Norfolk County Council

Norfolk Minerals and Waste Development Framework

Annual Monitoring Report
Waste Data
Covering the financial year 2018-19

March 2020

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Contents

1. Introduction

Section 35 of the Planning and Compulsory Purchase Act 2004 (amended by the Localism Act 2011) requires every local planning authority to produce a monitoring report. The MR should contain information on the implementation of the Minerals and Waste Development Scheme (MWDS), the extent to which the policies set out in Local Development Documents are being achieved. The Monitoring Report for 2018-19 has been published in three parts, as follows:

1. Waste Data (this part of the Monitoring Report)

2. Minerals data is reported in the Local Aggregate Assessment and Silica Sand Assessment

3.

- Review of the Norfolk Minerals and Waste Development Scheme
- Policy performance and implementation
- Monitoring and enforcement

Sections 13-16 of the Planning and Compulsory Purchase Act 2004 (amended by the Localism Act 2011) establishes a duty for waste planning authorities to keep planning issues under review. This Waste Data Monitoring Report presents information on the annual production and management of wastes at facilities in Norfolk. This information is then used to assess the delivery of the relevant local plan policies, particularly the waste management targets, waste management capacity requirements, and the estimated waste arisings these policies are based on.

2.0 Core Output Indicators: Waste

2.1 Waste Categories

2.1.1 The List of Wastes Regulations 2005 defines the way waste types are categorised. These terms are outlined in the table below and have been used throughout this document. However, when reporting on new capacities as a result of approved planning permissions, the terminology used in the application is retained and therefore may vary from the categories in the table below.

Waste Categories	Definitions
Inert	Non-hazardous waste as defined by The List of Wastes Regulations 2005 (excluding construction and demolition waste) which will not decompose. Includes: subsoil, concrete, hard-core, brickwork, stone, glass, concrete, tiles, ceramics.
Construction and Demolition	Non-hazardous construction and demolition waste as defined by the List of Wastes Regulations 2005. Including: bricks, concrete, wood, metal, soil, glass, tiles, ceramics, plastic.
Non-Hazardous	All non-hazardous waste as defined by The List of Wastes Regulations 2005 not included in other sections. Therefore, this category excludes inert and construction/ demolition waste. This category includes, for example: municipal (household), commercial and industrial wastes, and scrap metal.
Hazardous	All hazardous waste (except hazardous clinical waste) as defined by The List of Wastes Regulations 2005. For example: asbestos, acids, oils, petroleum products, paint, mercury, solvents, undepolluted end-of-life vehicles.
Clinical	Hazardous and non-hazardous human and animal healthcare wastes as defined by the List of Wastes Regulations 2005.

2.1.2 Annual surveys of waste inputs have been carried out since 1995. The last survey was carried out for the period April 2018 to March 2019. Data has been obtained on the quantity of waste recovered, quantity of waste disposed of (within and outside the County) and the remaining airspace capacity of landfill sites. This monitoring report also lists the quantity of waste imported into the County, the quantity of energy recovered from landfill sites and new capacity permitted in 2018/19.

2.1.3 Waste operators with an environmental permit from the Environment Agency are required by law to submit, to the Environment Agency, information relating to the throughput of waste at their site; this information has been requested from the Environment Agency to fill in the gaps left by operators not responding to Norfolk County Council's own survey. This information is not in the precise format that would be ideal for our purposes and so some assumptions based on past survey returns have been necessary; the overall volume of waste is correct but the precise origins or destinations of the waste have had to be estimated in some cases where they have been reported as 'not codeable' or 'east of England'. For sites where no up-to-date data is available estimates of volumes based on previous responses, and local site knowledge, have been made.

2.2 Landfill

Non-hazardous landfill sites

2.2.1 Non-hazardous waste comprises waste which decomposes and can include materials as diverse as household waste, paper, vegetable matter and food processing waste. During the reporting period no non-hazardous waste was deposited into landfill sites within Norfolk. Non-hazardous landfill sites also take a quantity of inert waste for restoration and engineering purposes. In the reporting year 172,000 tonnes of inert waste was taken by 2 non-hazardous landfill sites listed below.

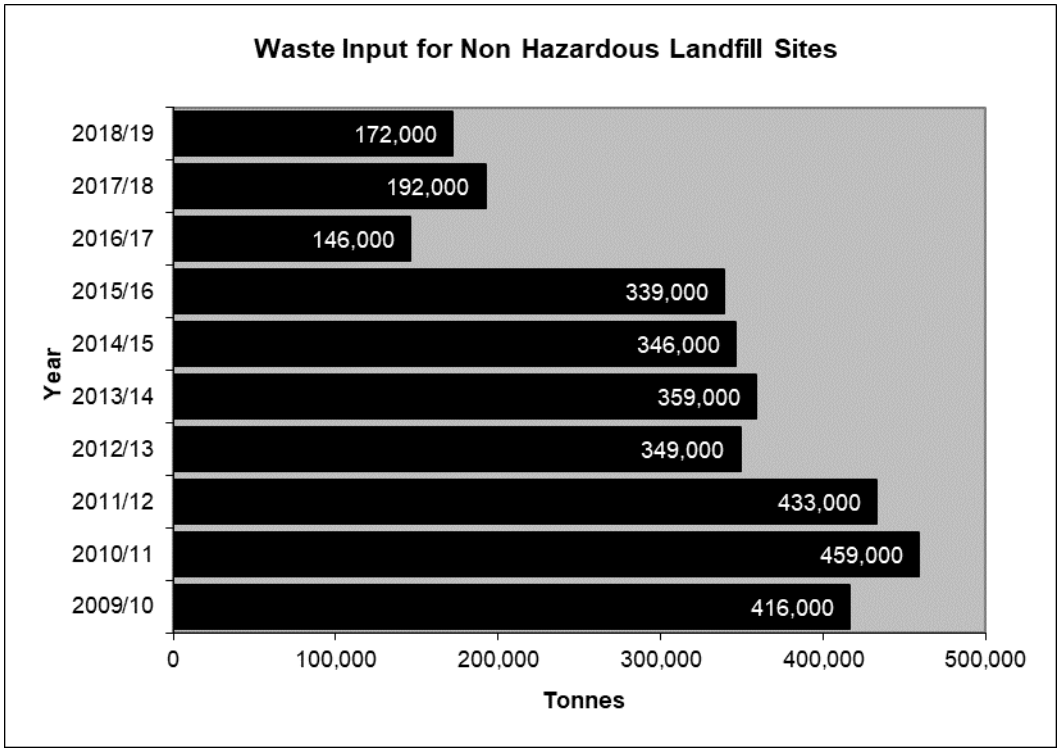
Aldeby	FCC Environment (UK) Ltd
Blackborough End	FCC Environment (UK) Ltd

2.2.2 The permitted landfill site at Feltwell, operated by FCC Environment (UK) Ltd is currently inactive and did not receive any waste during 2018/19.

2.2.3 All the waste taken into the non-hazardous landfill sites was used for engineering purposes and therefore had no impact on the void space remaining within the sites.

2.2.4 At 31/03/19 the volume of permitted void capacity (remaining landfill space) was estimated to be 5.09 million cubic metres.

- Planning Application C/2/2009/2011 contains the most recent publicly available information on the remaining landfill space in Blackborough End landfill site. This planning application, dated May 2009, states (in a report provided by GP Planning Ltd, on behalf of the operator) that "remaining void for the site is currently calculated at 6.5 million cubic metres."
- However, a planning application C/2/2018/2008 was submitted in 2018 to revise the approved restoration plans for Blackborough End landfill site. The planning application stated that with the revised restoration scheme the remaining landfill capacity would be for a total of 4 million tonnes of waste; 3.5 million tonnes would be for inert waste and 0.5 million tonnes of non-hazardous waste. The application had not been determined in the 2018/19 financial year, therefore the existing non-hazardous landfill capacity has been used for the purpose of this year's monitoring report.
- At the end of July 2016 Aldeby landfill permanently ceased taking waste for disposal and has no remaining capacity. Restoration of the site was still continuing throughout 2018/19.
- There are no recent planning applications providing capacity information for Feltwell.
- Some information about remaining capacity for individual sites is gathered as part of the County Council's annual survey. Some landfill sites choose not to provide this information. The information contained in any survey responses provided to the County Council is considered to be confidential and commercial information. If capacity information is not provided, then the remaining capacity is calculated, using the quantity of waste received at the site.



2.2.5 To calculate how long the remaining non-hazardous landfill voidspace will last, conversion factors have been applied for the density of inert waste (1 tonne occupies 0.67 cubic metres) and non-hazardous waste (1 tonne occupies 1 cubic metre).

2.2.6 The length of time that the remaining non-hazardous landfill voidspace will last has been calculated using the forecast waste arisings for Municipal, Commercial and Industrial and imported London waste in the Norfolk "Core Strategy and Minerals and Waste Development Management Policies DPD". Table A.2 of the Core Strategy forecasts the annual quantity of non-hazardous waste disposal to landfill until 2026/27. This table has been updated in Appendix A of this AMR, taking into account the non-hazardous landfill void capacity as at 31/03/2019. **With the current void capacity and the forecast non-hazardous waste disposal quantities to landfill, the existing landfill capacity is calculated to last until 2037/38.**

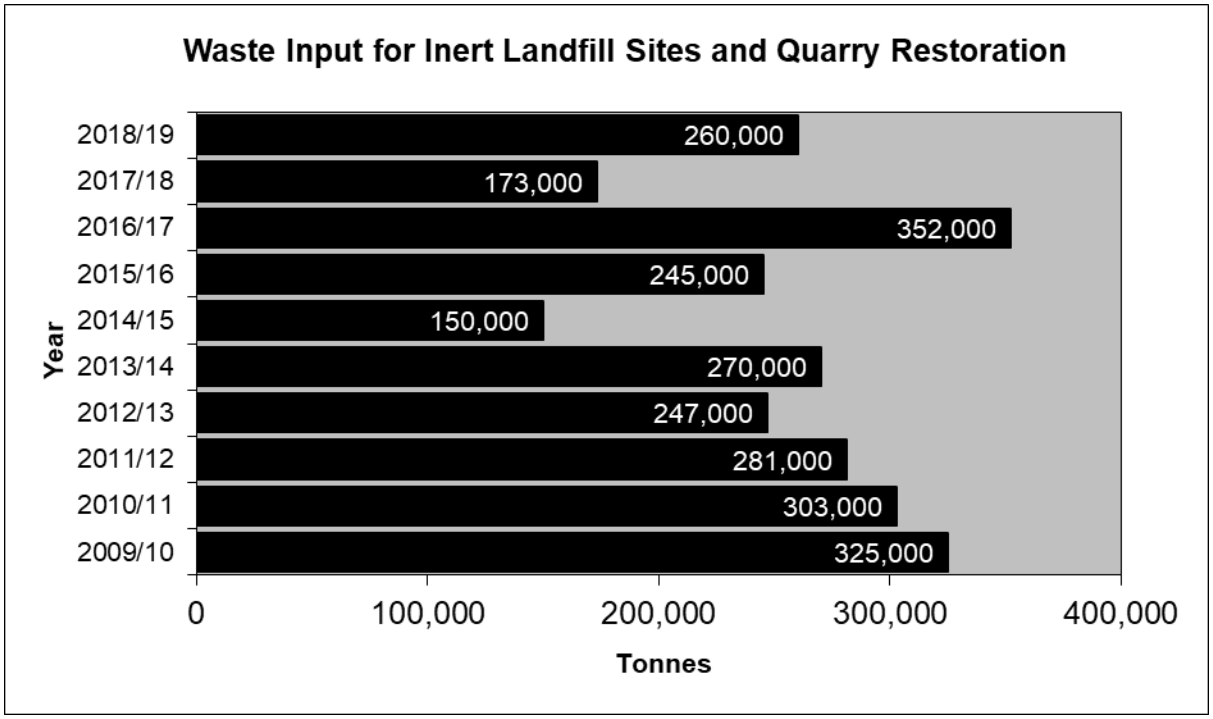
2.2.7 It should be noted that, as at the end of April 2016 Blackborough End landfill site stopped taking waste and was inactive during 2017/18 and 2018/19, although the site has a large remaining void capacity. Feltwell landfill site is also currently inactive (and has been since 2012), although it has remaining void capacity. Therefore, there during 2018/19 there were no active non-hazardous landfill sites in Norfolk.

Inert landfill sites and quarry restoration using inert waste

2.2.8 Waste input in 2018/19 into inert landfill sites and for quarry restoration was over 260,000 tonnes. This compares with 173,000 tonnes in 2017/18 and 352,000 tonnes in 2016/17. The 260,000 tonnes deposited in 2018/19 consisted of 201,750 tonnes used in quarry restoration and 58,250 tonnes deposited in inert landfill sites. At 31 March 2019 the volume of permitted air-space was estimated to be 1,021,250 cubic metres.

2.2.9 After applying a conversion factor for the density of inert waste (1 tonne occupies 0.67 cubic metres), and assuming that waste inputs remain the same as the average for the last three years (262,000 tonnes), it is calculated that inert landfill and quarry restoration sites will last 5.8 years, until early 2025.

2.2.10 However, evidence for the Minerals and Waste Core Strategy uses a Government survey forecast of a 40% increase in construction and demolition waste over the plan period (to 2026). Assuming the 40% increase occurs as an incremental year on year increase of 2.5% per annum in inert waste requiring inert landfill/quarry restoration, it is calculated that existing **inert landfill and quarry restoration sites will last just over 3 years, until 2022.** Inert waste is also used for engineering works, including the capping of non-inert landfill sites and the restoration of mineral workings. It is important to note that the actual quantity of construction and demolition waste arising in the future will be subject to economic conditions.



2.3 Imported Waste to landfill

Waste imported to Norfolk's landfill sites and for quarry restoration, from outside the county, in 2018/19 was as follows:

Inert landfill sites and quarry restoration		**Non-hazardous landfill sites**	
From within the region, but outside the county	From outside the region	From within the region, but outside the county	From outside the region
0 tonnes	0 tonnes	19,451 tonnes	0 tonnes

The quantity of waste imported from outside the county and deposited at inert landfill sites and quarry restoration sites is equivalent to 0% of the total deposited at these sites. For non-hazardous landfill sites the equivalent is 11.3%.

2.4 Renewable energy generation at landfill sites

The current installed capacity for energy generation at Norfolk's landfill sites in 2018/19 was the equivalent of 10.988 megawatt hours (MWh).

SITE	**Current maximum capacity MWh**	**Actual MWh generated in 2017/18**
Beetley	0 (0.1MW engine installed April 2019)	0
Blackborough End	3.3 *	14,486
Costessey	0.598	2,222
Mayton Wood	0.33	2,475
Morningthorpe	0.05	400
Strumpshaw	0.014 (engines on site but inoperable, removed July 2018)	0
Docking	0.1	551
Edgefield	0.98	2,257
Attlebridge	1.065	4,675
Feltwell	1.675	4,223
Aldeby	2.890	14,717
TOTAL	**10.988 at March 2019**	**46,006**

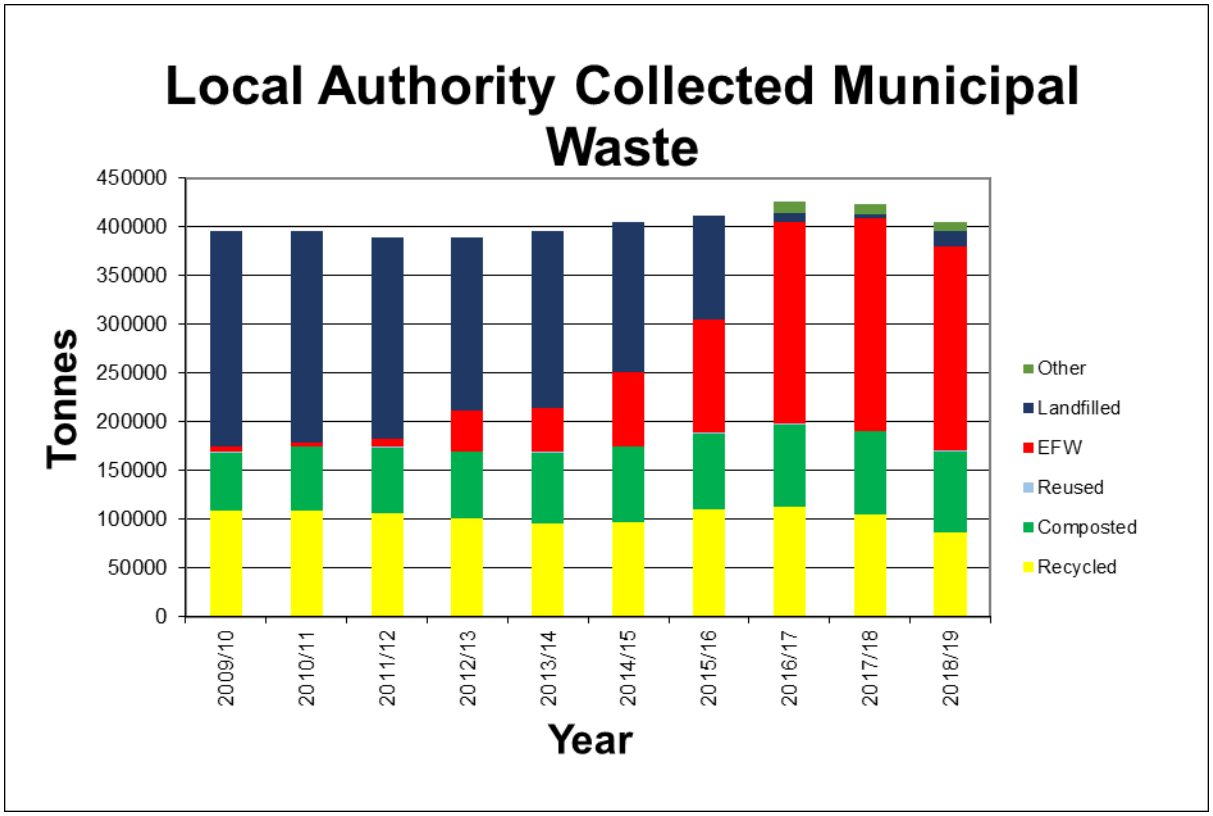
(source: Renewable Energy Foundation)

2.5 Local Authority Collected Municipal Waste

2.5.1 Below is a table outlining the quantity of local authority collected municipal waste (LACMW) arising in Norfolk and how it was managed in 2018/19. The proportion of LACMW sent to landfill came to 3.8%; which is higher than in 2017/18 but significantly lower than any previous year up to 2016/17. This reduction in LACW disposed of to landfill over recent years is due to a significant increase in the quantity and percentage of waste recovered as either Refuse Derived Fuel or by incineration with energy recovery. The category of 'other' is predominantly street sweepings which are treated to recover aggregates and other recyclables with other fractions being disposed of.

Management type	Quantity managed	
	Tonnes	Percentage
Recycled	86,716	21.46
Composted	82,296	20.36
Reuse	1,235	0.31
Refuse Derived Fuel	163,774	40.52
Incinerated with energy recovery	46,033	11.39
Landfilled	15,337	3.80
Other	8,751	2.16
TOTAL	**404,142**	**100**

2.5.2 LACMW in Norfolk over the reporting year totalled 404,142 tonnes, a 4.4% decrease compared with the previous year (422,640 tonnes). A graph and table comparing the quantities of LACMW arising in Norfolk over the past ten years are shown below and overleaf.

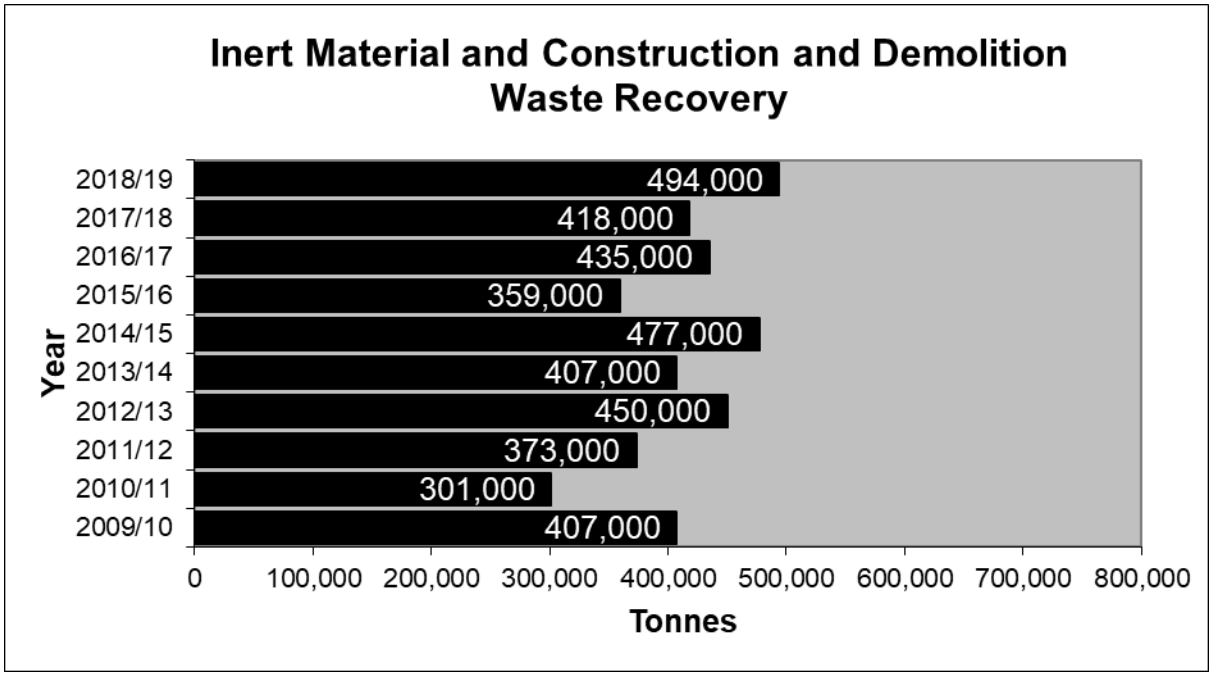


Quantity of annual Local Authority Collected Municipal Waste in Norfolk

Year	Total LACMW (tonnes)	Comparison with previous year
2018/19	404,142	decrease
2017/18	422,640	decrease
2016/17	425,647	increase
2015/16	411,406	increase
2014/15	404,563	increase
2013/14	396,740	Increase
2012/13	391,050	increase
2011/12	389,380	decrease
2010/11	395,199	decrease
2009/10	395,412	decrease

2.6 Waste Recovery

2.6.1 It is estimated that in 2018/19 over 494,000 tonnes of the inert and construction & demolition waste, received at transfer stations and recycling centres, was recovered. This includes waste recovered at quarries as well as waste management facilities. The increase in inert waste recovery was due to an increase in material being used for quarry restoration.



2.6.2 The quantity of non-hazardous waste recycled/composted in 2018/19 was over 990,000 tonnes. This compares with over 768,000 tonnes in 2017/18 and 820,000 tonnes in 2016/17. The increase in non-hazardous waste recycling is mainly due to significant increases in the quantities of waste received at six sites. In particular, there was a large increase in the quantities of metal received for recycling.

2.6.3 The origins of waste received at Norfolk's transfer stations, treatment and recovery facilities in 2018/19 were as follows:

	Waste type (quantity in tonnes)					
	Inert	**C&D**	**Non-hazardous**	**Hazardous**	**Clinical**	**Total**
Received from within Norfolk	182,002	476,246	2,017,026	41,166	830	**2,717,270**
Received from outside Norfolk, but within the region	6,086	30,111	280,232	13,808	55	**330,292**
Received from outside the region	100	782	43,056	5,107	195	**49,240**
TOTAL WASTE RECEIVED	**188,188**	**507,139**	**2,340,314**	**60,081**	**1,080**	**3,096,802**

2.6.4 In 2018/19 imported waste represented 12.2% of the total waste received at transfer stations and recovery facilities in Norfolk. There has been an increase of 73,000 tonnes (24%) in the quantity of waste imported to Norfolk facilities in 2018/19.

2.6.5 After being sorted and/or treated at Norfolk's transfer stations, treatment and recovery facilities, the destination of waste outputs from these sites in 2018/19 was as follows:

Waste management method	Waste type (quantity in tonnes)					
	Inert	C&D	Non-hazardous	Hazardous	Clinical	Total
Disposal to landfill within Norfolk	2,244	23,196	0	0	0	**25,440**
Exported for disposal to landfill within the region	1,546	4,819	104,332	630	436	**111,763**
Disposal to landfill outside the region	58	506	3,675	2,072	165	**6,476**
TOTAL WASTE TO LANDFILL	**3,848**	**28,521**	**108,007**	**2,702**	**601**	**143,679**
Incineration/ power station within Norfolk *	0	0	674,302	0	117	**674,419**
Exported for energy recovery by incineration within the region	0	10,941	105,378	143	42	**116,504**
Energy recovery by incineration outside the region	0	188	230,691	3,161	0	**234,040**
TOTAL WASTE TO ENERGY RECOVERY	**0**	**11,129**	**1,010,371**	**3,304**	**159**	**1,024,963**
Recycled or composted in Norfolk	169,416	278,042	580,646	9,846	0	**1,037,950**
Exported for recycling or composting within the region	5,488	14,330	67,540	2,056	0	**89,414**
Recycling or composting outside the region	100	2,734	342,209	19,436	0	**364,479**
TOTAL RECYCLED OR COMPOSTED	**175,004**	**295,106**	**990,395**	**31,338**	**0**	**1,491,843**

*The majority of waste recorded in the 'incineration/power station in Norfolk' row of the above table, was received at the EPR renewable energy plant at Thetford which burns poultry litter.

2.6.6 The quantity of waste exported for disposal to landfill outside of Norfolk increased by 2% from 116,000 tonnes in 2017/18 to 118,000 tonnes in 2018/19. The quantity of waste exported for energy recovery by incineration outside of Norfolk has increased significantly from approx. 300,000 tonnes in 2017/18 to approx. 350,000 tonnes in 2018/19. The quantity of waste exported for recycling outside of Norfolk increased by 34% from 338,000 tonnes in 2017/18 to 453,000 tonnes in 2018/19.

2.6.7 The following table shows the quantity of waste handled in Norfolk by each type of waste management facility. The table does not include any End-of-Life Vehicle de-pollution sites because most of these sites have planning permission granted by the relevant district council instead of the County Council.

2.6.8 Waste may be handled at more than one facility. For example, green waste received at a household waste recycling centre will also be composted at one of the compost facilities.

Facility Type	Compost	HWRC	Incineration/ Power station	Transfer / Treatment of inert waste	Metal Recycling	Transfer / treatment of waste
No. of sites	11	20	6	24	8	58
Input from outside Norfolk but within region (tonnes)	13,543	0	86,863	20,654	32,352	176,879
Input from outside region (tonnes)	357	0	195	100	0	48,589
Input from within Norfolk (tonnes)	107,424	66,755	623,500	239,316	159,534	1,520,735
Recycled or compost (tonnes)	101,276	59,280	43,011	247,564	178,828	868,241
Sent to landfill within Norfolk (tonnes)	0	0	0	2,363	0	23,077
Sent to landfill outside Norfolk (tonnes)	221	0	359	40	0	117,617
Incineration / Power Station within Norfolk * (tonnes)	0	0	666,795	0	0	7,623
Energy recovery by incineration outside Norfolk (tonnes)	344	13,835	41	0	16	336,308

2.6.9 It should be noted that the inputs are unlikely to match the outputs for all facility types. For example, at composting facilities a portion of the weight of waste input is lost through the composting process; other facilities may have recycled previously stockpiled waste.

*The majority of waste recorded in the incineration/power station row of the above table, was received at the EPR renewable energy plant at Thetford which burns poultry litter. The exact origin of this material is difficult to ascertain as material from within the region and within Norfolk may be mixed before its origin can be accurately identified.

2.7 Waste Managed in Norfolk

2.7.1 The total waste managed in 2018/19 was 2,426,196 tonnes.
To reduce double counting waste that may be handled at more than one facility, this figure is calculated from:

- the total amount of waste landfilled in Norfolk
- the total amount of waste handled at waste management facilities in Norfolk that was then disposed of in landfill sites located outside Norfolk
- the total amount of waste recycled/composted or segregated for recycling/composting at waste management facilities in Norfolk
- the total amount of waste handled at waste management facilities in Norfolk that was then sent to energy from waste facilities

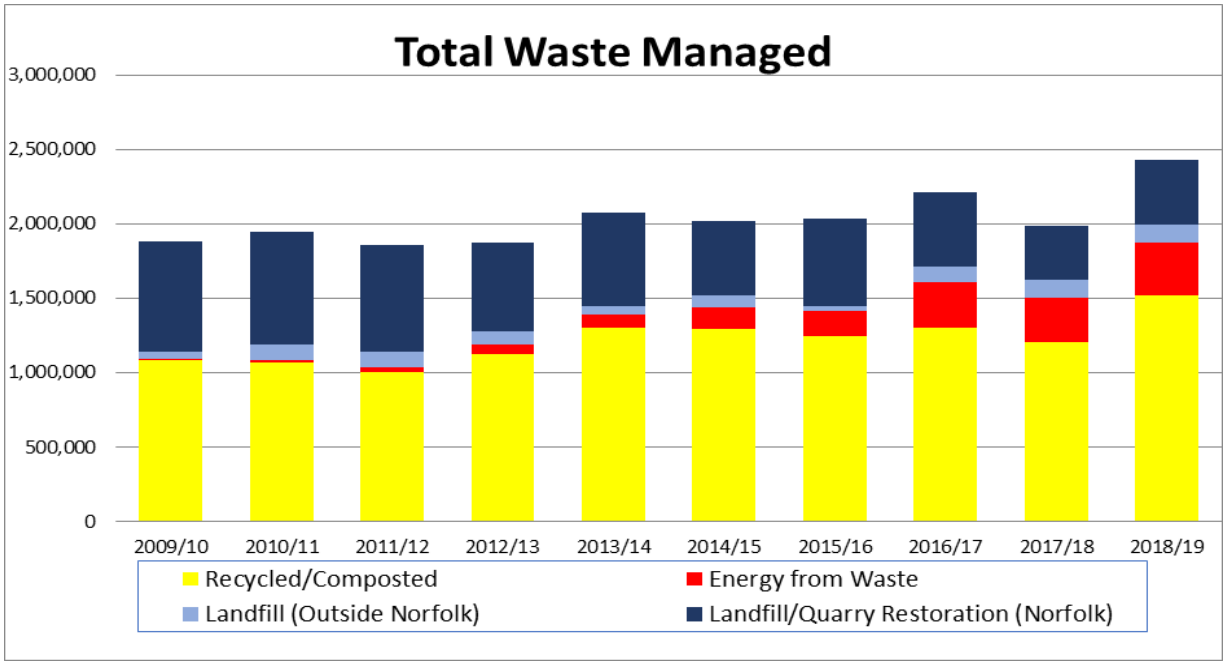
Management type	**Quantity managed**	
	Tonnes	**Percentage**
Recycled / Composted	1,516,610	62.5
Energy from waste	358,285	14.8
Landfill (outside Norfolk)	118,239	4.9
Landfill/ quarry restoration (in Norfolk)	433,062	17.8
TOTAL	**2,426,196**	**100**

2.7.2 In addition to the total waste recorded in the table and graph below, the EPR Thetford renewable energy plant has been operational for over 10 years and burns up to 600,000 tonnes of poultry litter per annum.

Year	**Total waste managed in Norfolk (Million tonnes)**	**Comparison with previous year**
2018/19	2.426	↑ increase
2017/18	1.986	↓ decrease
2016/17	2.209	↑ increase
2015/16	2.034	↑ increase
2014/15	1.792	↓ decrease
2013/14	1.935	↑ increase
2012/13	1.722	↑ increase
2011/12	1.716	↓ decrease
2010/11	1.834	↓ decrease
2009/10	1.877	↓ decrease
2008/09	1.912	↓ decrease

2.7.3 The total amount of waste handled in 2018/19 has increased by 22% compared to the 2017/18 total of 1,986,413 tonnes. The percentage of the waste recycled / composted has increased from 60.6% to 62.5%. The total amount of waste managed has increased across all waste management types, but particularly in the quantities of waste segregated for recycling or composting.

2.7.4 The quantity of waste sent for recovery at energy from waste facilities has increased by 19% to approximately 358,000 tonnes.



2.7.5 There are several treatment facilities for **sewage sludge** and wastes such as landfill leachate which operate at Water Recycling Centres in Norfolk. These facilities (at Whitlingham, Thetford and King's Lynn) receive significant quantities of such waste from Norfolk and the neighbouring counties. Not all of these sites or all of the operations are included within the waste survey conducted by Norfolk County Council. In the calendar year 2018 approximately 912,000 tonnes of waste were received at those facilities not subject to the waste survey, with just over 60% of this waste being received from neighbouring counties, which represents a significant amount of existing capacity for wastewater treatment within Norfolk (this information is contained within the Environment Agency's Waste Data Interrogator).

2.8 New Capacity in Norfolk

2.8.1 The table below demonstrates the increased waste management capacity as approved in the period between 1 April 2018 and 31 March 2019. These sites were:

Location	Applicant	Type of facility	Anticipated throughput (tonnes per annum)	Type of waste (waste class)
C/3/2018/3002 Land East of Punch Farm Quarry, Litcham Road, Beeston with Bittering	EAS Plant Hire Ltd	Inert quarry restoration (proposal also includes inert recycling, but no figures have been provided for this)	240,000 cubic metres void space in total (358,209 tonnes at conversion 0.67cuM to 1 tonne)	Inert
C/7/2017/7015 Costessey Quarry, Longwater Industrial Estate, Costessey, Norwich, NR5 0TL	CEMEX UK Materials Ltd	Inert quarry restoration	Additional 101,700 cubic metres void space in total (151,791 tonnes at conversion 0.67cuM to 1 tonne)	inert
C/7/2017/7002 Costessey Quarry, Alex Moorhouse Way, Longwater Industrial Estate, Costessey, NR8 5BG	CEMEX UK Materials Ltd	Inert quarry restoration	Additional 16,300 cubic metres void space in total (24,328 tonnes at conversion 0.67cuM to 1 tonne)	inert
C/3/2018/3011 Carbrooke Quarry Summer Lane Carbrooke	Frimstone Ltd	Inert quarry restoration	200,000 tonnes additional waste void space in total	Inert
C/1/2018/1003 East Beckham Quarry, Holt Road, Upper Sheringham NR26 8TN	Gresham Gravel Ltd	Inert waste recycling	40,000 tpa	Inert CD&E
C/7/2017/7019 Old Hethel Airfield, Stanfield Road, Wymondham, NR18 9RL	Mr S Stearn Greencomp	Composting	Additional 2,000 tpa	Non-hazardous (green waste)
C/1/2017/1003 Boundary Pit, Off Sandy Hills, Old	Carl Bird Ltd	Waste transfer/ treatment	Increase in throughput by 15,000 tpa	Inert CD&E, LACMW, mixed skip waste.

Location	Applicant	Type of facility	Anticipated throughput (tonnes per annum)	Type of waste (waste class)
Yarmouth Road, North Walsham, NR28 9NA			(5,000 municipal and 10,000 C&D).	
C/5/2017/5007 & C/5/2015/5007 SPC Atlas Works, Norwich Road, Lenwade, Norwich	Mr R Cubbitt	Waste Treatment, RDF production, separation of glass, metal, inert CD&E waste for recycling. Biodegradable waste for AD offsite.	150,000 tpa	municipal / C&I /CD&E Includes 5,000tpa WEEE (some hazardous) for storage/transfer
C/2/2016/2011 Cross Bank Road King's Lynn	Mikram Ltd	Anaerobic digestion	Total 14,000 tpa	12,000 tonnes of cereal / beet feedstock and 2,000 tonnes of animal waste (slurry) p.a.
C/2/2018/2005 Maipop Farm, Biggs Road, Walsoken, Wisbech, PE14 7BD	Hereward Services Ltd	Storage in lagoons	Unknown (Lawful Development Certificate)	Spent water (from vegetable preparation and washing) and septic tank waste
C/1/2018/1001 Land adjacent building 1051, Texas Avenue, Tattersett Business Park, NR21 7RF	TP 9 Ltd	Tyre baling (for engineering purposes, energy recovery or recycling off-site)	28,000 tpa	tyres
C/1/2018/7012 Bergh Apton Recycling Centre, Wellbeck Road, Bergh Apton, NR15 1AU	Norfolk County Council	Household Waste Recycling Centre	Additional waste type of trade waste. No increase in waste quantities.	Household waste and some trade waste
C/1/2018/1014 Wells Recycling Centre, Warham Road, Wells-next-the-Sea, NR23 1NE	Norfolk County Council	Household Waste Recycling Centre	Additional waste type of trade waste. No increase in waste quantities.	Household waste and some trade waste
C/2/2018/8022 Land north of Willows Road, Willows Industrial Estate, King's	Norfolk County Council	Household Waste Recycling Centre	8,000 tpa [would replace existing HWRC so no tonnage increase	Household waste and some trade waste

Location	Applicant	Type of facility	Anticipated throughput (tonnes per annum)	Type of waste (waste class)
Lynn, PE34 3RD			overall]	
C/2/2017/2022 Waste Recycling Centre, Station Road, West Dereham, King's Lynn, PE33 9RR	Glazewing Ltd	Waste transfer /treatment	No additional tonnage, but additional waste types.	Additional waste types of: Lead Acid Batteries, tyres, WEEE, mixed municipal waste,
C/6/2017/6004 Berths 1-4 South Denes Road, Great Yarmouth, NR30 3NU	ASCO UK	Hazardous waste transfer / treatment	65,000 tpa throughput [Retrospective permission]	20,000t C&I, 40,000t hazardous, 5,000t municipal.
C/7/2018/7001 Red Roof Farm, Ludham Road, Potter Heigham, NR14 6NZ	Mr G R Playford	Incineration (without energy recovery)	90-120 tpa [replaces a previous permission which expired on 01/12/2017 – therefore no increase in throughput]	Animal waste (domestic and farm stock, bones and butchers waste, rags, paper and manmade fibres only)

In addition to the above facilities, the following additional sewage treatment capacity received planning permission in 2018/19:

Location	Applicant	Type of facility	Anticipated throughput (tonnes per annum)	Type of waste (waste class)
C/7/2017/1009 Arable field off Church Road, Bradfield, NR28 0QR	Anglian Water Services Ltd	Sewage pumping station	Not specified	Sewage

2.9 Assessment of progress against Policy CS4

2.9.1 The Minerals and Waste Core Strategy Policy CS4 states that between 2010 and the end of 2026 "there is a need to provide about 163,000 tonnes of new recycling, composting and source-segregated anaerobic digestion capacity, about 703,000 tonnes of recovery (residual waste) infrastructure and about 2,060,000 tonnes of new inert landfill/quarry restoration voidspace."

2.9.2 These figures were calculated based on the existing capacity in the financial year 2008/9. This included 684,000 tonnes of non-hazardous waste recycling and composted, plus the composting facility for 20,000 tpa at Bracon Ash permitted in 2008. In the ten years from 2009/10 to 2018/19 the average quantity of non-hazardous waste recycled at Norfolk facilities was 758,100 tonnes per annum, although this has fluctuated and has increased in the last six years. It should be noted that this is likely to double count material that is treated at more than one facility (for example green waste segregated at a transfer station and then composted at a separate facility).

2.9.3 The recycling/composting and recovery (residual waste treatment) capacities required are based on forecast municipal and commercial and industrial waste arisings (detailed in Appendix A of the Core Strategy). Facilities to treat sewage or natural agricultural waste (such as manure and silage) were not included in the calculations for need in policy CS4.

2.9.4 Additional non-hazardous landfill capacity was calculated to not be needed in the plan period, which is to the end 2026. The existing capacity is now calculated to last until 2037/38, but the landfill sites with remaining void capacity are currently inactive and not accepting any waste (except for engineering purposes).

2.9.5 Additional recycling/recovery capacity for C&D waste was not calculated to be needed in the plan period, therefore additional permitted facilities for this waste type are not detailed below.

2.9.6 Since 2009/10 the following additional waste management capacity has been permitted by Norfolk County Council:

Recycling/composting facilities

Year	Recycling capacity permitted (tonnes)	Composting capacity permitted (tonnes)
2009/10	**3,500** = 50% of throughput at transfer station in Frans Green	**45,000** (Marsham)
2010/11	**3,000** = 50% of new HWRC throughput at Dereham	0
2011/12	**13,500** = 50% of throughput of transfer station at Sculthorpe = wood recycling, Mattishall = 50% of additional HWRC capacity at Thetford ***25,000t*** *Material recycling facility at Attlebridge.*	***40,000*** *(TMA Bark supplies, Hockering)* *This permission was not implemented and therefore is not included in the total.*

Year	Recycling capacity permitted (tonnes)	Composting capacity permitted (tonnes)
	This permission was not implemented and therefore is not included in the total.	
2012/13	**12,500** = plastic & card, Shropham *(this operation ceased in 2016)* = end-of-life vehicles, North Walsham	**12,500** (expected green waste input to Anglian Water, Kirby Bedon facility)
2013/14	**Total 82,000 consisting of:** **7,500** = 50% additional capacity for transfer/treatment Carl Bird Ltd, North Walsham **3,750** = 50% transfer/treatment Skippy Skip Hire, West Winch **12,500** = 50% transfer/treatment Monk Plant Hire Hockering **6,250** = 50% transfer/treatment Monk Plant Hire Dereham **2,000** = aircraft components, KLM, Norwich **50,000** = 50% additional capacity at M Gaze and Co Ltd, Thurlton	**0**
2014/15	**15,000** = 50% additional capacity for transfer/treatment at Pips Skips, East Tuddenham = 50% additional capacity for AR Kent & Son, Pulham Market	**50** (community composting, Roughton) ***30,000 anaerobic digestion*** *(Buyinfo Ltd, Edgefield)* *This permission was not implemented and therefore is not included in the total*
2015/16	**2,000** **1,000** = ELV dismantling, Norman Wenn Ltd, East Tuddenham = 50% transfer/ treatment at Attleborough Skip Hire **30,000** = tyre recycling, Mr Gawn, Tattersett *(This permission was not implemented and therefore is not included in the total)*	**25,000 composting** Edgefield *(this is a permanent permission on an existing temporary site and therefore does not increase the permitted capacity and is not included in the total)*
2016/17	**984** = 50% of additional capacity for road sweepings at King's Lynn, NEWS = 50% transfer station at Downham Market	**0**
2017/18	**10,000** **= 50% of capacity at Beeston MRF** **= 50% additional capacity at Hempton MRF**	**0**
2018/19	**0**	**2,000 composting** (Greencomp)
TOTAL	**142,484**	**59,550**

2.9.7 Where a facility is a transfer station, it has been assumed that a minimum of 50% of the throughput will be recycled/composted, however it is recognised that this figure may be higher. Transfer stations are likely to be taking a percentage of construction and demolition waste as well as the household, commercial and industrial waste that policy CS4 plans for.

2.9.8 In addition, planning permission was granted in 2011/12 for an anaerobic digestion facility with an annual throughput of 360,000 tonnes at British Sugar's Wissington site. This facility is permitted to treat pressed sugar beet and vinasses from the production process. This facility has not been included in the additional capacity because the waste treated was previously used as animal feed and did not enter the waste stream. Therefore, it is considered that this capacity is in addition to the requirements in Policy CS4.

2.9.9 There is the potential for part of the additional capacity permitted at M Gaze and Co Ltd in 2013/14 to be for composting, but the additional capacity is for the site as a whole which comprises of waste transfer/treatment, composting, oil recovery and waste water treatment operations.

2.9.10 Permission was granted in 2018/19 for an 14,000 tpa anaerobic digestion facility at Cross Bank Road. However, this facility would accept feedstock from crops (not waste) and animal slurry (agricultural waste) and therefore does not add to the AD capacity required under Policy CS4. The planning permission has not currently been implemented.

2.9.11 There is calculated to be an additional 59,550 tpa composting capacity and 142,484 tpa recycling capacity for household, commercial and industrial waste which received planning permission in the period 2009/10-2018/19. **Therefore, the additional recycling/ composting capacity requirements over the plan period have now been met.**

Recovery (residual waste treatment) infrastructure

2.9.12 No additional recovery (residual waste treatment) infrastructure was permitted in 2009/10 or 2010/11. A biomass CHP plant fuelled by waste wood with an annual throughput of 20,000 tonnes was permitted in 2011/12. No additional recovery (residual waste treatment) infrastructure has been permitted in 2012/13, 2013/14 or 2014/15.

2.9.13 Permission was granted in 2015, to increase the throughput of an existing waste management facility at Rackheath (PHS Environmental Ltd) from 75,000 tpa to 150,000 tpa. The permitted operations include processing waste (mainly local authority collected municipal waste) into Refuse Derived Fuel (RDF) prior to energy recovery off-site. This permission would provide 75,000 tonnes of additional residual waste treatment capacity to continue to move the management of waste up the hierarchy, by diverting it from landfill.

2.9.14 Permission was granted in 2016 for the pyrolysis of 700 tonnes of plastic per annum. No additional recovery (residual waste treatment) infrastructure was permitted in 2017/18.

2.9.15 Permission was granted in 2018/19 for a facility at Lenwade to process waste into Refuse Derived Fuel (RDF) prior to energy recovery off-site. This permission would provide 150,000 tonnes of additional residual waste treatment capacity per

annum to continue to move the management of waste up the hierarchy, by diverting it from landfill. This planning permission has not currently been implemented.

2.9.16 Therefore, there remains a need for nearly 458,000 tpa additional recovery (residual waste treatment) infrastructure capacity over the plan period in accordance with policy CS4. There is the potential for some of this capacity to be provided by recycling/composting facilities instead of recovery (residual waste treatment) facilities if necessary. Some of this forecast capacity need is for pre-treatment prior to disposal only and the existing transfer stations would be providing part of this service.

2.9.17 It should also be noted that there is a waste management facility producing Refuse Derived Fuel (RDF), at Costessey, with a permitted throughput of 219,000 tpa in their Environmental Permit. Planning permission (ref. C/7/2012/7015) was granted for RDF production to take place at this existing waste management facility in September 2012. This planning permission did not increase the throughput or types of waste that could be treated at the facility and the RDF is produced from residual waste which would previously have been treated at the facility, but then sent to landfill. Therefore, the change in the treatment process at an existing waste management facility is not considered to provide any additional recovery (residual waste treatment) infrastructure.

2.9.18 Existing **inert landfill and quarry restoration** capacity is recorded in section 2.2 as 1,021,250 cubic metres on 31 March 2019. This capacity is calculated to last until between 2022 and 2025. Therefore, there is still insufficient capacity for the plan period (until the end of 2026).

2.10 Conclusions for waste management

A summary of the main waste data to be drawn from the 2018/19 survey of waste management facilities is as follows:

- The total amount of Local Authority Collected Municipal Waste decreased in the year 2018/19 (404,142 tonnes) compared to 2017/18 (422,640 tonnes);
- Waste input into non-hazardous landfill sites in 2018/19 was 172,000 tonnes, an increase of approximately 10% on the 2017/18 figure and about 2,000 tonnes below the 3-year average of 170,000 tonnes (all the waste was used for engineering purposes);
- Norfolk's non-hazardous landfill capacity is calculated to last until 2037/38 based on the forecasts of waste arisings in the Minerals and Waste Core Strategy;
- The landbank for inert landfill and quarry restoration sites stands at 5.8 years, assuming waste inputs remain the same as the average for the last three years, or just over 3 years assuming waste inputs increase by 2.5% per annum;
- The quantity of inert and construction & demolition waste recovered in 2018/19 was 494,000 tonnes; which is 81,900 tonnes more than the 10-year average of 412,100 tonnes;
- The quantity of non-hazardous waste recycled/composted in 2018/19 (990,000 tonnes) was 222,000 tonnes higher than the quantity recycled in 2017/18, and was about 238,200 tonnes higher than the 10-year average of 751,800 tonnes; and
- The overall quantity of waste handled in Norfolk in 2018/19 (2,426,196 tonnes) was 439,783 tonnes more than 2017/18 (an increase of 22%), and 473,100 tonnes more than the 10-year average of approximately 1,953,100 tonnes.
- The Norfolk Waste Site Specific Allocations Plan was adopted on 28 October 2013. The plan covers the period until the end of 2026 and allocates specific sites that are considered suitable in principle and available for development as waste management facilities. The allocated sites would provide for enough waste management capacity to meet the needs within Norfolk for the plan period.

Waste is produced as the result of human activity. As economic activity increases, along with a consequent increase in house building, population and household formation it is to be expected that amounts of waste generated would increase. The figures of total waste managed in Norfolk would seem to reflect this with amounts increasing to a high point in 2007/2008 of 2,365,800 tonnes before falling during subsequent years of lower economic activity, followed by an increase in 2013/14.

However, the total waste managed reduced again in 2014/15, mainly due to a reduction in inert waste used in quarry restoration in that year. In 2015/16 and 2016/17 the total waste managed increased again to the highest level since 2007/08. However, the total waste managed in 2017/18 decreased by 11% from the previous year, mainly due to a reduction in inert waste used in quarry restoration that year. In 2018/19 the total waste managed increased again across all waste management types.

Therefore, there does not appear to be a pattern in the quantities of waste managed in Norfolk over the past five years and the total waste managed will need to be

monitored over subsequent years to see if an upward trend develops or if the previous decreases since 2007/08 are re-established.

Waste planning should be trend based as any individual year can contain anomalies due to the methods of data collection and the impacts of individual events which may generate large amounts of waste.

A review of the Minerals and Waste Local Plan began in 2017 and this will provide an appropriate point for reassessing waste trends. A separate Waste Management Capacity Assessment was produced in June 2019 which contains information on existing waste management capacity in Norfolk, waste movements to and from Norfolk, and a forecast of future waste arisings in Norfolk.

APPENDIX A

A.1 Non-hazardous landfill capacity assessment

Table A1

Year	MSW & C&I and imported London waste to landfill (Table A.2 of the Core Strategy)	Remaining non-hazardous landfill capacity (starting at 4,536,330m^3)
2019/20	372,012 m^3	4,164,318
2020/21	349,131 m^3	3,815,187
2021/22	327,852 m^3	3,487,335
2022/23	305,278 m^3	3,182,057
2023/24	282,708 m^3	2,899,349
2024/25	260,142 m^3	2,639,207
2025/26	237,518 m^3	2,401,689
2026/27	215,023 m^3	2,186,666
2027/28	Estimate 215,000 m^3	1,971,666
2028/29	Estimate 215,000 m^3	1,756,666
2029/30	Estimate 215,000 m^3	1,541,666
2030/31	Estimate 215,000 m^3	1,326,666
2031/32	Estimate 215,000 m^3	1,111,666
2032/33	Estimate 215,000 m^3	896,666
2033/34	Estimate 215,000 m^3	681,666
2034/35	Estimate 215,000 m^3	466,666
2035/36	Estimate 215,000 m^3	251,666
2036/37	Estimate 215,000 m^3	36,666
2037/38	Estimate 215,000 m^3	-178,334

Non-hazardous landfill capacity at 31/03/2019 was 5,097,000m^3. 11% of non-hazardous voidspace is assumed to be taken up by inert waste (560,670 m^3, leaving 4,536,330 m^3 voidspace for non-hazardous waste.

The adopted Norfolk Minerals and Waste Core Strategy only contains forecast waste arisings and the associated need for landfill capacity covering the period up to 2026/27. Therefore, an assumption that a maximum of 215,000 tonnes per annum would continue to be disposed of to landfill in the years after 2026/27 has been used for the purposes of calculating how long the existing landfill capacity will last.

A.2 Inert landfill and quarry restoration capacity assessment

Table A2

Year	Inert waste (tonnes)	Inert waste (m3)	Remaining inert landfill and quarry restoration capacity (starting at 1,021,250 m^3)
2019	424,000	284,000	737,250
2020	433,000	290,000	447,250
2021	441,000	295,000	152,250
2022	450,000	302,000	-149,750

The forecast inert waste arisings detailed in the table above are the same as those used to assess the need for additional inert landfill/quarry restoration capacity in the Norfolk Minerals and Waste Core Strategy.

It should be noted that non-hazardous landfill sites also received a proportion of inert waste (historically approximately 11% of the waste they receive). Therefore, there is the potential for an additional 560,670m^3 to be available for inert waste disposal in Norfolk's existing non-hazardous landfill sites, which would provide around two years' additional capacity.