

Kent Waste Disposal Strategy

2017-2035

Evidence Base



1 It is advised this Evidence Base document is read prior to the Strategy

This document can be made available in other formats or languages.

To request this, please email alternativeformats@kent.gov.uk or telephone 03000 421553 (text relay service 18001 03000 421553). This number goes to an answer machine, which is monitored during office hours.

Contents

Introduction	5
Background	6
How household waste in Kent is managed	6
Closed landfill sites	7
Kent Resource Partnership and the Kent Joint Municipal Waste Management Strategy	8
Key interdependent corporate policies and strategies	9
Kent Joint Municipal Waste Management Strategy (KJMWMS)	9
Kent Growth and Infrastructure Framework	10
Kent Minerals and Waste Local Plan	10
KCC Strategic Statement	11
KCC Commissioning Framework	11
KCC Customer Service Policy	12
Kent Environment Strategy	13
Household Waste Recycling Centres and Waste Transfer Stations	14
Background	14
Trade Waste	15
What do KCC HWRCs accept?	15
What happens to the waste?	16
Recent site improvements and development	18
HWRC policies	19
Material acceptance and charging	21
TEEP (Technically Environmentally and Economically Practicable)	22
Vehicle restrictions at HWRCs	22
Cross border use of HWRCs	23
Health and Safety	24
Waste Disposal Contracts	25
Current Performance	26
Key Legislative Drivers	28
Waste hierarchy	29
Waste Framework Directive	29
Waste (England and Wales) Regulations	30
European Directive on the Landfill of Waste	30
Material Recovery Facility (MRF) Code of Practice	31
Future legislation	32
Future targets	33

Material Markets	34
Material quality	34
Oil price	35
Shipping prices	35
Changing and uncertain export markets	35
Changing waste composition	35
Future waste projections and capacity requirements	36
Population and housing	36
Waste tonnage projections	37
HWRC network pressures	38
Future waste infrastructure requirements	39
Customer feedback	40
Customer satisfaction surveys (face-to-face)	40
Customer satisfaction surveys (online)	41
Mystery shopping	41
Complaints, comments and compliments	42
Customer education and awareness	42
Reuse	43
Flytipping and litter	43
Flytipping	43
Littering	44
Strategic Environmental Assessment	44
Appendix A: Glossary of Terms	45
Appendix B: HWRC Materials Handled (tonnes)	47
Appendix C: Disposal Authority Benchmarks 2014/15	48
Appendix D: Population projections by district to 2031	49
Appendix E: HWRC land leasing and ownership arrangements	49

Introduction

The aim of this evidence base report is to describe the current position of Kent County Council (KCC) Waste Management as well as the challenges and opportunities we face now and into the future. It provides further information to support the **Waste Disposal Strategy document** which sets out our approach for service delivery up to 2035.

A glossary of terms used in this document can be found in Appendix A.

With a projected increase in waste, fluctuations in market value for recyclate, and limited local processors, coupled with sustained budget savings required across the public sector, it is important that we deliver even better services to the Kent taxpayer. The waste disposal strategy for KCC Waste Management is needed to protect service delivery in the future and will be achieved through;

- Identifying further saving efficiencies.
- Building greater flexibility to deal with and react to changes with regards to quantity, composition and quality of waste streams and in line with forecast economic and housing growth.
- Identifying risks to local supply chains and service provision.
- Making a significant contribution to the broader Outcomes Framework of the Council (Strategic Statement).
- Ensuring KCC meets its statutory environmental compliance and public protection functions.
- Helping future proof service delivery for customers including Waste Collection Authorities (WCAs - district/ borough councils)
- Providing equitable access to customer service for Kent residents and compliance with the Equality Act 2010.
- Equipping KCC to succeed in meeting local and national targets.
- Maximising synergies between internal and external partners.

The scope of the project centres on the role and responsibilities of KCC Waste Management as the Waste Disposal Authority (WDA) and the partnership obligations of a two-tier system.

It should be noted that the statutory and discretionary services provided by a Waste Collection Authority are not within scope of the strategy, notwithstanding the major synergies between the services provided. This two-tier relationship is explained in more detail below.

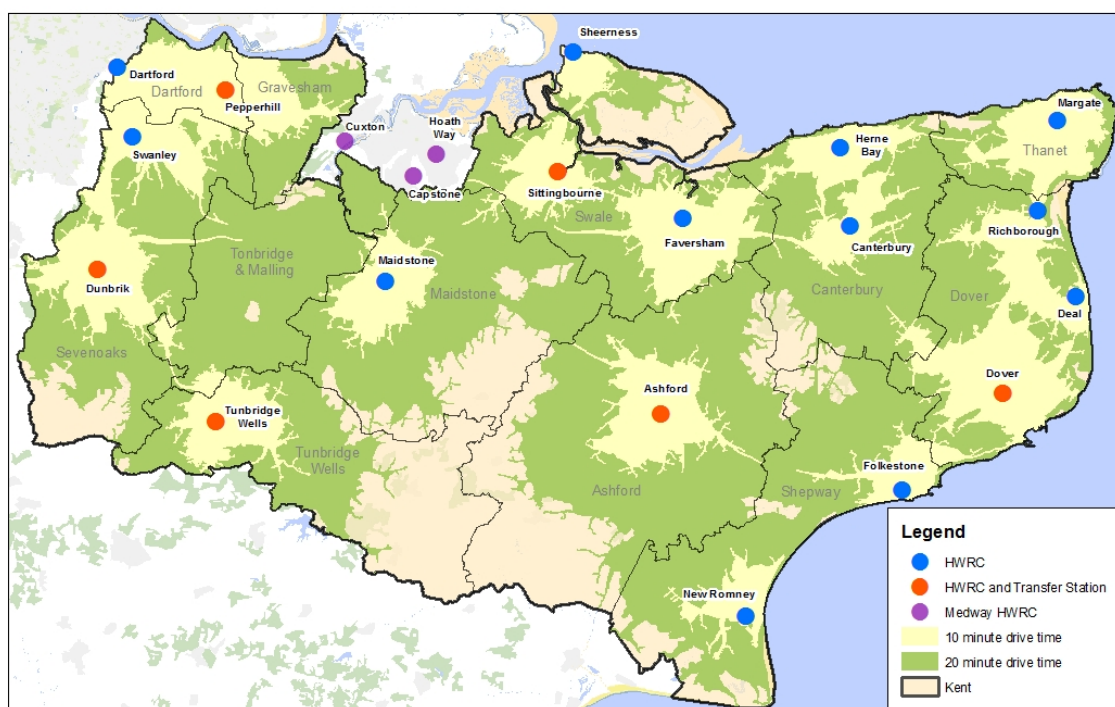
The Strategy covers the period of 2017 to 2035 based on current targets, budget constraints and some contractual commitments, however it should be noted that the strategy will be reviewed and updated every 5 years as a minimum in what is an ever changing waste industry.

Background

How household waste in Kent is managed

Kent County Council (KCC) operates as the **Waste Disposal Authority (WDA)**. The 12 district/borough/city councils of Kent operate as the Waste Collection Authorities (WCAs). KCC arranges the recycling/disposal of waste collected from households by the WCAs. In addition KCC provide Household Waste Recycling Centres (HWRCs) in accordance with the Environmental Protection Act 1990 (EPA). KCC currently operates a network of 18 HWRCs providing facilities for re-use, recycling and safe disposal, for a range of material streams delivered by Kent residents. Co-located at 6 of these sites are Waste Transfer Stations (WTSs) for the deposit and bulk loading of waste materials collected and delivered by the District and Borough Councils of Kent, as well as trade waste from businesses. There are also 2 Transfer Stations of use at Allington (operated by Kent Enviropower) and Hersden (operated by Ling Group).

Map 1: KCC HWRCs and WTSs¹



Produced by Waste Management, KCC.
© Crown Copyright. All rights reserved 100019238, 2015.

10 Miles



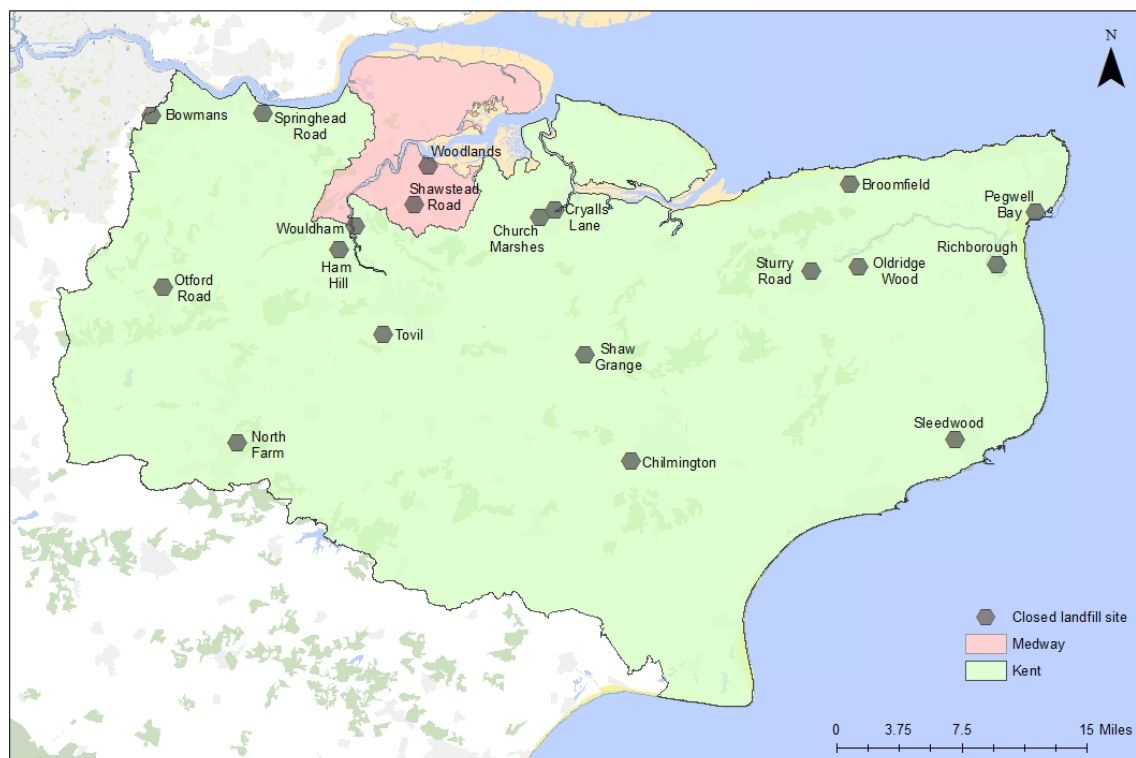
¹ This map also shows the 3 HWRCs run by Medway Council. Medway Council is a Unitary Authority and therefore deals with its own waste collection and disposal of household waste.

Closed landfill sites

KCC also manages and maintains 19 closed landfill sites to ensure they comply with environmental standards.

Most of the sites have been closed and restored for 30 years (i.e. they are no longer used for landfill) but we still need to ensure that any gasses and contaminated water caused by the rotting down of organic wastes are collected and treated where necessary. This might be by burning off potentially harmful gas or by treating contaminated water from the site. Landfill sites offer the potential for informal recreation or grazing of animals once they've been restored, which is the case for many of the closed landfill sites in Kent.

Map 2: Kent Closed Landfill Sites (for which KCC have responsibility²)



Produced by Waste Management, KCC.
© Crown Copyright. All rights reserved 100019238, 2016.

² We are still responsible for monitoring a small number of closed landfill sites on behalf of Medway Council. There are also a number of privately owned landfill sites for which we do not have responsibility.

Kent Resource Partnership and the Joint Municipal Waste Management Strategy

The Kent Resource Partnership³ (KRP) is a partnership of the 13 local authorities in Kent. These are Kent County Council and the 12 District/Borough/City councils of: Ashford, Canterbury, Dartford, Dover, Gravesham, Maidstone, Sevenoaks, Shepway, Swale, Thanet, Tonbridge & Malling and Tunbridge Wells.

The key activities of the KRP are to:

- Ensure delivery of the Kent Joint Municipal Waste Management Strategy (see 'Key interdependent strategies and policies' p.9 for more detail).
- Provide a platform for cooperative and joint working to improve services.
- Act as a single voice for strategic waste issues for Kent local authorities.
- Increase awareness of waste as a resource, promote waste minimisation and achieve an economically, environmentally and socially sustainable waste strategy.
- Work with stakeholders who are developing, supporting and influencing the future direction of sustainable waste/resource management.

The Kent Joint Municipal Waste Management Strategy (KJMWMS) has been developed by the 13 councils in the Kent Resource Partnership. The purpose of the Strategy, which was launched in April 2007 and due to be updated in 2017, is to set out how the KRP intends to manage household waste arisings over the period 2007-2027.ⁱ

Furthermore, there are currently two joint waste contracts in place across Kent which are designed to maximise efficiency as well as boost recycling services and recycling quality, providing the best value services for Kent residents. By working in partnership there are better opportunities for service optimisation, combined resources and service innovation. Making it easier for Kent residents to recycle will lead to inevitable improvements on both recycling quality and recycling targets.

The first joint waste contract, the East Kent Joint Waste Partnership, was established in 2011 between Shepway, Dover, Canterbury, Thanet and KCC. The Partnership was set up under two phases – the first saw Veolia winning the contract to provide joint collection, processing of recycling and street cleansing services for Dover and Shepway. This was followed in 2013 when Veolia took on processing of recycling including food and garden waste for Thanet and Canterbury. Two years later, in 2013, a second Joint Waste Partnership was established in

³ <http://www.kent.gov.uk/about-the-council/partnerships/kent-resource-partnership>

mid-Kent between Ashford, Maidstone, Swale and KCC called the Mid-Kent Joint Waste Partnership. Biffa was awarded the contract providing joint collection, processing of recycling and street cleansing services across the partnership. The most significant change under this contract was that Ashford Borough Council's recycling rate almost tripled to over 50% within the first three months of implementation. Discussions are underway regarding opportunities for joint partnerships in West Kent. It should be noted that for optimum disposal costs, a single collection methodology by all WCAs in Kent (and indeed nationally) would be favourable, however this is unlikely to happen due to political and contractual variances.

Key interdependent corporate policies and strategies

There are a number of corporate policies and strategies which will have clear interdependencies with the Waste Disposal Strategy and it is vital to ensure the Strategy dovetails with these and is not at odds. These main policies and strategies are detailed below.

Kent Joint Municipal Waste Management Strategy (KJMWMS)

The Kent Joint Municipal Waste Management Strategy outlines the approach for dealing with Kent's municipal solid waste to 2027. This strategy is owned by the Kent Resource Partnership⁴.

KCC fully recognises that any WDA Strategy in a two-tier system must take full account of the ambitions and aims of district/borough councils. There is a need to ensure a 100% dovetailing with the current, and future, Joint Municipal Waste Management Strategy agreed by all 13 councils.

A number of policies are set out in the strategy, such as promoting the use of waste as a resource, ensuring we are delivering high quality services and seeking opportunities to change behaviours and attitudes to waste.

A commitment was made by the KRP to achieve a minimum level of 40% recycling and composting of household waste in Kent by 2012/13, with individual authorities reaching recycling levels above or below this figure according to their local circumstances; and Kent County Council increasing recycling at Household Waste Recycling Centres to 60% by 2012/13.

The KRP have since exceeded this target and for the 2015/16 financial year, KCC had a Recycling rate of 69.4% across its HWRC network. Whilst many district and borough councils have improved

⁴ The Kent Resource Partnership was developed from the rebranded Kent Waste Partnership in 2013.

their recycling rate over the past few years, there are a number who are still working to reach the 40% overall target agreed by the KRP.

KCC are committed to continue to work closely with the KRP to reach the joint outcomes of the KJMWMS.

Kent Growth and Infrastructure Framework

The Growth and Infrastructure Framework (GIF), developed in close collaboration with Medway and the 12 Kent district and borough councils, provides a framework not only for identifying and prioritising investment in infrastructure across Kent, but also for testing the impact of innovation in the way in which we provide public services.

The GIF brings together a clear picture over the Local Plan period to 2031 on:

- Housing and economic growth planned to 2031 across Kent and Medway;
- the fundamental infrastructure needed to support this growth;
- the cost of this infrastructure;
- the potential funding sources across the public and private sector funding during this period: and,
- the likely public sector funding gap and work towards solutions.

The GIF draws on information and data from a range of sources to give a strategic picture of Kent's provisions for growth and infrastructure now and for the next 20 years.

This framework is an integral document when considering the development and now the delivery of the Waste Disposal Strategy. With an increase in population, is an expected increase in waste. We will look to the GIF to inform the future provision of waste to understand where waste tonnages may change so that services can be provided where they are most needed.

Kent Minerals and Waste Local Plan (2013-2030)

The Kent Minerals and Waste Local Plan produced by KCC as the Waste Planning Authority sets out the vision and strategy for mineral provision and waste management in Kent, it contains a number of development management policies for evaluating minerals and waste planning applications and considers strategic site provision for all minerals and waste management facilities plan to the year 2030.

The plan puts forward a number of policies as a high-level delivery strategy for waste management in Kent up to 2031 for all waste streams and not just household waste. These

policies informed the development of the Waste Disposal Strategy and will inform subsequent action and implementation plans. This is explored further in the 'Future Waste Infrastructure Requirements' Section p.39.

KCC Strategic Statement (2015-2020)

'Increasing opportunities, Improving Outcomes' is the strategic statement for KCC. Its vision- 'improving lives and ensuring every pound spent in Kent is delivering better outcomes for Kent's residents, communities and businesses.'

Over the past four years, KCC has made £350m in savings but with finances remaining under pressure, people continue to have greater expectations about how to access services and how services can be delivered.

KCC wants to be an outcome-focussed organisation. The strategic statement outlines these high-level outcomes and how they link to the vision. The strategic outcomes are;

- Children and young people in Kent get the best start in life.
- Kent communities feel the benefits of economic growth by being in-work, healthy and enjoying a good quality of life.
- Older and vulnerable residents are safe and supported with choices to live independently.

The key Supporting Outcome from the statement relating to the provision of the Waste Management service in KCC is "Kent's physical and natural environment is protected, enhanced and enjoyed by residents and visitors".

This statement also includes maximising social value (or community benefits) through the procurement and commissioning of our services by promoting the importance of apprenticeships. The Waste Disposal Strategy delivery will explore opportunities to work with local communities and the voluntary sector to deliver services.

The outcomes were considered through the development and now delivery of the Waste Disposal Strategy.

KCC Commissioning Framework

The Council intends to become a strategic commissioning authority. This does not mean that KCC will be outsourcing all of its services but will consider more carefully the best way to deliver its services. It will develop the culture of the organisation to embed a number of core principles which form a Commissioning Framework;

- Principle 1: Focussed on outcomes for our residents.
- Principle 2: A consistent commissioning approach to planning, designing and evaluating services.
- Principle 3: The right people involved at the right stage of commissioning.
- Principle 4: Open-minded about how best to achieve outcomes.
- Principle 5: High-quality, robust evidence informing our decisions.
- Principle 6: Hold all services to account for the delivery of KCC's strategic outcomes.
- Principle 7: Customers at the heart of our commissioning approach.
- Principle 8: A commitment to building capacity.
- Principle 9: We will maximise social value.
- Principle 10: Our supply chains will be sustainable and effective.

Commissioning forms an important part of the KCC Waste Management service and we seek to embed these principles in our day-to-day procurement activities. We work closely with the KCC procurement team to determine the best approach for commissioning each individual service.

We will further develop our future commissioning approach and plans around these principles, within the Waste Disposal Strategy delivery.

KCC Customer Service Policy (2015-2018)

The Customer Service Policy sets out KCC's commitment to its customers as we move further towards becoming a commissioning authority.

The Policy is underpinned by three core principles; Delivering Quality, Customer Focused Services, and Intelligent Commissioning. These three principles will help us deliver services that support Kent's residents, businesses and communities. They will help us to provide a consistent service to customers ensuring we are delivering the right services, to the right people, in the right way.

Waste Management currently places the customer at the heart of its services, and uses a number of tools to collect feedback and measure satisfaction levels. We ensure that this commitment to our customers is reflected in our contracts and expect this same standard from our service providers.

Moving forwards as part of the Waste Disposal Strategy, KCC Waste Management will continue to embed these principles when developing services and policies, consulting its customers and stakeholders and collecting feedback to ensure the services it delivers are fit for purpose. We will

consider how people access our services, and seek opportunities for digital delivery where possible.

Kent Environment Strategy (2011)

The Kent Environment Strategy (KES) forms part of the 'Vision for Kent' and identifies the challenges that Kent continues to face and developing pressures to improve the county's natural environment. This includes improving water and air quality, to minimise the negative impacts to biodiversity and climate change.

The Kent Environment Strategy focuses on 3 themes;

- Living well within our environmental limits.
- Rising to the climate change challenge.
- Valuing our natural, historic and living environment.

Each of these themes presents a series of priorities and actions to be undertaken to achieve these and the first of these identifies a specific priority for waste which should be considered;

EF Priority 3- Turn our waste into new resources and jobs for Kent

- EF 3.1 Assess 'waste resource' potential and harness economic opportunities.
- EF3.2 Reduce key wastes going to landfill.
- EF3.3 Conversation with waste resource businesses in or moving to Kent .

This priority recognises that waste has the potential to be a valuable resource and this will help us to create jobs and a low carbon economy.

It also stresses that businesses and communities must take responsibility for minimising the amount of waste they produce and makes a commitment to use sustainable construction techniques and materials, minimise waste and maximise reuse and recycling.

This priority falls in line with the thinking behind a number of elements of the Waste Disposal Strategy. The KES has developed an implementation plan and some of the activities undertaken to meet the outcomes of the waste strategy will link into those of the KES.

Household Waste Recycling Centres and Waste Transfer Stations

Background

KCC operates 18 HWRCs within Kent for Kent residents to dispose of their household waste. In addition, 6 of these sites also operate WTSs for the deposit and bulk loading of waste materials collected and delivered by the District and Borough Councils of Kent, as well as trade waste from businesses.

Kent's 18 HWRCs are currently managed by 4 private waste management companies. These organisations manage the day-to-day operation of the HWRCs on behalf of KCC.



Details of HWRC and WTS facilities, and contractors who manage their operation, are as follows:

Facility	Managed by
Ashford HWRC & WTS	Biffa Ltd
Canterbury HWRC	Biffa Ltd
Dartford HWRC	The Slattery Partnership
Deal HWRC	Biffa Ltd
Dover HWRC & WTS	Biffa Ltd
Faversham HWRC	Biffa Ltd
Folkestone HWRC	Biffa Ltd
Gravesham/Dartford HWRC & WTS (Pepperhill)	FCC Environment
Herne Bay HWRC	Biffa Ltd
Margate HWRC	Biffa Ltd
Maidstone HWRC	The Slattery Partnership
New Romney HWRC	Biffa Ltd
Sandwich HWRC (Richborough)	Biffa Ltd
Sevenoaks HWRC & WTS	Commercial Services Kent Ltd
Sittingbourne HWRC & WTS	Biffa Ltd
Sheerness HWRC	Biffa Ltd
Swanley HWRC	The Slattery Partnership
Tunbridge Wells HWRC & WTS	Commercial Services Kent Ltd

Trade Waste

It is illegal for trade waste to be disposed of at any of KCC's HWRCs, which is a service provided for the disposal of household waste only. KCC is not required to provide a facility for the disposal of trade waste. As such, and due to the high cost for disposing of this waste, KCC has a number of policies in place to prevent trade waste from coming through its HWRCs, (see 'HWRC Policies' p.19 for details) coupled with a reliance upon monitoring and enforcement.

Currently, anyone suspected of disposing of trade waste at an HWRC is asked to complete a 'Non-Trade Waste Declaration Form', and KCC Waste Management will investigate anyone who is identified as a persistent offender. CCTV and Automatic Number Plate Recognition (ANPR) is in place across sites, which can be used to assist in these investigations where necessary.

However, despite businesses and organisations having a 'duty of care' to ensure their waste is disposed of correctly, in order to mitigate against environmental crime such as flytipping, KCC Waste Management have facilities in place to ensure businesses can dispose of their waste responsibly.

A trade waste service is offered at a number of KCC's WTSs; Dover, Sevenoaks, Sittingbourne and Tunbridge Wells. Both residents and businesses are able to use this service, which is offered by the WTS operators, who make a charge for disposal of this waste.

A number of HWRCs within Kent have permits that allow for the acceptance of trade waste should KCC Waste Management choose to provide this service in the future. In 2006, a trade waste service was trialed at Canterbury HWRC with little success, however there is no data to support why the opportunity wasn't taken up by traders or understand how well marketed this was.

There are a number of private trade waste disposal facilities in Kent. KCC Waste Management has put together a business waste guide, which is available via the KCC website. This is provided for those wishing to dispose of trade waste, hazardous waste or large amounts of waste that are not accepted at HWRCs.

What do KCC HWRCs accept?

The HWRCs accept a vast array of materials for reuse, recycling or safe disposal. There are slight variations at some sites, but in general they accept the following waste materials from Kent residents (tonnages can be found in Appendix B):

Accepted for reuse or recycling⁵

Car Batteries	Hardcore and Rubble
Cardboard	Large Household Appliances (white goods)
Cooking Oil	Low Energy Light Bulbs
Domestic Dry Cell Batteries	Paper
Drinks Cans and Food Tins	Plasterboard
Electrical Items	Printer Cartridges
Engine Oil	Scrap Metal
Fluorescent Tubes	Small Household Appliances
Foil, including food trays and packaging	Soil
Fridges and Freezers	Textiles and Clothes
Furniture	Televisions and Monitors
Garden Waste	Tyres
Gas Bottles and Cylinders	Wood and Timber
Glass Bottles and Jars	

Accepted for safe disposal⁶

Asbestos	General Household Waste
Large Bulky Waste (including carpets and mattresses)	Household and Garden Chemicals & Pesticides
Furniture (non-recyclable)	Paint (dried paint)

What happens to the waste?

The recycling rate for waste delivered to Kent HWRCs by residents, is approximately 70% (69.43% in 2015/16). KCC has numerous contracts with recycling outlets to ensure reuse, recycling and composting activities are achieved in accordance with the waste hierarchy (see 'Key legislative drivers' section p.28). Table 1 below explains what happens to the different types of waste types.

⁵ There is a limit on the amount of some materials which can be bought into sites (soil, rubble and hardcore, tyres and asbestos). Business/ commercial/ trade waste is not accepted at the HWRCs.

⁶ Some of the bulky items e.g. mattresses, furniture and carpets are recovered for energy production, with recycling options proposed.

Waste that is not reused, recycled or composted is treated at the Allington Waste to Energy facility near Maidstone. The waste is burnt under controlled conditions to produce steam that is used to generate electricity. The facility is operated by Kent Enviropower⁷.

A very small percentage of waste goes to landfill, due mainly to new ways to recycle these items being utilised by the County and its contractors.

Table 1: What happens to the waste

Material	What happens to it
Asbestos	Safely disposed of in hazardous waste landfill sites
Car Batteries	Specialist recycling processes recover the useful materials automotive lead acid batteries contain
Chemicals and Pesticides	Collected by specialist company for safe disposal
Cooking Oil	A specialist company collects used cooking oil for recovery into green electricity. Through natural settling and filtering, used cooking oil is transformed into a bio liquid, for use in eco-friendly power stations
Domestic Dry Cell Batteries	Specialist recycling processes recover the useful materials batteries contain
Electrical Items	Items are shredded and component materials extracted for onward recycling (metal, plastic, glass, textiles etc.)
Engine Oil	Used engine oil is blended into a processed fuel oil. Waste oil is also re-refined for reuse as base oils
Fridges and Freezers	All waste refrigerated units are processed under stringent ruling to remove harmful gases from the unit and the foam walls, prior to being recycled for their component materials (mainly metal and plastic)
Furniture	Currently recycled for the component materials (inc. wood and metal) where possible
Garden Waste	Composted at local composting facilities to make soil improver
Gas Bottles and Cylinders	Empty gas bottles and cylinders are repatriated with producer where possible, or recycled as metal
General household waste	General waste is burnt under controlled conditions to produce steam that is used to generate electricity. This powers the Waste to Energy facility and supplements the local supply network
Glass Bottles and Jars	Recycled into new glass bottles and jars, used in road construction and can be used to make many other new glass products such as jewellery and floor/wall tiles
Hardcore, Rubble and Soil	Shredded, sifted and graded often for use in landscaping applications and construction
Large Bulky Waste (carpets and mattresses etc.)	Large bulky waste is now shredded and recovered as a Refuse Derived Fuel for power stations
Light Bulbs	Lightbulbs are crushed and dismantled with the separated

⁷ <http://www.fccenvironment.co.uk/kent-enviropower.html>

(low energy light bulbs and fluorescent tubes)	glass and metal then being reused in the manufacture of various new glass and metal products. Mercury is safely extracted for reuse
Paint	Paint in plastic tubs is disposed of as general waste. Hardened paint in metal tins can be recycled with metal.
Paper and Cardboard	Recycled into new paper/cardboard products such as newspapers, toilet paper, cereal boxes and any other paper/card products
Plasterboard	Plasterboard and gypsum waste passes through a series of shredders, mills and screens which granulate and produce a recovered gypsum powder which can then be used to make new plasterboard products
Printer Cartridges	Refilled for reuse. Component parts recycled where reuse is not possible
Scrap Metal	Recycled and used in the manufacture of various metal products from drink cans and food tins to washing machines and cars
Textiles and Clothes	Reused in developing countries. Clothing that cannot be reused is used as industrial wipes
Televisions and Monitors	TVs are dismantled, and lead is extracted from Cathode Ray Tube (CRT) televisions. Component materials including glass, metal and plastic are recycled
Tyres	Tyres can be shredded and granulised, and can be used for equestrian purposes, play area flooring, cover for landscaping applications and to make items such as mouse mats and pencil cases
Wood and Timber	Wood is shredded and graded. Recycled woodchip is then destined for chipboard manufacture

Recent site improvements and development

Throughout history, human progress has been intrinsically tied to the management of waste due to its effect on public and environmental health. The modern waste management industry has come far, and with increased recycling and technological advances.

The majority of KCC's HWRCs and WTSs were designed and built some years ago, and were initially intended to manage small quantities of household waste produced by Kent residents in addition to 'black sack waste' collected by the WCAs.

Continued investment in the HWRC and WTS network infrastructure has been made in order to support waste growth, recycling advancements and legislative requirements. In recent years significant development has been realised with investment to the following facilities:

Ashford HWRC & TS

A brand new state of the art HWRC and WTS was built in 2013 replacing the old HWRC. This facility provides extensive recycling and waste disposal services for Kent residents, with the addition of the WTS for the acceptance and bulk loading of WCA collected household waste.

New Romney HWRC

The development of a new HWRC in New Romney serving the residents of Folkestone and Ashford. This facility was opened in 2011 and replaced the limited weekend freighter service which was operating at the time.

Pepperhill HWRC & TS

This HWRC serving residents of Gravesham and Dartford was redeveloped in 2008 providing a larger, state of the art undercover HWRC (the first of its kind in Kent). This facility was also expanded to include a WTS to enable bulk loading of locally collected domestic waste by WCAs.

However, further investment and changes to the HWRC network are likely to be required in the future, as population increases resulting in more waste being produced, adding pressure to the network where sites may already be operating at full capacity. More details are provided in 'HWRC network pressures' p.37.

HWRC Policies

On 1st October 2012, a number of operating policies came into effect across KCCs HWRC network. The policies were agreed through a Member⁸ decision with the aim to reduce the number of traders illegally exploiting these facilities, at a cost of up to £500k per year for unnecessary disposal charges which are borne by the Kent tax-payer. The policies include limits and/or charges for certain material streams, and vehicle restrictions. Some small amendments were made in 2014 following a review. Details of these current policies are noted below.

Soil, rubble and hardcore:

The amount of soil, rubble and hardcore that could be delivered to the HWRC is limited to 90kgs (190lbs) per day by a single vehicle, or combined with a trailer. To put this amount into perspective, it represents approximately 3 sacks of soil, rubble and hardcore.

⁸ Elected county councillors

Asbestos:

Asbestos is limited to 5 sacks or the equivalent per month and is accepted at all HWRCs.

Tyres:

Tyres are limited to 2 tyres per visit (car and motorbike tyres only) at a charge of £5 for up to 2 tyres and are accepted at all HWRCs.

Vehicle restrictions:

Vehicle restrictions are in place to prevent trade waste from entering the HWRCs. Some vehicles may require vouchers to gain access.

Vehicles allowed without needing vouchers:

- Cars and estate cars with windows all the way round and seats throughout.
- People carriers, 4x4s and minibuses (excluding open backed vehicles) with windows all the way round and seats throughout (maximum 9 seats).
- Taxis and sign-written cars with windows and seats throughout.

Vehicles needing vouchers:

To get vouchers for the vehicle types noted below, it must be the only vehicle in the household, no more than 2m tall (unless a campervan or minibus) and have a maximum gross vehicle weight (GVW) of less than 3.5 tonnes.

- People carriers, 4x4s, minibuses with panels in place of windows and/or no rear seats.
- Pick-up trucks or open back vehicles (including those with a removable top).
- Minibuses with 10 seats or more.
- Van – car derived (at manufacture stage or modified). Panels in place of windows and/or no rear seats.
- Panel vans.
- Campervans or minibuses over 2m high (but less than 3.5 tonnes), with windows and seats throughout.

Vehicles not allowed:

- Vehicles with a maximum gross vehicle weight (GVW) of more than 3.5 tonnes.
- Vehicles more than 2m tall (unless a disability adapted vehicle or campervan/ minibus).
- Hire vehicles.
- Horseboxes and agricultural trailers.

Trailer size:

Trailers bodies of the following size are permitted:

- Maximum 2.05 metres (6ft 8inches) long.
- Not more than 1 cubic metre (35cubic feet) capacity.
- No wider than the domestic vehicle towing the trailer.
- No agricultural trailers or horse boxes are permitted.

Disability Adapted Vehicles:

Kent residents should contact KCC to make arrangements to access HWRCs in disability adapted vehicles. A height restriction of 2 metres (6ft 6 inches) applies at Sevenoaks, Swanley and Faversham HWRCs. At all other HWRCs the height barrier can be opened for over-height disability vehicles following arrangements made with KCC.

Material acceptance and charging

A range of materials are accepted across the KCC HWRC network for reuse, recycling or safe disposal. The HWRCs aim to deliver comprehensive, easy to access services for Kent residents, to enable responsible and safe management of household waste.

However, the requirement to separate more and more material streams in accordance with legislation and environmental best practice can prove quite challenging. Many KCC HWRCs are small and were built many years ago when waste management practices were not as extensive as they are today.

In the current economic climate many local authorities consider increased budget savings and income generation opportunities a critical requirement in order to provide continued, sustainable services.

With this in mind, local authorities seek options to support affordable service delivery including policies such as those outlined above ('HWRC Policies' p.19) with regards to material limits and charging, and robust site management practices including the prevention of illegal deposits of waste.

There has been widespread discussion of this issue and Government has issued guidance in respect of household wastes for which local authorities may levy a charge. It is appreciated that charges for certain material streams (mainly construction waste such as rubble, soil and

plasterboard, as well as tyres) can be applied to householders wishing to dispose of these wastes at HWRCs, and many authorities exercise this right.

Legislation does however stipulate that charging local residents a fee to use their local HWRC facilities is prohibited. The Government's recent consultation "Preventing 'backdoor' charging at HWRCs"⁹ considered this issue as many authorities regard their position to be 'charge or close'. However, the decision to uphold the availability of 'free to use' facilities for local residents (as detailed in the Environmental Protection Act 1990 (EPA)) has been adopted, and local authorities are now forced to consider alternative solutions to remaining 'open'. For specific material charge details adopted by KCC, see 'HWRC Policies' p.19.

TEEP

Since January 2015, new regulations for public and private waste collectors require the 'separate collection' of paper, plastic, metals & glass for recycling. The aim is to increase the quality and quantity of recycled material by reducing contamination.

In order to collect the specified materials mixed together or within the residual waste stream, separate collections must be assessed as not being Technically Environmentally and Economically Practicable (TEEP). TEEP is primarily applicable to Waste Collection Authorities i.e. how waste is collected from the kerbside, however KCC considered it best practice to undertake its own TEEP assessment in relation to material collection at HWRC's, which returned a satisfactory compliance result.

With more WCAs offering easily accessible comprehensive kerbside collection services for these materials, KCC may wish to consider its position in relation to the acceptance of these material streams at HWRCs (as well as considering associated costs and any income) and if their acceptance at these facilities is still appropriate.

Vehicle restrictions at HWRCs

Height barriers have been in operation across all HWRCs since 1997 when they were first introduced to reduce the number of traders illegally exploiting these facilities for the free disposal of waste.

⁹https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/414404/150304_Government_Response_to_the_consultation_preventing_backdoor_charging_at_HWRCs_Final.pdf

Height barriers are set at 2 metres (6ft 6 inches). The barriers remain firm and fixed and are only opened by site staff to enable waste collection vehicle access, or access by customers in disability adapted vehicles who have made prior arrangement with KCC. For specific vehicle restrictions, see 'HWRC Policies' p.19.

Customers wishing to use commercial type vehicles which are restricted from using HWRCs, are directed to trade waste disposal sites, or one of KCCs WTSs, for which a disposal charge will apply.

When HWRC vehicle vouchers are applied for, residents are required to accept terms and conditions including agreeing that the vehicle for which the vouchers are being applied for is the sole vehicle in the household. When the vehicle voucher scheme was first introduced in October 2012, as expected, the number of sets of vehicle vouchers issued each month was high (averaging about 400 per month), this dropped to between around 150 and 200 sets six months after the policy was introduced, and remains at this level currently. However, it should be noted that each month, a similar number of applications are rejected where criterion of the scheme are not met. Where complaints regarding the vehicle voucher scheme have been escalated to the Local Government Ombudsman¹⁰, the results have found no evidence of administrative fault by KCC's decision making process.

Cross border use of HWRCs

Current legislation stipulates local authorities will provide 'free access for local residents to household waste recycling centres to deposit household waste and recycling'. However, the legislation enables local authorities to charge users not resident within the local authority area. See 'HWRC Policies' p.19.

Medway

KCC has an agreement to reimburse Medway Council for the waste delivered to Medway HWRCs by Kent residents. The calculation is based on a sample of customer postcode data which Medway Council collect during specific on-site customer surveys. For example, Cuxton HWRC experiences the highest volume of cross border customers with approximately 31% of site users being from the KCC administrative area. Using an agreed cost matrix, KCC pay Medway Council each year for the approximate disposal costs.

¹⁰ The Local Government Ombudsman looks at complaints about councils and some other authorities and organisations, including education admissions appeal panels and adult social care providers (such as care homes and home care providers). It is a free service.

Dartford permit scheme

In October 1998 KCC implemented a permit scheme system at the Dartford HWRC. The purpose of the permit scheme is to limit 'free use' of the site to Kent residents only. Dartford is bordered by Bexley and Bromley, and as such some non-Kent residents use Kent facilities, and vice-versa. Many authorities operate a permit scheme which provides free use to their residents, whilst cross border customers are required to pay a fee (£5 per visit at Dartford HWRC). This charge goes some way to offsetting the costs borne to the Kent tax payer, of paying for non-Kent waste disposal. Since the scheme has been in operation, usage by non-Kent residents has significantly reduced resulting in cost savings for KCC.

Future permit scheme options

A recent study was undertaken at other Kent HWRCs which may experience potential cross border usage. The results demonstrate that at most sites although there is some waste received by non-Kent residents, it is minimal, and the cost of implementing a permit scheme would outweigh any potential savings. However, the results for the Sevenoaks area (serviced by Dunbrik and Swanley HWRCs) suggest significant savings, to the value of approximately £100,000 per year, could be realised with the introduction of a permit scheme, should the network of HWRCs stay exactly as it is.

Health and safety

A number of Health & Safety activities are enforced across the HWRC network to ensure the safety of site users and contractors. These are in addition to operational Health & Safety requirements which ensure and monitor safe working practices. These activities are detailed below:

Children & animals:

Children and animals (pets) are required to remain in vehicles whilst at the HWRCs.

Walking in waste:

The walking (or wheel barrowing) in of waste is prohibited.

Smoking:

Smoking at the HWRCs is discouraged due to Health and Safety implications; however this is not an enforceable policy. Designated smoking areas are identified for site staff.

Removal of waste by site users:

KCC adopts the policy that once items have been deposited at the HWRC by site users, the items become the property of KCC. Site users or staff may not remove any waste items from the HWRCs, at present.

Waste Disposal Contracts

KCC has numerous contracts with recycling outlets, for HWRC and kerbside collected waste, to ensure maximum reuse, recycling and composting activities are achieved in accordance with the waste hierarchy. Where possible this waste is sent to facilities within Kent.

There are a number of waste disposal contracts managed directly by KCC. In some circumstances, where material 'ownership' has been passed to our HWRC providers, they are responsible for procuring and managing those contracts and any associated risks and rewards. A number of these contracts will need to be renewed within the timeframe of the Waste Disposal Strategy.

Some of the main **recycling** contracts managed by KCC include;

- a) Dry Recyclables e.g. card, plastic bottles and glass are sent to a Material Recycling Facility (MRF) which is a specialised plant that receives, separates and prepares recyclable materials for marketing to end-user manufacturers.
- b) Organic Waste e.g. food and garden goes to various outlets around Kent to be composted.
- c) Wood waste is shredded and graded.
- d) Waste Electrical and Electronic Equipment (WEEE) is sent to various outlets for recycling and reprocessing and is managed through a specialised contract with a Producer Compliance Scheme.¹¹

Waste that is not reused, recycled or composted is dealt with through one of two ways, as follows:

Recovery: A significant proportion of Kent's household waste is currently treated at the Allington Waste to Energy Facility operated by Kent Enviropower (see 'What happens to the waste' p.16). This recovery contract is long-term and runs out in 2030. The current contract will underpin KCC's

¹¹ A producer compliance scheme (PCS) is a membership organisation. The members are producers of electrical and electronic equipment (EEE). A PCS is responsible for registering all its members every year and must ensure it meets its financial obligations under the WEEE regulations and fulfill its data reporting obligations.

waste management services between now and 2030. Therefore, through the Waste Disposal Strategy delivery, consideration and solutions will need to be found, to be able to deal with this waste beyond this time, and in line with national targets which are as yet unknown.

Final disposal: A very small percentage of waste goes to landfill due mainly to new ways to recycle these items being utilised by the County and its contractors.

It should be noted, the waste collection and disposal market is becoming increasingly commercially volatile. In particular suppliers are finding it challenging to meet contract requirements, whilst becoming increasingly reluctant to take up new opportunities in the current waste market. This will require KCC to identify these market risks to local supply chains and service provision to plan accordingly.

Current performance

In 2015/16, 540,957 tonnes of waste was collected by Kent WCAs for disposal by KCC as the WDA. A further 175,239 tonnes of waste was collected at Kent’s HWRCs, of which 69.9% was recycled or composted (Table 2).

Table 2: Waste tonnage data 2012-2016

	2012/13	2013/14	2014/15	2015/16
HWRC Collected	165,700	163,300	172,000	175,239
WCA collected (kerbside)	522,000	533,500	540,900	540,957
Total Collected	687,700	696,800	712,900	716,196

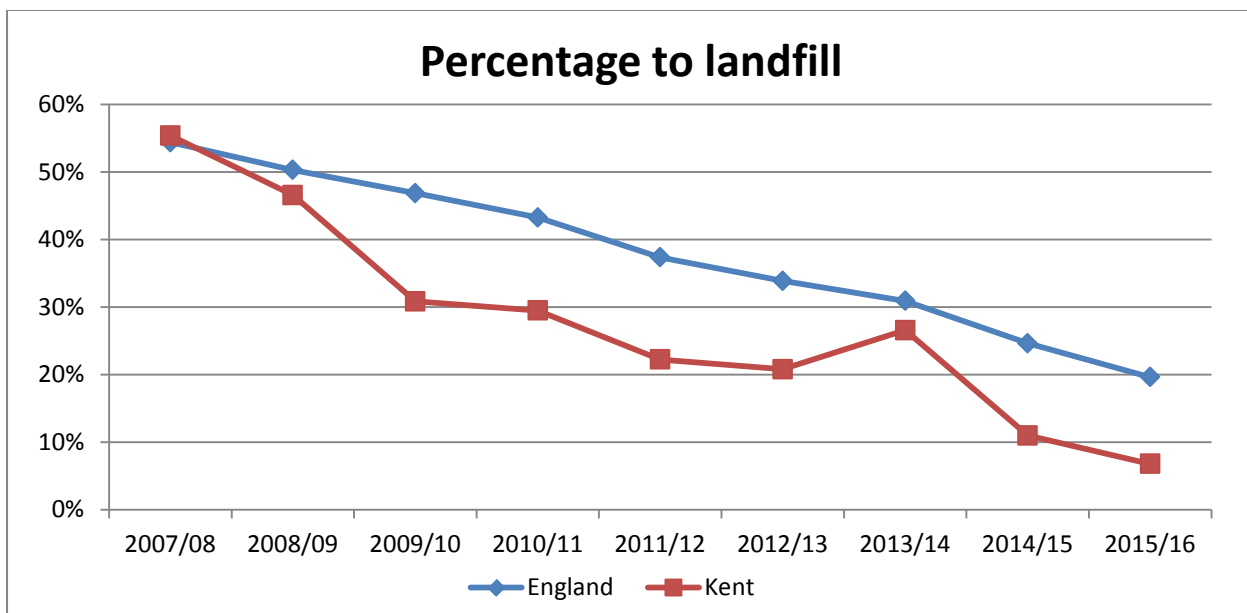
Table 3 below, shows how much of this waste was sent to landfill, sent for energy recovery and recycled or composted in 2015/16, compared with England.

Table 3: Waste sent to recycling, recovery and landfill

	Landfill %	Waste to Energy %	Recycling and Composting %
Kent (2015/16)	6.78%	49.12%	44.10%
England (2015/16)	19.6%	34.7%	42.4%

The graph below shows that the amount of waste being sent to landfill has decreased considerably over the last few years.

Graph 1: Waste sent to landfill



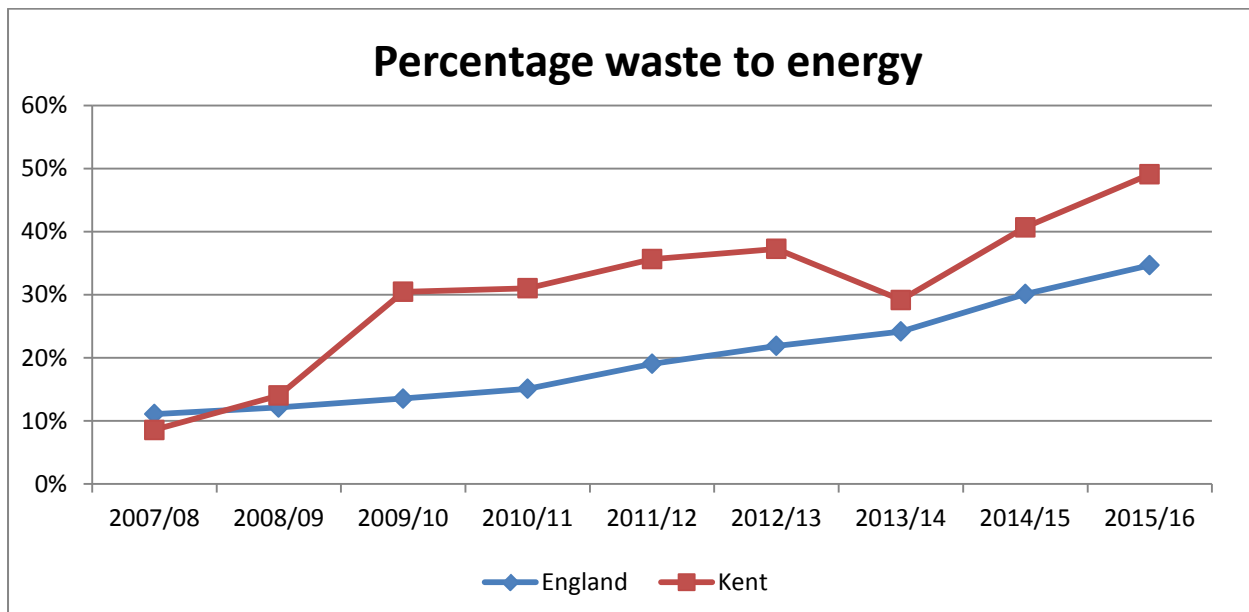
It should be noted that the percentage sent to landfill has decreased even further during the months of 2016/17, on occasion achieving less than 2% as a result of a new contract for dealing with waste materials that would have previously been sent to landfill. This has the potential for KCC to be one of the top performers in regards to the small amount of waste being sent to landfill; Table 4 below shows the authorities with the lowest percentage of waste sent to landfill in 2015/16. Further WDA benchmark data can be found in Appendix C.

Table 4: Lowest 5 local authorities % waste sent to landfill

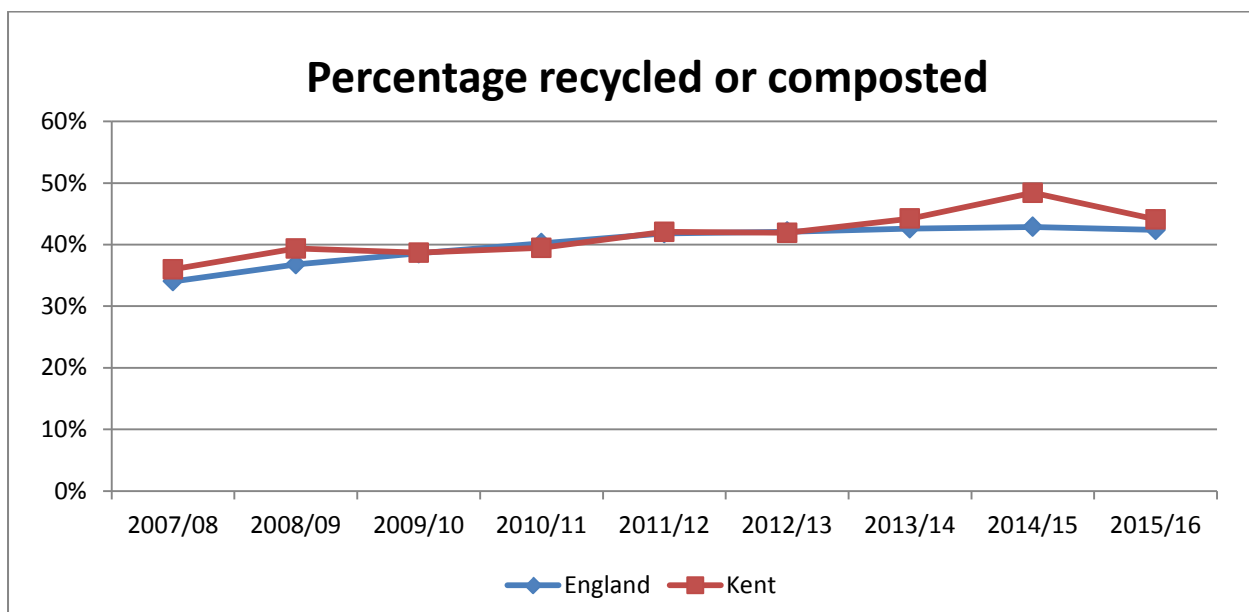
Western Riverside Waste Authority	0.0%
Suffolk County Council	1.0%
Staffordshire County Council	2.2%
Lincolnshire County Council	3.6%
East Sussex County Council	5.3%

The percentage of waste sent to be burnt to recover energy or recycled or composted has increased considerably over the last few years (Graph 2 and 3 respectively).

Graph 2: Waste to energy



Graph 3: Recycled or composted



Key Legislative Drivers

The way waste is managed has evolved over the last couple of decades, with greater focus on reducing the amount produced and managing it in a more sustainable manner. Waste services are influenced primarily by legislation, targets and requirements that are currently passed down from the European Union and transposed in to national law, policies and strategies. As with all EU driven UK legislation, the specifics of what will happen to waste legislation and the impact upon KCC's waste management services specifically post Brexit remains uncertain. Given the long-term

outlook of this strategy, it will periodically be reviewed and updated, allowing sufficient flexibility to respond to a wide array of changes to the waste management landscape, including a shift in the UK's relationship with the EU. In the short term, the strategy recognises imminent EU legislation and outlines how these may impact on KCC.

A number of the key current and future legislations are identified and discussed below.

Waste hierarchy

The European Union's approach to waste management is based on the "waste hierarchy". The hierarchy ranks waste management options according to what is best for the environment.

It gives top priority to preventing waste in the first place. When waste is created, it gives priority to preparing it for re-use, then recycling, then recovery, and last of all disposal (e.g. landfill).



Waste Framework Directive

The principal legislation affecting waste management to come out of Europe over the last few years is the revised Waste Framework Directive (Directive 2008/98/EC on waste). The Directive sets the basic concepts and definitions related to waste management, such as definitions of waste, recycling, recovery. It explains when waste ceases to be waste and becomes a secondary raw material (so called end-of-waste criteria), and how to distinguish between waste and by-products.

The Directive also introduces the "polluter pays principle" and the "extended producer responsibility". It incorporates provisions on hazardous waste and waste oils, and includes two new recycling and recovery targets to be achieved by 2020:

- 50% preparing for re-use and recycling of certain waste materials from households and other origins similar to households; and,

- 70% preparing for re-use, recycling and other recovery of construction and demolition waste.

Interpretation of the Directives has been handed down to the devolved Governments in the UK. Within England the current strategy is the Waste Management Plan for England, which was released in December 2013. It is based on the Government Review of Waste Policy in England 2011 and the targets are as per the Waste Framework Directive requirements.

Waste (England and Wales) Regulations 2011/12

The Waste Framework Directive is implemented in England by the Waste (England & Wales) Regulations 2011. A key part of this regulation is, that from 1 January 2015, local authorities need to collect waste paper, metal, plastic or glass by way of separate collection where this is necessary to ensure that waste undergoes recovery operations in accordance with Waste Framework Directive and to facilitate or improve recovery; and where such separate collection is technically, environmentally and economically practicable (TEEP).

Given the Council currently collects these materials via its HWRC network it is important to understand the implication of this guidance. Many materials are already collected separately at the HWRCs. Under Regulation 13 where materials are not collected separately the collection system needs to be changed to provide all householders with separate collections for these materials. However, under the Regulations co-mingled collections may be permitted if:

- The quality and quantity of the material collected is the same or better than could be achieved by a separate collection (i.e. separate collection isn't necessary to improve or facilitate recovery of the material – the 'Necessity Test'); or
- Separate collection is not Technically, Environmentally or Economically Practicable (the 'TEEP Test').

European Directive on the Landfill of Waste

The European Directive 1999/31/EC on the Landfill of Waste (Landfill Directive) had wide reaching implications for those producing, collecting and disposing of waste in the UK, as Landfill until recently has been the dominant waste management option in the UK for many years. The Landfill Directive's aim is to reduce reliance on landfill as a disposal option.

It seeks to decrease the environmental impacts of landfills and reduce the risk to human health while imposing a consistent minimum standard for landfills across the EU. The Landfill Directive:

- Sets minimum standards for the location, design, construction and operation of landfills.

- Sets targets for the diversion of Biodegradable Municipal Waste (BMW).
 - By 2010 reduce the biodegradable waste landfilled to 75% of that produced in 1995
 - By 2013 reduce the biodegradable waste landfilled to 50% of that produced in 1995
 - By 2020 reduce the biodegradable waste landfilled to 35% of that produced in 1995
- Controls the nature of waste accepted for landfill.
- It defines the different categories of waste (municipal waste, hazardous waste, non-hazardous waste and inert waste) and applies to all landfills, defined as waste disposal sites for the deposit of waste onto or into land.

In order to help achieve the targets two initiatives were established, firstly the Landfill Allowance Trading Scheme (LATS), which was revoked in 2014, and also the landfill tax. However, EU diversion targets for biodegradable waste are still in place for Member States and so there is a need to use alternative waste management techniques to landfill.

The national Landfill Tax is currently (financial year 2015/2016) levied at £82.60 on every tonne of waste sent to landfill. The government announced in the 2014 budget, that from April 2015 the standard and lower rates of landfill tax will increase in line with the Retail Price Index (RPI).

Material Recovery Facility (MRF) Code of Practice

A more recent regulation is the Materials Recovery Facility (MRF) Code of Practice Regulations, which was introduced by the Government to comply with the revised Waste Framework Directive and its objective to promote high quality recycling and separate collections. The requirements of these regulations began in October 2014 and are incorporated into the Environmental Permitting (England and Wales) (Amendment) Regulations 2013. They require that every MRF that accepts in excess of 1,000 tonnes of mixed recyclables a year to report on the quality of the input, output and residual waste every three months. The regulations intend to provide confidence to the reprocessing market of materials coming out of MRFs. This is a much more detailed form of measuring contamination than we have had previously and aims to address the concern that contamination levels (and thus recycling rates) were not being reported accurately. It is possible that as the data reporting improves we could see a fall in recycling rates for some local authorities with commingled collections, due to more accurate recording of contamination levels.

Future Legislation

There are new waste legislation proposals coming from Europe that may impact the longer term waste management services within the County dependent on post Brexit decisions. The proposals are to amend:

- Directive 2008/98/EC on waste.
- Directive 94/62/EC on packaging and packaging waste.
- Directive 1999/31/EC on the landfill of waste.
- Directive 2000/53/EC on end-of-life vehicles.
- Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators and;
- Directive 2012/19/EU on waste electrical and electronic equipment.

These form part of a Circular Economy Package which also includes a Commission Communication "Closing the loop – An EU action plan for the Circular Economy". The aim of the proposal is to help turn Europe into a circular economy¹², boost recycling, secure access to raw materials and create jobs and economic growth. It did so by setting ambitious targets and adding key provisions on the instruments to achieve and to monitor them. The proposal was presented as part of the circular economy package.

The main elements of the proposals to amend EU waste legislation are:

- A common EU target for recycling 65% of municipal waste by 2030.
- A common EU target for recycling 75% of packaging waste by 2030.
- A binding landfill target to reduce landfill to maximum of 10% of all waste by 2030.
- A ban on landfilling of separately collected waste.
- Promotion of economic instruments to discourage landfilling.
- Simplified and improved definitions and harmonised calculation methods for recycling rates throughout the EU.
- Concrete measures to promote re-use and stimulate industrial symbiosis – turning one industry's by-product into another industry's raw material.
- Economic incentives for producers to put greener products on the market and support recovery and recycling schemes (e.g. for packaging, batteries, electric and electronic equipment, vehicles).

¹² A circular economy is an alternative to a traditional linear economy (make, use, dispose) in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life'. Definition from WRAP.

As defined within the Directive, the term “municipal waste” means:

“(a) mixed waste and separately collected waste from households including:

- paper and cardboard, glass metals, plastics, bio-waste, wood, textiles, waste electrical and electronic equipment, waste batteries and accumulators.*
- Bulky waste, including white goods, mattresses, furniture.*
- Garden waste, including leaves, grass clippings.*

(b) Mixed waste and separately collected waste from other sources that is comparable to household waste in nature, composition and quantity.

(c) Market cleansing waste and waste from street cleaning services, including street sweepings and the content of litter containers.

Municipal waste does not include waste from sewage network and treatment, including sewage sludge and construction and demolition waste”.

Therefore the proposed ban on the landfilling of separately collected waste could include any of the above ‘municipal waste’. Further to this, the revised municipal landfill target includes “Member States shall take the necessary measures to ensure that by 2030 the amount of municipal waste landfilled is reduced to 10% of the total amount of municipal waste generated”.

Future Targets

DEFRA has suggested that any obligations placed upon the UK at the time of exit will roll forward. This means that discussions on the circular economy must remain relevant to the UK as they could still be required to be implemented. If adopted, these new circular economy targets could have significant impact upon KCC as the WDA; whilst the target amount sent to landfill is more than achievable (indeed, we already meet the 2030 target), the amount of waste we currently send for burning for energy recovery would need to be reduced substantially to 30% and more waste sent for recycling or composting. An alternative target might be to increase reuse at the sites. WRAP research¹³ has identified that 36% of items assessed at HWRCs were reusable rising to 51% if a slight repair taken into account increasing reuse and recycling at HWRCs would be complementary. In regards to recycling targets at the HWRCs, a target of 80% recycling should be achievable by 2030. Specific targets will be set as part of the refresh of the Kent Joint Municipal Waste Management Strategy due to be undertaken in 2017.

¹³ <http://www.wrap.org.uk/sites/files/wrap/UK%20bulky%20waste%20summary.pdf>

Material Markets

The markets for recyclable materials have been uncertain for several years, with low prices, market crashes and corresponding impacts on revenues for authorities and waste management companies. This uncertainty can be seen in material pricing data (from Letsrecycle.com) which show considerable market fluctuations in the last 5-10 years for a range of key materials. As these fluctuations can have a significant impact on revenue, it is necessary to take market uncertainty into account when developing a long-term waste and recycling strategy.

Table 5: Prices of key recyclable materials (Jan 2010 – Dec 2015)

Material	Highest average monthly price	Lowest average monthly price	Current average price (Jan 2015)	Average price since Jan 2010
Steel cans	£165	£22.2	£22.5	£122.5
Aluminium cans	£1040	£600	£645	£786.9
Natural plastic e.g. plastic bottles and containers	£415	£275	£315	£337.1
Mixed colour plastic e.g. plastic bottles and containers	£225	£135	£135	£171.8
Mixed papers	£100	£35	£51	£59.9
Old cardboard boxes	£114.5	£57	£70	£76.2
Newspapers and pamphlets	£135	£47.5	£68.5	£95.5
Clear glass	£40	£18	£19	£28.9
Green glass	£32.5	£4	£5	£14.3
Brown glass	£35	£11.5	£11.5	£24.1
Mixed glass	£27.5	£-10	£-10	£6.7

There are many causes of changes in the market, some of which may be specific to a small number of materials while others can influence a wide range of streams. Factors include:

Material quality

Whether market prices are high or low, quality is the key driver of price. High quality materials will achieve a greater market value than those of a low quality. Furthermore, high quality materials also appear to have greater protection from price fluctuations and market crashes.

Oil price

Oil market trends appear to mirror the plastics market.

Shipping prices

With the UK recycling markets experiencing difficulty, there is an increasing reliance on the export of materials to the global commodities market. Exports however, are affected by the cost of shipping (including transport to and from the port, port fees, and so on) which can also fluctuate. Combining low market prices for recyclable materials with high shipping costs can have a significant impact on material revenues.

Changing and uncertain export markets

High quality is crucial for recyclable material being exported from the UK and as a result, lower quality materials may attract reduced prices or may not be appropriate for export. There have been a number of prosecutions by the Environment Agency due to breaches of quality standards. For the European market, quality requirements are high and inspections are stringent therefore, only the highest quality material is likely to be purchased, leading to low prices for other material. The Chinese market has also seen a tightening of quality requirements, which had a considerable effect in the UK.

Changing waste composition

Composition of waste is changing in a number of ways and for a number of reasons. For example, the rise in digital media has resulted in a corresponding drop in the demand for newsprint. These trends in turn, have an impact on the markets. In the case of paper, the UK has seen some high profile closures of paper mills including Aylesford Newsprint, which made 100% recycled newsprint using paper from the largest paper recycling factory in Europe. As a result, demand from UK-based reprocessors for paper to be recycled has reduced, making it more challenging to secure sale of material at a high price.

These factors are likely to continue to influence the recyclable material markets for the foreseeable future and therefore it is necessary for a long-term waste and recycling strategy to mitigate against the impacts as far as possible, particularly by maximising recycling quality.

Future waste projections and capacity requirements

Population and Housing

It is forecast that an average of 8,600 houses will be built every year in Kent until 2031. This will result in a population growth of 23% over 20 years (from 2011) and 17% growth from 2015. The Table below shows the projected dwellings and population.

Table 6: Dwelling and population projections¹⁴

	2011	2016	2021	2031
Dwellings	633,300	656,700	701,400	785,800
Population	1,466,500	1,541,300	1,635,100	1,799,200

Table 7 below outlines the most significant areas of development taking place across Kent, as 'hotspots' where population is most likely to increase.

Table 7: Significant areas of development¹⁵

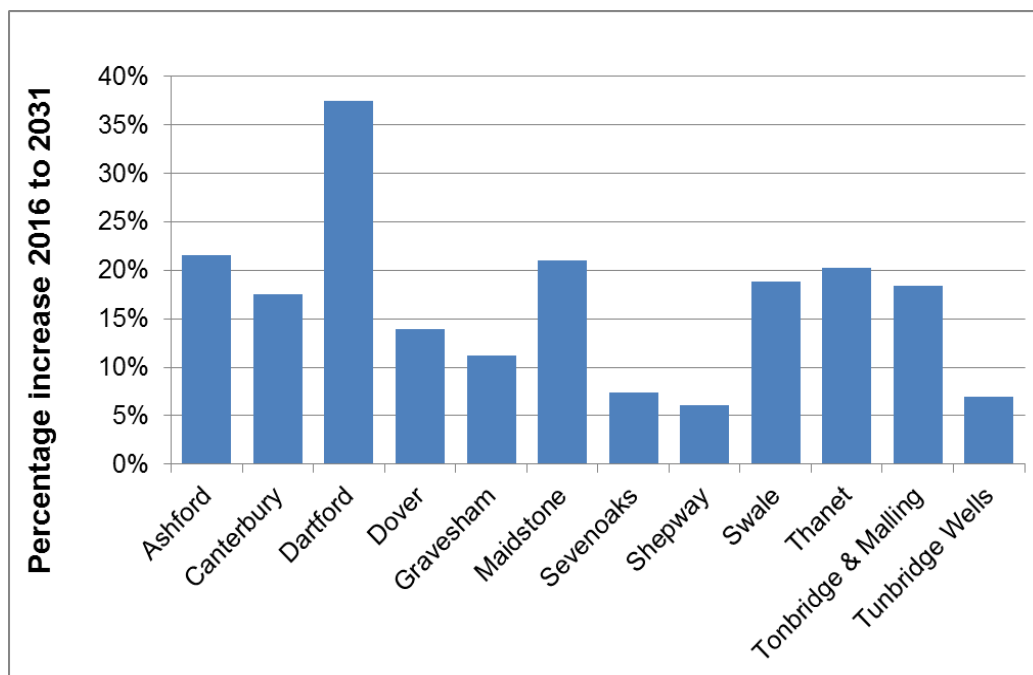
District	Development	Location	No. of new dwellings
Ashford	Chilmington Green	Great Chart with Singleton North	5,750
Canterbury	Site 1 Land at South Canterbury	Barton	4,000
Dartford	Castle Hill, Eastern Quarry	Greenhithe	6,100
Dartford	Ebbsfleet	Greenhithe	950
Dartford	Ebbsfleet	Swanscombe	2,320
Dover	Whitfield	Eastry	5,676

Projected population figures vary greatly from district to district, with some projected increases significantly higher than others. Appendix D shows the population forecasts from 2011 (actual census data) to 2031 (projections) by district. The graph below shows the projected percentage increase in population between 2016 and 2031 by district. The largest increase is expected in Dartford (37%) and the smallest increase projected in Shepway.

¹⁴ Source: KCC Housing Lead Population Forecast December 2016

¹⁵ The major sites list is likely to change as not all districts have provided KCC detailed returns –Dec 16

Graph 4: Projected population increases by district between 2016 and 2031



Waste Tonnage Projections

Waste tonnage produced per dwelling has been declining from some years but now appears to be more stable and may increase in the future.

The projected waste tonnage figures for the years 2021 and 2031 are shown below. The 2016 figures are an estimate based on best available data. These projections suggest an increase of 20% of waste between 2015 and 2031.

Table 8¹⁶: Waste tonnage projections

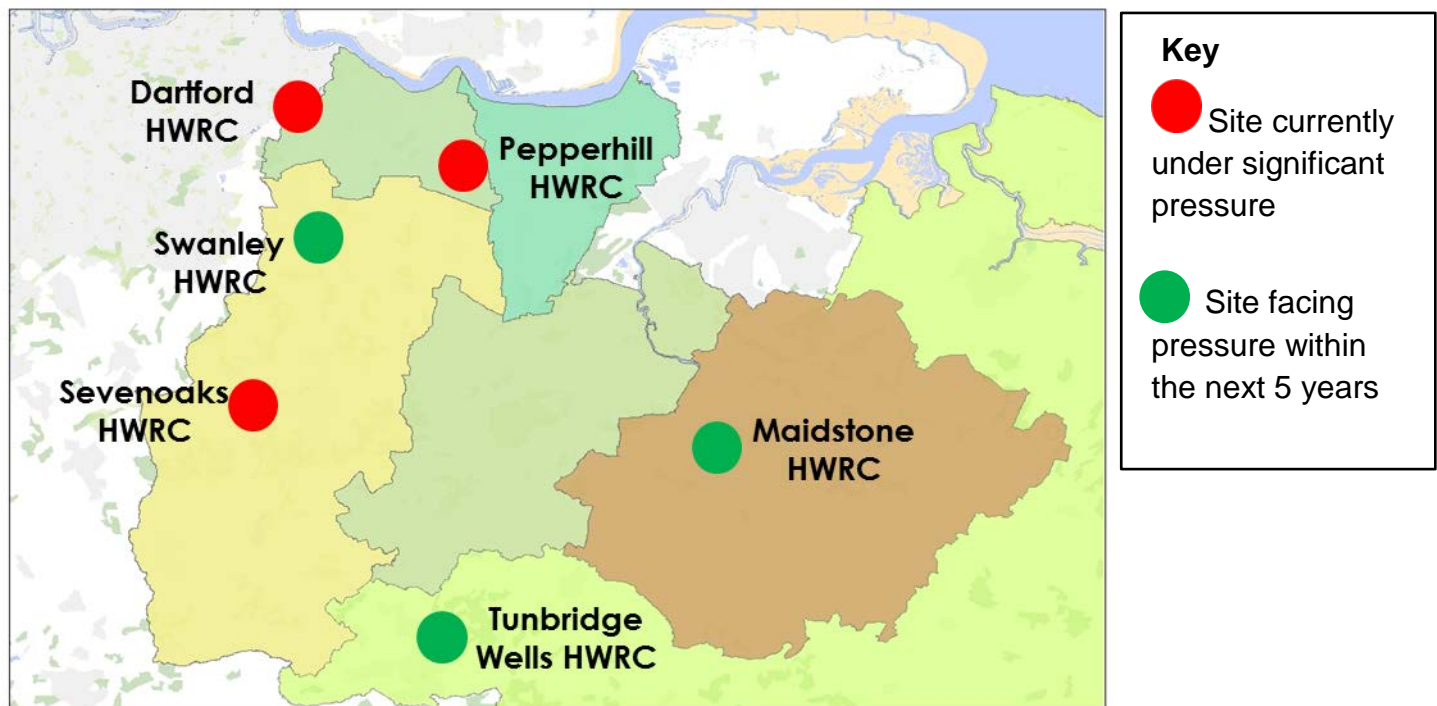
	2016	2021	2031
Waste Tonnage	726,000	775, 800	869,800

¹⁶ The table assumes that waste tonnage produced by household/dwelling remains the same between 2016 and 2031.

HWRC network pressures

Whilst there is currently capacity across the HWRC network to accommodate present waste tonnages and those projected for the near future (see 'Waste tonnage projections' p.37), this capacity is currently displaced. As such there are some significant pressures on a number of our HWRCs. The red dots on the map below shows the HWRCs that are the highest risk. It is clear that these pressures are focussed in the West Kent area.

Map to show current network pressures



There are a number of factors affecting these sites which put them at risk;

- **Population growth-** West Kent is going to experience a large amount of population growth in the next 10 years. This puts pressure on these particular sites which are already operating at full capacity. Much of this growth can be attributed to the Ebbsfleet Garden City development. (See 'Population and housing' p.36)
- **Leases and land ownership-** The Council does not own the land a number of these sites currently sit on, and leases this from a third party. Land values in this area are high and moving forward, taking into account financial pressures, the Council may not be able to sustain paying these costs. Further details of site leasing and land ownership arrangements can be found in Appendix E.
- **Infrastructure-** A number of the sites require major improvement works in order to continue to operate effectively. Aside from the financial investment required to make these

improvements, issues of space and local infrastructure make a number of these improvements impossible.

It is also worth noting that whilst the surrounding HWRCs (those denoted with the green dots) are currently operating well, they themselves will have further pressures placed upon them in within the next 5 years, more so when taking into account the current issues outlined above.

Future waste infrastructure requirements

The Kent Minerals and Waste Local Plan (KMWLP) 2013-30 produced by KCC as the Waste Planning Authority identifies a number of requirements for waste infrastructure up to 2030. The KMWLP describes the overarching strategy and planning policies for waste management of all waste streams that are generated or managed in Kent.

The key points to note, which will have an impact on the development of the waste management service, are noted below;

- Move waste up the waste hierarchy and reduce the amount of non-hazardous waste sent to landfill.
- Make provision for a variety of waste management facilities to ensure solutions for all major waste streams.
- The plan states that priority will be given to facilities that will increase amounts of waste for re-use or recycling in a sustainable manner. Any plans put forward must demonstrate how any development will contribute to moving waste up the waste hierarchy.
- Any building and waste infrastructure developments must minimise the amount of construction waste produced. All plans submitted must outline how this construction waste will be dealt with, including details of end destinations.
- Kent should be net self-sufficient and able to deal with waste close to its source of production in a sustainable manner. It is noted that Kent should not be totally reliant on other Authorities to deal with its waste.
- The plan also states that it will safeguard existing waste management facilities, with permanent planning permission from non-waste management uses.
- A high standard of restoration of sites which involve the deposit of waste.

In addition to the above, the KMWLP has undertaken a needs assessment for waste, identifying a need for additional waste facilities up to 2030.

The plan also discusses the diminishing capacity to deal with waste in East London, due to the closure of the non-hazardous landfill site in Havering. This is estimated to close by 2018. As such,

Kent (and other surrounding authorities) has a duty to make provision to accept a share of this waste - approximately 87,000 tonnes a year between 2018 and 2030. This is a requirement of KCC as the Waste Planning Authority rather than as the Waste Disposal Authority.

In respect of identifying sites for HWRCs, the KMWLP recognises the established network and the role they play in meeting waste recovery and landfill diversion targets. It also recognises that during the lifetime of the KMWLP, there will be a need to rationalise facilities, whilst still meeting local population needs. Furthermore, as part of the Waste Disposal Strategy delivery and in-line with the KMWLP, consideration will need to be given to the requirement for enough capacity at transfer stations and final disposal points for the household waste managed by KCC as the WDA.

Customer feedback

KCC has a duty to ensure that all of its services are organised around the needs of their service users and residents. As such, KCC Waste Management is committed to providing the best possible service to our customers.

In order to ensure that we are meeting the needs of our customers, KCC Waste Management uses a number of tools to gain insight into their experiences and levels of satisfaction, as well as gathering important feedback to make improvements and identify when we are performing well.

Where possible, the results collected and feedback gathered is shared with our customers, so that they are able to understand how this data is used and we are able demonstrate that we value their comments and suggestions, and will work, as far as is possible, to use these to improve their services.

Customer Satisfaction Surveys (face-to-face)

KCC Waste Management undertake customer satisfaction surveys twice per year across all of its HWRCs. These are undertaken onsite, face-to-face with customers by a third party. Procured by KCC, in addition to undertaking the fieldwork, the third party are also responsible for analysing the results and feedback. This ensures the feedback is objective.

Feedback is gathered at two seasonal sample points in spring and autumn to allow for seasonality in results and gain an overall picture of the service. A minimum of 6,840¹⁷ surveys/ interviews are required to be undertaken each year.

¹⁷ This is the minimum number required to ensure results are statistically valid within a 5% confidence rate. In 2015 a total of 7180 surveys were undertaken.

Customers are invited to give comment on a number of areas of the HWRC service, which reflect their experience on that particular visit, ranking their satisfaction with both the operational aspects of the service and the site staff. There is facility for customers to give open, honest feedback and make recommendations for improvement. The current satisfaction level across the network is high, at 94%¹⁸.

In addition to understanding levels of satisfaction, the questionnaire also helps KCC Waste Management to understand our customer behaviours such as how often they visit and when, the types of waste that are being brought onto site, and how familiar they are with on-site policies and procedures. Data is also collected to reflect who our customers are and where they are coming from.

All of this data is integral in informing any changes to the service and helps us to determine the best way to communicate with our customers.

Customer Satisfaction Surveys (online)

Customers have the facility to provide feedback on the HWRC service online, via kent.gov¹⁹. As with on-site surveys, customers are asked to rate their levels of satisfaction and are able to provide verbatim comments on the HWRC service.

It is important that this facility is available for customers to feedback at their own convenience at any time of the year, minded that not everyone would be visiting site during the seasonal sampling points.

Mystery Shopping

A programme of mystery shopping is undertaken across the HWRC network in order to understand the customer experience. Unlike customer satisfaction surveys, mystery shopping provides 'real-life' feedback that paints a full picture of the customer journey. Used extensively in the private sector, mystery shopping is an important method for measuring both the quality of a service and ensuring that we are complying with regulations.

Mystery shopping at the HWRCs is undertaken by a third party, procured by KCC. The provider undertakes 4 'shops' per month at each HWRC and results are published live via an online portal which is accessible to both KCC and its HWRC providers to review.

¹⁸ Based on 2015 results- 94% of customers being 'satisfied' or 'very satisfied' overall with their visit to the HWRC.

¹⁹ <https://kentcc.firmstep.com/default.aspx/RenderForm/?F.Name=MhQSJwjYgp6&HideAll=1>

A mystery shopper will look at a number of factors on their 'shop' including; entering the facility, site and colleague presentation (to include Health and Safety), compliance to HWRC operating policies, customer service and staff knowledge.

Mystery shopping is identified in KCC's Commissioning Framework as an effective analysis tool and it allows KCC to work with its service providers to drive operational and customer service standards and improve site staffs morale and productivity. Undertaking mystery shopping not only highlights areas for improvement but also enables us to celebrate successes.

Complaints, comments and compliments

KCC Waste Management closely manages all compliments, comments and complaints concerning the services it offers. This includes the HWRC service, issues with our policies and procedures, and general enquiries.

All complaints, comments and compliments which come into KCC Waste Management are logged onto a specialised system and assigned to the most appropriate officer for response.

In accordance with KCCs corporate policy, written complaints are acknowledged within 3 working days and a full response is provided within 20 working days.

Calls, which come in either directly or from the Contact Point²⁰, are also logged and monitored. Waste Management work closely with the Contact Point to ensure that they are provided with the most up to date information and able to provide full responses to any enquiries and issues.

Customer education and awareness

KCC has a strong track record of providing education and awareness campaigns to increase waste awareness, waste reduction and recycling activity amongst Kent residents. With a range of recycling services available to Kent residents, including HWRCs, bring banks and kerbside recycling, collecting a range of materials, further inroads to reduction, reuse and recycling will rely more on awareness campaigns.

Increased recycling and waste reduction habits amongst residents have become more the 'norm' as recycling services and 'good practice' communications and campaigns have been delivered. The KRP now takes the lead on delivering countywide campaigns.

Campaign messages are devised through an understanding of what drives residents' attitudes, and working to overcome existing barriers. The KRP seek a deepened understanding of

²⁰ Contact Point is KCC's customer services centre, where initial calls from customers are taken.

motivators and barriers to people's recycling activity, to inform future services and campaigns to encourage greater responsible waste management practices by Kent residents.

Specific campaigns which have previously been undertaken by either KCC or the KRP include War on Waste, Recycle for Kent, and more recently Metal Matters (produced by the KRP) and Waste Electrical & Electronic Equipment (WEEE) recycling awareness messages (KCC led).

Reuse

Reuse sits higher in the waste hierarchy than recycling. It is where items are reused as they are, or undergo minor repair or refurbishment in order to be reused, rather than undergoing treatment or reprocessing into new items. At HWRCs, typical items that may be captured for reuse are: furniture, waste electrical & electronic equipment (WEEE), textiles and bicycles.

Reuse is an area which should be considered further by KCC as activities are currently limited. Some authorities currently take a light touch approach of directing householders to charities or online reuse networks, and/or providing containers on site to segregate furniture for reuse, whilst others take more in-depth approaches such as the provision of reuse shops.

In addition to meeting legislative drivers, there are a number of different benefits of increasing reuse, including; reduced disposal costs, diversion from landfill and associated carbon benefits, maximising value and use of resources already extracted, possible employment, training, reskilling and volunteering opportunities and availability of low cost goods.

There are however a number of other considerations including; available budget for development and ongoing running costs, the availability of suitable sites for reuse activities, availability of local reuse opportunities, assessing the sustainability of such projects, and the role of KCC, third sector organisations and waste management companies in any reuse activities.

Flytipping and litter

Flytipping

KCC Waste Management has no statutory responsibility to remove waste from public or private land, which includes both flytipping and litter. However, in accordance with the Environmental Protection Act (1990), as the Waste Disposal Authority (WDA), KCC has a duty to cover the disposal costs of waste collected by WCAs and provide a Household Waste Recycling Centre

service. In addition, the enforcement powers also remain with the WCA and the Environment Agency, not the WDA, in this case Kent County Council.

Despite having no statutory responsibility to enforce against flytipping, KCC are able to support district councils with enforcement against flytipping (through the sharing of legal powers), through consultation with our Waste Enforcement Advisor. KCC are working as part of the KRP to tackle flytipping in Kent.

KCC's Waste Enforcement Advisor, is able to provide training and advice, supporting districts with large scale/persistent offender investigation, cross border cases, covert surveillance, case file preparation and prosecution.

It is important to note that KCC Highways and Public Rights of Way (PROW) have a duty to ensure that the highway is safe for users (Highways Act 1980) and therefore has a responsibility to ensure that there is no danger to the travelling public as a direct result of fly-tipped material on the highway or a public right of ways e.g. by the use of traffic management. They will also assist with the clearance of large scale flytips.

Littering

KCC Waste Management has no statutory responsibility to clear litter as this falls to the WCAs. As with flytipped waste, waste management are still responsible for the disposal of this waste.

The KRP is working hard to tackle the issue of littering within Kent through numerous campaigns, recognising that this is an environmental anti-social behaviour. District and Borough Councils are able to apply Fixed Penalty notices to anyone who is caught littering.

Strategic Environmental Assessment

A Strategic Environmental Assessment (SEA) has not been completed for this Waste Strategy as it is not a statutory requirement to have one (but is being undertaken as best practice) and therefore does not fall under SEA regulations. The KJMWMS did require an SEA as under regulations there was a statutory requirement for 2-tier authorities to develop a joint municipal waste strategy.

Appendix A: Glossary of Terms

Term	Definition
Automatic Number Plate Recognition (ANPR)	A technology that uses optical character recognition to automatically read number plate characters.
Bring banks	Recycling facilities often provided by District and Borough Councils in public areas such as supermarket car parks
Circular Economy	A circular economy keeps resources in use for as long as possible, extracting the maximum value from them whilst in use, then recovering and regenerating products and materials at the end of each service life.
Commissioning	The process of planning how services are to be delivered, and the day-to-day management of these services.
Digital Delivery	Providing information and access to services primarily online.
Dwellings	A house, a flat or other place of residence.
Environmental Crime	The crime of flytipping and illegal deposit of trade waste at HWRCs.
GVW	Gross Vehicle Weight
Household Waste Recycling Centre (HWRC)	A building or site where household waste can be deposited by residents for recycling or disposal.
Kent Joint Municipal Waste Management Strategy (KJMWMS)	The strategy for the Kent Resource Partnership.
Kent Resource Partnership (KRP)	A Partnership between KCC and the 12 District/Borough/City Councils of Kent. The Partnership looks at how waste management services can be improved in Kent.
Low Carbon Economy	Reducing costs by cutting emissions.
Materials Recycling Facility (MRF)	A specialised plant that receives separates and prepares recyclable materials for marketing to end-user manufacturers.
Organic wastes	Organic waste, or green waste, is organic material such as food, garden and lawn clippings. It can also include animal and plant based material and degradable carbon such as paper, cardboard and timber.
Recyclate	Any material that is able to be recycled.
Recycling	Turning waste into a new product or substance, including composting.
Recycling outlets	A building or site for the treatment and processing of waste for recycling.
Refuse Derived Fuel	A fuel produced by shredding and dehydrating solid waste with a Waste converter technology.
Re-use	Checking, cleaning, repairing, and refurbishing whole items or spare parts.
TEEP – Technically Environmentally and Economically Practicable	Regulations for public and private waste collectors which require the 'separate collection' of paper,

	plastic, metals & glass for recycling. The aim is to increase the quality and quantity of recycled material by reducing contamination.
Trade Waste	Waste produced by businesses or commercial activities.
Unitary Authority	A council established in place of, or as an alternative to, a two-tier system of local councils e.g. Medway Council will act as the WCA and WDA.
Waste Collection Authority (WCA)	District, Borough and City Councils responsible for the collection of household waste from the kerbside and delivery to a nominated delivery point.
Waste Disposal	Landfilling waste.
Waste Disposal Authority (WDA)	Responsible for the receipt and onward processing/ disposal of household waste, providing a Household Waste Recycling Centre Service and monitoring closed landfills.
Waste Recovery	Includes burning waste to produce energy.
Waste Transfer Station (TS)	A building or site for the temporary holding of waste, where district/ borough councils will deposit waste prior to loading on to larger vehicles for transfer to final disposal point.

Appendix B: HWRC Materials Handled (tonnes)

Waste Type	2012/13	2013/14	2014/15	2015/16
Garden Waste	33,209	32,854	32,219	28,112
Bicycles	5	3	1	
Bric A Brac	68	4	28	31
Car Batteries	327	362	301	263
Cardboard	432	413	425	465
Cooking Oil	24	18	27	47
Engine Oil	110	118	121	76
Furniture	15	11	2	
Gas Bottles	0	0	35	61
Glass - Amber	160	27	34	36
Glass - Clear	470	85	66	60
Glass - Green	172	97	93	91
Glass - Mixed	1,162	1,446	1,193	1,267
Metal	7,876	8,637	9,293	10,457
Non Automotive Batteries	21	18	40	28
Paper & Card	6,220	5,916	6,433	6,874
Plasterboard	1,485	1,293	1,420	1,608
Soil Hardcore	36,048	34,035	36,526	35,245
Spectacles	1	1	0	
Textiles & Shoes	1,368	1,459	1,345	1,347
Toner Cartridges	1	1	3	1
Tyres	265	30	29	76
WEEE CRT	2,970	2,101	1,911	1,997
WEEE Fluorescent Tubes	21	23	25	26
WEEE Fridges & Freezers	1,081	1,311	1,465	2,027
WEEE LDA	51	267	157	686
WEEE SDA	2,558	2,788	2,657	3,165.50
Wood	23,043	24,453	25,585	27,650
Dry Recycling	85,954	84,918	89,216	93,585
Residual	46,493	45,538	50,639	53,603
Total	165,656	163,311	172,076	175,300

Appendix C: Disposal Authority Benchmarks – 2015/16

Top 5 recyclers:

Authority	Percentage Recycled
Oxfordshire County Council	58.5%
Cambridgeshire County Council	57.3%
Buckinghamshire	55.5%
Devon County Council	55.1%
Surrey County Council	55.0%

Lowest 5 landfill:

Authority	Percentage to landfill
Western Riverside Waste Authority	0.0%
Suffolk County Council	1.0%
Staffordshire County Council	2.2%
Lincolnshire County Council	3.6%
East Sussex County Council	5.3%

Highest 5 waste to energy:

Authority	Percentage Waste to Energy
Western Riverside Waste Authority	80%
North London Waste Authority	58%
Hampshire County Council	54%
East Sussex County Council	51%
Lincolnshire County Council	48%

Appendix D: Population projections by district to 2031

District	2011	2016	2021	2031
Ashford	118,400	126,500	135,300	152,800
Canterbury	150,600	162,100	173,100	191,600
Dartford	97,600	106,300	121,300	146,000
Dover	111,700	114,600	120,600	130,200
Gravesham	101,800	107,000	111,200	118,900
Maidstone	155,800	166,200	177,900	201,200
Sevenoaks	115,400	119,200	123,000	128,100
Shepway	108,200	110,800	113,100	117,700
Swale	136,300	143,500	152,900	168,400
Thanet	134,400	140,600	150,200	168,200
Tonbridge & Malling	121,100	127,800	135,700	151,300
Tunbridge Wells	115,200	116,800	120,800	124,800
Total	1,466,500	1,541,400	1,635,100	1,799,200

Appendix E: HWRC land leasing and ownership arrangements

HWRC	Land status
Ashford	KCC owned
Canterbury	Leased from 3 rd Party
Dartford	Leased from 3 rd Party
Deal	Part KCC owned/ Part leased from 3 rd Party
Dover	KCC owned
Faversham	KCC owned
Folkestone	KCC owned
Herne Bay	Leased from 3 rd Party
Maidstone	KCC owned
Margate	Leased from 3 rd Party
New Romney	KCC owned
Pepperhill	KCC owned
Richborough	KCC owned
Sevenoaks	Leased from 3 rd Party
Sheerness	Leased from 3 rd Party
Sittingbourne	KCC owned
Swanley	KCC owned
Tunbridge Wells	KCC owned

Kent Waste Disposal Strategy
2017-2035
Evidence Base