strategy sets a target of 70% of C&I waste to be recycled or composted by 2025. As the current recycling rate is already achieving this target, 80% has been chosen as a possible target to apply to the end of the plan period (2038).

3.48 In addition to the recycling rates found in Table 11, the target for 10% or less of municipal solid waste to be sent to landfill by 2035 (found within Our Waste, Our Resources: A Strategy for England and the Landfill Directive) has also been applied to each recycling scenario. It has been assumed that the remainder of the non-recyclable/compostable waste that is not sent to landfill will either be recovered or subject to other disposal methods.

3.3.4.2 Results

3.49 The recycling scenarios for C&I waste have been applied to the forecast C&I waste arisings from Scenario 2. The resulting C&I waste arisings predicted to be managed by each waste management method have been provided in Table 12 and representative pie charts have been provided in Appendix D.

Table 12. Waste Management Profile for C&I Waste in 2038 (000s tonnes)

Recycling Scenario	Recycled/Composted	Landfill*	Recovery/Other Disposal
Low (70.1% recycling rate)	693	99	196
Medium (75% recycling rate)	741	99	148
High (80% recycling rate)	791	99	99

**In line with the target for 10% or less of municipal solid waste to be sent to landfill by 2035.*

3.4 Construction, Demolition and Excavation (CD&E) Waste

3.4.1 Introduction

- 3.50 Construction, demolition and excavation (CD&E) waste comprises all waste generated by construction activities, which may include construction of buildings and infrastructure, demolition, and excavation of soil and rock for construction purposes.
- 3.51 Estimates of the current CD&E waste arising from the plan area are described within this section, followed by the forecasting of CD&E waste arisings from the baseline year (2019) up until 2038.

3.4.2 Current Waste Arisings

3.4.2.1 Methodology

- 3.52 There is no requirement for businesses to report on CD&E waste arisings. As a result, there is limited information on CD&E waste arising within England, and the Environment Agency (EA) Waste Data Interrogator (WDI) (Ref. 13) only provides a limited picture of CD&E waste arisings and management as significant quantities of CD&E waste are not managed at permitted waste management facilities.
- 3.53 The CD&E waste arisings generated by the plan area have been calculated by adapting Defra's 'Methodology for estimating annual waste generation from the Construction, Demolition and Excavation (CD&E) Sectors in England' (Ref. 14) to the WPA level. For the purposes of this assessment, CD&E waste has been defined as waste with an EWC code of Chapter 17, 19 12 09 or 20 02 02.
- 3.54 This methodology considers:
- CD&E waste received by permitted facilities (with a waste origin of the plan area).
 - CD&E waste received by incineration facilities (with a waste origin of the plan area).
 - CD&E waste received by exempt facilities (located within the plan area).
 - Waste recycled as aggregate (with a waste origin of the plan area).
- 3.55 The following wastes are excluded:
- CD&E waste received by transfer facilities (in order to avoid the double counting of waste).
- 3.56 More information on the methodology to calculate CD&E waste arisings has been presented in Appendix C.
- 3.57 In addition to the waste arisings calculated using the methodology described in paragraphs 3.52 to 3.56, 50% of the 'WPA not codeable (East Midlands)' waste received by Vale Road Quarry (located in Nottinghamshire) has also been included within the CD&E waste arisings. The Vale Road Quarry landfill site sits close to the border between Nottinghamshire and Derbyshire. Although for some years the waste received by this site has been reported

with an origin (either Nottinghamshire or Derbyshire), there are also years where the waste origin is reported as 'not codeable' (but a proportion of the waste is likely to have originated within the plan area). A reasonable estimate of 50% of this 'not codeable' waste is assumed to originate from the plan area.

3.4.2.2 Results

- 3.58 The current CD&E waste arisings for the plan area are shown in Table 13 and Figure 8.
- 3.59 In 2010 CD&E waste arisings generated by the plan area were significantly lower (when compared to the 2013-19 average), gradually increasing to around 1.5 million tonnes by 2014. The lower waste arisings between 2010 and 2011 are likely to be influenced by the reduction in construction activity following the 2008-09 recession. After 2013, the CD&E waste arisings show fluctuations but overall remain at a fairly consistent level.
- 3.60 Due to the recessionary impact seen in CD&E waste arisings in 2010 and 2011, these years have been excluded from the baseline used to forecast CD&E waste arisings.

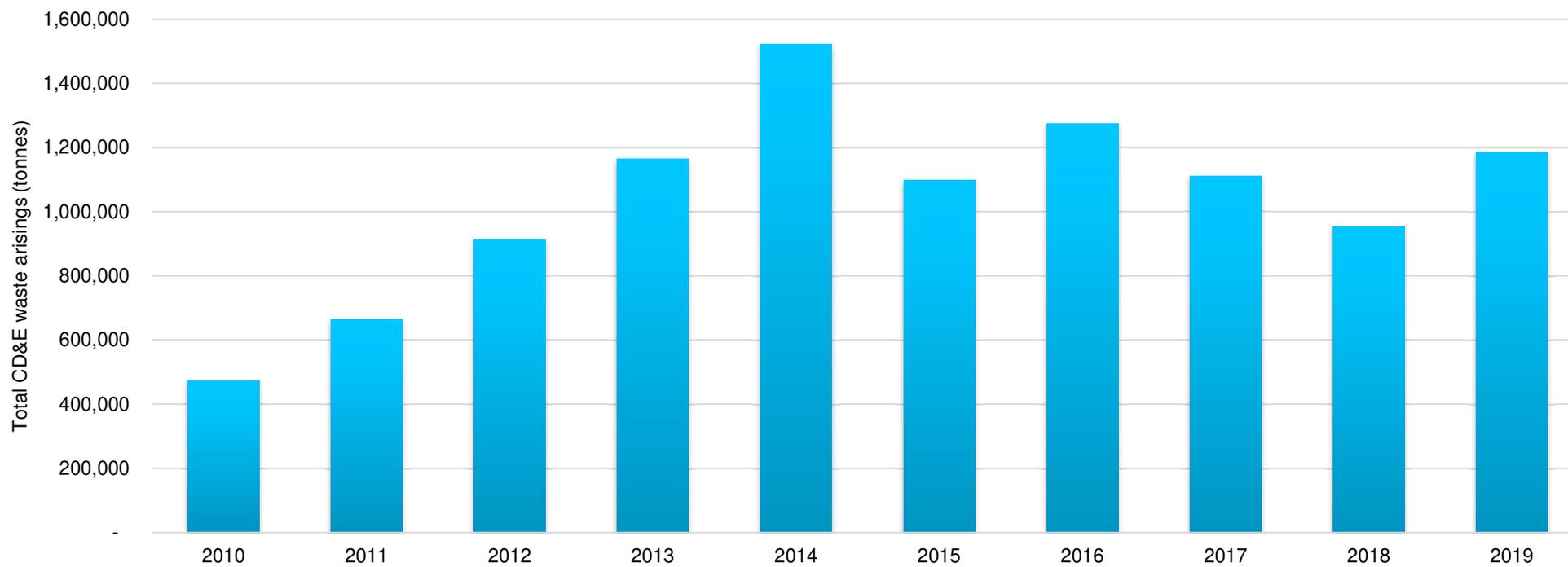


What are CD&E arisings? Waste produced by construction activities (may include the demolition of buildings/structures and excavation of the ground for foundations or a basement).

Table 13. Current CD&E Waste Arisings (000s tonnes), 2010 - 2019

Area	Parameter	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Nottingham City Council	Total CD&E waste arisings	69	65	132	188	239	200	237	161	105	105
Nottinghamshire County Council	Total CD&E waste arisings	360	599	784	948	1,254	898	996	871	808	956
50% of the 'WPA not codeable (East Midlands)' waste received by Vale Road Quarry	Total CD&E waste arisings	44	-	-	28	30	-	43	80	40	125
Total (Plan Area)	Total CD&E waste arisings	474	664	916	1,164	1,523	1,098	1,276	1,112	954	1,186
(Separate to CD&E waste arisings (explanation in Appendix C))	Recycled aggregate	130	210	310	410	470	470	480	450	480	480
	CD&E waste received by exempt facilities	99	99	99	99	99	99	99	9	99	99

Figure 8. Current CD&E Waste Arisings (tonnes), 2010 – 2019



3.4.3 Forecasting Waste Arisings

3.4.3.1 Methodology

3.61 For forecasting CD&E waste arisings, the NPPG recommends:

“Waste planning authorities should start from the basis that net arisings of construction and demolition waste will remain constant over time as there is likely to be a reduced evidence base on which forward projections can be based for construction and demolition wastes. However, when forecasting construction and demolition waste arisings, the following may be relevant:

- Annual existing returns from waste management facilities;
- Data from site waste management plans (where available);
- The fact that a sizeable proportion of construction and demolition waste arisings are managed or re-used on-site, or exempt sites, so it is critical that some provision is made for unseen capacity in this way; and
- Any significant planned regeneration or major infrastructure projects over the timescale of the Plan.”

3.62 The nature of the construction industry means that there is a natural fluctuation in the amount of construction activity happening at any one time. Construction projects have a start and end date, potentially coinciding with other construction project timelines. Due to the complexity of predicting construction activity in the future, only major construction projects have been considered to potentially have a significant impact on CD&E waste generation rates.

3.63 Research has been undertaken to identify any major construction projects scheduled to take place in the plan area within the plan period (i.e. until 2038). The only Nationally Significant Infrastructure Project (NSIP) currently planned for the plan area is Phase 2b of the HS2 high-speed railway, the eastern leg of which passes through Nottinghamshire. Only a small section of the route runs through the County, hence the impacts on C&DE waste arisings are considered to be insignificant.

3.64 The Site Waste Management Plan Regulations (2008) were revoked as of 1 December 2013, resulting in a lack of site waste management plans available for review. Hence, data from site waste management plans have not been considered in this assessment.

3.65 Bearing in mind the above points and the recommendations of the NPPG, it is considered a reasonable expectation that future CD&E waste arisings in the plan area will remain consistent over the plan period, reflected by the proposed forecasting scenario for CD&E waste described in Table 14. 2019 has been chosen as the baseline, since waste arisings in that year were at the upper end of the recent historical range (with the exception of the outlier of 2014) and this is therefore a suitably conservative baseline to use for forecasting purposes.

Table 14. CD&E Waste Forecasting Scenarios

Scenario	Percentage Change	Description
Scenario 1 (No change)	0% change in CD&E waste generation rate.	Business as usual, no change in the CD&E waste generation rate (2019 has been chosen as the baseline).

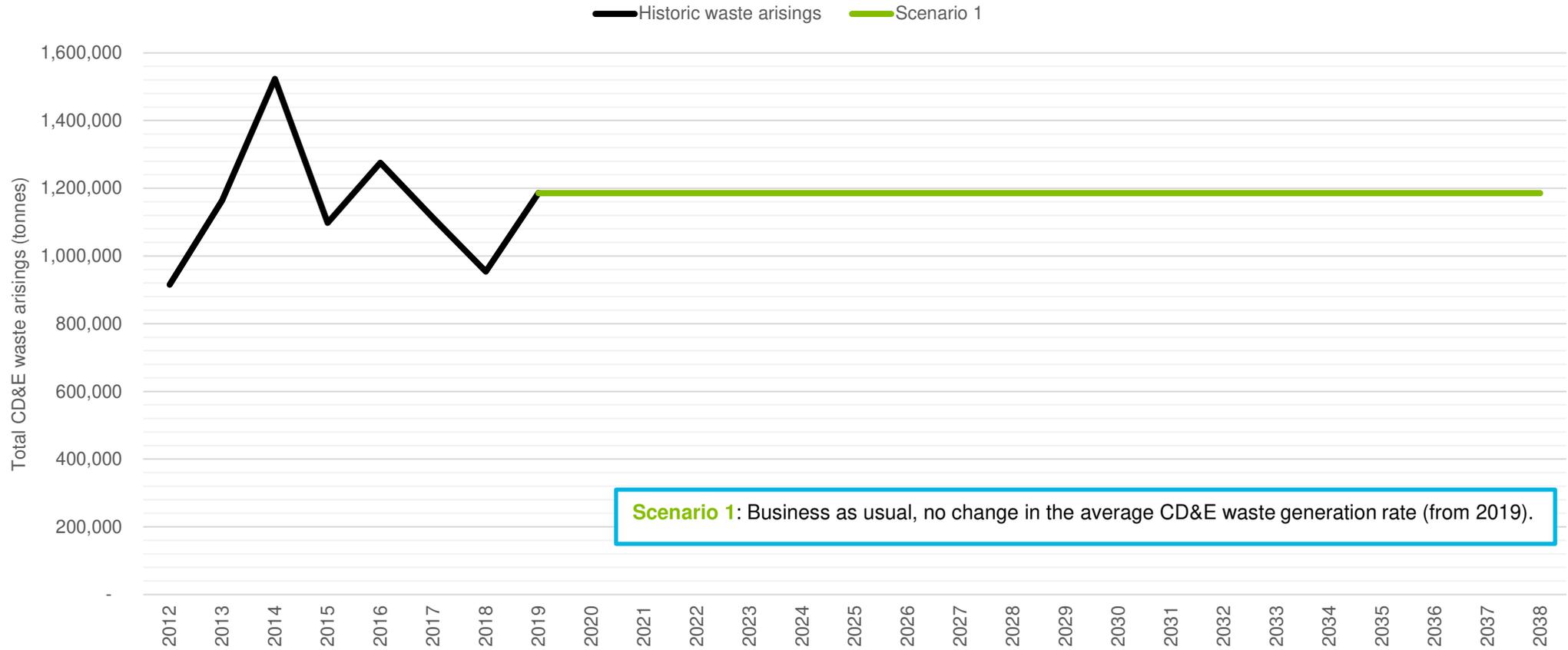
3.4.3.2 Results

3.66 In line with guidance, one scenario has been provided when forecasting CD&E waste. A summary of the resulting forecasted waste arisings has been presented within Table 15 (a full results table has been provided in Appendix E). Figure 9 presents the forecasted CD&E waste arisings in the context of the historic CD&E waste arisings.

Table 15. Summary of Forecasted CD&E Waste Arisings (in five-year intervals) (000s tonnes), 2019 - 2038

Area	Scenario	2019	2024	2029	2034	2038
Total (Plan Area)	Scenario 1	1,186	1,186	1,186	1,186	1,186

Figure 9. Forecasted CD&E Waste Arisings in Context of Historic Waste Arisings (tonnes), 2012 – 2038



3.4.4 Forecast Methods of Waste Management

3.4.4.1 Methodology

3.67 In order to estimate the future waste management method and therefore predict the capacity required for each type of waste management facility the recycling/recovery scenarios provided in Table 16 have been applied to the selected forecasting scenario for CD&E waste arising.

Table 16. Recycling/Recovery Scenarios for CD&E Waste

Scenario	Description	Justification
Low	82.6% recycling/recovery rate for all years to 2038.	Business as usual, no change in the current recycling/recovery rate. The current recycling/recovery rate for CD&E waste has been extracted from the EA WDI 2019.
Medium	90% recycling/recovery rate by 2038.	Assumes there has been some transition between the current recycling/recovery rate and the targeted rate for CD&E waste, but the final target is yet to be achieved.
High	95% recycling/recovery rate by 2038.	In-lieu of other practical targets, the targets for CD&E waste found within the London Plan (Ref. 15) have influenced the high scenario.

3.4.4.2 Results

3.68 The recycling/recovery scenarios applied to the forecasted CD&E waste arisings in 2038 are described in Table 16. The resulting waste management profile for each scenario is presented in Table 17, and representative pie charts have been provided in Appendix D.

Table 17. Waste Management Profile for CD&E Waste in 2038 (000s tonnes)

Recycling/Recovery Scenario	Recycled/Recovered	Landfill/Other Disposal
Low (82.6% recycling/recovery rate)	979	207
Medium (90% recycling/recovery rate)	1,067	119
High (95% recycling/recovery rate)	1,127	59

3.5 Hazardous Waste

3.5.1 Introduction

- 3.69 Waste is considered hazardous when it contains substances harmful to human health or the environment. Hazardous waste can include chemicals, batteries, asbestos or pesticides; guidance on the classification of waste is provided within Technical Guidance WM3 (Ref. 16). Due to the harmful nature of hazardous waste, specialist collection treatment and disposal methods should be adopted to minimise potential impacts on human health and the environment.
- 3.70 This section describes the current hazardous waste arisings produced within the plan area and uses this information as a baseline to forecast hazardous waste arisings from the baseline year (2019) up until 2038.

3.5.2 Current Waste Arisings

3.5.2.1 Methodology

- 3.71 The EA is legally required to monitor all movements of hazardous waste within England. The EA Hazardous WDI (which provides a summary of hazardous waste movements using hazardous waste consignment notes), has been used to extract data on hazardous waste arising from the plan area.
- 3.72 In keeping with the methodology used to calculate C&I waste arisings, both waste received by transfer facilities and waste received by exempt sites have been excluded when calculating hazardous waste arisings.

Results

- 3.73 Table 18 and Figure 10 present the hazardous waste arisings currently generated by the plan area.
- 3.74 Hazardous waste arisings generated by the plan area have shown some fluctuation over the past 10 years but overall have remained between approximately 34,000 and 52,000 tonnes per annum between 2010 and 2019. There is an overall decline in the hazardous waste arisings between the years 2010 and 2016, but recent years (i.e. 2017 to 2019) have seen an increase in arisings to match the levels found in 2010 and 2011. Altogether, there is a minor downward trend in hazardous waste arisings (decrease of 4% between the years 2010 and 2019).

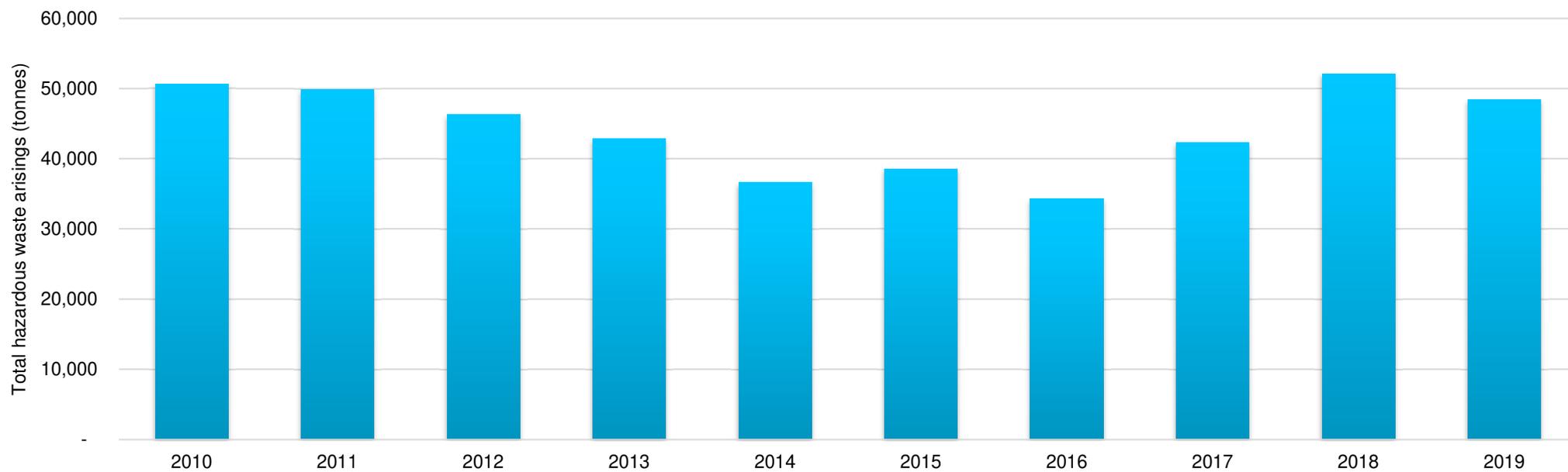


What are hazardous waste arisings? Waste that can be harmful to humans or the environment.

Table 18. Current Hazardous Waste Arisings (000s tonnes), 2010 - 2019

Area	Parameter	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Nottingham City Council	Total hazardous waste arisings	17	17	18	19	13	12	9	9	10	15
Nottinghamshire County Council	Total hazardous waste arisings	34	33	29	24	24	27	25	33	42	34
Total (Plan Area)	Total hazardous waste arisings	51	50	46	43	37	39	34	42	52	48

Figure 10. Current Hazardous Waste Arisings (tonnes), 2010 – 2019



3.5.3 Forecasting Waste Arisings

3.5.3.1 Methodology

3.75 For forecasting hazardous waste arisings, the NPPG recommends:

“Since existing data on hazardous waste arisings is likely to be robust, waste planning authorities should plan for future hazardous waste arisings based on extrapolating time series data.”

3.76 In line with this guidance, one scenario has been proposed when forecasting hazardous waste arisings, this scenario has been described within Table 19. This scenario does not consider the change in hazardous waste arisings as a result of COVID-19 in the intervening years as it is predicted that the amount of hazardous waste will return to normal levels by the end of the plan period.

Table 19. Forecasting Scenarios for Hazardous Waste

Scenario	Description
Scenario 1	Extrapolate historic data on hazardous waste arisings generated by the plan area.

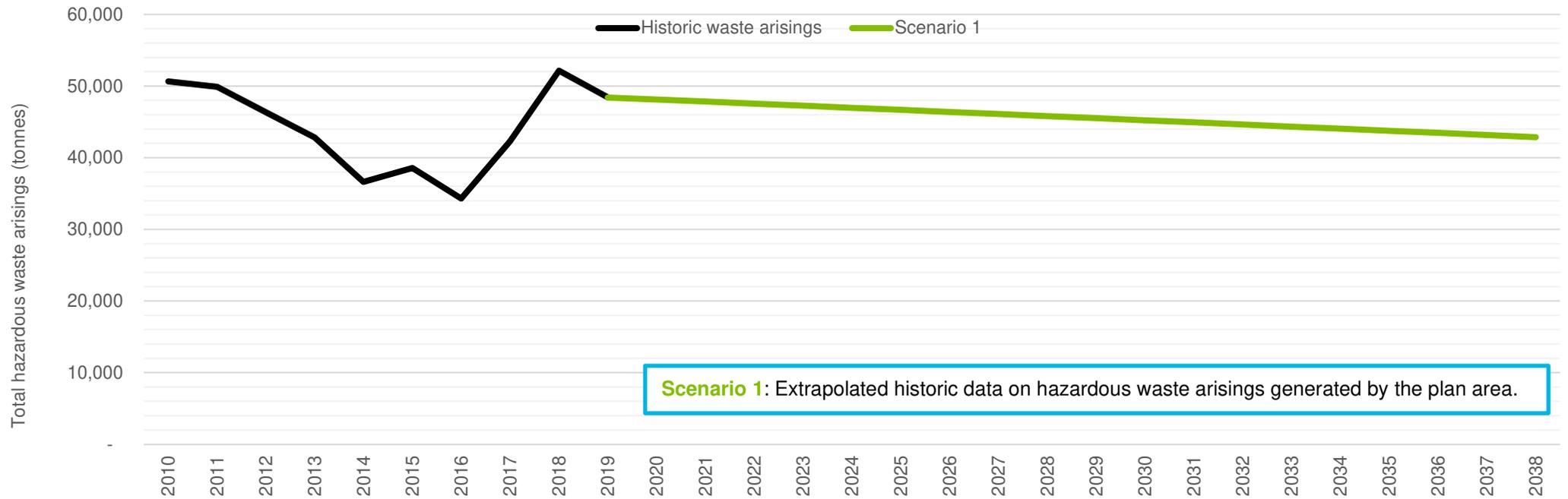
3.5.3.2 Results

3.77 As recommended by the guidance presented in the NPPG, hazardous waste has been forecast by extrapolating historic time series data (as stated in Table 19). Table 20 shows a summary of the forecasted hazardous waste arisings (a full results table has been provided within Appendix E), and Figure 11 displays the forecasted hazardous waste arisings in the context of the historic hazardous waste arisings.

Table 20. Forecasted Hazardous Waste Arisings (in five-year intervals) (000s tonnes), 2019 - 2038

Area	Scenario	2019	2024	2029	2034	2038
Total (Plan Area)	Scenario 1	48	47	46	44	43

Figure 11. Forecasted Hazardous Waste Arisings in Context of Historic Waste Arisings (tonnes), 2010 – 2038



3.6 Agricultural Waste

3.6.1 Introduction

- 3.78 Agricultural waste is defined as “waste from premises used for agriculture within the meaning of the Agricultural Act 1947” (Ref. 17). Agricultural waste is now covered under the Waste Management (England and Wales) Regulations 2008 (Ref. 18), this legislation requires farmers to either send their waste for disposal at a permitted facility, or to apply to dispose of their waste on the farm.
- 3.79 The agricultural waste arisings currently generated within the plan area are discussed in this section, noting that only those agricultural wastes which are recorded as being managed at a permitted facility are included in the data.

3.6.2 Current Waste Arisings

3.6.2.1 Methodology

- 3.80 Agricultural waste arisings have been estimated using the EA WDI (agricultural waste is identified as waste with an EWC code of 02 01). Hazardous wastes, waste received by transfer facilities and waste received by exempt sites have been excluded when calculating agricultural waste arisings.

3.6.2.2 Results

- 3.81 The current agricultural waste arisings generated by the plan area are shown in Table 21 and Figure 12.
- Overall agricultural waste arisings produced within the plan area increased between 2010 and 2019.
 - Agricultural waste arisings remained at low quantities (less than 600 tonnes per annum) between 2010 and 2013.
 - After 2013, agricultural waste arisings steadily increased (with the exception of 2015 which sees a slight decrease) to reach 44,931 tonnes by 2018.
 - A decrease in agricultural waste arisings (to approximately 31,000 tonnes) is seen between 2018 and 2019.
- 3.82 From a detailed analysis of the data, the increase in agricultural waste arisings is caused by an increase in the amount of agricultural waste received by permitted anaerobic digestion (AD) plants. Before the development of AD plants, this waste would have been managed using other methods which would not have been reported in the EA WDI (such as spreading to land).
- 3.83 Table 21 shows that only a small amount of agricultural waste was generated by the plan area over the past 10 years (less than 1.15% of the total waste (LACW, C&I waste, CD&E waste, hazardous, agricultural and mining waste) generated by the plan area in 2019), and is considered insufficient to justify the identification of specific future waste management capacity for this waste stream within the plan area.

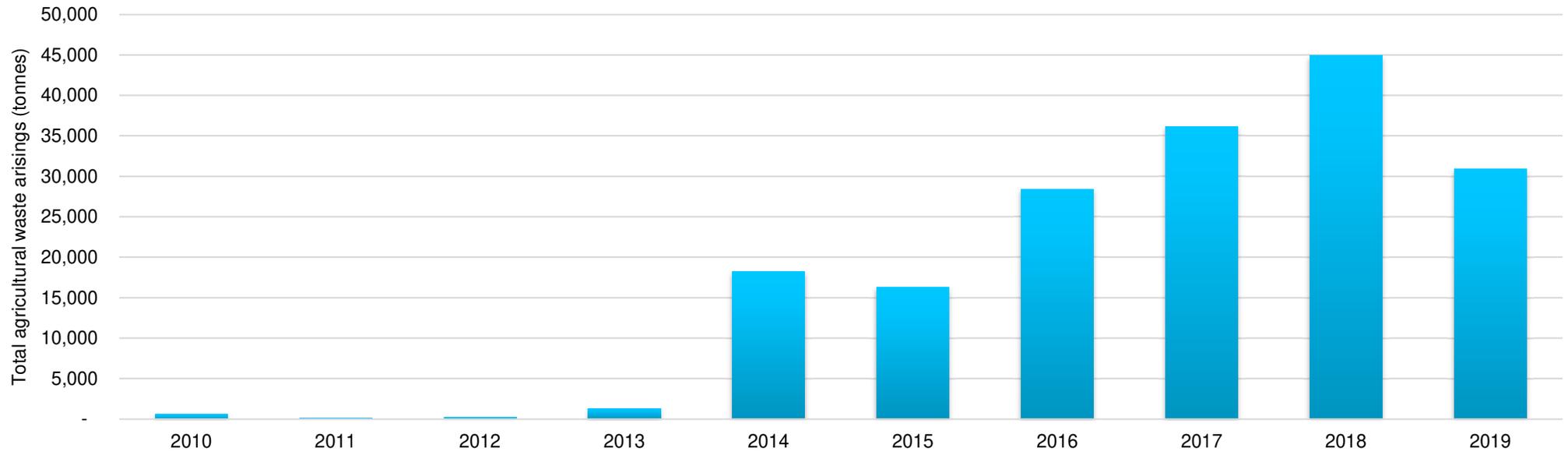


What are agricultural waste arisings? *Waste produced by agricultural activities.*

Table 21. Current Agricultural Waste Arisings (tonnes), 2010 - 2019

Area	Parameter	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Nottingham City Council	Total agricultural waste arisings	76	25	35	23	32	-	38	132	87	87
Nottinghamshire County Council	Total agricultural waste arisings	475	102	166	1,244	18,187	16,313	28,388	36,053	44,845	30,833
Total (Plan Area)	Total agricultural waste arisings	552	126	201	1,267	18,219	16,313	28,425	36,185	44,931	30,919

Figure 12. Current Agricultural Waste Arisings (tonnes), 2010 – 2019



3.7 Mining Waste

3.7.1 Introduction

- 3.84 Mining waste is defined in The Mining Waste Directive (Ref. 19) as waste produced through the prospecting, extraction, treatment and storage of mineral resources and the working of quarries. This can include waste solids or slurries left over after the minerals have been removed and treated, waste rock, and topsoil.
- 3.85 This section describes the mining waste arisings currently produced within the plan area.

3.7.2 Current Waste Arisings

3.7.2.1 Methodology

- 3.86 Mining waste arisings have been estimated using the EA WDI (mining waste is identified as waste with an EWC code of Chapter 01). Hazardous waste and both waste received by transfer facilities and waste received by exempt sites have been excluded when calculating mining waste arisings.

3.7.2.2 Results

- 3.87 Table 22 and Figure 13 presents the mining waste arisings currently produced within the plan area.
- 3.88 With the exception of years 2013, 2014 and 2016, mining waste arisings produced by the plan area remain fairly consistently at levels below 350 tonnes. Although mining waste arisings are slightly elevated in years 2013 and 2014, the biggest increase can be seen in 2016, reaching over 12,000 tonnes. The elevated waste arisings in 2016 can be explained by a new quarry opening at Cromwell Quarry in 2016.
- 3.89 Table 22 shows that only a small amount of mining waste was generated from the plan area over the past 10 years (at the maximum in 2016 it was 0.5% of the total waste generated in the plan area), and is considered insufficient to justify the identification of specific future waste management capacity for this waste stream within the plan area.

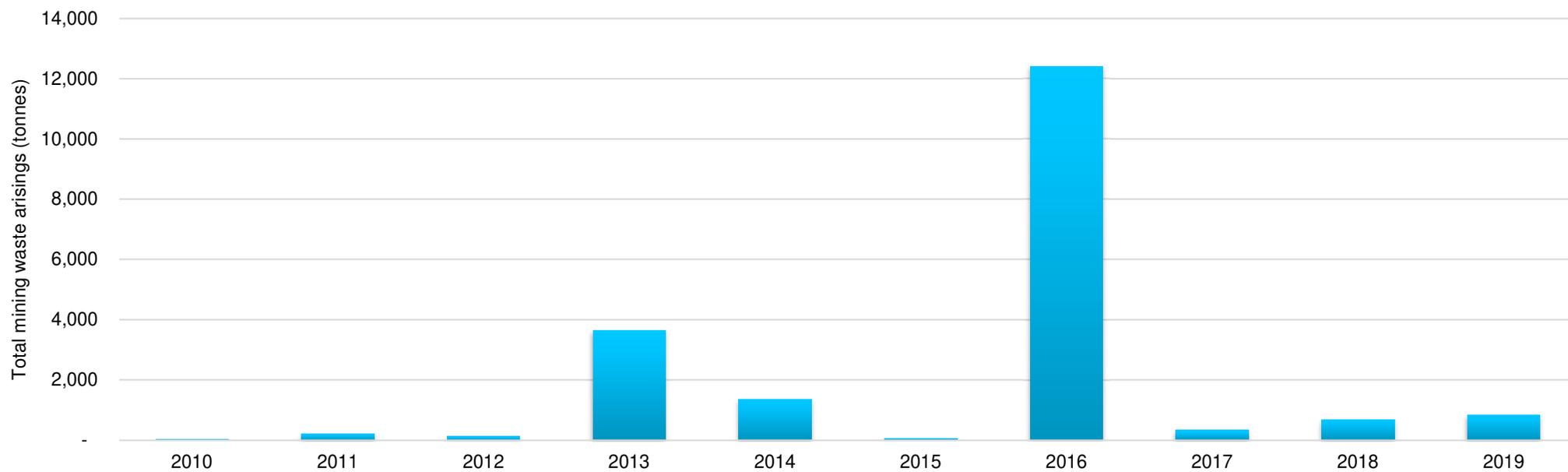


What are mining waste arisings? *Waste produced by mining or quarrying activities.*

Table 22. Current Mining Waste Arisings (tonnes), 2010 - 2019

Area	Parameter	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Nottingham City Council	Total mining waste arisings	-	132	104	-	-	-	-	-	-	-
Nottinghamshire County Council	Total mining waste arisings	25	75	17	3,650	1,347	60	12,418	328	678	836
Total (Plan Area)	Total mining waste arisings	25	206	121	3,650	1,347	60	12,418	328	678	836

Figure 13. Current Mining Waste Arisings (tonnes), 2010 – 2019





3.8 Low-Level Radioactive Waste

3.8.1 Introduction

3.90 Radioactive waste can be described as any waste which falls within the scope of the Radioactive Substances Act 1993 (Ref. 20). Radioactive waste will either contain radioactive material or will have been contaminated by radioactivity. In the UK, radioactive waste can be categorised into one of the four groups described within Table 23 according to the type and amount of radioactivity it contains, and the amount of heat it can generate (Ref. 21).

Table 23. Radioactive Waste Groups

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

3.91 This section discusses the potential sources of low-level radioactive waste within the plan area, and gives an estimate on the amount of waste arising in the area.

3.8.2 Current Waste Arisings

3.92 A search of the UK Radioactive Waste Inventory (Ref. 22) shows that there are no major radioactive waste producers in the plan area. However, there are a number of facilities (e.g. hospitals or research facilities) which keep and use radioactive substances. A list of these facilities have been compiled using EA Public Register - Environmental Permitting Regulations – Radioactive Substances (Ref. 23) and are as followed:

- Kings Mill Hospital, Mansfield Road, Sutton-in-Ashfield, NG17 4JL.
- Bothamsall Oilfield, Bothamsall, Retford, DN22 8DW.
- Nottingham University Hospital, City Hospital Campus, Hucknall Road, Nottingham, NG5 1PB.
- Quotient Sciences Limited, Mere Way, Ruddington Fields Business Park, Ruddington, NG11 6JS.

- British Geological Survey, Environmental Science Centre, Nicker Hill, Keyworth, NG12 5GG.
- Inhealth Limited, Hucknall Road, Nottingham, NG5 1PB.
- School of Science and Technology, Nottingham Trent University, Clifton, Nottingham, NG11 8NS.
- Nottingham University Hospital, Queens Medical Centre Campus, Derby Road, Nottingham, NG7 2UH.
- O'Mass Therapeutics Limited, Discovery Building, Biocity, Pennyfoot Street, Nottingham, NG1 1GF.
- Renasci Limited, R3 Building, Biocity Nottingham, Pennyfoot Street, Nottingham, NG1 1GF.
- Siemens Healthcare Limited, Nottingham PET/CT Centre, Heathfield Way, Nottingham City Hospital, Hucknall Road, Nottingham, NG5 1PB.
- Sygnature Discovery Limited, Discovery Building, BioCity, Pennyfoot Street, Nottingham, NG1 1GF.
- University of Nottingham, University Park, University Boulevard, Nottingham, NG7 2RD.
- University of Nottingham, Queens Medical Centre, Nottingham, NG7 2UH.
- Division of Cancer & Stem Cells, School of Medicine, University of Nottingham, City Hospital Campus, Nottingham, NG5 1PB.

3.93 According to the latest data published in the EA Waste Pollution Inventory (2019) (Ref. 24) – 2,190 GBq and 2,913 MBq of radioactive waste was produced by facilities in the plan area.

3.94 The need for future capacity for radioactive waste has not been considered within this assessment as radioactive waste is managed at the national level (very low level waste is not managed at the national level but can be managed at conventional facilities and does not require specific provision to be made within this assessment).

3.9 Wastewater

3.95 It is not possible to calculate wastewater arisings with the available datasets from the EA. Moreover, the management of wastewater primarily falls under the jurisdiction of the regulated water utility companies. The provision of treatment facilities is usually considered on a case-by-case basis in discussion with developers. Consequently, it is not considered necessary to make strategic provision for such facilities.

4. Current Capacity

4.1 Introduction

- 4.1 This section explores the existing waste management facilities located within the plan area – including recycling and composting facilities, EfW facilities, and landfills. It identifies the capacity the facilities have to manage forecasted waste arisings. More information about the different types of waste management facilities is provided in Table 24.
- 4.2 Also discussed within this section are any future waste management facilities with submitted/approved planning applications, which could potentially provide additional waste capacity between now and the end of the plan period (i.e. 2038) (but they have not been included within capacity estimates).

4.2 Existing Permitted Waste Capacity

- 4.3 The Environment Agency regulates waste management facilities by requiring each facility to hold an environmental permit. Waste management facilities granted a permit from the EA have been termed ‘permitted facilities’ within this assessment.
- 4.4 Although not an exhaustive list, the NPPG considers the following as waste operations:
- Metal recycling sites.
 - Energy from waste incineration and other waste incineration.
 - Landfill and land raising sites (such as soils to re-profile golf courses).
 - Landfill gas generation plants.
 - Pyrolysis/gasification.
 - Material recovery/recycling facilities.
 - Combined mechanical, biological and/or thermal treatment.
 - In-vessel composting.
 - Open windrow composting.
 - Anaerobic digestion.
 - Household civic amenity sites.
 - Transfer stations.
 - Wastewater management.
 - Dredging tips.
 - Storage of waste.
 - Recycling facilities for construction, demolition and excavation waste.

4.2.2 Methodology

- 4.5 Data on the waste received by permitted facilities located within the plan area was extracted from the EA WDI. Consistent with the methodology to calculate waste arisings, capacity to handle waste streams with an EWC code of 10 01 (waste from coal-fired power stations) has been excluded from the total capacity calculations, as have processing and storage facilities and mobile plants. This section is only analysing capacity for LACW, C&I, CD&E and hazardous waste streams, therefore capacity to handle agricultural and mining waste streams has also been excluded.
- 4.6 The purpose of this assessment is to understand the current waste management capacity, therefore only facilities which are still active have been included. It has been assumed that any facilities which are reported as receiving waste over the 2019 period in the EA WDI are still active. Facilities which have since had their permit revoked or expired (identified using the Environmental Permitting Regulations – Waste Sites dataset (Ref. 25)) have been excluded. This process has been corroborated with local planning knowledge to identify any other site closures since 2019.
- 4.7 The permitted capacity for a waste facility (indicated on their environmental permit) is a banded threshold and does not necessarily provide a true reflection of the amount of waste that a facility is able to process. Therefore, the operational capacity (the realistic throughput each facility is able to process) rather than permitted capacity has been used to assess the available capacity of a permitted facility. In order to provide a robust estimate of the available capacity for each permitted facility, the maximum operational throughput from the last five years (i.e. 2015 to 2019) was used to inform the operational capacity for each facility.
- 4.8 Information on the waste received by incineration facilities located within the plan area has been calculated using data extracted from the Incinerator Waste Returns datasets (Ref. 26), and information on the capacity remaining in each landfill has been identified using the EA Remaining Landfill Capacity dataset (Ref. 27).

The difference between operational and permitted capacity:

The permitted capacity is a theoretical uppermost value provided in bands which has been agreed with the EA as part of an environmental permit. Whereas operational capacity is the estimated throughput of waste a facility actually manages on a regular basis.

4.2.3 Results

- 4.9 A full list of permitted waste management facilities and the operational capacity provided by each is included in Appendix F. A full list of landfill sites and their remaining capacity has been provided separately in 0.
- 4.10 Through an analysis of the site category, facility type, and Recovery and Disposal (R and D)¹ code listed for each waste management facility in the

¹ The EU Waste Framework Directive assigns either R or D codes to types of waste management operations, depending on whether they are considered to be recovery or disposal.

EA WDI, each site has been classified as one of the facility types described within Table 24. Appendix C provides further information on how each site has been classified.

Table 24. Types of Facilities and their Definitions

Type of Facility	Description
Anaerobic Digestion	A facility in which microorganisms break down organic waste (e.g. food waste) in the absence of oxygen to produce biogas and fertilising material.
Composting	A facility in which microorganisms break down waste into a compost, which can be used to fertilise plants, under aerobic conditions (requires the addition of oxygen).
Recycling	A facility which processes waste into new materials and products, or which separates waste into fractions which can then be recycled elsewhere.
Other Recovery	Deposit to land facilities - The use of waste in a deposit to land is for construction, reclamation, restoration or the improvement of land.
Transfer	A facility which is used to move waste, typically by receiving smaller loads of waste, and then bulking these up for movement to a subsequent destination.
Energy Recovery	The conversion of waste into usable heat or electricity through either direct combustion, gasification, or pyrolysis.
Landfill	The permanent deposit of waste to land for the purposes of disposal (rather than for land restoration or agricultural improvement).

- 4.11 The capacity provided by each facility type over the plan period (at five-yearly intervals) is shown in Table 25. For the purposes of the capacity gap analysis, it has been assumed that no new capacity is currently under development or will be developed in the future.
- 4.12 Due to the reporting requirements for the EA WDI, although inert/C&D waste inputs are reported separately, it is not possible to separate the capacity of each facility between LACW and C&I waste streams. It is possible to distinguish the waste streams received by facilities into: Household, Industrial and Commercial (HIC) waste, inert/C&D waste and hazardous waste.
- 4.13 The capacity remaining for landfill sites has been provided in Table 26 separately. To determine an annual estimate of the remaining capacity at five-yearly intervals, the amount of waste from the plan area predicted to be received by landfill sites from 2019 to 2038 (taking into account the chosen forecasting scenario and recycling scenarios) has been deducted annually. To convert landfill void space into a tonnage, the following assumptions have been applied:
- 1.5 tonnes of inert waste can be accommodated within 1m³ void space.
 - 1 tonne of non-hazardous, non-inert residual waste can be accommodated within 1m³ void space (Ref. 28).

Table 25. Permitted Waste Management Capacity for the Plan Area (tonnes per annum (tpa))

Facility Type	Waste Stream	2019	2024	2029	2034	2038
Anaerobic Digestion	HIC	364,714	364,714	364,714	364,714	364,714
	Hazardous*	666	666	666	666	666
	Total	365,380	365,380	365,380	365,380	365,380
Composting	HIC	109,806	109,806	109,806	109,806	109,806
	CD&E	20,391	20,391	20,391	20,391	20,391
	Total	130,197	130,197	130,197	130,197	130,197
Recycling	HIC	778,887	778,887	778,887	778,887	778,887
	CD&E	1,137,048	1,137,048	1,137,048	1,137,048	1,137,048
	Hazardous	145,454	145,454	145,454	145,454	145,454
	Total	2,061,389	2,061,389	2,061,389	2,061,389	2,061,389
Other Recovery (Deposit to Land)	HIC	180	180	0	0	0
	CD&E	388,295	388,295	0	0	0
	Total	388,475	388,475	0	0	0
Transfer	HIC	590,476	590,476	590,476	590,476	590,476
	CD&E	266,959	266,959	266,959	266,959	266,959
	Hazardous	49,143	49,143	49,143	49,143	49,143
	Total	906,578	906,578	906,578	906,578	906,578
Energy Recovery	HIC	280,770	280,770	280,770	280,770	280,770
	Total	280,770	280,770	280,770	280,770	280,770
Total		4,132,789	4,132,789	4,132,789	4,132,789	4,132,789

Only a small proportion of hazardous waste is received by Anaerobic Digestion facilities. The majority of the hazardous waste is received by Stoke Bardolph Sewage Treatment Works and is EWC code 19 08 09: grease and oil mixture from oil/water separation containing edible oil and fats.

4.14 Deposit to land facilities will have a finite capacity (i.e. once the recovery has been achieved, the site will not require any more waste and close). Therefore, a worst-case scenario has been assumed: deposit to land capacity will reach zero by 2025.

Table 26. Remaining Landfill Capacity for the Plan Area (tpa)

Facility Type	Recycling Scenario	2019	2024	2029	2034	2038
Inert Landfill (CD&E)	Low	2,265,404	1,231,799	198,195	-835,409	-1,662,292
	Medium	2,265,404	1,301,367	453,275	-278,871	-781,107
	High	2,265,404	1,348,183	624,936	95,663	-188,095
Non-hazardous Landfill (HIC)	All	58,847	-1,122,595	-2,135,384	-2,977,668	-3,567,089
Restricted User Landfill	All	598,457	555,962	512,574	467,732	430,842

4.15 The only Restricted User Landfill in the Plan Area is Borrow Pits Landfill, which can only accept soil from sugar beet washing (waste with an EWC

code of 02 04). As a result, this landfill has been considered separately, with this waste stream being deducted from the total HIC waste arisings when analysing the need for landfill sites.

5. Future Need for Waste Management Capacity

- 5.1 Strategic Objective 6 'Meet our future needs' in the Nottinghamshire and Nottingham Waste Core Strategy states that Nottinghamshire and Nottingham aim to be self-sufficient and provide enough waste management facilities to manage the equivalent of their own arisings, ensuring that there is a mix of waste management sites to manage waste sustainably wherever possible.
- 5.2 This section analyses the amount of waste predicted to arise within the plan area over the plan period and compares it to the existing waste capacity. Any capacity surplus or deficits have been identified; surplus capacity indicates that facilities are also currently managing waste originating from outside of the plan area (imported waste) – more information on imports and exports has been provided in Section 6.

5.1.2 Applying LACW and C&I Waste Arisings to Future Capacity

- 5.3 Due to the reporting requirements for the EA WDI, it is not possible to separate the capacity of each facility between LACW and C&I waste streams. Therefore, in order to assess the future waste management need, the capacity is shown as total household, industrial and commercial waste (HIC) for the purposes of determining waste need.

The LACW and C&I waste arisings that are forecasted to arise in the plan area (taking into account the low, medium and high recycling scenarios – the preferred scenario is shown in purple) over the plan period have been compared to the capacity predicted to be available within the plan area to manage HIC waste arisings. The capacity gap analysis has been broken down into the following categories: Recycling/Composting, Energy Recovery and Landfill. The net available capacity over the plan period assuming a low, medium and high recycling scenario has been described in Table 27, Table 28 and

5.4 Table 29.

Table 27. Capacity Gap Analysis for Recycling/Composting for HIC Waste Streams (tpa)

		2019	2024	2029	2034	2038
Anticipated Arisings to be Recycled/Composted						
Arisings Produced	Low Recycling Scenario	860,461	862,244	885,519	907,540	924,254
	Medium Recycling Scenario	860,461	900,166	959,017	1,017,441	1,063,731
	High Recycling Scenario	860,461	932,170	1,027,493	1,123,256	1,171,772
Facility Capacity						
Facility Capacity	Anaerobic digestion	364,714	364,714	364,714	364,714	364,714
	Composting	109,806	109,806	109,806	109,806	109,806
	Recycling	778,887	778,887	778,887	778,887	778,887
	Total capacity	1,253,407	1,253,407	1,253,407	1,253,407	1,253,407
Net Difference						
= Total Net Capacity available	Low Recycling Scenario	+392,946	+391,163	+367,888	+345,867	+329,153
	Medium Recycling Scenario	+392,946	+353,241	+294,390	+235,966	+189,676
	High Recycling Scenario	+392,946	+321,237	+225,914	+130,151	+81,635

Table 28. Capacity Gap Analysis for Energy Recovery for HIC Waste Streams (tpa)

		2019	2024	2029	2034	2038
Anticipated Arisings to be Sent for Energy Recovery						
Arisings Produced	Low Recycling Scenario	352,200	391,808	434,855	480,063	492,911
	Medium Recycling Scenario	352,200	353,886	361,357	370,162	353,433
	High Recycling Scenario	352,200	321,882	292,881	264,347	245,392
Facility Capacity						
Facility Capacity	Energy Recovery	280,770	280,770	280,770	280,770	280,770
	Total capacity	280,770	280,770	280,770	280,770	280,770
Net Difference						
= Total Net Capacity available	Low Recycling Scenario	-71,430	-111,038	-154,085	-199,293	-212,140
	Medium Recycling Scenario	-71,430	-73,116	-80,587	-89,392	-72,663
	High Recycling Scenario	-71,430	-41,112	-12,111	+16,423	+35,378

Table 29. Capacity Gap Analysis for Landfill for HIC Waste Streams (tpa)

		2019	2024	2029	2034	2038
Anticipated Arisings to be Sent to Landfill						
Arisings Produced	<i>02 04 waste</i>	8,499	8,499	8,795	9,083	9,306
	Excluding 02 04 waste	258,412	221,545	189,450	154,023	148,157
Remaining Facility Capacity Available						
Remaining landfill capacity	<i>Borrow Pits Landfill</i>	+598,457	+555,962	+512,574	+467,732	+430,842
	Remaining landfill capacity	+58,847	-1,122,595	-2,135,384	-2,977,668	-3,567,089

5.1.2.2 Transfer Stations

5.5 Although it is recognised that waste transfer stations play an important intermediary step in the management of waste, the main role of a waste transfer station is the bulking of waste into more efficient loads before moving the waste on to a final destination (e.g. a recycling facility, energy from waste or landfill). Therefore, as with the methodology to calculate waste arisings, capacity provided by transfer stations have been excluded from final capacity calculations in order to avoid double counting.

5.6 In addition to the facilities shown in Table 27, Table 28 and

- 5.7 Table 29, 590,476 tpa of capacity is provided by transfer stations for HIC waste.
- 5.8 By applying the proportion of HIC waste managed by transfer stations in 2019 (~28.5% of total waste arisings – calculated using the EA WDI) to the waste arisings predicted to be generated by the plan area in 2038, 448,551 tonnes of HIC waste is anticipated to require management by a transfer station. In conclusion, there is adequate transfer station capacity for the plan period.

5.1.2.3 Conclusion

- 5.8 Table 27 shows that there is a surplus in capacity provided by the recycling/composting facilities in the plan area. The capacity available for energy recovery and landfill sites is insufficient and declines until the end of the plan period, with the exception of the high recycling scenario (preferred scenario) where a small surplus of capacity is provided by energy recovery facilities by the end of the plan period.
- 5.9 Over 80,000 tonnes of recycling capacity are currently provided by the Welbeck Colliery facility which is understood to manage waste in a similar way to deposit to land facilities (has a finite capacity), therefore the capacity provided by this facility could run out before 2038.

5.1.3 Applying CD&E Waste Arisings to Future Capacity

- 5.10 The CD&E waste arisings that are forecasted to arise in the plan area (taking into account the low, medium and high recycling scenarios – the preferred scenario is shown in purple) over the plan period, have been compared to the capacity predicted to be available within the plan area to manage CD&E waste arisings. The capacity gap analysis has been broken down into the following categories: Recycling/Recovery and Landfill. The net available capacity over the plan period assuming a low, medium and high recycling scenario has been provided within Table 30 and Table 31.

Table 30. Capacity Gap Analysis for Recycling/Recovery for CD&E Waste Stream (tpa)

		2019	2024	2029	2034	2038
Anticipated Arisings to be Recycled/Recovered						
Arisings Produced	Low Recycling Scenario	979,303	979,303	979,303	979,303	979,303
	Medium Recycling Scenario	979,303	1,002,492	1,025,681	1,048,870	1,067,421
	High Recycling Scenario	979,303	1,018,097	1,056,892	1,095,686	1,126,722
Facility Capacity						
Facility Capacity	Composting	20,391	20,391	20,391	20,391	20,391
	Recycling	1,137,048	1,137,048	1,137,048	1,137,048	1,137,048
	Deposit to Land	388,295	388,295	-	-	-
	Total capacity	1,545,734	1,545,734	1,157,439	1,157,439	1,157,439

2019 2024 2029 2034 2038

Anticipated Arisings to be Recycled/Recovered

Net Difference

= Total Net Capacity available	Low Recycling Scenario	+566,431	+566,431	+178,136	+178,136	+178,136
	Medium Recycling Scenario	+566,431	+543,242	+131,758	+108,569	+90,018
	High Recycling Scenario	+566,431	+527,637	+100,547	+61,752	+30,717

Table 31. Capacity Gap Analysis for Landfill for CD&E Waste Stream (tpa)

		2019	2024	2029	2034	2038
Anticipated Arisings to be Sent to Landfill						
Arisings Produced	Low Recycling Scenario	206,721	206,721	206,721	206,721	206,721
	Medium Recycling Scenario	206,721	183,532	160,343	137,154	118,602
	High Recycling Scenario	206,721	167,926	129,132	90,337	59,301
Facility Capacity						
Facility Capacity	Low Recycling Scenario	2,265,404	1,711,249	998,707	127,779	-683,002
	Medium Recycling Scenario	2,265,404	1,795,011	1,305,837	797,880	377,990
	High Recycling Scenario	2,265,404	1,836,893	1,459,401	1,132,930	908,487
Net Difference						
= Total Net Capacity available	Low Recycling Scenario	+2,265,404	+1,231,799	+198,195	-835,409	-1,662,292
	Medium Recycling Scenario	+2,265,404	+1,301,367	+453,275	-278,871	-781,107
	High Recycling Scenario	+2,265,404	+1,348,183	+624,936	+95,663	-188,095

5.1.3.2 Transfer Stations

5.11 In addition to the facilities shown in Table 30 and Table 31, 266,959 tpa of capacity is provided by transfer stations for CD&E waste.

5.12 By applying the proportion of CD&E waste management by transfer stations in 2019 (~16% of total waste arisings – calculated using the EA WDI) to the waste arisings predicted to be generated by the plan area in 2038, 185,345 tonnes of CD&E waste is anticipated to require management by transfer stations. In conclusion, there is adequate transfer station capacity for the plan period.

5.1.3.3 Conclusion

5.13 As the CD&E waste arisings and the capacity have both been forecast to stay the same as the baseline (2019), the capacity available for the recycling/composting/recovery facilities remains the same during the plan period. The capacity for recycling/composting/recovery remains at a surplus during the plan period. The capacity available for landfill sites starts off as a large surplus in 2019, but declines as the void space in the landfill sites is filled, with a deficit in capacity forecast to arise during the plan period.

5.14 The Welbeck Colliery facility provides more capacity for CD&E waste (over 285,000 tonnes) than for HIC waste. The capacity provided by this facility is understood to be time limited, and therefore is likely to be unavailable before 2038, resulting in a deficit in recycling capacity within the plan area during the plan period. The proposed Haworth Colliery Spoil Tip restoration,

granted planning permission in June 2021 (see Table 32) has the potential to provide substitute capacity for that currently provided at Welbeck.

5.2 Hazardous Waste

- 5.15 The National Policy Statement (NPS) for Hazardous Waste (Ref. 29) states that responsible regional authorities and waste planning authorities are expected to plan for the quantity of hazardous waste arisings in their area. The total capacity available for managing hazardous waste in the plan area is 146,120 tpa (and 49,143 tpa of transfer station capacity), and the predicted quantity of hazardous waste to be generated by the plan area in 2038 is 42,896 tpa. It is therefore considered that there is sufficient capacity in the plan area to manage hazardous waste arisings during the plan period.
- 5.16 In conclusion, this assessment is not required to identify a need for additional waste management capacity for hazardous waste.

5.3 Exempt Sites

- 5.17 There are also a number of sites located within the plan area which perform smaller scale waste activities, most often these sites only require a permit exemption. Waste management facilities must meet certain criteria to be exempt from requiring an environmental permit.
- 5.18 Waste exemptions can be classified using the following four categories:
- U1 to U16 – Using Waste (e.g. using waste in construction or burning it as fuel).
 - D1 to D8 – Disposing of Waste (e.g. Disposing sanitary waste or agricultural waste).
 - T1 to T33 – Treating Waste (e.g. treating waste wood).
 - S1 to S3 – Storing Waste (e.g. storing certain waste materials in secure containers).
- 5.19 A list of exempt sites has been extracted from the EA Waste Exemptions dataset (Ref. 30). It is only feasible to consider sites with a set location area within this assessment. Sites with a location area of 'Derbyshire, Nottinghamshire and Leicestershire' were extracted from the dataset; further analysis was undertaken to limit the list to only include sites located within the plan area. The resulting list of exempt sites has been checked and confirmed by the EA.
- 5.20 In total there are 1,910 exemptions that have been registered at locations within the plan area. A full list of the number of exemptions registered for each exempt category is provided in Appendix H.
- 5.21 An exemption is limited to three years from the date of registration, however there is no requirement to remove the exemption from the register once it has been completed within the three-year period. In addition, waste processed at certain exempt sites (for example S1 to S3 exempt sites) will go on to be managed further at a permitted waste management facility; including these exempt sites would result in double counting waste management capacity. It is also important to note that there is no cost to

register an exempt site, and therefore some registrations may be on a precautionary basis and end up not being used.

- 5.22 In conclusion, although it is acknowledged that exempt sites have an important role to play in the management of waste, they have not been included when estimating the waste management capacity in this assessment.

5.4 Future Waste Management Facilities

- 5.23 Table 32 provides a list of proposed waste management facilities with a submitted/approved planning application which could potentially provide additional waste management capacity between now and the end of the plan period (i.e. 2038).
- 5.24 As recommended by the NPPG, the proposed waste management facilities described in Table 32 have not been included in the capacity gap analysis. Instead, the capacity gap analysis has been based on the current, existing waste management capacity.

Table 32. Proposed Waste Management Facilities for which Planning Permission has been Granted or is being Sought

Name of Planned Facility	Operator	Type of Facility	Key Dates	Anticipated Throughput	Main Waste Streams	Additional Notes
EMERGE Centre	<ul style="list-style-type: none"> Uniper 	<ul style="list-style-type: none"> EfW 	Planned operational date of 2025 (from planning application)	472,100 tpa	Non-hazardous LACW and C&I Waste	Planning permission has been granted in July 2021 subject to signing a S106 agreement.
Bilsthorpe Energy Centre	<ul style="list-style-type: none"> Peel Environmental Waste2Tricity 	<ul style="list-style-type: none"> MRF Gasification Facility 	Planning permission approved in 2016	120,000 tpa	Non-hazardous waste	Planning permission lapses in June 2021.
Bulwell Energy Recovery Facility	<ul style="list-style-type: none"> Bulwell Energy Ltd. Chinook Sciences Technology 	<ul style="list-style-type: none"> Gasification Facility 	Planning application approved in 2014.	160,000 tpa	Residual C&I waste	In 2018, a permit variation was approved to replace the use of natural gas for auxiliary fuel with the use of recovered fuel oil.
Eastcroft EfW Facility	<ul style="list-style-type: none"> FCC Environment 	<ul style="list-style-type: none"> EfW 	Planning application approved in 2016.	To process an additional 140,000 tpa	Residual LACW and C&I waste	Planning permission has been approved but is yet to be constructed.
Harworth Colliery	<ul style="list-style-type: none"> Harworth Estates 	<ul style="list-style-type: none"> Inert Landfill 	Planning application submitted in 2018.	Importation of 3.6 million m ³ of inert material.	Inert waste	Planning permission has been granted in July 2021 subject to signing a S106 agreement.

6. Waste Movements – Imports and Exports

6.1 Introduction

6.1 According to the WFD and the NPPG, waste planning authorities should aim to manage waste in line with the following principles:

- Proximity principle – waste should be treated and disposed of as close to its origin as possible.
- Self-sufficiency principle – waste should be treated and disposed of within the region which it is produced.

6.2 However, there are some occasions where waste materials may be sent across borders for treatment and disposal in other waste planning regions. The NPPG states that assessing waste management needs will likely require an understanding of waste arisings from within the planning authority area, including imports and exports. As well as some waste streams requiring treatment/disposal by specialist facilities, it is also understood that some waste management companies have long-term contractual obligations which requires waste to flow across borders.

6.3 The Localism Act (2011) (Ref. 31) places a legal duty on local planning authorities, county council and other prescribed bodies, to engage constructively and actively on an ongoing basis in relation to strategic matters – known as the ‘Duty to Co-operate’. The NPPG states that:

“Waste is a strategic issue which can be addressed effectively through close co-operation between waste planning authorities and public bodies to ensure a suitable and sustainable network of waste management facilities is in place.”

6.2 Imports

6.2.1 Methodology

6.4 To understand the amount of waste imported into the plan area (i.e. waste with an origin outside of the plan area but managed at a facility located within the plan area), data was extracted from the EA WDI.

6.2.2 Results

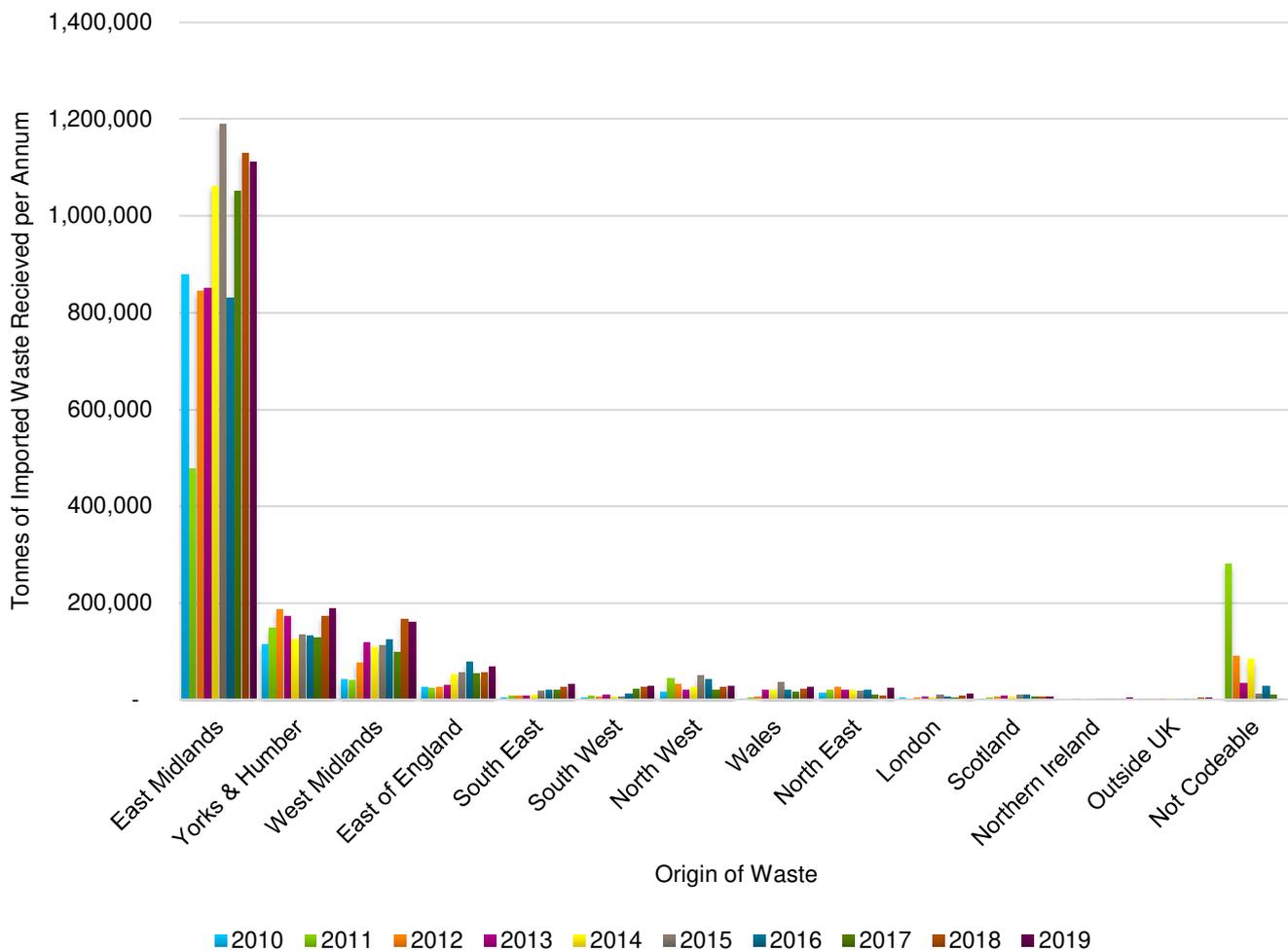
6.5 Table 33 presents information on the origin of the waste received by waste management facilities located within the plan area. On average, over 60% of the waste received by the facilities originated from the plan area, meaning that just under 40% of the waste received by waste management facilities in the plan area is waste that has been imported from other waste planning regions. The amount of waste being imported into facilities within the plan area seems to have remained fairly consistent between 2010 and 2019.

Table 33. Split between the Origin of Waste Received by Waste Management Facilities in the Plan Area between 2010 and 2019

Year	Waste with an origin of Nottingham		Waste with an origin of Nottinghamshire		Other waste origins		Total waste received by facilities in the plan area	
	Tonnes	%	Tonnes	%	Tonnes	%	Tonnes	%
2010	133,051	5%	1,512,914	55%	1,096,290	40%	2,742,255	100%
2011	140,413	5%	1,789,176	60%	1,051,829	35%	2,981,419	100%
2012	272,508	7%	2,199,296	58%	1,300,835	34%	3,772,639	100%
2013	353,080	9%	2,405,780	60%	1,280,515	32%	4,039,375	100%
2014	393,163	9%	2,590,542	58%	1,512,881	34%	4,496,586	100%
2015	324,001	8%	1,876,243	49%	1,640,638	43%	3,840,882	100%
2016	358,225	10%	1,920,060	53%	1,315,996	37%	3,594,281	100%
2017	330,301	9%	1,930,578	52%	1,434,628	39%	3,695,508	100%
2018	225,236	6%	1,814,769	49%	1,639,311	45%	3,679,316	100%
2019	354,467	9%	2,031,995	50%	1,683,685	41%	4,070,148	100%
Average	288,445	8%	2,007,136	54%	1,395,661	38%	3,691,241	100%

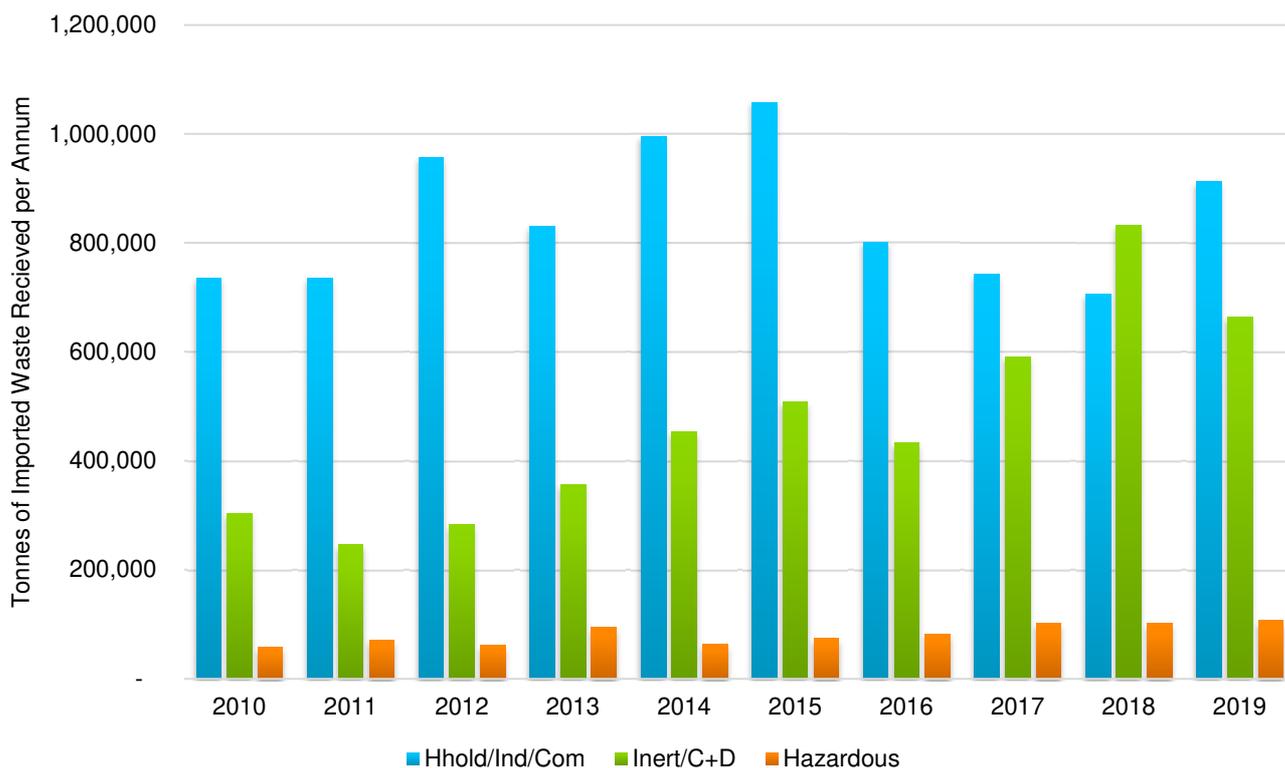
6.6 The origins of the imported waste received by waste management facilities in the plan area can be seen in Figure 14. The most significant origin of the imported waste is other counties within the East Midlands. The next two largest origins of imported waste are Yorkshire and the Humber, and the West Midlands, which are also geographically close to the plan area. A small proportion of the waste cannot be coded; the quantity of waste reported as not codeable decreases between 2010 and 2019 as the reporting of waste movements in the WDI improves.

Figure 14. Origin of Imported Waste



6.7 Figure 15 shows that with the exception of 2018, the most imported waste stream into the plan area is Household/Industrial/Commercial (HIC) waste. Figure 15 also shows that the amount of CD&E waste imported into the plan area has gradually increased between the years 2010 and 2019. The quantity of hazardous waste imported has stayed consistent.

Figure 15. Breakdown of Waste Stream for Imported Waste



6.3 Exports

6.3.1 Methodology

6.8 To understand the amount of waste exported from the plan area (i.e. waste with an origin of the plan area but managed at a facility located outside of the plan area), data was extracted from the EA WDI.

6.9 Using this methodology to understand the quantities of waste exported from the plan area will mean that not-codeable data and any waste sent for management outside the UK will not be captured.

6.3.2 Results

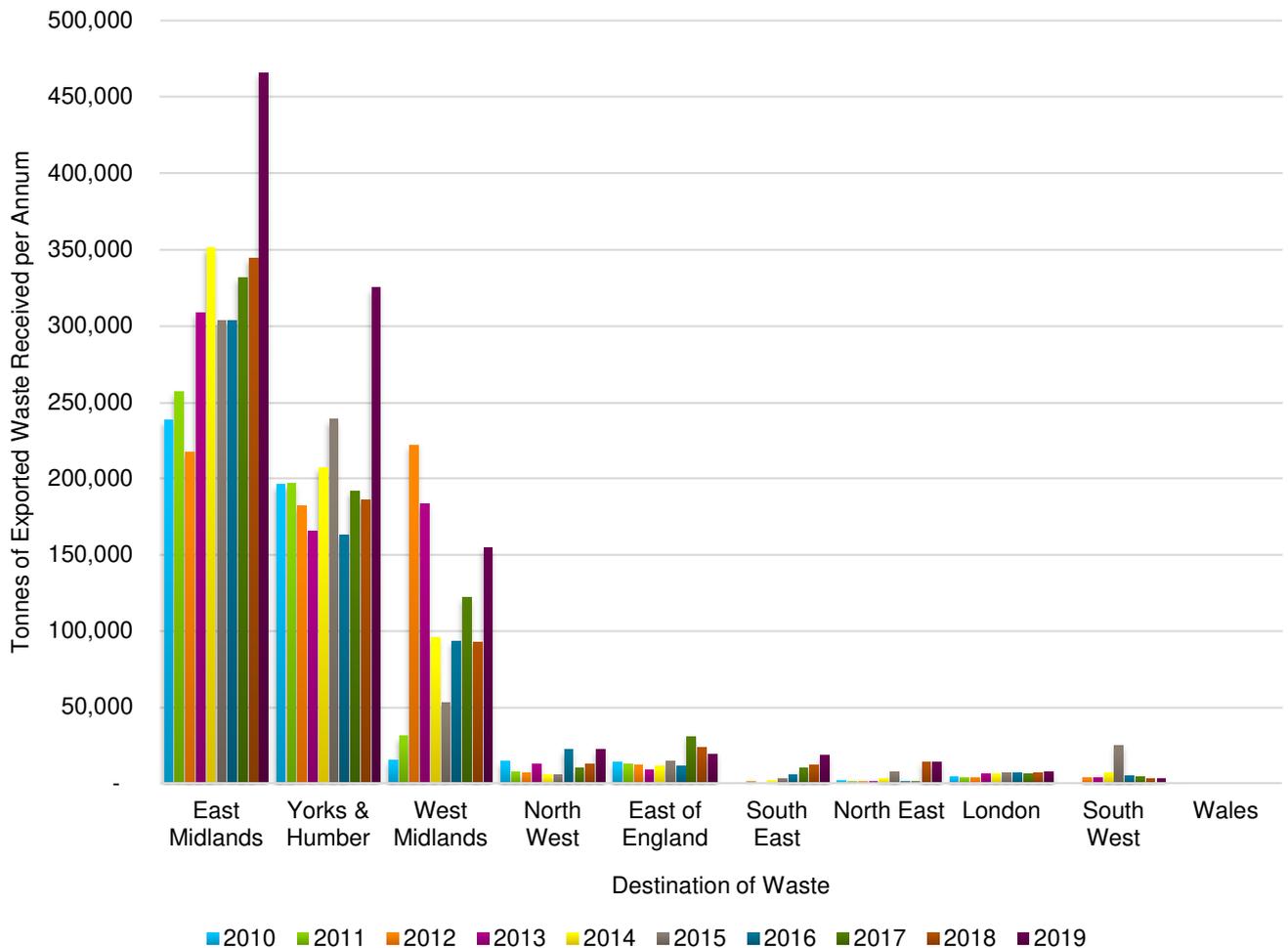
6.10 Information on the location of waste management facilities receiving waste with an origin of the plan area is displayed in Table 34. On average, 77% of the waste generated by the plan area is managed by facilities located in the area with the remaining 23% exported to waste management facilities located outside of the area. The amount of waste exported from the plan area has remained consistent between 2010 and 2019.

Table 34. Split between the Location of Waste Management Facilities Receiving Waste with a Waste Origin of the Plan Area between 2010 and 2019

Year	Waste received by facilities in Nottingham		Waste received by facilities in Nottinghamshire		Waste received by facilities outside of the plan area		Total waste received by facilities with a waste origin of the plan area	
	Tonnes	%	Tonnes	%	Tonnes	%	Tonnes	%
2010	186,690	9%	1,459,275	68%	484,398	23%	2,130,363	100%
2011	183,104	8%	1,746,485	72%	509,434	21%	2,439,024	100%
2012	288,318	9%	2,183,487	70%	647,906	21%	3,119,711	100%
2013	252,589	7%	2,506,271	73%	689,323	20%	3,448,184	100%
2014	190,612	5%	2,793,093	76%	688,032	19%	3,671,738	100%
2015	233,845	8%	1,966,399	69%	657,033	23%	2,857,277	100%
2016	221,030	8%	2,057,255	71%	610,136	21%	2,888,421	100%
2017	235,939	8%	2,024,941	68%	706,189	24%	2,967,068	100%
2018	177,337	6%	1,862,668	68%	694,197	25%	2,734,202	100%
2019	392,521	11%	1,993,941	58%	1,028,412	30%	3,414,874	100%
Average	236,199	8%	2,059,381	69%	671,506	23%	2,967,086	100%

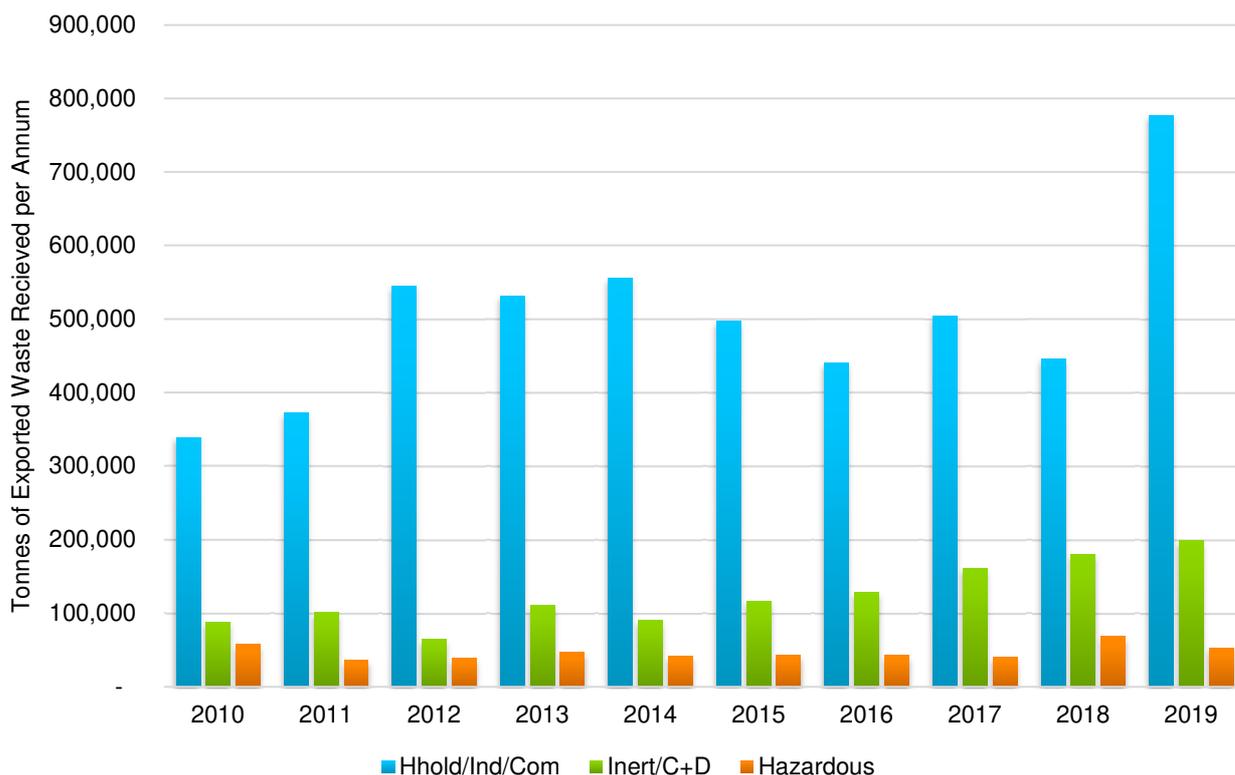
6.11 Figure 16 presents the destination of the waste exported from the plan area. Similar to imported waste, the largest amount of exported waste is received by other counties in the East Midlands. Also receiving a significant amount of exported waste is Yorkshire and the Humber, and the West Midlands. Overall, the amount of waste received by the West Midlands increased between 2010 and 2019. Small proportions of waste exported from the plan area are received at facilities in the North West, East of England, South East, North East, London and the South West.

Figure 16. Destination of Exported Waste



6.12 Figure 17 displays the breakdown of each waste stream for waste exported from the plan area. The most exported waste stream is HIC waste, with a significantly larger quantity of HIC waste being exported from the plan area compared to CD&E and hazardous waste. The quantity of CD&E waste being exported from the plan area gradually increases from 2010 to 2019. The quantity of hazardous waste exported stays consistent.

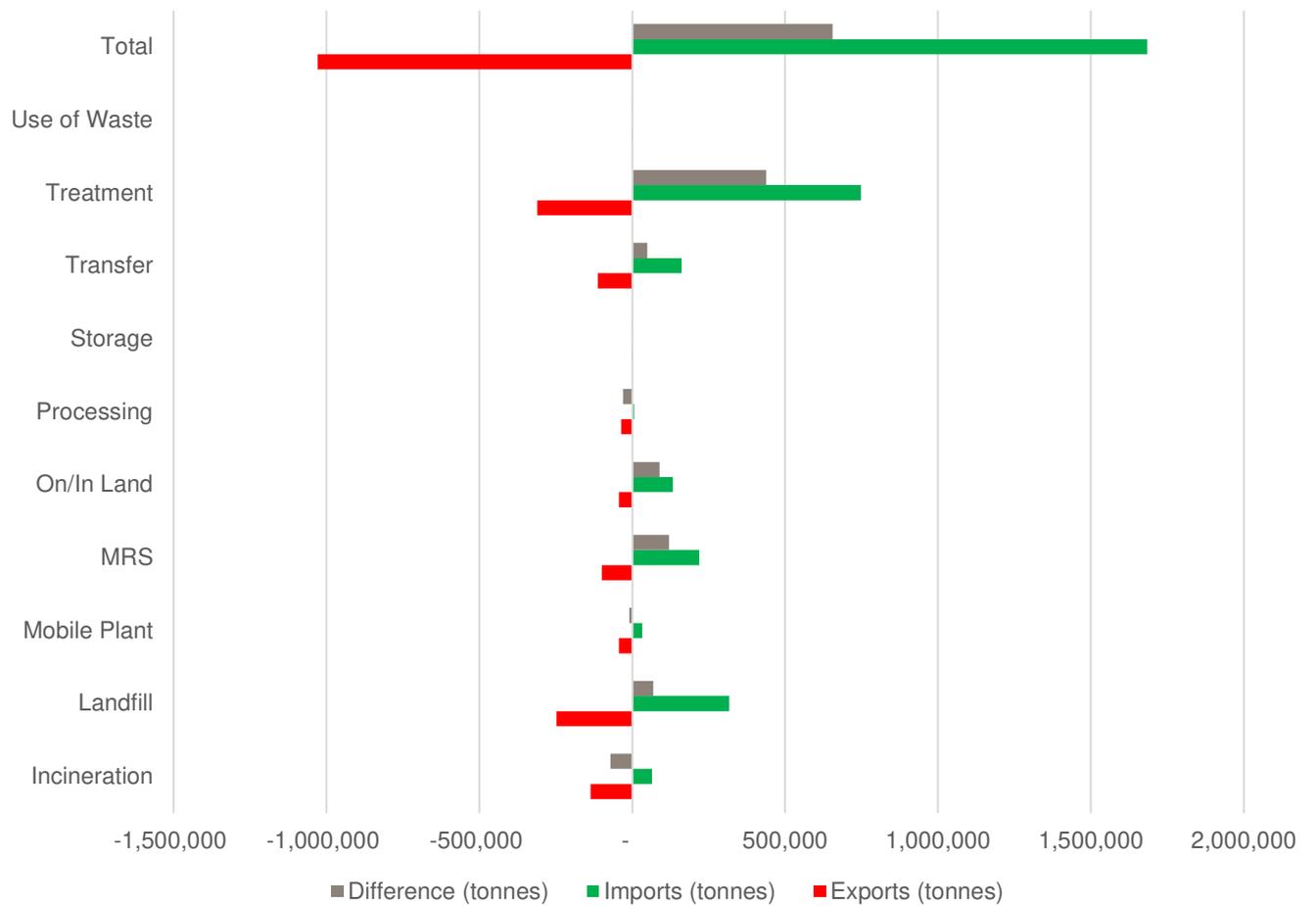
Figure 17. Breakdown of Waste Stream for Exported Waste



6.4 Summary

- 6.13 On average, the plan area received more imported waste than they exported over the years 2010 to 2019. HIC waste is the most imported and exported waste stream; however a significantly larger amount of CD&E waste is imported than is exported from the plan area. Both the amount of imported and exported CD&E waste has gradually increased from 2010 to 2019. The origin and destination of the imported and exported waste is also similar, with the majority of the waste coming from and going to other counties in the East Midlands, with Yorkshire and the Humber, and the West Midlands providing/receiving the next largest quantities of waste.
- 6.14 The balance between imported and exported waste in 2019 is shown in Figure 18.
- 6.15 In conclusion, although the plan area is a net importer of waste, due to the proximity principle all WPAs should aim to be net sufficient when managing waste arisings produced within their region.

Figure 18. The Difference between the Total Imported and Exported Waste from the Plan Area in 2019



7. Conclusions and Recommendations

7.1 LACW and C&I Waste

- 7.1 In conclusion, there is a surplus in capacity provided by the recycling/composting facilities in the plan area. The capacity available for energy recovery and landfill sites is insufficient now and shows a further decline until the end of the plan period, with the exception of the high recycling scenario (preferred scenario) where a small surplus of capacity is provided by energy recovery facilities by the end of the plan period.

7.2 CD&E Waste

- 7.2 In conclusion, the capacity for recycling/recovery remains at a surplus during the plan period. The capacity available for landfill sites starts off as a large surplus in 2019 but declines as the void space in the landfill sites is filled with a deficit in capacity forecast to arise during the plan period.

7.3 Hazardous Waste

- 7.3 It is predicted that 42,896 tonnes of hazardous waste will be generated within the plan area in 2038. There is sufficient capacity within the plan area to manage hazardous waste arisings (146,120 tpa capacity).
- 7.4 In conclusion, this assessment is not required to identify a need for additional waste management capacity for hazardous waste. In accordance with national policy, the provision of any significant hazardous waste facilities in the future will take place at a national level.

7.4 Other Waste Streams

- 7.5 This assessment has also considered agricultural waste, mining waste and low-level radioactive waste.
- 7.6 Only a small amount of agricultural and mining waste was generated by the plan area over the past 10 years (respectively less than 1.15% and 0.5% of the total waste arisings) and is considered insufficient to justify the identification of specific future waste management capacity for the agricultural and mining waste streams within the plan area.
- 7.7 According to the latest data published in the EA Waste Pollution Inventory (2019) – 2,190 GBq and 2,913 MBq of radioactive waste was produced by facilities in the plan area. The need for future capacity for radioactive waste has not been considered within this assessment as radioactive waste is managed at the national level.
- 7.8 The management and future capacity delivery for wastewater is undertaken by regulated water utility companies. The strategic provision of such facilities is not considered to be a requirement of this assessment.

7.5 Waste Movements

- 7.9 On average, 1,395,661 tonnes of waste originating from areas outside of the plan area is being imported into waste management facilities located in the plan area (equivalent to 38% of the total waste managed by facilities in the plan area). The majority of this waste is coming from other counties in the East Midlands, Yorkshire and the Humber, and the West Midlands (all geographically close to the plan area).
- 7.10 On average, 671,506 tonnes of waste originating from the plan area is being exported and managed at facilities located outside of the plan area (equivalent to 23% of waste generated by the plan area). Similar to imported waste, the largest receivers of waste originating from the plan area are other counties in the East Midlands, Yorkshire and the Humber, and the West Midlands.
- 7.11 In conclusion, the plan area received more imported waste than was exported from the plan area over the years 2010 to 2019.

8. Future Trends

- 8.1 Policy such as consistent collections, digital waste tracking, EPR and improved labelling on household consumable products may see a change in the composition of LACW and C&I waste received by facilities in the plan area and an increase in recycling rates. Conversely, should EPR act as a strong incentive for producers to design products which last longer and/or are repairable, then the overall tonnages of LACW and C&I waste received within the plan area could be reduced over time.
- 8.2 The ongoing COVID-19 crisis has seen a significant shift in behaviours, which have in turn impacted the UK's recycle and waste markets. Whilst the long-term impacts of the COVID-19 pandemic are unknown, it may be that a reduction in paper usage has been further sped up via a prioritisation of reduced hand and personal contact. Improvements in data security and storage with increasing reliance on information technology could further lead to a reduction in the long-term. However, it is impossible to determine whether these trends are permanent at the time of writing, and whether the policy interventions expected in the early 2020s will have the same impact.

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Appendix A Limitations and Assumptions

Environment Agency, Waste Data Interrogator

The Waste Data Interrogator is reliant on the information the Environment Agency receives from waste facilities. It is therefore recognised that the quality of the data in the interrogator is dependent on the waste facility operators providing the correct information without error. Currently, there is little to no enforcement by the EA on the domestic movements of waste and ensuring the correct reporting of data. Due to the limited intervention from the EA, limitations of the data assessed could include the possibility the movement of waste from one waste facility to another may not be recognised by the receiving facility due to error or miss-categorisation, or that some waste data is not captured or entered into the Waste Data Interrogator.

Some operators do not provide sufficient information on the origin of the waste, as a result some waste within the Waste Data Interrogator will be reported as 'not codeable' or 'WPA not codeable (East Midlands)'. There is the possibility that some of the not codeable waste originated within the plan area. The proportion of waste in the Waste Data Interrogator reported as 'WPA not codeable (East Midlands)' is as shown in Table 35.

Table 35. Proportion of waste in the Waste Data Interrogator Reported as 'WPA not codeable (East Midlands)'

Year	'WPA not codeable (East Midlands)	East Midlands (Total)	Difference (%)
2010	1,922,353	11,159,815	17%
2011	182,054	10,541,092	2%
2012	753,488	12,835,424	6%
2013	1,554,334	13,391,744	12%
2014	1,117,517	6,119,956	18%
2015	1,855,991	14,478,504	13%
2016	1,515,833	15,588,277	10%
2017	1,530,759	17,516,132	9%
2018	1,588,968	17,645,586	9%
2019	1,778,987	20,482,412	9%

Double counting of waste arisings

Although every effort has been made to remove any double counting of waste arisings, the following have been acknowledged as potentially including a double counting of waste arisings:

- LACW reported by WasteDataFlow does not exclude hazardous waste arisings. There is a small risk of double counting waste arisings between the LACW stream and the hazardous waste stream.

- LACW reported by WasteDataFlow does not exclude waste with an EWC code of 20 02 02. There is a small risk of double counting waste arisings between the LACW stream and the CD&E waste stream.
- A proportion of the recycled aggregate included within CD&E waste arisings may have been processed at a permitted treatment facility during its production. There is a small risk of double counting recycled aggregate and CD&E waste received by permitted facilities.

Capacity

There are a number of small waste management facilities (e.g. small motor repair businesses) that hold a waste permit but are suspected to only generate or store waste, and are not a waste management facility that treat or dispose of waste. Due to a lack of firm evidence that these sites do not carry out waste management activities, these sites have been included within the capacity calculations but have been listed as a limitation.

Appendix B Policy and Legislation

EU Legislation

Historically waste management in the United Kingdom (UK) has been significantly driven by EU policy. EU waste policy aims to protect human health and the health of the environment, whilst helping member states transition to a circular economy. Embedded in EU policy are targets on recycling and limiting the amount of waste disposed of to landfill. Although the UK has left the EU, the EU's policies on waste have already been transposed into UK law and will therefore remain relevant.

Waste Framework Directive (2008)

The Waste Framework Directive (2008/98/EC) (WFD) [75/442/EEC] (Ref. 32) is the principal EU legislation for waste; setting out the basic concepts and definitions related to waste management.

The WFD is underpinned by the waste hierarchy, which ranks options for managing waste according to their impact on the environment. The waste hierarchy requires that member states manage waste as near to the top of the hierarchy (i.e. waste prevention) as possible, with disposal of waste being the last resort (as set out in Article 4 of the WFD and shown in Figure 19). Article 4 states that the waste hierarchy shall apply as a priority order in waste prevention and management legislation and policy, and that member states shall take measures to encourage the options that deliver the best overall environmental outcome.

Figure 19. The Waste Hierarchy

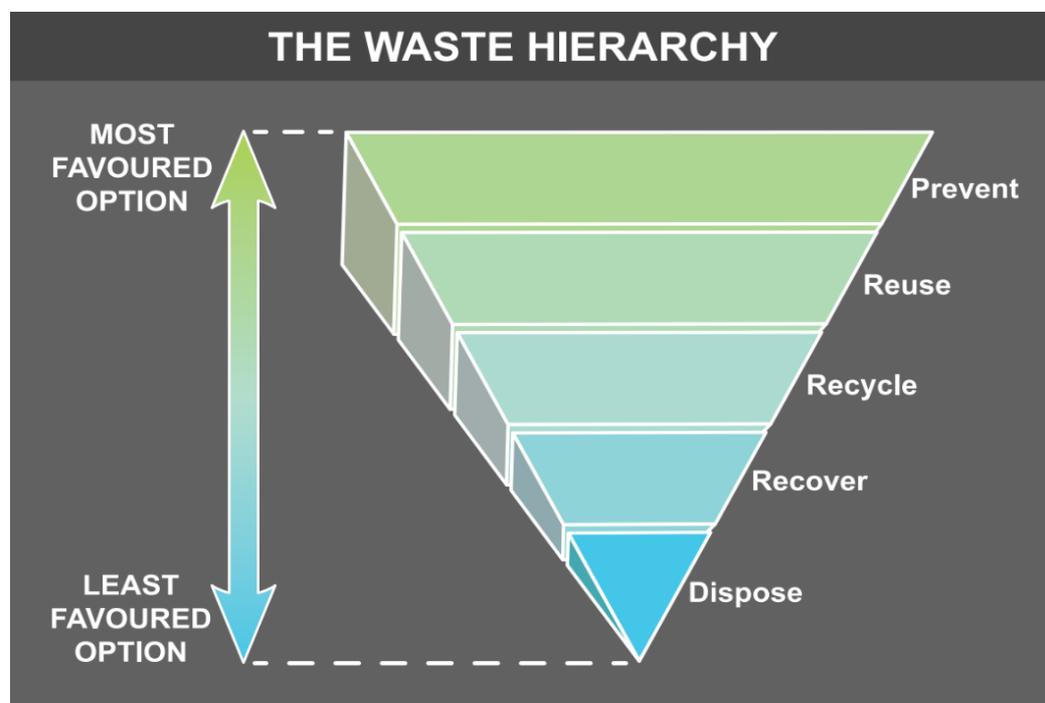


Table 36 provides a description of the other relevant articles of the WFD.

Table 36. Relevant articles of the WFD

Article	Description
<p>Article 13: Protection of Human Health and the Environment</p>	<ul style="list-style-type: none"> • Requires that waste be managed by means which do not endanger human health or the environment – in particular, without risk to water, air, soil, plants or animals, without causing a nuisance through noise or odours, and without adversely affecting the countryside or places of special interest.
<p>Article 16: Principles of Proximity and Self-Sufficiency</p>	<ul style="list-style-type: none"> • Requires that appropriate measures are taken to “establish an integrated and adequate network of waste disposal installations and of installations for the recovery of mixed municipal waste collected from private households, including where such collection also covers such waste from other producers, taking into account best available techniques.” • States that this network shall be designed to enable the community as a whole to become self-sufficient in waste disposal.
<p>Article 28: Waste Management Plans</p>	<ul style="list-style-type: none"> • Requires authorities to produce Waste Management Plans, which “<i>set out an analysis of the current waste management situation in the geographical entity concerned, as well as the measures to be taken to improve environmentally sound preparing for re-use, recycling, recovery and disposal of waste and an evaluation of how the plan will support the implementation of the objectives and provisions of this Directive</i>”. • States that the Waste Management Plans must contain: <ul style="list-style-type: none"> – The type, quantity and source of waste generated within the territory, the waste likely to be shipped from or to the national territory, and an evaluation of the development of waste streams in the future; – Existing waste collection schemes and major disposal and recovery installations, including any special arrangements for waste oils, hazardous waste or waste streams addressed by specific community legislation; – An assessment of the need for new collection schemes, the closure of existing waste installations, additional waste installation infrastructure in accordance with Article 16, and, if necessary, the investments related thereto; – Sufficient information on the location criteria for site identification and on the capacity of future disposal or major recovery installations, if necessary; and – General waste management policies, including planned waste management technologies and methods, or policies for waste posing specific management problems.

Landfill Directive (1999)

The Landfill Directive (1999/31/EC) (Ref. 33) (brought into force in 1999 and implemented in 2001), regulates waste management of landfills in the EU. The Directive’s primary objective is to prevent, or minimise as far as possible, the negative effects upon on the environment from the landfilling of waste, in particular on surface water, groundwater, soil, air, and human health, by introducing stringent technical requirements for waste and landfills (relating to their location, design, construction and operation).

Directive (EU) 2018/850 (Ref. 34) amends the Landfill Directive and requires Member States to significantly reduce waste disposal by landfilling. This will prevent detrimental consequences for human health and the environment, and ensure that economically valuable waste materials are recovered through proper waste management and in line with the waste hierarchy. Member States will be required to ensure that, as of 2030, waste suitable for recycling or other recovery, in particular

that which is contained in municipal waste, will not be permitted to be disposed of to landfill. Use of landfills should remain exceptional rather than the norm.

Furthermore, the Member States must take the necessary measures to ensure that by 2035, the amount of municipal waste disposed of in landfills is reduced to 10% or less of the total amount of municipal waste generated by 2035.

Circular Economy Package (2020)

The “circular economy” is an economic model in which waste is eliminated, and resources are kept in continual use. It aims to move away from a ‘take, make, dispose’ linear model towards an economy that is regenerative by design. The Circular Economy Package (CEP) (2020) identifies steps for reducing the amount of waste generated and establishes a long-term path for the management of waste and increasing the recycling rate. The measures introduced in the 2020 CEP have been transposed into UK legislation.

The CEP makes the following significant amendments:

- Amends the reuse and recycling rate for municipal waste, which must be a minimum of 55% by weight by 2025, 60% by 2030, and 65% by 2035.
- Introduces the landfill target of no more than 10% of municipal waste to landfill by 2035.

Also as part of the CEP, the EU has implemented a new Action Plan (Ref. 35) in March 2020. The new Action Plan contains initiatives to promote circular economy processes along the whole life-cycle of products, and aims to keep resources in the economy for as long as possible. Measures include:

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

National Policy

The UK government has developed a series of policies aimed at increasing recycling and reducing waste. This section summarises these policies and how they may impact planning of future waste management infrastructure.

National Planning Policy for Waste (NPPW) (2014)

The National Planning Policy for Waste (NPPW) (Ref. 36), published in October 2014, sets out the UK government's detailed waste planning policies. It sets out the requirements for:

- Use of a proportionate evidence base in preparing Local Plans.
- Identifying the need for waste management facilities in preparing Local Plans.

- Identifying suitable sites and areas in preparing Local Plans.
- Determining planning applications.
- Monitoring and reporting, to inform Local Plan preparation and planning application determination.

Table 37 summarises the relevant paragraphs of the NPPW.

Table 37. Paragraphs of the NPPW relevant to this Assessment

Paragraph	Description
<p>Paragraph 2: Using a proportionate evidence base</p>	<p>Requires that waste planning authorities:</p> <ul style="list-style-type: none"> • Ensure that the planned provision of new waste management capacity and its spatial distribution is based on robust analysis of best available data and information, and an appraisal of options, avoiding spurious precision; • Work jointly and collaboratively with other planning authorities to collect and share data and information on waste arisings, and take account of: <ul style="list-style-type: none"> – Waste arisings across neighbouring waste planning authority areas; and – Any waste management requirement identified nationally, including the Government’s latest advice on forecasts of waste arisings and the proportion of waste that can be recycled; and • Ensure that the need for waste management facilities is considered alongside other spatial planning concerns, recognising the positive contribution that waste management can bring to the development of sustainable communities.
<p>Paragraph 3: Identify need for waste management facilities</p>	<ul style="list-style-type: none"> • States that “<i>Waste planning authorities should prepare Local Plans which identify sufficient opportunities to meet the identified needs of their area for the management of waste streams</i>”. • States that waste planning authorities should consider the need for additional waste management capacity of more than local significance, and consider the extent to which the capacity of existing operational facilities would satisfy any identified needs. • Highlights the requirement to work collaboratively with other waste planning authorities.
<p>Paragraph 4: Identifying suitable sites and areas</p>	<ul style="list-style-type: none"> • States that waste planning authorities should identify in their Local Plans, sites and/or areas for new or enhanced waste management facilities in appropriate locations. • States that in preparing their Local Plans, the authorities should: <ul style="list-style-type: none"> – “<i>Identify the broad type or types of waste management facility that would be appropriately located on the allocated site or in the allocated area in line with the waste hierarchy, taking care to avoid stifling innovation (Appendix A)</i>; – <i>Plan for the disposal of waste and the recovery of mixed municipal waste in line with the proximity principle, recognising that new facilities will need to serve catchment areas large enough to secure the economic viability of the plant</i>; – <i>Consider opportunities for on-site management of waste where it arises</i>; – <i>Consider a broad range of locations including industrial sites, looking for opportunities to co-locate waste management facilities together and with complementary activities. Where a low carbon energy recovery facility is considered as an appropriate type of development, waste planning authorities should consider the suitable siting of such facilities to enable the utilisation of the heat produced as an energy source in close proximity to suitable potential heat customers</i>; and – <i>Give priority to the re-use of previously-developed land, sites identified for employment uses, and redundant agricultural and forestry buildings and their curtilages.</i>”

National Planning Policy Framework (NPPF) (2019)

A revised and updated National Planning Policy Framework (NPPF) (Ref. 37) was published in February 2019. This sets out the Government's planning policies for England and is a material consideration when preparing plans (including waste local plans).

With regard to Local Plan preparation, Paragraph 31 of the NPPF states that “the preparation and review of all policies should be underpinned by relevant and up-to-date evidence. This should be adequate and proportionate, focused tightly on supporting and justifying the policies concerned, and take into account relevant market signals”. Paragraph 35 of the NPPF outlines the criteria against which Local Plans are assessed. Plans are ‘sound’ if they meet the following requirements:

- **“Positively prepared** – providing a strategy which, as a minimum, seeks to meet the area’s objectively assessed needs; and is informed by agreements with other authorities, so that unmet need from neighbouring areas is accommodated where it is practical to do so and is consistent with achieving sustainable development;
- **Justified** – an appropriate strategy, taking into account the reasonable alternatives, and based on proportionate evidence;
- **Effective** – deliverable over the plan period, and based on effective joint working on cross-boundary strategic matters that have been dealt with rather than deferred, as evidenced by the statement of common ground; and
- **Consistent with national policy** – enabling the delivery of sustainable development in accordance with the policies in this Framework.”

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

The NPPF sets out the government’s planning policies for England for a wide range of topics including housing, business, economic development, transport and the natural environment. The National Planning Practice Guidance (NPPG) adds further context to the NPPF, is web-based and is updated whenever guidance is updated/amended. It is intended that the NPPF and NPPG are read together.

The NPPG: Waste (Ref. 38) was published in October 2015, and the relevant paragraphs of the NPPG are provided in Table 38.

Table 38. Relevant paragraphs of NPPG: Waste

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

Build Back Better: our plan for growth (2021)

“Build Back Better: our plan for growth” (Ref. 39), published in 2021, sets out the government’s approach to re-building the economy following the COVID-19 pandemic. The plan aims to tackle long-term problems whilst supporting the transition to net zero by following three core pillars of growth: infrastructure, skills and innovation.

The plan aims to prioritise the natural environment, using the Green Recovery Challenge Fund to support green jobs and nature recovery, and progressing major waste reforms which will drive investment in a more circular economy.

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

“Our Waste, Our Resources: A Strategy for England” (Ref. 40), published in December 2018, sets out how the Government plans to double resource productivity and eliminate avoidable waste of all kinds, including plastic waste, by 2050. It builds on the government’s earlier policy document “A Green Future: Our 25 Year Plan to Improve the Environment” (January 2018) (Ref. 41). The Strategy outlines how England will:

- “preserve our stock of material resources by minimising waste, promoting resource efficiency and moving towards a circular economy;
- minimise the damage caused to our natural environment by reducing and managing waste safely and carefully; and
- deal with waste crime.”

The Strategy aims to prolong the lives of the materials and goods, moving away from the inefficient ‘linear’ economic model of ‘take, make, use, throw’ and moving towards a more circular economy. The Strategy commits to the following policy instruments:

Extended Producer Responsibility

- Extended Producer Responsibility (EPR) is “a policy approach through which a producer’s responsibility for a product is extended to the post-use stage. This incentivises producers to design their products to make it easier for them to be reused, dismantled and/or recycled at end of life”.

Deposit Return Scheme

- In a Deposit Return Scheme (DRS), a small deposit is added to the price of a drinks container brought to a store. Once the container has been used, the consumer disposes of it in a reverse vending machine and the deposit is returned to the consumer.

Consistent Collections

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

As of May 2021, these policy instruments are under consultation and (subject to proposals) will be rolled out from 2023.

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

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

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

Waste Management Plan for England (2021)

The Waste Management Plan (WMP) for England (2021) (Ref. 42) (which supersedes the Waste Management Plan for England (2013)) was formally adopted on 27 January 2021.

The WMP is a high level document which provides an analysis of waste management in England, bringing current and planned waste management policies together into one place. The WMP also sets out how it will support the implementation of the objectives and provisions of the Waste (England and Wales) Regulations (2011) (Ref. 43). Whilst Our Waste, Our Resources: A Strategy for England (2018) outlines the vision of a more circular economy and policies to support the move towards it, the Waste Management Plan for England (2021) focuses upon waste arisings and their management.

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

- Clean Growth Strategy (2017) (Ref. 44).
- Industrial Strategy (2017) (now archived).

- Litter Strategy (2017) (Ref. 45).
- UK Plan for Shipments of Wastes (2012) (Ref. 46).
- National Policy Statements for Hazardous Waste (2013) (Ref. 47) and for Renewable Energy Infrastructure (2011) (Ref. 48) (in so far as it relates to energy from waste (EfW)).

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

Nottinghamshire and Nottingham Policy

There can be considerable impacts to both human health and the health of the environment if waste is not managed properly. In order to manage waste sustainably, it is important to have the right infrastructure in place – this is the role of the waste planning authority (WPA). Nottinghamshire County Council and Nottingham City Council (both WPAs) have chosen to work together to create local waste planning policies to help guide the provision of essential waste management infrastructure in the future.

Nottinghamshire County Council and Nottingham City Council are working on preparing a new Joint Waste Local Plan to replace both the 2002 Waste Local Plan and the Waste Core Strategy. The new Waste Local Plan will provide the future planning strategy for waste management in Nottinghamshire and Nottingham until 2038 and will aim to provide sufficient waste management capacity to meet future needs. It will also provide key policies against which future waste development will be assessed.

Nottinghamshire and Nottingham Waste Local Plan (2002)

The original Waste Local Plan (Ref. 49) was adopted in January 2002. It was partially replaced by the Waste Core Strategy Part 1 in December 2013. Both of these documents will be replaced by a new joint Waste Local Plan (currently being prepared).

The Waste Local Plan sets out the policy framework to be adhered to when considering future waste management proposals, and also identifies possible future sites suitable for the development of new waste management facilities. The main role of the Waste Local Plan is to provide a starting point for the assessment and determination of waste management planning applications.

Waste Core Strategy (Part 1) – Nottinghamshire and Nottingham Replacement Waste Local Plan (2013)

The Waste Core Strategy (Ref. 50) (adopted in December 2013) prepared by Nottinghamshire County Council and Nottingham City Council, provides a plan on how waste produced by Nottingham and Nottinghamshire will be managed up until 2031. The Waste Core Strategy is the first part of the replacement Waste Local Plan (being prepared in two parts). Part 2 of the replacement Waste Local Plan will allocate specific sites for waste management use and will provide a set of more detailed development management policies to help safeguard our environment and way of life.

The Waste Core Strategy sets out the following vision:

“By 2031 Nottinghamshire and Nottingham’s communities, businesses and local authorities will be taking responsibility for managing their waste locally and sustainably. Together we will be producing less waste than at the start of the plan period, re-using more and striving to exceed national recycling targets. We will then look to recover the maximum value from any leftover waste in terms of materials or energy. Disposal will be the last resort once all other options have been exhausted. We will be supported by an ambitious and innovative waste industry that values waste as a resource and there will be sufficient waste management capacity to deal with the amount of waste generated in Nottinghamshire and Nottingham.

The geographical spread of our waste management facilities will be closely linked to our concentrations of population, with large facilities around the Nottingham urban area, Mansfield and Ashfield and medium sized facilities close to Worksop, Retford and Newark in order to minimise the impact of transporting waste. Resource recovery parks will make use of excellent transport links to serve a wide area and will be part of wider development supporting green energy or other sustainable technologies. Rural communities will benefit from small scale community led schemes and farm based initiatives to provide local recycling facilities but this will not compromise the protection of our Green Belt.

All waste-related development will protect, and where possible, enhance our environment, wildlife, landscape and heritage. Individual developments and our overall approach to waste management will successfully manage the possible impacts of climate change. The quality of life and health of those living and working in, or visiting, Nottinghamshire and Nottingham will be protected.”

The policies in the Waste Core Strategy relevant to this assessment are described in Table 39.

Table 39. Relevant policies provided within the Waste Core Strategy

Policy	Description
Policy WCS3 - Future waste management provision	States that <i>“The Waste Core Strategy will aim to provide sufficient waste management capacity for its needs; to manage a broadly equivalent amount of waste to that produced within Nottinghamshire and Nottingham.”</i> In addition, this policy sets out the aim for Nottingham and Nottinghamshire to achieve 70% recycling or composting of all waste by 2025.
Policy WCS5 - Disposal sites for hazardous, non-hazardous and inert waste	States that <i>“Where it is shown that additional non-hazardous or inert landfill capacity is necessary, priority will be given to sites within the main shortfall areas around Nottingham, and Mansfield/Ashfield. Development outside this area will be supported where it can be shown that there is no reasonable, closer, alternative.”</i>
Policy WCS10 - Safeguarding waste management sites	States that <i>“The following sites will be safeguarded for waste management facilities:</i> <ul style="list-style-type: none"> <i>a. Existing authorised waste management facilities including potential extensions and sites which have a valid planning permission that has not yet been implemented; or</i> <i>b. Sites allocated in the Site Allocations Document.</i> <i>Safeguarding will only apply to the above identified sites and any land immediately adjacent to the site where a need to safeguard has been clearly demonstrated.”</i>

Nottinghamshire and Nottingham New Draft Waste Local Plan – Consultation on Issues and Options (2020)

Nottinghamshire County Council and Nottingham City Council are working on preparing a new Joint Waste Local Plan to replace both the 2002 Waste Local Plan and the Waste Core Strategy. The new Waste Local Plan will provide the future planning strategy for waste management in Nottinghamshire and Nottingham until 2038 and will aim to provide sufficient capacity to meet future needs. It will also provide key policies against which future waste development will be assessed.

So far, the first stage of the review has been completed, with a consultation on the Waste Local Plan Issues and Options (Ref. 51). Alongside the consultation, a ‘call for sites’ was released by the councils to give the opportunity for landowners and developers to submit land which they believe is suitable for the future development of new waste management facilities.

The new updated draft vision for the new Waste Local Plan is as follows:

“Our vision is for the Plan area to be sustainable in waste management, by encouraging businesses and communities to see the value of waste as a resource and take responsibility for their own waste by managing waste locally wherever possible.

To promote a modern and effective waste management industry, protect Nottinghamshire’s and Nottingham’s environment, wildlife and heritage and minimise the effects of climate change.

To protect the quality of life of those living, visiting and working in the area and to avoid any risks to human health. Stress the importance of the waste hierarchy and the circular economy to prevent and re-use waste as a resource wherever possible and meet, and preferably exceed recycling rates for Nottinghamshire and Nottingham.”

The draft vision will be achieved using seven draft strategic objectives, these have been listed within Table 40.

Table 40. Draft Strategic Objectives for the new Waste Local Plan

Strategic Objective	Description
Objective 1: Climate Change	Encourage the efficient use of natural resources by promoting waste as a resource, limit further impacts by avoiding damage to air quality, water or soil, reduce the need to transport waste and accept that some change is inevitable and manage this by making sure that all new waste facilities are designed and located to withstand the likely impacts of flooding, higher temperatures and more frequent storms.
Objective 2: Strengthen our Economy	Promote a diverse local economy that treats waste as a resource, minimising waste production and maximising the re-use, recycling and recovery of waste by making the most of the opportunities for businesses, communities and local authorities to work together. Encourage investment in new and innovative waste management technologies and learn from best practice.
Objective 3: The Environment	To ensure any new waste facilities protect the countryside, wildlife and valuable habitats, by protecting water, soil and air quality across the plan area and to care for the built and natural heritage of the area.

Strategic Objective	Description
Objective 4: Community, Health and Wellbeing	To ensure any new waste facilities do not adversely impact on local amenities and quality of life from impacts such as dust, traffic, noise, odour and visual impact and address local health concerns.
Objective 5: Meet our Future Needs	Ensuring that there is a mix of site types, sizes and locations to help us manage waste sustainably wherever possible. Meet current and future targets for recycling our waste. Safeguarding existing and/or potential future sites where appropriate. Locate new waste facilities to support new residential, commercial and industrial development across the plan area.
Objective 6: High Quality Design and Operation	Ensure that all facilities are designed and operated to the highest standards. Improve the understanding, acceptance and appearance of waste management facilities which are an essential part of our infrastructure.
Objective 7: Sustainable Transport	Encourage alternatives to road such as water and rail where practical, locate sites close to sources of waste and/or end-markets to reduce transport distances and make use of exiting transport links to minimise the impacts of new development.

Nottinghamshire Preliminary Waste Needs Assessment (2020)

The new Waste Local Plan will need to make assumptions about how much waste is likely to be generated over the plan period (i.e. until 2038), in order to ensure there is enough waste management capacity to meet likely future needs. The purpose of the Preliminary Waste Needs Assessment (Ref. 52) is to set out the estimated current waste arisings within the plan area, the existing waste management capacity and the future amount of waste likely to be generated over the plan period.

The Preliminary Waste Needs Assessment only contains high-level predictions on the future waste management capacity. Appropriate forecasting scenarios and the proportion of waste to be recycled, recovered and disposed of were still to be consulted on. Further analysis of current and future waste arisings and waste management capacity have been provided in this Waste Needs Assessment.

Appendix C Detailed Methodology

LACW

Current Waste Arisings

1. The current waste arisings for LACW were extracted from WasteDataFlow (WDF).
2. WasteDataFlow parameter 'Total Municipal Solid Waste (MSW)' has been used as an indicator for LACW.

Forecasting Waste Arisings

Step 1: Calculate waste arisings per household

1. Information on the number of households in the plan area between 2007 and 2019 has been extracted from WasteDataFlow.
2. The total waste from households was divided by the number of households to calculate the waste arisings per household.

Step 2: Identify growth profiles

3. The historic trends in waste per household in the plan area have been used to produce three forecasting scenarios, these have been combined with household projections provided by Nottinghamshire County Council and Nottingham City Council.
4. For **scenario 1**, the amount of waste per household is decreasing each year by the average annual quantity decrease between 2007 and 2019 (calculated by working out the difference in waste per household in 2009 and 2019 and dividing by the number of years).
5. For **Scenario 2**, the amount of waste per household is decreasing each year by the average annual quantity decrease between 2008 and 2019.
6. For **Scenario 3** it is assumed that the amount of waste per household stays the same as the most recent waste per household value (i.e. 2019). A linear growth rate has been assumed for all scenarios.
7. For each year (and for each scenario), the forecasted waste per household is multiplied by the number of households estimated for that year to get the total LACW waste arisings. This methodology has been carried out separately for Nottingham and Nottinghamshire, and the values have been added together to get the total.
8. Due to the number of variables, it is impractical to forecast non-household waste collected by local authorities. In addition, it can be seen that LACW waste not from households has remained fairly stable between 2007 and 2019. Therefore, it has been assumed that there will be no change in the most recent non-household LACW generation rate (2019 has been taken as the baseline).

C&I Waste

Current Waste Arisings

1. Current C&I waste arisings have been calculated by adapting the Defra 'Reconcile' methodology for use at the WPA level. The 'Reconcile' methodology can be summarised as the following equation:

$$\begin{aligned} \text{C\&I Waste} = & \sum (\text{waste received by permitted facilities} \\ & + \text{waste received by incineration facilities} \\ & + \text{waste received by exempt facilities}) \\ & - (\text{LACW} + \text{CD\&E waste} + \text{hazardous waste} \\ & + \text{agricultural waste} + \text{mining waste} \\ & + \text{waste received by transfer facilities}) \end{aligned}$$

Step 1: Identify waste received by permitted facilities

2. The Environment Agency (EA) Waste Data Interrogator (WDI) (Waste Received tab) (versions 2019 to 2010) has been used to extract waste received by facilities where the waste has an origin of Nottinghamshire or Nottingham.
3. To extract C&I (and LACW) arisings, the data was filtered to exclude Basic Waste Category: Hazardous, and EWC codes: Chapter 01 (mining waste), 02 01 (agricultural waste), Chapter 17, 19 12 09 and 20 02 02 (CD&E waste).
4. To avoid double counting the waste arising at transfer stations and the waste arising at end treatment/disposal destinations, the waste received by transfer stations has been excluded by filtering the data to exclude Site Category: Transfer.
5. Previous to 2019, Processing facilities, Storage facilities and Mobile Plants were not included within the EA WDI, therefore for consistency these have been excluded when calculating waste arisings in 2019.

Step 2: Identify waste received by incineration facilities

6. Waste returns for incineration facilities are not included in the EA WDI prior to 2019. To understand the amount of waste received by incineration facilities, the EA Incinerator Waste Returns (Waste Received tab) has been used to extract waste received by incineration facilities where the waste has an origin of Nottinghamshire or Nottingham.
7. To identify C&I waste received by incineration facilities, the data was filtered to exclude EWC codes: Chapter 01 (mining waste), 02 01 (agricultural waste), Chapter 17, 19 12 09 and 20 02 02 (CD&E waste). Waste received by hazardous waste incinerators was also excluded.
8. Incinerator Waste Returns datasets are only available for years 2018, 2017 and 2016. An analysis of the Incinerator Waste Returns datasets and the Waste Management in England 2019 data table (Ref. 53) indicated that, overall, approximately the same amount of waste was received annually by each plant found to receive waste with an origin of the plan area in 2018, 2017 and 2016. The amount of waste likely to have been received by incineration facilities prior to 2016 has therefore been estimated to be an

average of the waste received by incineration facilities (with an origin of the plan area) in 2018, 2017 and 2016.

Step 3: Identify waste received by exempt facilities

9. The 2014 'Reconcile' methodology considers waste received by exempt sites. There has since been a revision to the 'Reconcile' methodology (Ref. 54), which updates the methodology to exclude waste received by exempt facilities on the basis that there is considerable uncertainty when estimating the amount of waste received by each exempt site. Also taken into account is the purpose of a waste needs assessment to assess the need for additional planned waste management capacity; it is unlikely that waste managed by exempt sites will require planned provision in the future.
10. It is acknowledged that waste received by exempt sites may add to the total C&I waste arisings, but it has not been taken into consideration for the purposes of this assessment.

Step 4: Remove LACW arisings

11. To extract the current C&I waste arisings, LACW arisings (identified using WDF) has been subtracted from the waste received by permitted facilities and the waste received by incineration facilities (calculated in Step 1 and Step 2).

Forecasted Waste Arisings

1. The Nottingham Employment Lands Needs Study reports the estimated impact of the pandemic on employment within Nottingham and Nottinghamshire. It is forecasted that there will be a further fall in jobs in 2021, before a protracted recovery which will see employment levels return to pre-COVID 19 levels by 2024. In light of this information, employment (and therefore C&I waste generation rates) have been assumed to remain at current levels from 2018 to 2024, after 2024 the proposed growth rate will be applied.

Step 1: Remove 10 01 waste (waste from coal-fired power stations)

2. The large decline in C&I waste arisings after 2014 is anticipated to be caused by a decline in coal-fired power station wastes, caused by a shift from coal-fired power stations towards more renewable energy sources. There is a requirement by the UK government to close remaining coal-fired power stations by 2025, therefore coal-fired power station wastes (identified as waste with an EWC code of 10 01) have been removed from the baseline C&I waste arisings used for C&I waste forecasting.

Step 2: Calculate waste per employee

3. The waste per employee has been calculated by dividing the total C&I waste arisings in 2019 by the number of employees in 2019 (sourced from the Business Register and Employment Survey (Ref. 55)).
4. The number of employees has been forecast using the predicted quantity change rate (annual increase in the number of employees – calculated as the difference between the number of employees in 2024 and the predicted number of employees in 2038 divided by the number of years the change is over) found within the Nottingham Employment Land Needs study (with the assumption that the number of employees will stay that same from 2018 until 2024).

5. The Nottingham Employment Land Needs Study only includes projections for six of the Nottinghamshire local authorities (excludes Bassetlaw) and includes Erewash instead (located in Derbyshire). As Bassetlaw is a comparable size (both geographically and in population) to Newark and Sherwood, to calculate employment projections, the same employment projection for Newark and Sherwood has been applied to Bassetlaw.

Step 3: Identify growth profiles

6. For **Scenario 1** it is assumed that the amount of C&I waste stays the same as the most recent value for C&I waste (i.e. 2019) as a baseline 'business as usual' scenario.
7. For **Scenario 2**, the amount of waste per employee is decreasing annually by a set quantity (calculated applying the following assumption '5% decline per employee from 2009 to 2031' to the waste per employee in 2019).
8. **Scenario 3** assumes that the waste per employee will remain the same as 2019.
9. For each year (and for each scenario), the waste per employee is multiplied by the number of employees estimated for that year to get the total C&I waste arisings.

CD&E Waste

Current Waste Arisings

1. Current CD&E waste arisings have been calculated by adapting the 'Methodology for estimating annual waste generation from the Construction, Demolition and Excavation (CD&E) Sectors in England' used by Defra to the WPA level. The Defra methodology can be summarised as the following equation:

$$\begin{aligned}
 CD\&E\ Waste = & \sum (waste\ received\ by\ permitted\ facilities \\
 & + waste\ received\ by\ incineration\ facilities \\
 & + waste\ received\ by\ exempt\ facilities \\
 & + recycled\ aggregate) \\
 & - (waste\ received\ by\ transfer\ facilities)
 \end{aligned}$$

Step 1: Identify CD&E waste received by permitted facilities

2. The EA WDI (Waste Received tab) (versions 2019 to 2010) has been used to extract waste received by facilities where the waste has an origin of Nottinghamshire or Nottingham.
3. To extract CD&E waste arisings, the data was filtered to only include EWC codes: Chapter 17, 19 12 09 and 20 02 02 (CD&E waste). The data was also filtered to exclude Basic Waste Category: Hazardous.
4. To avoid double counting the waste arising at transfer stations and the waste arising at end treatment/disposal destinations, the waste received by transfer stations has been excluded by filtering the data to exclude Site Category: Transfer.
5. Previous to 2019, Processing facilities, Storage facilities and Mobile Plants were not included within the EA WDI, therefore for consistency these have been excluded when calculating waste arisings in 2019.

6. In addition to the waste arisings calculated above, 50% of the 'WPA not codeable (East Midlands)' waste received by Vale Road Quarry (located in Nottinghamshire) has also been included within the CD&E waste arisings. The Vale Road Quarry landfill site sits close to the border between Nottinghamshire and Derbyshire. Although for some years the waste received by this site has been reported with an origin (either Nottinghamshire or Derbyshire), there are also years where the waste origin is reported as 'not codeable' (but a proportion of the waste is likely to have originated within the plan area). A reasonable estimate of 50% of this 'not codeable' waste is assumed to originate from the plan area.

Step 2: Identify CD&E waste received by incineration facilities

7. As with the methodology for current C&I waste arisings, to understand the amount of CD&E waste received by incineration facilities, the EA Incinerator Waste Returns (Waste Received tab) has been used to extract waste received by incineration facilities where the waste has an origin of Nottinghamshire or Nottingham.
8. To identify CD&E waste received by incineration facilities, the data was filtered to only include EWC codes: Chapter 17, 19 12 09 and 20 02 02 (CD&E waste). Waste received by hazardous waste incinerators was also excluded.
9. Although only a small proportion of CD&E waste generated by the plan area was received by incineration facilities (under 25 tonnes per annum), it is worth noting that there may be occurrences where CD&E waste has been sent to other permitted facilities for treatment first and then sent on to incineration facilities and received as waste with a Chapter 19 code (waste and water treatment wastes). As this waste has already been received by a permitted facility, this has not been included to avoid double-counting

Step 3: Identify recycled aggregate production

10. Information on the quantity of waste considered suitable for recycled aggregates has been extracted from the most recent Nottinghamshire and Nottingham Local Aggregates Assessment (Dec 2019) (Ref. 56). No data on recycled aggregates was provided for the year 2019, so it has been assumed that the amount of recycled aggregates in 2019 will be the same as 2018. Information on recycled aggregates is presented within the Nottinghamshire and Nottingham Local Aggregates Assessment as "*Throughputs of inert waste considered suitable for recycled aggregates at permitted recycling and transfer facilities*". As CD&E waste received by permitted facilities has already been considered when calculating the CD&E waste arisings, recycled aggregate has been excluded from the CD&E waste arisings and a separate commentary has been provided, in order to avoid double counting.

Step 4: Identify waste received by exempt facilities

11. It is understood that most CD&E waste will be managed by U1 exemptions (Use of Waste in Construction), so only U1 exemptions have been considered in this section. A list of exempt sites located within the plan area has been extracted from the EA Waste Exemptions dataset and has been confirmed by the EA. As there are no requirements to report on the amount of waste managed under exemptions, 600 tonnes of waste have been estimated to be managed at each U1 exempt site (Ref. 57). There is

considerable uncertainty when estimating the amount of CD&E waste received by each exempt site. In addition, the purpose of a waste needs assessment is to assess the need for additional planned waste management capacity; it is unlikely that waste managed by exempt sites will require planned provision in the future. Therefore, as with recycled aggregate, waste received by exempt sites has been excluded from the CD&E waste arisings and a separate commentary has been provided.

Forecasted Waste Arisings

Step 1: Identify any major construction projects scheduled during the plan period

1. It is not expected that any construction projects scheduled over the plan period will significantly affect future CD&E waste arisings.

Step 2: Identify growth profiles

2. The baseline scenario recommended by the NPPG has been applied which assumes the current level of CD&E waste arisings will remain constant in the future (the most recent value for CD&E waste (i.e. 2019) has been taken as a baseline).

Hazardous Waste

Current Waste Arisings

Step 1: Identify waste received by permitted facilities

1. The EA Hazardous WDI provides a summary of hazardous waste movements using information provided by a hazardous waste consignment note. The EA Hazardous WDI (Waste Received tab) (versions 2019 to 2010) has been used to extract waste received by facilities where the waste has an origin of Nottinghamshire or Nottingham.
2. To avoid double counting the waste arising at transfer stations and the waste arising at end treatment/disposal destinations, the waste received by transfer stations has been excluded by filtering the data to exclude facilities listed in the EA Hazardous WDI as Transfer (D) and Transfer (R).
3. Previous to 2019, Processing facilities, Storage facilities and Mobile Plants were not included within the EA WDI, therefore for consistency these have been excluded when calculating waste arisings in 2019.

Step 2: Identify waste received by exempt facilities

4. There is considerable uncertainty when estimating the amount of hazardous waste received by each exempt site. Also taken into account is the purpose of a waste needs assessment to assess the need for additional planned waste management capacity; it is unlikely that waste managed by exempt sites will require planned provision in the future.
5. It is acknowledged that waste received by exempt sites may add to the total hazardous waste arisings, but it has not been taken into consideration for the purposes of this assessment.

Forecasted Waste Arisings

6. As recommended by the NPPG, hazardous waste has been forecast by extrapolating hazardous waste generated in Nottingham and Nottinghamshire over the past ten years.

Agricultural Waste Arisings

Current Waste Arisings

Step 1: Identify waste received by permitted facilities

1. The EA WDI (Waste Received tab) (versions 2019 to 2010) has been used to extract waste received by facilities where the waste has an origin of Nottinghamshire or Nottingham.
2. To extract agricultural waste arisings, the data was filtered to only include EWC codes: 02 01 (agricultural waste). The data was also filtered to exclude Basic Waste Category: Hazardous.
3. To avoid double counting the waste arising at transfer stations and the waste arising at end treatment/disposal destinations, the waste received by transfer stations has been excluded by filtering the data to exclude Site Category: Transfer.
4. Previous to 2019, Processing facilities, Storage facilities and Mobile Plants were not included within the EA WDI, therefore for consistency these have been excluded when calculating waste arisings in 2019.

Step 2: Identify waste received by exempt facilities

5. There is considerable uncertainty when estimating the amount of agricultural waste received by each exempt site. Also taken into account is the purpose of a waste needs assessment to assess the need for additional planned waste management capacity; it is unlikely that waste managed by exempt sites will require planned provision in the future.
6. It is acknowledged that waste received by exempt sites may add to the total agricultural waste arisings, but it has not been taken into consideration for the purposes of this assessment.

Mining Waste Arisings

Current Waste Arisings

Step 1: Identify waste received by permitted facilities

1. The EA WDI (Waste Received tab) (versions 2019 to 2010) has been used to extract waste received by facilities where the waste has an origin of Nottinghamshire or Nottingham.
2. To extract mining waste arisings, the data was filtered to only include EWC codes: Chapter 01 (mining waste). The data was also filtered to exclude Basic Waste Category: Hazardous.
3. To avoid double counting the waste arising at transfer stations and the waste arising at end treatment/disposal destinations, the waste received by transfer stations has been excluded by filtering the data to exclude Site Category: Transfer.

4. Previous to 2019, Processing facilities, Storage facilities and Mobile Plants were not included within the EA WDI, therefore for consistency these have been excluded when calculating waste arisings in 2019.

Step 2: Identify waste received by exempt facilities

5. There is considerable uncertainty when estimating the amount of mining waste received by each exempt site. Also taken into account is the purpose of a waste needs assessment to assess the need for additional planned waste management capacity; it is unlikely that waste managed by exempt sites will require planned provision in the future.
6. It is acknowledged that waste received by exempt sites may add to the total mining waste arisings, but it has not been taken into consideration for the purposes of this assessment.

Appendix D Recycling Scenario Charts

Table 41. Recycling Scenarios (2038) Displayed in Pie Charts

Waste Stream	Low Recycling Scenario	Medium Recycling Scenario	High Recycling Scenario
LACW	<p>Recycled/Composted 39%</p> <p>Recovery 51%</p> <p>Landfill 10%</p>	<p>Recycled/Composted 55%</p> <p>Recovery 35%</p> <p>Landfill 10%</p>	<p>Recycled/Composted 65%</p> <p>Recovery 25%</p> <p>Landfill 10%</p>
C&I Waste	<p>Recycled/Composted 70%</p> <p>Recovery 20%</p> <p>Landfill 10%</p>	<p>Recycled/Composted 75%</p> <p>Recovery 15%</p> <p>Landfill 10%</p>	<p>Recycled/Composted 80%</p> <p>Recovery 10%</p> <p>Landfill 10%</p>
CD&E Waste	<p>Recycled/Composted 83%</p> <p>Landfill 17%</p>	<p>Recycled/Composted 90%</p> <p>Landfill 10%</p>	<p>Recycled/Composted 95%</p> <p>Landfill 5%</p>

Appendix E Full Results Tables

Table 42. Forecasted LACW Arisings (tonnes), 2019 – 2038

Area	Scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Nottingham City Council	1	163,678	163,091	162,464	161,797	161,088	160,339	159,548	158,717	157,845	156,933	155,979	154,985	153,950	152,874	151,758	150,600	149,402	148,163	146,883	145,563
	2	163,678	164,003	164,308	164,592	164,855	165,098	165,320	165,521	165,702	165,862	166,001	166,119	166,217	166,294	166,351	166,386	166,401	166,396	166,369	166,322
	3	163,678	164,942	166,207	167,471	168,736	170,000	171,264	172,529	173,793	175,058	176,322	177,587	178,851	180,116	181,380	182,645	183,909	185,174	186,438	187,703
Nottinghamshire County Council	1	413,169	409,355	405,430	401,394	397,248	392,990	388,622	384,143	379,554	374,853	370,042	365,120	360,087	354,944	349,689	344,324	338,848	333,261	327,563	321,755
	2	413,169	413,866	414,525	415,146	415,728	416,273	416,779	417,246	417,676	418,067	418,420	418,735	419,011	419,249	419,449	419,610	419,734	419,819	419,865	419,874
	3	413,169	416,247	419,325	422,404	425,482	428,560	431,639	434,717	437,796	440,874	443,952	447,031	450,109	453,187	456,266	459,344	462,422	465,501	468,579	471,658
Total (Plan Area)	1	576,846	572,446	567,894	563,191	558,336	553,329	548,171	542,861	537,399	531,786	526,021	520,105	514,037	507,818	501,447	494,924	488,250	481,424	474,446	467,317
	2	576,846	577,869	578,833	579,738	580,584	581,371	582,099	582,768	583,378	583,929	584,421	584,854	585,228	585,543	585,799	585,997	586,135	586,214	586,234	586,196
	3	576,846	581,189	585,532	589,875	594,218	598,560	602,903	607,246	611,589	615,932	620,275	624,617	628,960	633,303	637,646	641,989	646,332	650,674	655,017	659,360

Table 43. Forecasted C&I Waste Arisings (tonnes), 2019 – 2038

Area	Scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Nottingham City Council	1	338,831	338,831	338,831	338,831	338,831	338,831	338,831	338,831	338,831	338,831	338,831	338,831	338,831	338,831	338,831	338,831	338,831	338,831	338,831	338,831
	2	338,831	338,831	338,831	338,831	338,831	338,831	342,106	345,362	348,600	351,820	355,021	358,204	361,368	364,514	367,642	370,751	373,841	376,913	379,967	383,003
	3	338,831	338,831	338,831	338,831	338,831	338,831	342,885	346,939	350,994	355,048	359,102	363,156	367,210	371,264	375,319	379,373	383,427	387,481	391,535	395,590
Nottinghamshire County Council	1	563,894	563,894	563,894	563,894	563,894	563,894	563,894	563,894	563,894	563,894	563,894	563,894	563,894	563,894	563,894	563,894	563,894	563,894	563,894	563,894
	2	563,894	563,894	563,894	563,894	563,894	563,894	566,991	570,067	573,124	576,160	579,177	582,174	585,150	588,107	591,044	593,961	596,858	599,735	602,592	605,429
	3	563,894	563,894	563,894	563,894	563,894	563,894	568,282	572,670	577,058	581,446	585,834	590,222	594,610	598,998	603,386	607,774	612,162	616,550	620,937	625,325
Total (Plan Area)	1	902,726	902,726	902,726																	
	2	902,726	902,726	902,726	902,726	902,726	902,726	909,097	915,430	921,724	927,980	934,198	940,377	946,519	952,621	958,685	964,711	970,699	976,648	982,559	988,431
	3	902,726	902,726	902,726	902,726	902,726	902,726	911,168	919,610	928,052	936,494	944,936	953,378	961,820	970,262	978,704	987,146	995,589	1,004,031	1,012,473	1,020,915

Table 44. Forecasted CD&E Waste Arisings (tonnes), 2019 – 2038

Area	Scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Total (Plan Area)	1	1,186,023																			

Table 45. Forecasted Hazardous Waste Arisings (tonnes), 2019 - 2038

Area	Scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Total (Plan Area)	1	48,414	48,124	47,833	47,543	47,252	46,962	46,671	46,381	46,091	45,800	45,510	45,219	44,929	44,638	44,348	44,057	43,767	43,477	43,186	42,896

For the purposes of forecasting, the Plan Area (Nottingham City and Nottinghamshire County Council) has been used as a total to baseline from. This is because hazardous waste represents a smaller quantity of waste overall, and so for the purpose of planning future hazardous waste management need, a regional approach including the city has been taken to allow for the economies of scale associated with hazardous waste planning.

Appendix F List of Permitted Waste Management Facilities

Each waste management site has been classified using its Site Type and Facility Type (as stated within the EA WDI), a full list of classifications is shown in the table below.

Table 46. Assumptions for Classification of Facility Types

Site Type (WDI)	Facility Type (WDI)	Our Classification
Incineration	EfW Incinerator	Energy Recovery
Incineration	Municipal Waste Incinerator	Energy Recovery
Incineration	Animal By-Products Incinerator	Energy Recovery
Landfill	Non-Hazardous Landfill	Landfill
Landfill	Inert Landfill	Landfill
MRS	Metal Recycling	Recycling
MRS	Car Breaker	Recycling
MRS	Vehicle depollution facility	Recycling
On/In Land	Deposit of waste to land (recovery)	Other Recovery
Storage	Storage – Anaerobic Digestion	Storage
Storage	Temporary Storage Installation	Storage
Transfer	Civic Amenity Site	Transfer
Transfer	Clinical Waste Transfer / Treatment	Transfer
Transfer	Hazardous Waste Transfer	Transfer
Transfer	Inert Waste Transfer	Transfer
Transfer	Non-Hazardous Waste Transfer / Treatment	Transfer
Treatment	Anaerobic Digestion	Anaerobic Digestion
Treatment	Composting	Composting
Treatment	Biological Treatment	Biological Treatment
Treatment	Hazardous Waste Transfer / Treatment	Recycling
Treatment	Inert Waste Transfer / Treatment	Recycling
Treatment	Material Recycling Facility	Recycling
Treatment	Non-Hazardous Waste Transfer / Treatment	Recycling
Treatment	Physical Treatment	Recycling
Treatment	Physical-Chemical Treatment	Recycling

Site Type (WDI)	Facility Type (WDI)	Our Classification
Treatment	Recovery of Waste	Recycling

Table 47. Full List of Permitted Waste Management Facilities by Facility Type

Site Name	Operator	Facility Address	Post Code	Site Category (from WDI)	Facility Type (from WDI)	Waste Type	Operational Capacity (tonnes)
Bio Dynamic AD Plant EPR/DP3935ER	Bio Dynamic (UK) Limited	Bio Dynamic (UK) AD Plant, Private Road 4, Colwick Industrial Estate, Nottinghamshire, NG4 2JT	NG4 2JT	Treatment	Anaerobic Digestion	Hhold/Ind/Com	18,414
						Hazardous	2
Land Off Works Lane	Merrivale Farms Limited	Land Off Works Lane, Works Lane, Barnstone, Nottinghamshire, NG13 9JN	NG13 9JN	Treatment	Anaerobic Digestion	Hhold/Ind/Com	2,115
Retford Anaerobic Digestion Facility EPR/TP3236NK	Sutton Grange AD Limited	Sutton Grange, Sutton-Cum-Lound, Nottinghamshire, DN22 8SB	DN22 8SB	Treatment	Anaerobic Digestion	Hhold/Ind/Com	21,696
Stoke Bardolph Sewage Treatment Works - EPR/ZP3898EL	Severn Trent Water Limited	Stoke Bardolph Sewage Treatment Works, Stoke Lane, Burton Joyce, Nottinghamshire, NG14 5HL	NG14 5HL	Treatment	Anaerobic Digestion	Hhold/Ind/Com	320,063
						Hazardous	664
Stragglethorpe A D Plant	Stragglethorpe Energy Limited	Stragglethorpe Grainstore, Nottingham Road, Cropwell Bishop, Nottinghamshire, NG12 3BA	NG12 3BA	Treatment	Anaerobic digestion	Hhold/Ind/Com	2,425
Anaerobic digestion Total							365,380
Bilsthorpe H W R C	Veolia E S Nottinghamshire Ltd	Bilsthorpe H W R C, Brailwood Road, Bilsthorpe, Newark, Nottinghamshire, NG22 8UA	NG22 8UA	Transfer	CA Site	Hhold/Ind/Com	4,162
						Inert/C+D	1,369
						Hazardous	143
Calverton Household Waste Recycling Centre	Veolia E S Nottinghamshire Ltd	Calverton H W R C, Hollinwood Lane, Calverton, Nottingham, Nottinghamshire, NG14 6NR	NG14 6NR	Transfer	CA Site	Hhold/Ind/Com	8,845
						Inert/C+D	2,300
						Hazardous	379
Giltbrook Household Waste Site	Veolia E S Nottinghamshire Ltd	Gilt Hill, Kimberley, Nottingham, Nottinghamshire, NG16 2HR	NG16 2HR	Transfer	CA Site	Hhold/Ind/Com	5,333
						Inert/C+D	2,063
						Hazardous	248
Greythorne Drive Household Waste Centre	Veolia E S Nottinghamshire Ltd	Greythorne Drive H W R C, Rugby Road, West Bridgford, Nottingham, Nottinghamshire, NG2 7HX	NG2 7HX	Transfer	CA Site	Hhold/Ind/Com	7,503
						Inert/C+D	2,610
						Hazardous	345
Hucknall Household Waste Recycling Centre	Veolia E S Nottinghamshire Ltd	Hucknall H W R C, Plot 4a Wigwam Lane, Baker Brook Ind Park, Hucknall, Nottinghamshire, NG15 7SZ	NG15 7SZ	Transfer	CA Site	Hhold/Ind/Com	4,610
						Inert/C+D	1,395
						Hazardous	259
Kestral Park Household Waste & Recycling Centre	Veolia E S Nottinghamshire Ltd	Kestral Park H W R C, Kestral Park Ind Est, Kestral Road, Mansfield, Nottinghamshire, NG18 5FT	NG18 5FT	Transfer	CA Site	Hhold/Ind/Com	7,120
						Inert/C+D	2,238
						Hazardous	368
Kirkby H W C	Veolia E S Nottinghamshire Ltd	Sidings Road, Lowmoor Business Park, Kirkby In Ashfield, Nottinghamshire, NG17 7JZ	NG17 7JZ	Transfer	CA Site	Hhold/Ind/Com	5,667
						Inert/C+D	2,160

						Hazardous	307
Lenton Household Waste Recycling Centre	Enva England Limited	Lenton H W R C, Redfield Road, Lenton Ind Est, Nottingham, Nottinghamshire, NG7 2UJ	NG7 2UJ	Transfer	CA Site	Hhold/Ind/Com	10,093
Lilac Grove Household Waste Centre	Veolia E S Nottinghamshire Ltd	Lilac Grove H W C, Lilac Grove, Beeston, Nottingham, Nottinghamshire, NG9 1PF	NG9 1PF	Transfer	CA Site	Hhold/Ind/Com	6,351
						Inert/C+D	1,956
						Hazardous	350
Newark H W R C	Veolia Environmental Services Nottinghamshire Ltd	Brunel Drive, Newark, Nottinghamshire, NG24 2DE	NG24 2DE	Transfer	CA Site	Hhold/Ind/Com	9,484
						Inert/C+D	2,493
						Hazardous	380
Oakfield Lane Household Waste Centre	Veolia Environmental Services (U K) Plc	Oakfield Lane H W R C, Oakfield Lane, Warsop, Mansfield, Nottinghamshire, NG20 0JG	NG20 0JG	Transfer	CA Site	Hhold/Ind/Com	5,281
						Inert/C+D	2,210
						Hazardous	270
Retford H W R C	Veolia E S Nottinghamshire Ltd	Retford H W R C, Hallcroft Road, Retford, Nottingham, Nottinghamshire, DN22 7LB	DN22 7LB	Transfer	CA Site	Hhold/Ind/Com	5,694
						Inert/C+D	1,892
						Hazardous	232
Worksop Civic Amenity Site	Veolia E S Nottinghamshire Ltd	Land/premises At, Shireoaks Road, Worksop, Nottingham, Nottinghamshire, S80 3HA	S80 3HA	Transfer	CA Site	Hhold/Ind/Com	7,801
						Inert/C+D	2,530
						Hazardous	362
Civic Amenity Site Total							116,832
Avs Vauxhall Breakers	Stephen William Barnett	Land/premises At, Cavendish Street, Dunkirk Industrial Estate, Nottingham, Nottinghamshire, NG7 2TJ	NG7 2TJ	MRS	Car Breaker	Hhold/Ind/Com	224
						Hazardous	306
B D Motor Spares	Anthony & Norman White	Land/premises At, Harrow Lane, Boughton, Newark, Nottinghamshire, NG22 9LA	NG22 9LA	MRS	Car Breaker	Hazardous	306
French Spares	Marko Vavan	French Spares, Access Road, Ranskill, Retford, Nottinghamshire, DN22 8LW	DN22 8LW	MRS	Car Breaker	Hazardous	171
Glen Barry Metals Ltd	Glen Barry Metals Limited	The Recycling Yard, Harby Road, Langar North Trading Est, Langar, Nottinghamshire, NG13 9HP	NG13 9HP	MRS	Car Breaker	Hhold/Ind/Com	5,887
						Hazardous	82
Just Toyota Breakers	Ashfaq Raja	Unit 1, High Church Street, New Basford, Nottingham, Nottinghamshire, NG7 7JP	NG7 7JP	MRS	Car Breaker	Hhold/Ind/Com	149
Lady Bay Salvage	D L Meek	Land/premises At, Colwick Road, Colwick, Nottingham, Nottinghamshire, NG2 4BG	NG2 4BG	MRS	Car Breaker	Hhold/Ind/Com	380
						Hazardous	112
Langar A T F	Davies Salvage Limited	J Davies Salvage, Langar Trading Estate, Langar, Nottingham, Nottinghamshire, NG13 9HY	NG13 9HY	MRS	Car Breaker	Hazardous	3,380
Megavaux	Dragan Vavan	Land/premises At, Station Road, Sandiacre, Nottingham, Nottinghamshire, NG10 5AP	NG10 5AP	MRS	Car Breaker	Hazardous	5,721
N D S Dismantlers	Mr Steven Cliffe	Kettles Yard, 25 Langwith Road, Shirebrook, Mansfield, Nottinghamshire, NG20 9RN	NG20 9RN	MRS	Car Breaker	Hazardous	513
Phoenix Auto Salvage	Philip Stern	Phoenix House, Bessell Lane, Stapleford, Nottingham, Nottinghamshire, NG9 7BX	NG9 7BX	MRS	Car Breaker	Hazardous	19,294
Podders Nottingham Ltd	A Massey		NG14 6EH	MRS	Car Breaker	Hhold/Ind/Com	2,241

		Arnold Lodge Camp, Bank Hill, Woodborough, Nottingham, Nottinghamshire, NG14 6EH				Hazardous	2,174
Rays	Nigel Staton	Woodside Farm, Helmsley Road, Rainworth, Mansfield, Nottinghamshire, NG21 0DG	NG21 0DG	MRS	Car Breaker	Hhold/Ind/Com	441
Reclamations Ollerton Ltd	Reclamations Ollerton Ltd	Tuxford North Goods Yard, Lincoln Road, Tuxford, Newark, Nottinghamshire, NG22 0JL	NG22 0JL	MRS	Car Breaker	Hazardous	685
Tolney Lane	T. W. Crowden And Daughter Limited	Tolney Lane, Newark, Nottinghamshire, NG24 1DA	NG24 1DA	MRS	Car Breaker	Hhold/Ind/Com	354
						Hazardous	1,360
V & K Dismantlers Ltd	V & K Dismantlers Ltd	Land/premises At, Access Road Off Station Road, Ranskill, Retford, Nottinghamshire, DN22 8LW	DN22 8LW	MRS	Car Breaker	Hazardous	110
Vale Road Dismantlers	Peter Vernon	Land/premises At, Vale Road, Mansfield Woodhouse, Mansfield, Nottinghamshire, NG19 8HT	NG19 8HT	MRS	Car Breaker	Hhold/Ind/Com	377
						Hazardous	423
Car Breaker Total							44,690
P H S	Personnel Hygiene Services Ltd	Land/premises At, Brunel Drive, Northern Road Ind Est, Newark, Nottinghamshire, NG24 2DE	NG24 2DE	Transfer	Clinical Waste Transfer / Treatment	Hhold/Ind/Com	608
						Hazardous	28
Clinical Waste Transfer / Treatment Total							636
Oxton Composting Site EPR/AP3937RT	Veolia ES Landfill Ltd	Grange Farm, Ollerton Road, Oxton, Nottinghamshire, NG25 0RG	NG25 0RG	Treatment	Composting	Hhold/Ind/Com	75,825
Sherwood Farms Ltd	Sherwood Farms Ltd	Land Off Stragglethorpe Road, Near Bassingfield, Radcliffe On Trent, Nottingham, Nottinghamshire, NG12 2JZ	NG12 2JZ	Treatment	Composting	Hhold/Ind/Com	4,374
The Sawmill	John Brooke (Sawmills) Limited	The Sawmill, Fosseyway, Widmerpool, Nottinghamshire, NG12 5PS	NG12 5PS	Treatment	Composting	Hhold/Ind/Com	29,607
						Inert/C+D	20,391
Composting Total							130,197
Bentinck Tip Site	Broomco (1997) Ltd	Bentinck Tip Site, Park Lane, Selston, Nottinghamshire, NG16 6JG	NG16 6JG	On/In Land	Deposit of waste to land (recovery)	Hhold/Ind/Com	180
						Inert/C+D	267,878
Conygre Farm - Hoveringham	Philip Christopher Fred Lee, Janet Lee And Christopher Fred Lee	Conygre Farm, Thurgarton Lane, Hoveringham, Nottingham, Nottinghamshire, NG14 7JX	NG14 7JX	On/In Land	Deposit of waste to land (recovery)	Inert/C+D	50,466
Styrrup Quarry	J White & Co (T D E) Ltd	Styrrup Quarry, Oldcotes Road, Styrrup, Nottinghamshire, DN11 8LL	DN11 8LL	On/In Land	Deposit of waste to land (recovery)	Inert/C+D	69,951
Deposit of waste to land (recovery) Total							388,475
Bilsthorpe Oil Treatment Plant	Oakwood Fuels Ltd	Bilsthorpe Oil Treatment Plant, Brailwood Road, Bilsthorpe, Newark, Nottinghamshire, NG22 8UA	NG22 8UA	Transfer	Haz Waste Transfer	Hhold/Ind/Com	1,116
						Inert/C+D	205
						Hazardous	44,417
Colwick Transfer Station	Biffa Waste Services Ltd	Land/premises At, Private Road No 2, Colwick Ind Est, Nottingham, Nottinghamshire, NG4 2JR	NG4 2JR	Transfer	Haz Waste Transfer	Hhold/Ind/Com	60,724
						Inert/C+D	834
						Hazardous	23
Kimberley Depot	Broxtowe Borough Council	Kimberley Depot, Eastwood Road, Kimberley, Nottingham, Nottinghamshire, NG16 2HX	NG16 2HX	Transfer	Haz Waste Transfer	Hhold/Ind/Com	8,592
						Inert/C+D	321
						Hazardous	30

Newark Waste Transfer Station	Veolia E S Nottinghamshire Ltd	Plot 4 Brunel Drive, Northern Road Ind Est, Newark, Nottinghamshire, NG24 2DZ	NG24 2DZ	Transfer	Haz Waste Transfer	Hhold/Ind/Com	44,389
PHS Waste Transfer Station Newark EPR/WP3137SV/V002	PHS Services Limited	PHS Group PLC, Jessop Close, Off Jessop Lane, Northern Road Ind Est, Nottinghamshire, NG24 2DS	NG24 2DS	Transfer	Haz Waste Transfer	Hhold/Ind/Com	333
						Hazardous	403
Plot 14 Baker Brook Industrial Estate	Carl Wright (Haulage & Plant) Ltd	Plot 14 Baker Brook Ind Est, Wigwam Lane, Hucknall, Nottinghamshire, NG15 7SZ	NG15 7SZ	Transfer	Haz Waste Transfer	Hhold/Ind/Com	252
						Inert/C+D	12,433
						Hazardous	475
Portland Street	Kaefer Limited	63 Portland Street, Mansfield Woodhouse, Mansfield, Nottinghamshire, NG19 8BG,	NG19 8BG	Transfer	Haz Waste Transfer	Hazardous	40
Smart Waste Services Ltd	Smart Waste Services Ltd	Unit 15, Unity Road, Kirkby In Ashfield, Nottingham, NG17 7LE	NG17 7LE	Transfer	Haz Waste Transfer	Hhold/Ind/Com	213
						Inert/C+D	389
Haz Waste Transfer Total							175,125
C M E C Demolition	C M E C Demolition Ltd	2 - 4 Gibbon Street, Dunkirk, Nottingham, Nottinghamshire, NG7 2SB	NG7 2SB	Treatment	Haz Waste Transfer / Treatment	Hhold/Ind/Com	270
						Inert/C+D	338
						Hazardous	219
Haz Waste Transfer / Treatment Total							827
JG Pears Power (O&M) Ltd - EPR/MP3235CC	JG Pears Power (O&M) Ltd	JG Pears Power (O&M) Ltd, Marnham Road, Newark, Nottinghamshire, NG23 6SP	NG23 6SP	Incineration	Incinerator (Animal By-Products)	Hhold/Ind/Com	53,764
Biomass Power Plant, Widmerpool, Nottingham EPR/QP3936AX	Equitix ESI CHP (Nottingham) Limited	Fosse Way, Widmerpool, Nottingham, Nottinghamshire, NG12 5PS	NG12 5PS	Incineration	Incinerator (EfW)	Hhold/Ind/Com	38,793
Eastcroft EFW Plant - EPR/EP3034SN	WasteNotts (Reclamation) Ltd	Eastcroft Energy from Waste Plant, Cattle Market Road, Nottinghamshire, NG2 3JH	NG2 3JH	Incineration	Incinerator (Municipal Waste)	Hhold/Ind/Com	188,213
Incinerator/Energy from Waste Total							280,770
Scrooby Top Quarry	Rotherham Sand & Gravel Co Ltd	Scrooby Top Quarry, Scrooby, Doncaster, South Yorkshire, DN10 6AY	DN10 6AY	Transfer	Inert Waste Transfer	Inert/C+D	7,258
Inert Waste Transfer Total							7,258
C P S (Contractors) Ltd	C P S (Contractors) Limited	Gamston Airfield Industrial Estate, Gamston, Retford, Nottinghamshire, DN22 0QL	DN22 0QL	Treatment	Inert Waste Transfer / Treatment	Inert/C+D	2,304
Cupit Plant Hire Ltd	Cupit Plant Hire Limited	Bluebell Farm, Great North Road, Weston, Newark, Nottinghamshire, NG23 6SZ	NG23 6SZ	Treatment	Inert Waste Transfer / Treatment	Inert/C+D	23,790
Toton Sidings	Network Rail Infrastructure Limited	Land At Toton Sidings, Toton, Nottingham, Nottinghamshire, NG10 4HH	NG10 4HH	Treatment	Inert Waste Transfer / Treatment	Inert/C+D	186,798
						Hazardous	1,221
Wallrudding Farm	Mr Peter Robert Fearn And Mr Mark Lindsay Fearn	Wallrudding Farm, Saxilby Road, Doddington, Lincoln, Lincolnshire, LN6 4RY	LN6 4RY	Treatment	Inert Waste Transfer / Treatment	Inert/C+D	5,578
Inert Waste Transfer / Treatment Total							219,692
Conica Ltd	Conica Ltd	Jessop Way, Northern Road Ind Est, Newark, Nottinghamshire, NG24 2ER	NG24 2ER	Treatment	Material Recycling Facility	Hhold/Ind/Com	19,322
						Hazardous	18
Crookford Hill Materials Recycling Facility	R Plevin & Sons Ltd	Crookford Hill Materials Recycling Facility, Crookford Hill, Elkesley, Retford, Nottinghamshire, DN22 8BT	DN22 8BT	Treatment	Material Recycling Facility	Hhold/Ind/Com	79,720
						Inert/C+D	7,464
Mansfield Skip Hire And Waste Management Limited	Central Waste (U K) Ltd	Land/premises At, Lane End, Urban Road, Kirkby In Ashfield, Nottinghamshire, NG17 8AP	NG17 8AP	Treatment	Material Recycling Facility	Inert/C+D	1,710

Retford Waste Limited	Retford Waste Limited	Access Road, Common Lane, Ranskill, Retford, Nottinghamshire, DN22 8LW	DN22 8LW	Treatment	Material Recycling Facility	Hhold/Ind/Com	4,396
						Inert/C+D	7,890
Sandy Lane Plastics Reprocessor	M B A Polymers United Kingdom Ltd	Sandy Lane, Worksop, Nottinghamshire, S80 3ET	S80 3ET	Treatment	Material Recycling Facility	Hhold/Ind/Com	36,921
Material Recycling Facility Total							157,441
A1 Metal Recycling (2014) Ltd	A1 Metal Recycling (2014) Limited	Alpine Industrial Park, Jockey Lane, Elkesley, Retford, Nottinghamshire, DN22 8BN	DN22 8BN	MRS	Metal Recycling	Hhold/Ind/Com	1,115
						Inert/C+D	17,471
						Hazardous	1,096
Bradford Moor	Bradford Moor Iron & Steel Company Ltd	Lamd/premises At, Cow Lane, North Gate, Newark, Nottinghamshire, NG24 1HQ	NG24 1HQ	MRS	Metal Recycling	Hhold/Ind/Com	155
						Inert/C+D	5,619
						Hazardous	551
Briggs Metals Ltd	Briggs Metals Ltd	The Yard, Great North Road, Newark, Nottinghamshire, NG24 1DP	NG24 1DP	MRS	Metal Recycling	Hhold/Ind/Com	18,779
						Inert/C+D	21,872
						Hazardous	5,572
Bulwell Metal Recycling & E L V Facility	Pinball Metals Limited	Unit 2 First Avenue, Greasley Street, Bulwell, Nottinghamshire, NG6 8NG	NG6 8NG	MRS	Metal Recycling	Hhold/Ind/Com	3,410
						Inert/C+D	1
						Hazardous	61
Carlton Metals	Michael John Donington	16 Great Northern Way, Netherfield Ind Est, Nottingham, Nottinghamshire, NG4 2HD	NG4 2HD	MRS	Metal Recycling	Hhold/Ind/Com	1,363
						Hazardous	4
Chris Allsop Waste Management Facility	Chris Allsop Holdings Limited	Chris Allsop Business Park, Private Road Number 2, Colwick, Nottingham, Nottinghamshire, NG4 2JR	NG4 2JR	MRS	Metal Recycling	Hhold/Ind/Com	23,275
						Inert/C+D	44,892
						Hazardous	897
E M R Nottingham	European Metal Recycling Ltd	E M R Nottingham, Alcester Street, Dunkirk, Nottingham, Nottinghamshire, NG7 2SF	NG7 2SF	MRS	Metal Recycling	Hhold/Ind/Com	34,352
						Inert/C+D	1,326
						Hazardous	1,041
Harrimans Lane EPR/ZP3532WY	Sims Group UK Limited	Sims Group UK Limited, Harrimans Lane, Dunkirk, Nottingham, Nottinghamshire, NG7 2SD	NG7 2SD	MRS	Metal Recycling	Hhold/Ind/Com	173,623
						Inert/C+D	44
						Hazardous	37,426
Lakeside	U K Vehicle Dismantlers Limited	Lakeside, Clifton Lane, Wigsley Wood, Thorney, Newark, Nottinghamshire, NG23 7DQ	NG23 7DQ	MRS	Metal Recycling	Hazardous	220
Mansfield Metal Recycling	Briggs Metals Ltd	Mansfield Metal Recycling, Unit 13 Anglia Way, Mansfield, Nottinghamshire, NG18 4LP	NG18 4LP	MRS	Metal Recycling	Hhold/Ind/Com	5,769
						Inert/C+D	3,376
						Hazardous	1,807
Nottingham Scrap Metal Ltd	Sadlers Waste Limited	Kissingstone House, Radford Road, New Basford, Nottingham, Nottinghamshire, NG7 7EB	NG7 7EB	MRS	Metal Recycling	Hhold/Ind/Com	1,190
						Inert/C+D	8,494
						Hazardous	0.3
R T B Spares		Mill Grove Farm, Mattersey Road, Ranskill, Retford, Nottinghamshire, DN22 8NH	DN22 8NH	MRS	Metal Recycling	Inert/C+D	78

	Mr Lee Newton And Mr Keith Barrett					Hazardous	124
S R Payne (Ferrous) Metals	Mr Richard Tolley And Mrs Angela Tracy Morris	8a The Yard, Sibthorpe Street, Off Quarry Lane, Mansfield, Nottinghamshire, NG18 5DE	NG18 5DE	MRS	Metal Recycling	Hhold/Ind/Com	5,381
Metal Recycling Total							420,387
A B Waste Disposal	John Edward Adkins & Geofery Alan Adkins	Old Mill Lane Industrial Estate, Raymond Way, Mansfield Woodhouse, Nottinghamshire, NG19 9BG	NG19 9BG	Transfer	Non-Haz Waste Transfer / Treatment	Hhold/Ind/Com	5,624
						Inert/C+D	20,100
A B Waste Disposal Transfer Station	A B Waste Disposal Limited	Bleak Hill Sidings, Sheepbridge Lane, Mansfield, Nottinghamshire, NG18 5EP	NG18 5EP	Transfer	Non-Haz Waste Transfer / Treatment	Hhold/Ind/Com	17,740
						Inert/C+D	7,230
Abbey Road Depot	Rushcliffe Borough Council	Central Works Depot, Abbey Road, West Bridgford, Nottingham, Nottinghamshire, NG2 5NE	NG2 5NE	Transfer	Non-Haz Waste Transfer / Treatment	Hhold/Ind/Com	2,520
						Inert/C+D	144
						Hazardous	20
Bunny Hill - EPR/EP3734WK	Johnsons Aggregates and Recycling Limited	Johnsons Aggregates and Recycling Limited, Bunny Hill Loughborough Road, Bunny, Nottingham, Nottinghamshire, NG11 6QN	NG11 6QN	Transfer	Non-Haz Waste Transfer / Treatment	Hhold/Ind/Com	170,075
						Inert/C+D	83,127
Central Waste	David Robinson	Plot 15 B Wigwam Lane, Hucknall, Nottingham, Nottinghamshire, NG15 7SZ	NG15 7SZ	Transfer	Non-Haz Waste Transfer / Treatment	Inert/C+D	42,485
Colson Transport Limited	Colson Transport Limited	2 Bulwell Lane, Basford, Nottingham, Nottinghamshire, NG6 0BT	NG6 0BT	Transfer	Non-Haz Waste Transfer / Treatment	Hhold/Ind/Com	12,876
						Inert/C+D	38,758
Crown Farm Materials Recycling Facility	Veolia E S Nottinghamshire Ltd	Land/ Premises At, Warren Way, Crown Farm Ind Est, Mansfield, Nottinghamshire, NG19 0FL	NG19 0FL	Transfer	Inert Waste Transfer ²	Hhold/Ind/Com	83,158
Eastcroft Depot	Nottingham City Council	Eastcroft Depot, London Road, Nottingham, Nottinghamshire, NG2 3AH	NG2 3AH	Transfer	Non-Haz Waste Transfer / Treatment	Hhold/Ind/Com	19,816
						Inert/C+D	4,932
Giltbrook Transfer Station	Veolia E S Nottinghamshire Ltd	Giltbrook Transfer Station, Gilt Hill, Kimberley, Nottingham, Nottinghamshire, NG16 2HR	NG16 2HR	Transfer	Non-Haz Waste Transfer / Treatment	Hhold/Ind/Com	8,853
						Inert/C+D	94
						Hazardous	6
Mansfield D C Transfer Station	Mansfield District Council	Hermitage Lane Depot, Maunside, Green Lane Ind Est, Mansfield, Nottinghamshire, NG18 5GU	NG18 5GU	Transfer	Non-Haz Waste Transfer / Treatment	Hhold/Ind/Com	4,873
						Hazardous	21
Mass Skip Hire Ltd	Mass Skip Hire Ltd	Langar North Trading Estate, Harby Road, Langar, Nottinghamshire, NG13 9HY	NG13 9HY	Treatment	Non-Haz Waste Transfer / Treatment	Hhold/Ind/Com	765
Moorbridge Works	Mr Peter Allsop & Mr Jeffrey Hillier	Plot 8 Moorbridge Works, Bestwood Road, Nottingham, Nottinghamshire, NG6 8SS	NG6 8SS	Transfer	Non-Haz Waste Transfer / Treatment	Hhold/Ind/Com	98
						Inert/C+D	735
Nottingham Sleeper Company	Nottingham Sleeper Company Ltd	Alpine Industrial Park, Jockey Lane, Elkesley, Retford, Nottinghamshire, DN22 8BN	DN22 8BN	Transfer	Non-Haz Waste Transfer / Treatment	Inert/C+D	10,250
Quarry Farm	Nubeau Holdings Limited	Quarry Farm, Bowbridge Lane, Newark, Nottinghamshire, NG24 3BZ	NG24 3BZ	Treatment	Non-Haz Waste Transfer / Treatment	Hhold/Ind/Com	1,796
						Inert/C+D	6,945
Sadlers Waste	Sadlers Waste Limited	Staffordshire House, Beechdale Road, Aspley, Nottingham, Nottinghamshire, NG8 3FH	NG8 3FH	Treatment	Non-Haz Waste Transfer / Treatment	Hhold/Ind/Com	15,546
						Inert/C+D	10,549

² Although this site is listed in the EA WDI as 'Inert Waste Transfer', following discussions with Nottinghamshire County Council, this is believed to be incorrect and has been manually recategorized as 'Non-Haz Waste Transfer / Treatment'.

Sait Recycling And Reuse - Harworth Works	Sait Systems & Trading Limited	Plot C6, Old Glassworks, Off Snape Lane, Harworth, Nottinghamshire, DN11 8NF	DN11 8NF	Transfer	Non-Haz Waste Transfer / Treatment	Hhold/Ind/Com	2,187
						Inert/C+D	202
T R Smith & Sons	T R Smith & Sons Builders Ltd	Land/ Premises At, Station Road, Maun Valley Ind Park, Sutton In Ashfield, Nottinghamshire, NG17 5GB	NG17 5GB	Transfer	Non-Haz Waste Transfer / Treatment	Hhold/Ind/Com	1,468
						Inert/C+D	6,212
Vale Skip Hire	Vale Skip Hire Limited	Unit 1, 41 Grainger Street, Nottingham, Nottinghamshire, NG2 3GW	NG2 3GW	Treatment	Non-Haz Waste Transfer / Treatment	Hhold/Ind/Com	424
						Inert/C+D	7,106
Worksop Transfer Station	Veolia E S Nottinghamshire Ltd	Dukeries House, Claylands Avenue, Worksop, Nottinghamshire, S81 7DJ	S81 7DJ	Transfer	Non-Haz Waste Transfer / Treatment	Hhold/Ind/Com	57,084
						Inert/C+D	6,035
						Hazardous	7
Non-Haz Waste Transfer / Treatment Total							649,858
Aggregate Recycling Facility	Central Waste (U K) Ltd	15a Wigwam Lane, Hucknall, Nottingham, Nottinghamshire, NG15 7TA	NG15 7TA	Treatment	Physical Treatment	Hhold/Ind/Com	3,410
						Inert/C+D	107,578
B & J Parr	Beverley Parr	B & J Parr, Station Hill, Woodhouse, Mansfield, Nottinghamshire, NG19 8BZ	NG19 8BZ	Treatment	Physical Treatment	Hhold/Ind/Com	3,419
						Inert/C+D	5,112
						Hazardous	103
Boynton Bros & Hallam (Ranskill) Limited	Boynton Bros & Hallam (Ranskill) Limited	Land/premises At, Access Road, Ranskill, Retford, Nottinghamshire, DN22 8LW	DN22 8LW	Treatment	Physical Treatment	Hhold/Ind/Com	6,135
Cast Quarry	Midland Landfill Ltd	Cast Quarry, Vale Road, Mansfield Woodhouse, Nottinghamshire, NG18 8DP	NG18 8DP	Treatment	Physical Treatment	Hhold/Ind/Com	904
						Inert/C+D	34,872
Charcon Construction Solutions	Prestige Aggregates Ltd	Chainbridge Lane, Lound, Retford, Nottinghamshire, DN22 8RU	DN22 8RU	Treatment	Physical Treatment	Inert/C+D	12,000
Collins Earthworks Recycling Facility	Collins Earthworks Limited	Plot 7a Park Lane Business Park, Park Lane, Kirkby In Ashfield, Nottinghamshire, NG17 9LE	NG17 9LE	Treatment	Physical Treatment	Inert/C+D	42,301
						Hazardous	483
Coneygre Farm	Lee Reclaim Ltd	Coneygre Farm, Hoveringham Lane, Hoveringham, Nottingham, Nottinghamshire, NG14 7JX	NG14 7JX	Treatment	Physical Treatment	Inert/C+D	24,577
Enva Colwick Recycling and Resource Recovery Facility EPR/JP3934WW	Enva England Limited	Enviro Building, Private Road 4, Nottinghamshire	NG4 2JT	Treatment	Physical Treatment	Hhold/Ind/Com	153,722
						Inert/C+D	211,553
						Hazardous	147
John Brooks Metals Ltd	John Brooks Metals Ltd	198a Road F Broughton Ind Est, Broughton, Newark, Nottinghamshire, NG22 9LD	NG22 9LD	Treatment	Physical Treatment	Hhold/Ind/Com	1
						Hazardous	5,622
Total Reclaims Demolition Ltd	Total Reclaims Demolition Limited	Aggregate Recycling Facility, Bakers Brook Ind Est, Nottingham, Nottinghamshire, NG15 7SZ	NG15 7SZ	Treatment	Physical Treatment	Inert/C+D	23,068
Unit 1 Moonbridge Works	Cross Waste Recycling Limited	Unit 1 Moorbridge Works, Bestwood Road, Bulwell, Nottingham, Nottinghamshire, NG6 8SS	NG6 8SS	Treatment	Physical Treatment	Inert/C+D	23,608
Welbeck Colliery Waste Facility	Tetron Welbeck Llp	Welbeck Colliery Waste Facility, Elkesley Road, Meden Vale, Mansfield, Nottinghamshire, NG20 9PU	NG20 9PU	Treatment	Physical Treatment	Hhold/Ind/Com	82,163
						Inert/C+D	286,582
						Hazardous	6,389
Physical Treatment							1,033,749

Bilthorpe Oil Treatment Plant - EPR/DP3331MG	Enva England Specialist Waste Limited	Bilthorpe Oil Treatment Plant, Brailwood Road, Bilthorpe Industrial Est, Bilthorpe, Nottinghamshire, NG22 8UA	NG22 8UA	Treatment	Physical-Chemical Treatment	Hazardous	36,092
Claylands Avenue EPR/FP3890CZ	Schutz (UK) Limited	Schutz (UK) Limited, Claylands Avenue, Nottinghamshire, S81 7BE	S81 7BE	Treatment	Physical-Chemical Treatment	Hhold/Ind/Com	2,063
						Hazardous	9,043
Welshcroft Close Transfer Station EPR/LP3839DK	Veolia Es Nottinghamshire Limited	Welshcroft Close Transfer Station, Welsh Croft Close, Kirkby-in-Ashfield, Nottinghamshire, NG17 8EP	NG17 8EP	Treatment	Physical-Chemical Treatment	Hhold/Ind/Com	61,823
Physical-Chemical Treatment Total							109,021
The Sawmill	John Brooke (Sawmill) Limited	Fosse Way, Widmerpool, Nottingham, Nottinghamshire, NG12 5PS	NG12 5PS	Treatment	Recovery of Waste	Hhold/Ind/Com	13,340
						Inert/C+D	2,052
Recovery of Waste Total							15,392
E M R Nottingham	European Metal Recycling Ltd	Mountstar House, Alcester Street, Dunkirk, Nottingham, Nottinghamshire, NG7 2SF	NG7 2SF	MRS	Vehicle depollution facility	Hhold/Ind/Com	3,243
						Hazardous	55
E M R Worksop	European Metal Recycling Ltd	E M R Worksop, Sandy Lane, Worksop, Nottinghamshire, S80 3ET	S80 3ET	MRS	Vehicle depollution facility	Hhold/Ind/Com	10,819
						Inert/C+D	99
						Hazardous	1,317
Euro Breakers	Euro Breakers Limited	The Scrapyard, Bessell Lane, Stapleford, Nottingham, Nottinghamshire, NG9 7BX	NG9 7BX	MRS	Vehicle depollution facility	Hazardous	1,222
Fox Covert Dismantlers	Shergar Investments Group Limited	Fox Covert Dismantlers, Gateford Road, Worksop, Nottinghamshire, S81 8AE	S81 8AE	MRS	Vehicle depollution facility	Hhold/Ind/Com	219
						Hazardous	86
Vehicle depollution facility Total							17,060

Appendix G List of Landfill Sites

9.1 The landfill sites highlighted in red have not been included in the capacity calculations for the following reasons:

- Bole Ings, Cottam and Ratcliffe on Soar landfill are 'restricted user' sites and can only accept ash from power stations. As waste with an EWC code of 10 01 (power station wastes) has been excluded from the waste arisings, these sites have also been excluded when calculating final capacity figures.
- It is Nottinghamshire County Council's understanding that Serlby Quarry landfill is to be restored without importation of waste due to the amount of natural regeneration that has taken place as site has not been used in approximately 20 years. Therefore, this site has been excluded when calculating final capacity figures.

9.2 In addition, Borrow Pits landfill is a 'restricted user' site and can only accept waste from beet washing/soil disposal etc. (waste with an EWC code of 02 04). As this site is restricted to only take this waste stream, the capacity provided by this site has been considered separately.

Table 48. Full List of Landfill Sites

Facility Name	Operator	Address	Permit Type	Remaining Capacity (m ³)	Further Information
Bole Ings Ash Disposal Site	EDF Energy (West Burton Power) Ltd	West Burton Power Station, Retford, DN22 8BL	L04 - Non Hazardous	1,358,657	The West Burton Power Station is expected to cease operation in September 2022, the disposal site will have permission to dispose PFA until 2025 and recover PFA until 2030.
Borrow Pits Landfill	British Sugar Plc	Newark Sugar Factory, Great North Road, Newark, NG24 1DL	L05 - Inert Landfill	398,971	
Cottam Ash Lagoons	EDF Energy (West Burton Power) Ltd	Cottam Power Station, PO Box 4, Retford, DN22 0ET	L04 - Non Hazardous	1,567,774	This power station has closed and so disposal has now ceased.
Ratcliffe on Soar Power Station	Uniper UK Ltd	Radcliffe on Soar Power Station, Radcliffe on Soar, Nottingham, NG11 0EE	L04 - Non Hazardous	790,328	
Serlby Landfill	WRG Waste Services Ltd	Serlby Sand Quarry, Doncaster, DN10 6BP	L05 - Inert Landfill	1,350,000	
Staple Quarry Landfill Site	FCC Recycling (UK) Limited	Grange Lane, Nottingham, NG23 5JZ	L04 - Non Hazardous	58,847	
Vale Road Quarry	Midland Landfill Limited	Vale Road, Mansfield Woodhouse, NG19 8DP	L05 - Inert Landfill	1,510,269	

Appendix H Number of Registered Exemptions per Exempt Category

Table 49. Number of Exemptions Registered for each Exempt Category

Exempt Category	Description	Number of Registered Exemptions
D1	Depositing waste from dredging inland waters	64
D2	Depositing waste from a railway sanitary convenience	1
D3	Depositing waste from a portable sanitary convenience	10
D4	Depositing agricultural waste consisting of plant tissue under a Plant Health Notice	18
D5	Depositing waste samples for testing or analysis	8
D6	Disposal by incineration	20
D7	Burning waste in the open	106
D8	Burning waste at a port under a Plant Health Notice	2
S1	Storing waste in secure containers	64
S2	Storing waste in a secure place	145
S3	Storing sludge	524
T1	Cleaning, washing, spraying or coating relevant waste	26
T2	Recovering textiles	7
T4	Preparatory treatments such as baling, sorting or shredding	40
T5	Screening and blending waste	31
T6	Treating waste wood and waste plant matter by chipping, shredding, cutting or pulverising	72
T8	Mechanically treating end-of-life tyres	4
T9	Recovering scrap metal	32
T10	Sorting mixed waste	22
T11	Repairing or refurbishing waste electrical and electronic equipment (WEEE)	13
T12	Manually treating waste	10
T13	Treating waste food	4
T14	Crushing and emptying vehicle waste oil filters	23
T15	Treating waste aerosol cans	5
T16	Treating waste toner and ink cartridges	2
T17	Crushing waste florescent tubes	6

Exempt Category	Description	Number of Registered Exemptions
T18	Using flocculants to remove water from waste	1
T19	Physical and chemical treatment of waste edible oils and fat to produce biodiesel	1
T20	Treating waste at a water treatment works	2
T21	Recovering waste at a wastewater treatment works	1
T23	Aerobic composting and associated prior treatment	34
T24	Anaerobic digestion at premises used for agriculture and burning resulting biogas	6
T25	Anaerobic digestion at premises not used for agriculture and burning resulting biogas	4
T26	Treatment of kitchen waste in a wormery	3
T27	Treatment of sheep dip using organophosphate-degrading enzyme	1
T28	Sorting and denature of controlled drugs for disposal	51
T29	Treatment of non-hazardous pesticide washings by carbon filtration for disposal	4
T30	Recovering silver	1
T31	Recovering monopropylene glycol from aircraft antifreeze fluids	1
T32	Treatment of waste in a biobed or biofilter	8
T33	Recovering central heating oil by filtration	1
U1	Use of waste in construction	165
U2	Use of baled end-of-life tyres in construction	4
U3	Construction of entertainment of educational installations	4
U4	Burning waste as fuel in a small appliance	43
U5	Using biodiesel produced from waste as fuel	3
U6	Using sludge to reseed a wastewater treatment plant	3
U7	Using effluent to clean a highway gravel bed	1
U8	Using waste for a specified purpose	62
U9	Using waste to manufacture finished goods	14
U10	Spreading waste to benefit agricultural land	79
U11	Spreading waste on non-agricultural land	29
U12	Using mulch	41
U13	Spreading plant matter to provide benefits	41
U14	Incorporating ash into soil	27
U15	Using pig and poultry ash	8

Exempt Category	Description	Number of Registered Exemptions
U16	Using depolluted end-of-life vehicles for parts	8

