

Appendix 1 – Key Planning considerations

The Site

The Site covers an area of around 5.6 hectares, is currently owned by Tarmac (previously Lafarge Aggregates Ltd) and is an existing industrial site with planning permission to operate an asphalt coating plant, an aggregates railhead and a ready-mixed concrete plant. Aggregates are primarily brought into the Site via the rail siding which forms part of the Site. Road access to the Site is via Ratty's Lane. Ratty's Lane leads to the A10 Dinant Link Road via Essex Road.

The Site is bordered to the south by Rye House Power Station. The River Lee borders the site to the east and north. A railway line (which serves the rail siding within the site) borders the western site boundary and runs north east to south west.

The Site is situated in the eastern part of a heavily industrialised area to the east of the town of Hoddesdon. There is parkland to the east of the Site, with agricultural land beyond this. Parkland and some light industrial premises are located to the north of the Site beyond the River Lee, with light industry to the west and residential properties beyond this. Parkland, light industry, the River Lee and residential properties are situated to the south of the Site. Approximately 100m to the north of the boundary of the Site, beyond the railway line and across the River Lee, is Rye House Kart Club track. Rye House Speedway Stadium lies further to the north, approximately 300m from the boundary of the Site.

Approximately 350m to the north-east of the Site lies the Rye Meads Sewage Treatment Works owned by Thames Water Utilities Ltd.

The site is located in the ward of Rye Park, within the local authority area of Broxbourne Borough Council. The town of Hoddesdon is located approximately 500m to the west of the site, with the closest residential properties 400m to the north, and further residential properties 700m to the south east and 700m to the south. The nearest residential property to the Site is Lock Keepers Cottage, which lies approximately 20m from the eastern boundary of the Site, on the opposite bank of the River Lee.

There is a Local Wildlife Site immediately to the south of the site boundary within the Rye House Power Station. Rye Meads Site of Special Scientific Interest (SSSI), a Special Protection Area (SPA) and a Ramsar site (wetlands of international importance), all of which are designated for birds and a variety of wetland mammals and

comprise a range of marshes and lagoons, lie approximately 230 m to the north of the site.

Immediately to the south east of the Site lies further waste management premises currently under construction and comprising an Anaerobic Digestion (AD) facility and an Advanced Thermal Treatment (ATT) facility. Both are designed for the receipt of wastes arising from the Commercial and Industrial sector.

The Site lies adjacent to a large gas fired combined cycle gas turbine (CCGT) power station that provides standby capacity and is operated by Scottish Power.

The railway area stretches along the western boundary of the site, adjacent to the existing CCGT power station site. The length of the sidings is around 300m off the main connecting railway line and is included within the lease area available to the Contractor.

The majority of the residual waste and process materials utilised by the Facility will however be delivered to the Site via Ratty's Lane. The Site will include vehicular access and internal circulation for HGVs.

The majority of the buildings are proposed to be located in the central, western and southern parts of the site to avoid the high voltage power cables that cross the eastern boundary of the site. Within this area, there will be no buildings, only, the incoming and outgoing weighbridges, ramped access/egress to an elevated tipping hall, a storm attenuation pond and car parking and internal access/circulation links to the exit/entrance point onto Ratty's Lane.

Suitability and Deliverability

The Site is not identified for waste use in the adopted Hertfordshire Waste Sites Allocation Local Plan (WSALP), nor does it lie within one of the specific areas of search identified within the Waste Core Strategy. However, the Waste Core Strategy (Policy 7) makes provision for non-allocated sites to be advanced where they satisfy various objectives and criteria. The Contractor has appraised the site against this policy framework and in the light of other permissions granted (including the adjacent Trent Development site) has concluded that the site can be considered to be in conformity with the plan's provisions. In particular, whilst outside of the principle areas of search it remains well placed to serve the areas of waste arising, in addition, it offers an opportunity for the Council to avoid the need for an eastern waste transfer station, it is brownfield land allocated for employment uses in the Borough Plan, it has existing permissions for road and rail haulage of aggregates, it lies outside of the Green Belt and also offers co-location synergies with other adjacent waste and energy uses.

The site is safeguarded within the adopted Minerals Local Plan for rail aggregate depot use (under Policy 10 - Railheads and Wharves). The Contractor's RPP suggests that demand for such facilities in Hertfordshire has significantly reduced in recent years and the use of the site for such purposes is now largely redundant with other safeguarded sites offering better long term prospects.

The RPP proposals will nevertheless retain the rail sidings and will offer an opportunity for the export by rail of IBA arising from the facility process (and potentially from the adjacent 3rd party ATT facility) thus maintaining the strategic benefit of the rail link and its mineral related use. The long term but ultimately temporary nature of the ERF planning proposals also serves to mitigate against any future prejudicial impact on rail depot requirements/opportunities.

The adopted Minerals Plan makes provisions for exemptions to its safeguarding policy and this is considered relevant both in relation to its Employment use status in the Broxbourne Local Plan and in the criteria based policy provisions.

The Minerals Plan is currently under review and the Contractor has made representations with regard to the safeguarding objectives set out in the Initial Issues Consultation Paper. These seek to ensure that the adopted policy framework remains unchanged.

Site Attributes

- The Site is well located in terms of proximity to the sources of Waste arisings (although lying in the eastern part of the county, close to the A10, A1(M) and interchanges with the M25 and M11). It is also well located to benefit from rail transport where practical and affordable;
- The Site's overall size (5.6 ha, including rail sidings area) offers sufficient space for the proposed Facility and associated landscape enhancement (although with no space to accommodate a front-end MPT facility);
- The clustering of major employment uses around the Site presents combined heat and power (CHP) opportunities;
- The construction and continuing maintenance of the Facility will bring socio-economic benefits to the local community in terms of direct and indirect employment.
- An in-county solution would retain business rates within Hertfordshire with 40% of the rates going to Broxbourne Borough Council and 60% to the Council (consultation on the government's new business rates retention scheme is

expected to begin in the spring). It is estimated that business rates for the Facility would be in the order of £1.5m per annum.

Traffic and Highways

The Site is proximate to the major highway network, in particular its close proximity to the A10 affording connections to the rest of Hertfordshire and to the M25. Whilst local road constraints exist in relation to the Essex Road New River Bridge crossing and the need for lorry routing provisions, traffic generation and highway capacity assessments conducted by the Contractor indicate that the local network has adequate capacity to meet the needs of the development and it is considered that the use of Ratty's Lane together with other existing and future users is acceptable in principle and will be addressed further in the context of a detailed Traffic Assessment undertaken to support any future planning application.

From a wider logistics and sustainability perspective, the Site is well located in the County relative to the existing Waterdale Waste transfer station, the prospective locations for a northern Waste Transfer Station and other sources of Waste arisings. It also offers the benefit that the Council's current proposals for an eastern Waste Transfer Station would prove unnecessary if planning permission is obtained, as waste can be delivered direct to the Rye House site.

The capacity of the Site to accommodate the RPP has been evidenced by previous work undertaken by the Contractor in connection with its former Development Consent Order (DCO) application (2010/11) which was withdrawn at Examination stage following VES' withdrawal from the North London Waste (Fuel Use Contract) procurement process.

The design of the Facility represents what the Contractor considers to be the best alternative proposal to New Barnfield pending further detailed environmental assessment works, formal planning application preparation and pre-application consultation.

Appendix 2 – Technology Overview

This Appendix seeks to provide Members with a brief explanation of those alternatives available and to confirm that the selected RPP technology is a technology that will meet Hertfordshire's residual LACW disposal needs.

Residual waste disposal techniques can be split into two categories; Techniques for waste that can be treated directly and techniques for waste that requires pre-treatment or pre-processing.

Direct Treatment with no pre-treatment

Landfill

- The disposal of waste into or onto land.
- Strict construction and operational restraints are applied to sites to mitigate the environmental impact.
- On receipt the waste is weighed and checked to ensure compliance before being tipped and compacted to prevent odour, litter and pest infestations. Decomposition by microbes then occurs which, when combined with rainwater, creates a leachate. Gases are also released during the decomposition process.
- Landfill tax is a tax on all waste sent to landfill and is aimed at reducing the volume of waste sent for disposal at landfill. The current standard rate of landfill tax is £82.60 per tonne.

Incineration

- Incineration technologies involve direct combustion in the presence of oxygen to produce energy.
- Temperatures in excess of 850°C are used to convert the waste into hot gases. The hot gases are then used to heat water in a boiler to produce steam. Turbines are driven to generate electricity and/or to provide heat (known as combined heat and power (CHP)).
- Any non-combustible materials remain as solids and are disposed of via the Incinerator Bottom Ash (IBA).
- Most incinerators include extraction equipment to remove metals from the IBA.
- Energy from Waste (EfW) facilities can vary in size. The size of the facility is dependent on a number of factors including the cost of the facility, the catchment area, the distance from waste resources and site constraints.

Pre-Processing/Pre-treatment

- A number of techniques typically require the residual waste to be pre-processed prior to treatment.
- Without pre-treatment the varying size and composition of unprocessed municipal solid waste is not suitable for most thermal treatments.
- The purpose of pre-processing is to produce a material with consistent physical properties and compliant chemical properties.
- Pre-processing includes manual and mechanical separation or sorting, shredding, grinding, blending with other materials, drying and pelletisation.

Advanced Thermal Treatment (ATT)

- Advanced Thermal Treatments tend to use either gasification and/or pyrolysis and typically require pre-processing.

Pyrolysis

- Typically the waste is heated to between 300°C and 850°C in the absence of Oxygen. The breakdown of waste produces a gas which may be condensed to form a syngas, char and fuel oil.
- Char can be used as a Refuse Derived Fuel (RDF) and the syngas in power generation.
- The cleaning of the syngas required increased technical experience.
- Pyrolysis is sometimes used as part of the pre-treatment process and fuel preparation for gasification.

Gasification

- Gasification occurs in the presence of limited Oxygen and at temperatures of greater than 650°C.
- The process is largely exothermic but some heat may be required to initialise and sustain the process.
- Gasification produces a syngas which can be used in a boiler to generate steam which can be used for power generation, or a fuel in a dedicated gas engine.
- ATT facilities currently tend to be smaller (30-60,000 tonnes per annum) than incinerators.

Plasma Arc Gasification

- Heating method that can be used in gasification and pyrolysis, very high temperatures (3,800°C) are used to break up the molecular structure.
- A large amount of electricity is required for the operation.
- Residual waste must be pre-processed before treatment.

Autoclaving

- Also referred to as Mechanical Heat Treatment (MHT).
- Residual waste is subjected to high temperatures under high pressure steam to kill bacteria and pathogens that might be present.
- RDF produced can also be used in energy generation.
- A degree of pre-treatment is required.
- Significant amounts of energy are required to supply the steam required for autoclaving

Mechanical Biological Treatment (MBT)

- Generic term for the integration of several processes including materials recovery, composting and anaerobic digestion.
- The mechanical element of the process can involve the sorting of waste, the shredding and homogenising of waste into smaller particle sizes suitable for separation processed.
- The biological element of MBT can involve aerobic bio-drying, partial composting, aerobic in vessel composting or anaerobic digestion.
- The outputs from the process are recyclables, RDF and a low quality, stabilised 'compost-like' output.

RDF

- Refuse Derived Fuel (RDF) is a material that is produced from waste that has undergone some sort of treatment process, and is intended for use as a fuel.

SRF

- Solid Recovered Fuel (SRF) is a fuel produced from non-hazardous waste in compliance with the European standard EN 15359. EN 15359 requires that a producer specifies and classifies its SRF by detailing its net calorific value, and chlorine and mercury content of the fuel. Specification includes several other properties, such as the content of all heavy metals mentioned in the Industrial Emissions Directive. Even though this standard means that there is an agreed upon definition of SRF, it is important to note that EN15359 and its underlying standards do not require any specific quality level. The required quality of SRF is therefore defined in each case meaning that SRF quality can vary.

RDF Export

- The market for the export of waste to Europe has developed and grown in the last five years. Data from the Environment Agency in 2014 shows that in June 2010 no RDF was exported. However, up to 2.37 million tonnes of RDF was exported to the continent for incineration from England and Wales in 2014.

- The waste is exported to facilities including those situated in Scandinavia, Germany and Netherlands. The gate fees in such facilities can be offered at a competitive rate however caution must be taken as there are a number of associated costs to be taken into consideration.
- Costs associated with the export of waste include the production of the RDF (preparing, baling and wrapping), transport in the UK to the port, administration and port costs (including the costs of obtaining the relevant licences), sea transport, European land transport and the gate fee at the facility.
- There are European and UK rules governing the export of waste out of the country, regulations apply from the point of loading waste until it has been fully recovered or disposed of at the destination facility.
- Successful export of RDF relies on there being an end market for the produced RDF, failure to secure a market to accept the RDF result is a risk of relying on export. A 2015 report by the Environment Agency highlights that there is uncertainty when projecting the future of the RDF export market. The EU is looking at the better utilisation of existing EfW capacity. If export of waste is encouraged from Eastern Europe to Western European EfW facilities this will impact on the UK's ability to export RDF for disposal. Table 2.1 below shows a number of factors that could impact the availability of the export market.

Table 2.1 - Factors that could impact RDF exports to Europe	
Source: Environment Agency (2015) https://www.gov.uk/government/publications/refuse-derived-fuel-exports-rdf-recent-trends	
Area of Change	Examples
Demand	<ul style="list-style-type: none"> - Level of residual waste generation in England. - Level of residual waste generation in key RDF export markets. - Level of residual waste generation in countries that also export RDF to the same markets.
Supply	<ul style="list-style-type: none"> - New EfW facilities being built in England. - English landfill sites closing. - New EfW facilities being built and old ones being closed in key RDF export markets. - New EfW facilities being built and old ones being closed in countries that export RDF to the same markets as England.
Regulatory and political landscape	<ul style="list-style-type: none"> - Changes to the landfill tax. - Changes to recycling targets in England and abroad. - Expectations that recycling targets will become more stringent and landfill tax will rise. - Changes in the definition of RDF. - New EU directives on resource efficiency - Changes to support mechanisms for renewable heat and power either in the UK or abroad.

Wider social and economic changes	<ul style="list-style-type: none"> - Increased recycling and resource efficient behaviour in England and abroad. - Changes in recycle prices. - Changes in input costs such as freight haulage and fuel rates.
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ArrowBio

- A patented separation system which reduces the amount of waste that needs to be sent to landfill. Waste which is largely unsorted is fed into the process, recyclables are extracted and organic waste is broken down by the Anaerobic Digestion process resulting in the production of biogas and electricity.
- The only plant currently operational is a 70,000 tonnes per annum plant in Tel Aviv which has been operational since 2003.
- The technology is undergoing a major upgrade and is unproven at a larger scale. In order to deal with all of Hertfordshire's waste four or five facilities would be needed, or if the facility was to be scaled up, a site approximately four times the proposal of Rye House would be required.

Ramboll (Council's Technical Advisor's) EfW Comparison

Background

To make the right technology choice it is important to look at the key criteria as the facility will be operated for many years, needing to provide a reliable and robust service.

In the current climate a number of other criteria must be addressed. These include:

- Energy efficiency and recovery;
- Environment – emissions, health and safety;
- Flexibility to handle variations in waste composition;
- Fit within the local infrastructure and plans for the future; and
- Ability to operate on a large commercial scale.

Technical Options

The technical options that are considered include:

- Advanced moving grate technology (the RPP);
- Pyrolysis;
- Gasification; and
- Two stage combustion.

Advanced moving grate technology has evolved over many years. Research and even further development of this technology continues today. Its performance has made

significant steps over the last 10 years to achieve very high levels of reliability and high efficiency, especially when combined with a district heating scheme. The technology can meet and exceed strict regulatory limits on emissions and yet it offers the flexibility to accept waste of varying composition and calorific value. Examples of this technology can be found across the globe and many new advanced moving grate plants are under construction and at the design stage today. Technology suppliers continue to expend a considerable research and development (R & D) budget to keep this technology at the cutting edge of efficiency, performance and reliability.

The gasification and pyrolysis technologies are commonly referred to as 'advanced' thermal treatment technologies. The reason being that thermal gasification processes produce syngas, which can potentially be used to produce electricity with higher efficiency or for producing liquid fuels or chemicals. Syngas has about half the energy density of natural gas. Syngas is used in a boiler or other device for power production. Therefore, the main question is whether the additional technical complexity and increased energy consumption of the gasification processes can be justified by the potential increase in efficiency and/or attractiveness of the by-products when compared to conventional combustion.

Thermal gasification of municipal solid waste (MSW) has experienced around 25 years of often challenging development. These alternative technologies generally require MSW to undergo extensive pre-processing. In addition, operational experience is sparse, availability has been shown to be significantly lower than that of modern advanced moving grate plants, and operational costs are higher.

Furthermore, the operational data from reference facilities shows that the overall energy efficiency of thermal gasification processes are less efficient than direct combustion plants.

Two stage combustion technologies have a number of reference plants. Some facilities have been in operation for circa 10 years. Most of the facilities are designed with relatively low steam parameters, thus achieving lower energy efficiency. Furthermore, pre-treatment of waste is required and plants may experience lower availability when compared to modern advanced moving grate fired plants.

Whilst a number of alternative technologies are actively promoted by development companies, there is little evidence to suggest they have achieved sufficient track records and performance levels required to meet the aims of HCC for (i) safe and secure residual waste treatment (ii) combined with ability to deliver high service availability and (iii) high levels of consistent energy production into a local energy network.

The commercial and stakeholder relationship consequences of service failure or short comings at a municipal scale are significant for any waste management authority. On this basis, Ramboll recommends the use of well proven advanced moving grate combustion.

Table 2.2 provides a general comparison of the different thermal treatment technologies.

Table 2.2 – Comparison of technologies

Parameter	Advanced Moving Grate	Thermal Gasification / Pyrolysis	Two Stage Combustion
Waste requirements <ul style="list-style-type: none"> Pre sorting Size reduction 	Not required Only items > 1000 mm	Removal of metals Shredding required	Removal of metals Shredding required
Energy* <ul style="list-style-type: none"> Gross electricity Net electricity CHP mode <i>* of lower calorific value</i>	25 – 33% 22 - 30% Up to 100%	Limited data 0 – 10% Up to 100%	Limited data * Limited data ** Up to 97% *in theory close to advanced grate technology , if material and design are adjusted/changed to handle higher steam parameters. ** loss of additional 2-3% points compared to advanced moving grate due to pretreatment.
Environment <ul style="list-style-type: none"> Bottom ash (depends on ash in waste) Health and safety 	≈ 16-20% by weight Minimal contact with waste	≈ 16-20%* by weight Contact with waste during cleaning of pre-treatment plant	≈ 16-20% by weight Contact with waste during cleaning of pre-treatment plant
Compliance with EU regulation	Yes	Yes * Pyrolysis results in the production of a char. A Defra report classifies municipal solid waste pyrolysis char as <i>“Hazardous waste, but could be used as coal”</i>	Yes

Parameter	Advanced Moving Grate	Thermal Gasification / Pyrolysis	Two Stage Combustion
		<i>replacement in certain combustion applications or as a gasifier feedstock."</i>	
Operation experience			
Information level	Well documented	Limited data available	Limited data available
Handling changes in waste composition	Higher flexibility	Lower flexibility	Medium flexibility
Annual availability	≥8,000 hrs	<5,500 hrs	<7,000 hrs
Net electricity production at 10 MJ/kg	0.6 - 0.65 MWh/t	0 – 0.25 MWh/t	0.4 - 0.45 MWh/t
Technical risks			
Overall assessment	Low	High	Medium
Proven treating MSW or MSW derived waste	Well proven	Well proven in Japan. (with very limited net electricity production)	Further demonstration of track record still required from independently owned plants.
Number of plants	>1,500	Unclear, around 50 to 80 facilities	Less than 10 facilities (with lower steam parameters and mainly 'heat only' plants.)
Advantages	<ul style="list-style-type: none"> - Well proven - High availability - High efficiency 	<ul style="list-style-type: none"> - Facilities could apply for renewables benefits (previously double ROCs) - Better public perception in the UK 	<ul style="list-style-type: none"> - Facilities could apply for renewables benefits (previously double ROCs) - Potentially better public perception in the UK
Disadvantages	<ul style="list-style-type: none"> - Limited access to renewables benefits from government - Less positive public perception in the UK 	<ul style="list-style-type: none"> - Low net efficiency - Availability uncertain - Unproven technology to produce syngas for use in gas turbine or upgrade to fuel 	No reference plants achieve steam parameters or/and availability similar to facilities based on advanced moving grate technology.

Parameter	Advanced Moving Grate	Thermal Gasification / Pyrolysis	Two Stage Combustion
Number of modules for a large scale thermal waste treatment facility e.g. 320,000 tpa	2 lines of 20 t/h	Circa 40+ modules of 1 t/h, could base design on around 8 to 10 larger capacity units.	Circa 8 lines of 5 t/h

Appendix 3 – Adherence to Local and National Policy and legislation

Policy and legislation relating to waste management is diverse ranging from EU directives, which require transposition into national legislation, to national plans, strategies and laws that consider specific areas such as waste prevention.

The general thrust of law and strategy in this area is one which aims to create a society that concentrates on prevention, reuse, recycling and energy recovery based on the notion that waste is a resource especially under the context of the circular economy.

The following summary is an overview of the main legislative context under which waste management services have been / are provided. The appendix is not intended to be exhaustive but rather concentrates on areas that have strategic relevance to the RPP proposals.

The (revised) Waste Framework Directive (WFD)

A guiding principle of both European and national waste management is the concept of the waste hierarchy. In general terms the hierarchy identifies that the best way to manage waste is not to generate it in the first place (prevention), followed by reusing and then recycling / composting and recovering energy where practicable. Generally the disposal of waste to landfill is considered to be the least preferable option.

The revised WFD amended the waste hierarchy as shown below :-



The revised hierarchy draws a distinction between the reuse of materials which do not require preparation and those which do. It also confirms that waste to energy processes

are preferential to landfill especially when considered under the context of carbon reduction requirements.

The WFD originally provided guidance on the effective management of wastes throughout the EU. It was and remains one of the main European legislative drivers requiring the production of national strategies to encourage waste prevention and reuse along with appropriate recovery and disposal technologies supported by regulatory frameworks that protect the environment and public health.

The EU adopted a revised WFD on the 12th December 2008 which was subsequently transposed into UK law. Significant updates in the revised WFD include targets as noted below:

- recycling 50% of household waste by 2020.
- recycling and / or reusing 70% of non-hazardous construction and demolition waste by 2020.
- separate collections for paper, metal, plastic and glass by January 2015
- Implementation of waste prevention programmes by December 2013.

(revised) Waste Framework Directive - targets

The revised Waste Framework Directive (rWFD) sets a household recycling target for member states of 50% by 2020. This is reflected in a similar national target versus the HWP Joint Municipal Waste Management Strategy that set a 50% target by March 2013.

Whilst the Hertfordshire Waste Partnership (HWP) achieved 50% recycling by March 2012 subsequent issues with non-compostables in the organic waste stream saw recycling drop to 45.5% in 2012/13 before climbing to 49.3% in 2013/14 and 49.4% in 2014/15.

It should be remembered that EU targets are national level targets with Member states free to decide how such targets are translated into national law. The response in Northern Ireland, Scotland and Wales has been to set statutory targets for local authorities designed to exceed the 50% target by 2020. However, considering that over 80% of the tonnage relevant to the UK target arises in England, based on current trajectories, the UK as a whole is required to significantly improve from its current 'flat-lining' position to achieve 50% by 2020.

The situation is compounded by the fact that English local authorities have not had statutory targets since 2007/08. This was highlighted by a House of Commons

Environment, Food & Rural Affairs Committee report into the state of waste management in England. In assessing barriers to achieving 50% recycling by 2020 the report raises the prospect of reintroducing statutory targets for local authorities and noted that fiscal pressures on local authorities could lead to changes such as charged green garden waste services which could negatively affect the rates achieved.

An additional and important aspect of the Directive is the distinction adopted between low efficiency and high efficiency incineration technology leading to the former being categorised as Disposal (in Waste hierarchy terms) and the latter as recovery. The criteria set out in the Directive apply an R1 calculation threshold of 0.65 efficiency for achievement of recovery status (R1).

The RPP Facility would be operated in accordance with regulatory requirements relating to protection of human health and the environment and the proposals have been designed to exceed the R1 threshold and be configured to meet recovery status under this definition.

The National Waste Strategy 2007 / The Defra Waste Review 2011

The national waste strategy was last properly revised in 2007 with new national recycling targets set at 40% by 2010 and 50% by 2020 in line with the European 50% recycling target also to be achieved by 2020.

However, since then despite the Government undertaking a waste policy review in 2011, other than the removal of statutory targets for English local authorities as well as the impact of on-going austerity measures, no fundamental changes have been made to national policy that significantly impact local waste management services.

EU Circular Economy Strategy

A circular economy is an alternative to a traditional 'linear' economy (i.e. 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.

Published on 2nd December 2015, the Strategy aims to transform Europe into a more competitive resource-efficient economy, addressing a range of economic sectors, including waste.

The new strategy set out in its EU Action Plan for the Circular Economy and accompanying Annex, includes a proposal to impose legally binding targets on most member states to recycle 65% of all municipal waste by 2030 (the previous target for 2020 as above was 50%). Currently the UK has a recycling rate of around 44% and is already struggling to meet the current target. The Government are concerned that this will impose significant burdens on the UK and are also concerned that some poor performing Member States will be exempt from the targets whilst the UK and others will face heavy fines for failure to achieve the targets. The UK Government have also pushed for clarity over the inclusion of IBA reprocessing as a contributor to recycling rates.

The key provisions of the Strategy are as follows;

- 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).

In order to achieve a 65% recycling target, Hertfordshire authorities, through the Hertfordshire Waste Partnership (HWP), would need to 'capture' significant amounts of material currently within the residual waste stream. The size of the challenge would require the following list of issues to be considered:

- Weekly recycling – perhaps one of the last significant operational changes still available across the UK is to increase kerbside recycling to a weekly service to prioritise efforts to divert waste from landfill.
- Reductions in residual waste capacity – working in concert with weekly recycling waste collection authorities could consider further reductions in residual waste capacity either through reducing bin sizes in line with the approaches in North Herts and Three Rivers or through further frequency reductions as implemented elsewhere in the UK.

- Weekly food waste collections – recent waste compositional analysis indicates that food waste continues to make up approximately 30% of the residual waste bin. If this fraction could be effectively captured it could make one of the biggest contributions to closing the gap between current performance and 65% recycling by 2030.
- Trade Waste Recycling – the separate collection requirements introduced by the revised Waste Framework Directive, which applied from January 2015 onwards, are equally applicable for the collection of trade waste. The clear intention is that all trade waste service providers should now be providing recycling services. That said the overall level of trade waste handled by Hertfordshire authorities is minimal and therefore any recycling extracted from this waste stream is unlikely to make a significant contribution to meeting future targets.
- Legislative tools – to support such efforts waste authorities will need to consider whether the current suite of legislative tools available are sufficient or whether additional powers such as being able to ban food waste from residual waste bins is needed.
- WasteAware – an important part of any future service in Hertfordshire will be the continued and enhanced promotion of services that support efforts to prevent, reduce and recycle on the part of residents and local businesses.

The Landfill Directive

The overall aim of the Directive is to prevent or reduce as far as possible negative effects on the environment, in particular the pollution of surface water, groundwater, soil and air. Globally this includes addressing the greenhouse effect, as well as any resulting risk to human health, from the landfilling of waste during the whole life-cycle of the landfill.

The Directive defines the different categories of waste (municipal waste, hazardous waste, non-hazardous waste and inert waste) which applies to all landfills defined as waste disposal sites for the deposit of waste onto or into land.

More fundamentally the Directive sets targets for the reduction of biodegradable municipal wastes (BMW) sent to landfill. Transposition of the Directive into UK law took advantage of a 4 year derogation available to a number of member states with historic reliance on landfill. The relevant targets for the UK were / are to have reduced the amount of BMW going to landfill by :-

- 75% of that produced in 1995 by 2010
- 50% of that produced in 1995 by 2013
- 35% of that produced in 1995 by 2020

The Waste Emissions & Trading Act 2003 / Landfill Allowance Trading Scheme

In order to give practical expression to the requirements of the Landfill Directive in 2003 the Government instituted the Waste Emissions Trading Act. This introduced a system of tradable allowances linked to the tonnage of residual waste landfilled by local authorities.

The Act required progressive reductions in the amount of BMW sent to landfill. In doing so it made a strong link between the role that waste management has to play in contributing to the wider climate change agenda with reductions in BMW analogous with reductions in CO² emissions.

The level of annual allowances were reduced each year to ensure compliance in targets years. The original intention was that those authorities with excess allowances, i.e. as a result of intensive reduction, recycling and energy recovery strategies, would be able to sell excess allowances to those authorities that either had not been able or had chosen not to achieve the required landfill diversion. The idea was tradable allowances would allow the UK to achieve compliance with Directive targets at minimum cost. This became known as the Landfill Allowance Trading Scheme (LATS).

In practice the 'futures market' envisaged by LATS never materialised as by definition it made the false assumption that a number of authorities would base their strategy on purchasing additional allowances from those that had excess to sell. The key driver became the increases in landfill tax which soon overtook LATS as the principle force behind landfill diversion.

Landfill tax has the added advantage of applying equally to commercial wastes for which there never was a LATS equivalent. In addition potential penalties of £150 per tonne for non-compliance not only undermined the tradable intention behind LATS but also motivated most waste disposal authorities and unitaries to pursue landfill reduction in line with the Landfill Directive and wider rWFD thereby undermining future demand for excess allowances.

Waste (England and Wales) (Amendment) Regulations 2012

The regulations require that separate collections must be deemed to be practical in each of the assessment areas, i.e. technically, environmentally and economically. If separate collections fail in any one of these areas then they are not required.

Based on the TEEP tests conducted across the country so far it would appear that whilst technical practicality does not present any issues the majority of the time

economically practicality cannot be established when aspects such as vehicle costs are taken into account, i.e. greater income through keeping materials separate does not usually compensate for higher collection costs. A situation exacerbated by recent significant falls in prices for a number of recyclates.

In addition it should be considered that fully commingled collections also tend to outperform kerbside sort in terms of tonnage capture reflecting their ease for residents. Therefore even taking into account higher contamination levels, it is increasingly being argued that separate collections also fail the environmental practicability test as a result of diverting less material from landfill whilst using additional vehicle resources.

The Packaging Directive / The Producer Responsibility (Packaging Waste) Regulations 2007

The Packaging Directive and associated regulations established statutory recycling / recovery targets for organisations involved in the packaging supply chain. The legislation is an example of the 'producer responsibility principle' and is aimed at ensuring that businesses take responsibility for the products they have placed on the market once those products have reached the end of their life.

In the UK companies or groups of companies who have a turnover exceeding £2 million and who handle more than 50 tonnes of packaging are required to comply. They must recycle or reuse a calculated percentage of their packaging. Such activity is evidenced through the Packaging Waste Recovery Note (PRN) system and its export equivalent the Packaging Export Recovery Note or PERN. These are bought from reprocessors with the money intended for re-investment in the 'recycling process'.

The regulations also require that producers of packaging adhere to 'essential requirements' guidance, by for example not over-packaging products beyond the needs of product transportation, protection, and health and safety.

Whilst there are no direct implications for local authorities it had originally been envisaged that the PRN system would result in higher prices which would 'pull' material through the municipal waste stream and up the hierarchy.

However, in practice the degree of transparency intended has not been reflected in prices paid to local authorities. In addition recent changes to a number of material specific targets have resulted in a sharp decline in the value of the associated PRN resulting in downward pressure on prices.

The WEEE Directive

The Waste Electrical and Electronic Equipment (WEEE) Directive became law in the UK in January 2007 and established national recycling targets for waste electrical and electronic equipment initially set at 4kg per household. By 2011 the target was comfortably being achieved by the UK with 34% of the tonnage placed into the market recycled.

As a further example of producer responsibility legislation the WEEE Directive and its transposition into UK law places no additional burden on local authorities. However, mindful of the fundamental role local government has in the management of household waste, local authorities have been encouraged to register Household Waste Recycling Centres (HWRCs) as Designated Collection Facilities, to allow for the receipt of waste electrical equipment. The collection network is supported by the Distributor Take-back Scheme (DTS).

The funding of separate collection activity at HWRCs is from the DTS and the costs of transporting, recycling and recovering WEEE is borne by the producers of the equipment. This has saved Hertfordshire's tax payers significant amounts since the legislation was implemented.

The WEEE Directive was recast in 2012, with new targets coming into force in February 2014. This includes a target of recycling 45% of every 100 tonnes of equipment placed on the market by 2016 rising to 65% in 2019.

The recast also sees retailers of electrical items whose shop space covers at least 400m² required to provide facilities for customers to return small WEEE free of charge. There will also be tougher restrictions on the export of WEEE, to prevent waste electricals from being processed in countries where conditions are hazardous to workers and the environment. The measures see exporters made responsible for proving that goods are being shipped abroad for repair or reuse.

Waste Minimisation Act 1998

The Waste Minimisation Act 1998 enables local authorities to take steps to minimise the generation of household, commercial or industrial waste. The Act gives recognition to the fact that local authorities also have responsibilities to promote and encourage waste minimisation through a range of direct and indirect measures.

In essence the Act provides a general power to local authorities to do anything which in their reasonable opinion is necessary or expedient for the purpose of minimising the quantities of controlled waste generated in its area.

However, at the same time the Act does not place any automatic duty to undertake or facilitate such activity, nor does it allow local authorities to impose any requirements on businesses or householders in the area.

Sector commentary since the Act was introduced suggests that 'well-being powers' also provide appropriate authorisation for waste minimisation activity.

Clean Neighbourhoods & Environment Act 2005

The Clean Neighbourhoods & Environment Act became law in April 2005 and contains a range of measures to improve the quality of the local environment by giving local authorities and the Environment Agency (EA) additional powers to fine those responsible for fly tipping and litter.

Other measures in the legislation give the EA powers to issue fixed penalty notices to businesses that fail to produce waste transfer notes; waste carriers that fail to produce registration details or evidence of exemptions. It also revamps procedures for the search and seizure of vehicles suspected in the pursuit of illegal waste activities through making it easier for courts to require forfeiture of such vehicles.

Climate Change Act 2008

The Climate Change Act received Royal Assent in November 2008. At the time the primary matter of significance was the power created by the Act for the introduction of pilot waste incentive schemes whereby selected local authorities would have been allowed to trial various measures to motivate greater participation in recycling services including charging for residual waste. The legislation also gave the government powers to force retailers to charge for using single use carrier bags.

However, no local authority ever implemented a charging scheme for residual waste with the former coalition government subsequently removing the power to do so.

With respect to the wider environmental agenda the Climate Change Act legally commits the UK to meeting its 80% carbon reduction target by 2050. This was supported by the 2008 Energy Bill, which was also passed into law at the same time, resulting in 'feed in tariffs' for small-scale renewable energy projects.

Longer term carbon reduction commitments will keep under review how changes in UK waste management practice can contribute. This in turn could result in future legislation that looks to prioritise the management of certain waste streams to support various technologies e.g. separate food waste collections to support the development of anaerobic digestion as part of the renewable energy strategy.

Industrial Emissions Directive (IED)

This Directive (which is designed to offer a high level of protection for the environment and human health while simplifying the existing legislation and cutting unnecessary administrative costs), brings together Directive 2008/1/EC (the 'IPPC Directive') and six other directives into a single directive on industrial emissions. The IED supersedes the Waste Incineration Directive (WID) (2000/76/EC) but adopts similar requirements.

It covers industrial activities with a major pollution potential, defined in Annex I to the Directive (energy industries, production and processing of metals, mineral industry, chemical industry, waste management, rearing of animals, etc.).

It also contains special provisions for the following installations:

- combustion plants (≥ 50 MW);
- waste incineration or co-incineration plants;
- certain installations and activities using organic solvents;
- installations producing titanium dioxide.

It requires that any industrial installation which carries out the activities listed in Annex I to the Directive must meet certain basic obligations to ensure that:

- preventive measures are taken against pollution;
- the best available techniques (BAT) are applied;
- no significant pollution is caused;
- waste is reduced, recycled or disposed of in the manner which creates least pollution;
- energy efficiency is maximised;
- accidents are prevented and their impact limited;
- sites are remediated when the activities come to an end.

Thematic Strategy on Waste Prevention and Recycling

In 2005, the European Commission proposed a new strategy on the prevention and recycling of Waste. This strategy is one of the seven thematic strategies programmed by the 6th Environmental Action Plan.

This long-term strategy aims to help Europe become a 'recycling society' that seeks to avoid Waste and uses Waste as a resource. It will draw on the knowledge that the thematic strategy on resources will generate.

The main actions of the thematic strategy are:

- a renewed emphasis on full implementation of existing Legislation;
- simplification and modernisation of existing Legislation (e.g. firstly an amendment of the Waste Framework Directive merging it with the Hazardous Waste Directives and introducing life cycle thinking, which has now been successfully carried out);
- introduction of life-cycle thinking into Waste policy;
- promotion of more ambitious Waste prevention policies by clarifying Member States' obligations to develop publicly available waste prevention programmes;
- better knowledge and information which will underpin the continued development of Waste prevention policy; and
- development of common reference standards for recycling.

EU Directive on Environmental Impact Assessment

On 12 March 2014, the European Parliament voted to adopt substantive amendments to the Environmental Impact Assessment ("EIA") Directive 2011/92/EU. These amendments made by EIA Directive 2014/52/EU will not be transposed into UK legislation until 2017. It is anticipated that the UK Government will issue amended EIA Regulations in the next 12 -18 months to allow sufficient consultation prior to the 2017 deadline. The Revisions seek to address the following:

- considering how climate change, human health and resource efficiency can be assessed more effectively within EIA;
- enhancing the approach taken by developers to pre-assess proposals to enable a screening decision to be made;
- improving, potentially, the quality of the writing and review of environmental statements, by ensuring those who undertake the work have competent expertise to do so;

- considering how efficient and effective monitoring strategies can be created to track the delivery and success of design elements and mitigation that aims to avoid, prevent or reduce significant adverse effects on the environment; and
- introducing penalties for infringements.

Given the programmed planning determination date for the facility in the event of RPP acceptance and planning approval, it is not expected that the provisions of the Directive will have been fully transposed into UK legislation. Nevertheless, in preparing the EIA to accompany the planning application, the Contractor will have to give regard to the provisions of the Directive in order that the potential risk of legal challenge might be minimised.

National Planning and Permitting Regulations

The key regulations in England and Wales that are applicable to the Facility comprise:

- Environmental Permitting (EP) Amendment Regulations 2015;
- Town and Country Planning (Environmental Impact Assessment Regulations 2011);
- Waste Incineration (England and Wales) Regulations 2002;
- Waste and Emissions Trading Act 2003 (amendments etc) 2013 and the Landfill Allowance Trading Scheme (LATS);
- Water Resources Act 1991 (as amended 2009);
- Various Habitats and Species Conservation Regulations/Acts;
- Air Quality Standards Regulations 2010; and
- Environmental Protection Act (EPA) 1990.

The Contractor will need to appropriately address these matters during any planning application.

Appendix 4 – Assessment on Need and proposed Facility capacity

Existing arrangements

In 2009, the Council sought tenders for the provision of interim waste treatment and associated final disposal facilities for residual LACW arising in Hertfordshire. This was in order to ensure that arrangements were in place that could lead to a transition into the planned delivery of the New Barnfield facility.

The contracts were set for a period of c. 4 years from either January or March 2010 with a natural expiry date for all arrangements on 31 March 2014 but with the possibility of three, one year, extension periods at the sole discretion of the Council.

Officers considered the relative merits of extending the 2010 Interim contract arrangements, and decided that, albeit there were some advantages in extending the existing contracts, e.g. surety of disposal arrangements and a higher level of certainty on the budgetary requirements, there was planned and ongoing development of facilities in the region and surrounding counties that warranted a fresh approach to the market. A new second 'suite' of interim contracts for the period 2014 to 2018, with extension periods of up to three years was sought.

It was also agreed that the 1997 contract with LondonWaste Ltd for disposal of 60k tonnes p.a at the Edmonton EcoPark, due to expire 31st December 2017, would be continued for the remaining period. The 2010 contract with LondonWaste for disposal of 5k tonnes p.a. would be extended beyond the 31st March 2014 natural expiry date for up to the maximum permitted three year extension period.

The remaining tonnage of residual LACW was the subject of an OJEU notice published on the 12 August 2013, leading to contract commencement on the 1 April 2014. These 2014 interim contracts have a natural expiry of March 2018 with the potential to extend the contracts up to March 2021.

The estimated future projected use of these interim disposal contracts for disposal of residual LACW (in tonnes) is set out below through to natural expiry (in broad terms and without growth assumptions) to the end of the 2017/18 financial year.

Table 4.1 – Projected use of 2014 Interim disposal contracts				
Facility	Contracted operator	2015/16	2016/17	2017/18
Edmonton EfW (1997 contract)	LondonWaste Ltd	60,000	60,000	45,000
Edmonton EfW (2010 contract)	LondonWaste Ltd	5,000	5,000	0
Bletchley Landfill / Greatmoor EfW (Buckinghamshire)	FCC	60,000	78,000	93,000
Ardley EfW (Oxfordshire)	Viridor	90,000	75,000	75,000
Westmill Landfill (Hertfordshire)	Biffa	40,000	40,000	45,000
Milton Landfill (Cambridgeshire)	FCC	3,000	0	0
Residual Waste Total		258,000	258,000	258,000

Financial pressure

As can be seen, the continued export of residual waste out of county and associated haulage costs create additional pressure on the Council's budget. This, and the expiry of the most cost effective services at Edmonton are reflected as additional pressures in the Council's Integrated Plan as follows:-

Table 4.2 – Budget pressures				
(£1,000's)	2016/17	2017/18	2018/19	2019/20
Landfill tax (inflation)	156	319	497	685
Recycling Credits payments	129	261	399	542
Edmonton cessation	0	648	2,527	2,527
Interim waste contracts	0	408	2,311	2,703
Materials reduction (quantity)	50	50	50	50
TOTAL	335	1,686	5,784	6,507

It is advantageous to provide certainty and value for money for the future and the continued reliance on transporting waste increasing distances is unsustainable and uncertain.

Further detail on sensitive financial information is detailed in the Part II annex to this report.

The last remaining significant disposal point in Hertfordshire (the Westmill landfill site near Ware) is currently the subject of an application to extend the time for quarrying extraction activity with an associated landfill and restoration delay. At the time of writing, the worst case scenario is that an extension to time is not permitted meaning the Westmill landfill site will be unavailable from December 2017, the best case from the WDAs perspective is that the time extension is granted giving local delivery points for eastern areas of the county to circa 2025.

As at section 11.8 of the report, it is stated that projections on waste growth must be considered in respect of service changes at the kerbside or at the network of household waste recycling centres.

It was the case that, despite 7 of the 10 WCAs making significant changes during 2013/14 (the removal of cardboard from the organic waste stream into the dry recycling service) and changes to the receptacle size of the residual waste container in North Herts, the level of residual waste growth reduced only slightly (from 2012/13) by -0.93%.

If the major residual service changes at North Herts (reduced receptacle size -16.07% reduction) and Watford (private trade service arrangements -6.06% reduction) are discounted, the remaining 8 of the 10 districts show residual LACW growth of +1.81%.

Likewise, analysis of the residual LACW growth between 2013/14 and 2014/15 is, without consideration of service changes, a -0.67% reduction. However, taking into consideration the changes for separate food waste services in Dacorum and Three Rivers part way through the year and the full year effect of the previous year's changes in North Herts and Watford, the remaining 6 WCAs demonstrated waste growth of +0.98%.

Changes at the kerbside continued into 2014/15 with further changes in 2015/16 (which have been taken into account in the waste flow projections). Analysis of the kerbside collections of residual waste for the first 3 quarters of 2015/16 in comparison to the same period in 2014/15 is shown below in *Figure 4.3*

This shows that, in the main, where changes have been made (such as the third quarter in Broxbourne or the whole period in Dacorum), significant improvements in reducing the volume of residual waste have been made, such that, the total collection authority residual waste remains at similar levels to the same period the previous year.

Whilst it is not surprising that improvements have been made given the nature of the service changes, it should be noted that, as was the case between 2013/14 and 2014/15, where service changes have not been implemented in the period, the remaining volumes show an increase in residual LACW growth of 1.72%.

Figure 4.3: Changes in Waste Collection Authority residual LACW (quarters 1 to 3) 2014/15 to 2015/16

	Quarters 1 to 3 2014/15	Quarters 1 to 3 2015/16	Difference	Percentage change
	Tonnage	Tonnage	Tonnage	Tonnage
Broxbourne	19,076.11	18,856.58	-219.53	-1.15%
Dacorum	24,461.78	22,339.02	-2,122.76	-8.68%
East Herts	21,728.74	22,649.50	920.76	4.24%
Hertsmere	18,119.90	18,472.20	352.30	1.94%
North Herts	17,035.43	17,675.70	640.27	3.76%
St Albans	19,018.02	19,119.97	101.95	0.54%
Stevenage	15,991.76	15,756.74	-235.02	-1.47%
Three Rivers	10,914.75	11,272.26	357.51	3.28%
Watford	14,086.90	14,390.30	303.40	2.15%
Welwyn	17,891.71	17,770.09	-121.62	-0.68%
Total	178,325.10	178,302.36	-22.74	-0.01%

Other Authorities

To provide some context for residual LACW solutions elsewhere in the UK, table 4.4 shows the residual waste disposal options for Hertfordshire County Council's nearest statistical neighbours, these authorities have the most similar statistical characteristics in terms of social and economic features. (Source: Cipfa (Chartered Institute of Public Finance and Accountancy))

<http://www.cipfastats.net/resources/nearestneighbours/profile.asp?view=select&data set=england>)

Table 4.4: Residual LACW disposal in other authorities (source Defra statistics 2014/15)

Authority	Residual disposal solution	2014/15 residual LACW (tonnes)	2014/15 % LACW recycled/composted/re-used
Buckinghamshire County Council	In county Energy from Waste (EfW) facility constructed at Greatmoor entered commissioning late 2015, anticipated to be fully operational from spring 2016.	123,413	53.1
Cambridgeshire County Council	Waste sent to their Mechanical Biological Treatment (MBT) facility with residual remaining after treatment sent to landfill.	135,226	58.5
Essex County Council	Processed at MBT facility in Basildon, then the resulting 'fuel' is sent for export to European EfW facilities.	372,576	48.1
Gloucestershire County Council	In county Javelin Park EfW, planning application approved by Secretary of State in January 2015.	158,868	46.7
Hampshire County Council	Waste is sent to one of three EfWs within Hampshire with less than 10% of waste sent to landfill.	392,116	40.6
Kent County Council	In county EfW facility at Allington Quarry.	372,065	47.7
Lancashire County Council	Waste treated at two MBT facilities, waste remaining after treatment goes to landfill.	345,087	43.0
Northamptonshire County Council	The county is divided into three areas and waste from each area sent to a number of facilities. Technologies include mechanical treatment, anaerobic digestion, gasification, production of waste derived fuel and MBT.	183,861	48.5
Nottinghamshire County Council	Following unsuccessful planning application for an EfW, an RPP was accepted, waste now sent to a combination of existing EfWs including facilities out of county.	224,193	43.9

Oxfordshire County Council	Waste is sent to their in county EfW facility at Ardley.	128,841	58.6
Suffolk County Council	In county EfW facility is operational at Great Blakenham	186,169	51.7
Surrey County Council	Following a refusal of planning permission for EfWs at a number of in county sites interim contracts were signed in 2009 to take waste out of the county.	262,187	54.2
Warwickshire County Council	Within county landfill and EfW at Four Ashes (in partnership with Staffordshire County Council).	122,669	55.0
West Sussex County Council	Waste is to be treated at their MBT facility (currently completing the commissioning phase) and waste derived fuel to be produced.	250,572	43.7
Worcestershire County Council	In partnership with Herefordshire entered a contract in 1998, following failed planning application on the original site, the in county site at Hartlebury was granted planning permission by the Secretary of State in 2012. EfW facility is under construction and will start commissioning in spring 2017.	163,628	43.3
Hertfordshire (for comparative purposes)		274,727	48.7

Map 1 highlights the existing and emerging facilities surrounding Hertfordshire.



GMT Sensitivity testing

In order to test that the RPP presented by VES meets the needs of the Council a number of assumptions have been tested to ensure that, with changes in the waste generated over the life of the Contract such as improvements in recycling, the prospect of a GMT breach is significantly low.

The contractual maximum tonnage is 352,000 tonnes per annum. Should the volume of Contract Waste produced be above this level then VES have the option to accept this additional waste with the cost passing back through to the Council or the Council has the option to make alternative arrangements for this additional waste.

The contractual minimum tonnage (known as the Guaranteed Minimum Tonnage or GMT) has been negotiated and agreed for the RPP to be 135,000 tonnes per annum. The contractual minimum tonnage for New Barnfield was 180,000 tonnes per annum. If the Council fails to provide this volume of waste and send it to the facility under the Contract they would still have to pay up to this GMT tonnage subject to VES providing “substitute waste” or the Council providing “top up” waste as detailed in the main body of the report.

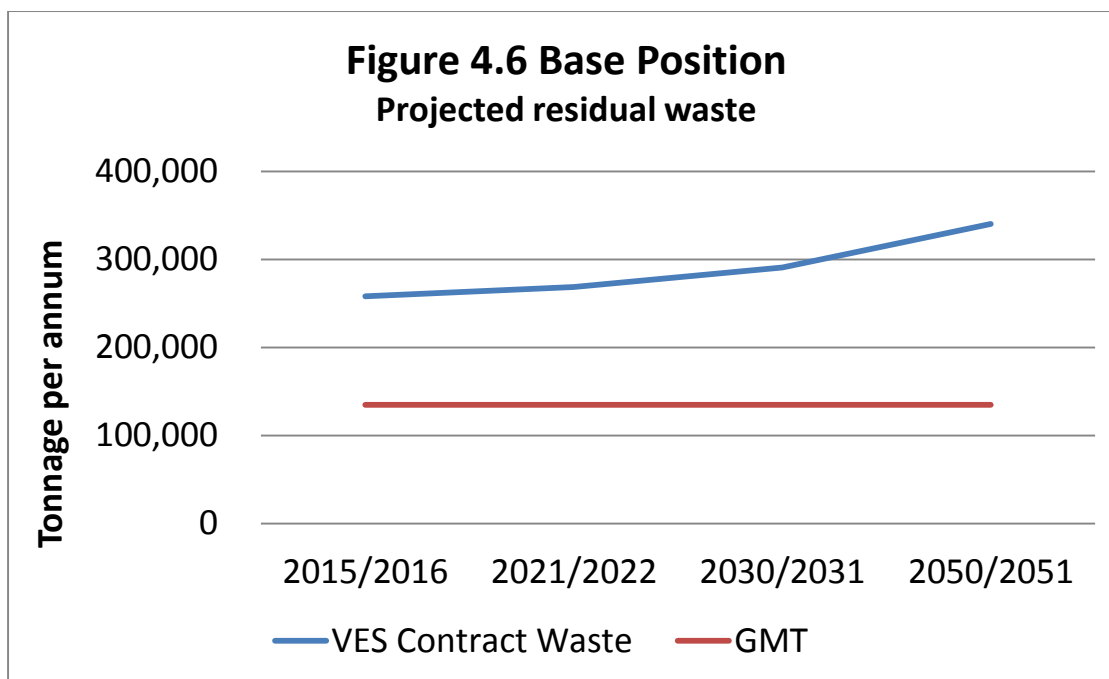
Base Position

A base position has been established and used by the Council for the assessment of the RPP and for establishing the affordability of alternative disposal arrangements. This base position takes into consideration known changes in residual waste in the next three years (for example the introduction of the mechanical street sweepings contract) and projects only growth in the number of household’s not economic or other waste growth.

Household growth has been projected forward using adopted and/or projections of the district and borough local plan commitments for housing numbers. The anticipated increase in future dwellings up to 2031 is expected to be in the region of c.87,000.

Table 4.5	2015/2016	2021/2022	2030/2031	2050/2051
Projected annual tonnage contract waste	258,361.58	268,571.05	290,836.66	340,315.77
GMT Balance	123,361.58	133,571.05	155,836.66	205,315.77

With the projected volumes of residual waste over the life of the Contract the residual waste does not fall below the Guaranteed Minimum Tonnage (GMT) level set in the Contract.



Assessment of the GMT can also be provided by comparative published positions. As is shown in table 4.7 below, with the exception of Oxfordshire who have negotiated a GMT of zero, the RPP proposes a balanced position between a low GMT (the level having an impact on risk and therefore cost) and being less reliant on third party waste.

It is also interesting to note that the market consultation responses indicate that a significantly higher proportion of the nominal capacity would be required as a GMT which is perhaps a reflection of the existing market in terms of risk transfer or funding as opposed to a few years ago when the comparative facilities would have reached financial close.

Table 4.7: Assessment of GMT against capacity

	Source	Capacity	GMT	GMT as a % of facility size	LACW residual (Defra 14/15)	Reliance on third party waste (%)
1	Market consultation	500,000	400,000	80.00%	-	-
2	Market consultation	400,000	330,000	82.50%	-	-
3	Market consultation	300,000	260,000	86.67%	-	-
4	Market consultation	250,000	200,000	80.00%	-	-
5	Market consultation	500,000	400,000	80.00%	-	-
6	Buckinghamshire CC	300,000	100,000	33.33%	123,413	58.86%
7	Oxfordshire CC	300,000	-	0.00%	128,841	57.05%
8	Suffolk CC	270,000	170,000	62.96%	186,169	31.05%
9	Norfolk CC (as proposed)	275,000	170,000	61.82%	229,608	16.51%
10	RPP	320,000	135,000	42.19%	274,727	14.15%

Waste Composition Analysis

A waste composition study was commissioned by the Council and carried out over a six week period between March and May 2015 looking at the composition of the kerbside waste of nine of the ten district and borough councils and seven of the seventeen household waste recycling centres in the County.

East Herts district council did not participate in the waste composition analysis but have since carried out their own waste composition study which revealed similar patterns experienced by the other district and borough councils.

The results from the waste composition analysis study have helped inform the testing of the RPP to ensure that it meets the Council's future need and highlighted extracts are as follows:-

Residual Waste

- Households were setting out an average of 6.10kg per household per week.
- 32.8% of the total residual waste was food waste – 43.9% of this was disposed in its packaging.
- 10% of the residual waste was paper items – 63.2% of this was recyclable at the kerbside.
- 2.9% of the residual waste was metallic – 47.6% of this was recyclable at the kerbside.
- 3% of the residual waste was glass – 89.7% of this was due to glass bottles and jars which can be recycled at the kerbside.
- Overall **15.4%** of collected residual waste could have been placed into the mixed dry recycling containers.
- Overall **35.8%** of collected residual waste could have been placed into the organic recycling containers.
- In total **51.2%** of residual waste collected could have been recycled at the kerbside.

Kerbside Mixed Recycling

- 78% of households presented dry recycling containers out for collection.
- Kerbside properties diverted around 25% of their total waste through mixed recycling collections.

Organic Recycling

- 52% of households presented organic recycling containers for collection.
- Kerbside properties diverted around 21.8% of their total waste through organic recycling collections.

Scenario testing

To account for potential future changes in residual LACW a number of different sensitivities have been run. The results are shown in table 4.8.

Scenario 1

This scenario assumes that Hertfordshire County Council could achieve the same recycling rate as Oxfordshire County Council. Oxfordshire County Council have the highest household recycling and composting rate of any waste disposal authority at 60.5%, which equates to a municipal recycling rate of 58.62%. This recycling rate has been applied to Hertfordshire's waste flow.

Scenario 2

This scenario is modelled on **all** food waste being diverted from the residual waste stream. No other changes have been modelled to the base case. As per the waste composition analysis 3.53% of the residual waste received at the HWRC was food waste and 32.81% of the WCA residual kerbside waste was food.

Scenario 3

The scenario modelled here assumes that the 65% recycling rate target is achieved (EU Circular Economy package agreed by the European Commission in December 2015 set a target for recycling municipal waste of 65% by 2030). Although this target is agreed by the European Commission please note that it is still to be agreed by the EU Parliament and Council Ministers.

Scenario 4

Based on a rate of 0.5% in household growth, as referenced in the Eunomia report (Residual Waste Infrastructure Review Issue 9, December 2015), the Hertfordshire projected household growth rate has been removed from the base case and a rate of 0.5% has been applied.

Scenario 5

Scenario 5 has been modelled on the basis that all WCAs can achieve the same reduction in residual waste as the best performer. In this case:-

- (i) Three Rivers District Council have the highest recycling rate in Hertfordshire and are considered as the best performing WCA. This scenario has been modelled assuming all WCA's can achieve the same volume of residual waste per household as Three Rivers District Council. This would be a residual bin size of 140l and a separate food waste collection.
- (ii) Of the HWRCs that were studied as part of the 2015 Waste Composition Analysis, Rickmansworth HWRC had the lowest percentage of recyclables in

the residual waste. This scenario has been modelled on the assumption that all HWRCs can achieve the same level of recycling as Rickmansworth.

		2015/2016	2021/2022	2030/2031	2050/2051
	<i>GMT</i>	135,000.00	135,000.00	135,000.00	135,000.00
	<i>Maximum tonnage</i>	352,000.00	352,000.00	352,000.00	352,000.00
HCC Base Position	VES Contract Waste	258,361.58	268,571.05	290,836.66	340,315.77
	GMT Balance	123,361.58	133,571.05	155,836.66	205,315.77
Scenario 1	VES Contract Waste	219,421.76	233,209.81	252,543.83	295,508.31
	GMT Balance	84,421.76	98,209.81	117,543.83	160,508.31
Scenario 2	VES Contract Waste	179,918.76	187,500.81	203,044.67	237,578.23
	GMT Balance	44,918.76	52,500.81	68,044.67	102,578.23
Scenario 3	VES Contract Waste	185,588.45	197,250.49	213,603.33	249,942.99
	GMT Balance	50,588.45	62,250.49	78,603.33	114,942.99
Scenario 4	VES Contract Waste	257,096.84	255,771.87	256,925.15	259,506.64
	GMT Balance	122,096.84	120,771.87	121,925.15	124,506.64
Scenario 5	VES Contract Waste	197,579.29	205,463.37	222,487.42	260,201.94
	GMT Balance	62,579.29	70,463.37	87,487.42	125,201.94

Of the scenarios tested there is not one scenario where the anticipated level of residual waste fails to meet the GMT presented by VES in the RPP.

Table 4.9 shows the recycling rate that would be achieved if 135,000 tonnes per annum (GMT set out in the Contract) of residual waste was generated demonstrating that even with improved recycling rates it is unlikely that the minimum level of residual waste stated in the Contract would be breached.

	2015/16	2020/21	2030/31	2050/51
Recycling Rate should 135,000 tonnes per annum of residual waste be produced	74.79%	75.97%	78.02%	81.21%

As can be demonstrated by the information contained in the main body of the report and above, there is much that can still be done to improve performance in Hertfordshire and the Council continues to add to the good work already achieved by committing to a level of non-statutory funding for partner authorities through the alternative financial model and contributions to the HWP.

Appendix 5 - Financial Modelling Assumptions

The financial modelling used to assess the suitability of the RPP is considerate of existing arrangements and was informed by the market engagement exercise. The final RPP financial model was received by the Council on Friday 4 December 2015. An initial quality assurance review was conducted and limited clarifications and/or challenges were raised.

The affordability modelling work carried out considers not only the cost of disposal at facility(ies) but also the transfer of waste and the management of infrastructure such as waste transfer stations. The model also contains all wider system Waste Disposal Authority costs such as organic waste arrangements and the payment of recycling credits.

Extensive work has been carried out with the Authority's financial advisors PwC to develop and establish a robust affordability model that can be used to evaluate the costs of the RPP as well as the alternative disposal options available.

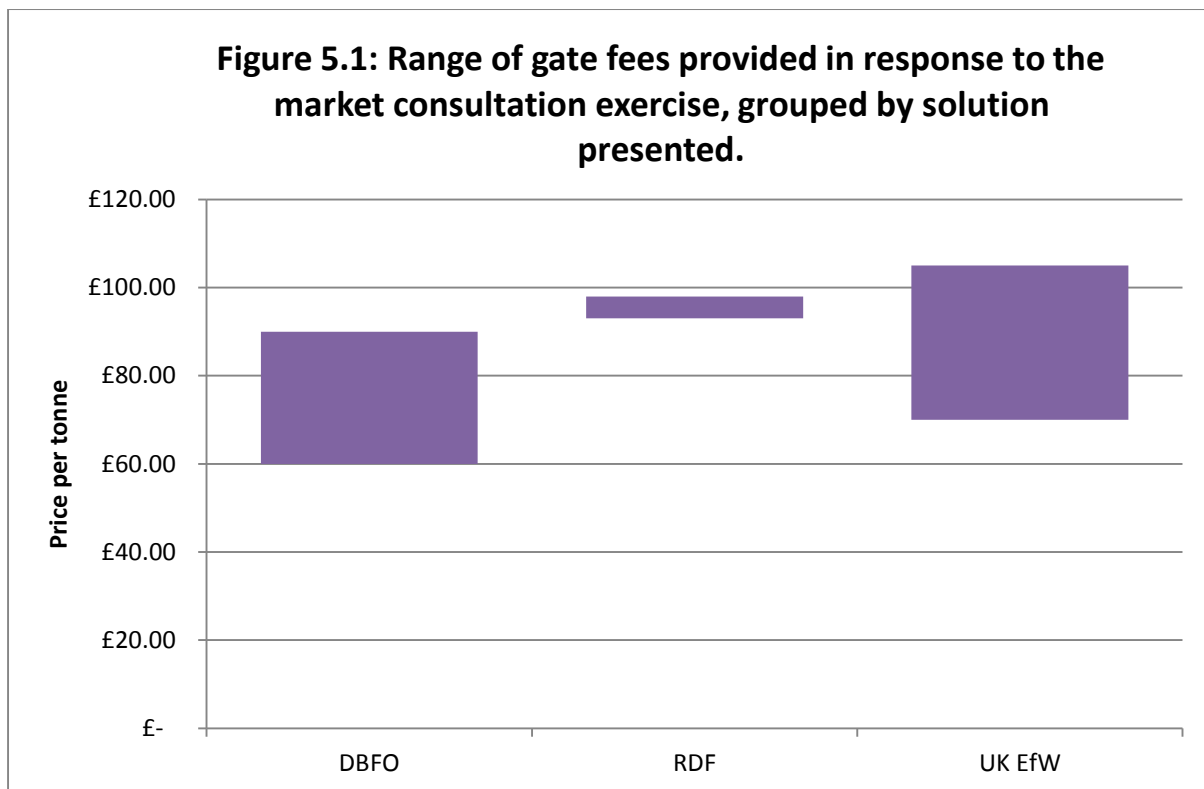
The figures produced by the waste flow modelling were provided to VES to be used for the development of the RPP proposal and have been used in the affordability modelling to evaluate the anticipated costs of disposal using a range of alternative options.

Following the receipt of the market consultation exercise, responses were collated and analysed in order to feed into the affordability modelling. The responses fell into three categories, Design Build Finance Operate (DBFO), RDF and UK EfW, Figure 5.1 reflects the range of gate fees presented by the market for these three categories.

Based on the information and level of detail provided in response to the market consultation exercise, the results were analysed and developed into six credible alternative scenarios which in turn fed into the affordability modelling.

Credible Alternative Scenario 1	EfW solution with multiple suppliers
Credible Alternative Scenario 2	EfW solution with a single supplier
Credible Alternative Scenario 3	RDF solution with multiple suppliers
Credible Alternative Scenario 4	EfW/RDF combination
Credible Alternative Scenario 5	Solution using the WRAP EfW median gate fees ¹
Credible Alternative Scenario 6	Solution using the WRAP MBT/MHT median gate fees

¹ WRAP (2014) Gate Fees report 2013/2014 – Comparing the Costs of Alternative Waste Treatment Options
EfW post-2000 facilities: Median gate fee £94
MBT/MHT: Median gate fee £84



In considering whether to model a new Design, Build Finance and Operate (DBFO) option as a comparator to the RPP officers carried out an assessment of the key value drivers to determine whether a clear case can be made that a new DBFO project could improve upon the RPP offer provided by VES. The assessment conclusions were as follows:

- It was considered that in the event a DBFO would represent greater value it would need to improve on the RPP by sufficient distance to cover the RPP termination costs and the expected additional procurement costs even without taking any account of the delay in operations a new procurement would cause.
- Construction costs and operating expenses are key drivers to any DBFO project and, in consultation with the Council’s financial advisors PwC, it was believed that a new DBFO would not have a material advantage over the RPP in terms of capital or operational spend. The RPP value is driven in part by the third party revenue assumptions, and whilst some assumptions have altered from those achieved during the 2011 RWTP Contract tender process, they are a reasonable reflection of the market movement in this time and likely to be reflected by alternative bidders.
- Where DBFO responses to the market engagement exercise referenced access to renewables subsidies such as the Contract For Difference (CfDs) or Renewable Obligation Certificates (ROCs), these were seen as sufficiently

uncertain as to be unlikely to present a competitive advantage for any alternative market solution.

- The other key value driver is the financing costs of the project, an alternative funding solution may be able to generate value against the Internal Rate of Return offered by the RPP structure, but VES's blended IRR is not abnormal in the market and any bank-funded solution an alternative bidder may offer may achieve lower terms, but would come with reduced funding certainty and additional funding market risk factors which, it was suggested by PwC, would outweigh the possibility of realising a saving compared to the VES funding solution.
- Whilst the competitive tension a fresh open-market procurement would bring for a DBFO solution is helpful, the procurement regulations the RPP is working under, allied with the reasonable expectation by VES that the Council could exercise its termination rights, do not suggest that this would offer material value to the Council.

Based on these considerations officers are of the view that a new DBFO procurement would not offer a sufficient expectation of comparable or better value than the RPP as to merit detailed modelling.

The credible alternative scenarios were modelled from the 1st April 2018 to coincide with the natural residual waste disposal interim contract expiry date. The assumption used in the modelling of the alternative options is that post expiry of the current residual waste disposal contracts the credible alternatives will begin to come into effect.

Dependent on the end disposal destination, haulage is a high component of the overall modelled cost of disposal. To establish an estimate on the cost of haulage to the destinations put forward in the market consultation exercise a bespoke methodology to calculate the haulage costs was developed. The model takes into consideration factors such as the travelling time, average cost of vehicle, fuel and driver, driver time and how many trips one driver can make to a disposal point in one day.

The outputs from this model were then reviewed, and the assumptions finalised, in discussions with our financial advisors PwC, and using their understanding of the haulage market.

In relation to supporting infrastructure the assumption is that an Eastern Transfer Station (ETS) is constructed and operational from February 2019 and that a new Northern Transfer station is operational from July 2020.

The Council holds the risk under the Contract for movement in the foreign exchange rate and the exchange rate conversion factor for the Contract is fixed from shortly after the point in time that the challenge period for a planning permission has expired. The affordability analysis included a range of sensitivities to provide an indication of the effect of movement that the foreign exchange rate in the RPP model could have on the blended unitary charge and how this compares to the credible alternatives modelled.

More detailed commercially sensitive information is set out in the Part II annex to this report.

Appendix 6 - Commercial implications and risk allocation

As is explored in the main body of the report at section 12, the risk allocation assumed in the Contract is not impacted by the RPP proposal. The changes proposed to be made to the Contract to bring the RPP into effect are consequential on the RPP. There are some changes that represent an improved commercial position for the Council but overall the changes are either of no commercial significance or their overall impact on the Council is neutral. The changes proposed to the Contract are not substantial.

The changes to the Contract are described in section 14 of Part 1 of the main body of the report. Other key changes consequential on the RPP are set out for Members in Table 6.1 and Table 6.2 below.

Table 6.1: Changes to the Contract required for RPP

	Key contractual feature in 2011 RWTP Contract	Impact of RPP
1.	<p>Contract form and risk transfer to Veolia and retained by the Council: In order to secure revenue grant support, Private Finance Initiative (“PFI”) contracts must comply with standard principles and drafting in HM Treasury’s guidance known as the “Standardisation of PFI Contracts” Version 4 (“SoPC4”). Further, such contracts must also comply with guidance set out by the relevant sponsoring department. In the case of waste PFI, the sponsoring department is Defra which has published its own model contract complying with HM Treasury guidance and containing approved derogations specific to the waste sector.</p> <p>The principal changes were to render the Contract specific to the proposed site, technical and funding solution. Improved commercial positions have also been secured for the Council during the competitive dialogue process</p>	<p>Contract form remains substantially the same save for consequential changes to give effect to RPP. No overall change to balance of risk assumed in 2011 Contract.</p>
2.	<p>Contracting party: SoPC4 assumes that the successful bidder will establish a special purpose vehicle (“SPV”) to deliver the project. The SPV for the Contract is Veolia ES Hertfordshire Ltd, a wholly owned subsidiary of Veolia ES Aurora Limited which is turn is owned by a French corporation.</p>	<p>No change to contracting counter party. Contract will remain with Veolia ES Hertfordshire Ltd</p>

3.	<p>Contractual overview: In summary, the Contract assumes that VES must design, build, finance and operate the facility and accept the vast majority of the risks associated with these obligations. If the facility is not constructed by a longstop date or if, having been constructed, does not perform to accept waste or to divert sufficient waste from landfill the Council may terminate the Contract. If the Contract is terminated, the facility will become the Council's property.</p>	<p>No change save for treatment of Facility on an expiry and early termination.</p>
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Risk transfer and risks retained by the Council - The risk transfer to the private sector is never absolute and it is important to recognise that some risks remain for the Council. The principal risks associated with the Contract (as proposed to be varied by the RPP) are set out in Table 6.2.

Table 6.2: Risk comparison		
Risk	Treatment in 2011 Contract	Impact of RPP
<p>Planning risk</p>	<p>VES must use reasonable endeavours to secure a planning permission. If despite this it has not done so by a longstop date, and the project cannot be rescued by the agreement of a revised project plan, the Council may terminate the Contract but in those circumstances the Council must pay a breakage sum to VES. Veolia have agreed to cap their costs and they are far lower than caps agreed on other Waste PPP/PFI projects. However, they remain a significant potential liability for the Council in the event of planning failure.</p> <p>Compensation is payable up to the following caps:</p> <ul style="list-style-type: none"> • Veolia's sub-contractor's costs (Construction Contractor's Development Costs) capped at £366,017 (indexed); and • Veolia's own development 	<p>VES remain responsible for obtaining planning permission for RPP proposal and to bear all costs associated with planning application. If planning permission for the RPP development at Rye House is refused or called in the Council may terminate the Contract and pay compensation at the capped sums included in the Contract (note that no changes are proposed to the capped sums included in the Contract by the RPP so the Council would remain liable to pay compensation up to the same capped sums included in the 2011 Contract terms). These are:</p> <ul style="list-style-type: none"> • VES' sub-contractor costs capped at £336,017 (indexed) • VES' own development costs capped at £650,000 (indexed from the RPP variation date). <p>The RPP will also provide a mechanism to allow either party to appeal or fund the cost of</p>

Table 6.2: Risk comparison

Risk	Treatment in 2011 Contract	Impact of RPP
	<p>costs (Contractor's Development Costs) capped at £650,000.</p> <p>If planning permission is obtained by the longstop date but there is a delay to the planned service commencement date, the Unitary Charge may increase to reflect inflation in the construction costs and to reflect that the operational period will be shorter than the assumed 25 years.</p>	<p>participating in any planning inquiry rather than terminate the Contract but this is an option only for the Council to afford flexibility in the Contract and the Council is not obliged to pay any additional costs to pursue proceedings.</p>
Permit risk	<p>Generally the risk associated with obtaining an environmental permit is treated the same as planning risk but Veolia has agreed to accept a greater amount of risk in relation to obtaining the environmental permit than is assumed in Defra's model contract.</p> <p>The Contractor must use reasonable endeavours to secure an environmental permit for the facility. If despite this it has not done so by a longstop date, the Council may terminate the contract. Veolia has not sought any form of compensation for delay or on termination for failure to obtain an environmental permit.</p>	No change.
Site delivery and granting of lease / restrictive covenant	<p>As the proposed site is in Council ownership, the Council must grant a lease of the site for the full contract period. The lease is to be granted at the start of the proposed construction period to allow Veolia access to start the works.</p> <p>The title to the site has a restrictive covenant preventing the intended use. To overreach the restrictive covenant the Council must appropriate the site for planning purposes. This remains a Council responsibility so that any delay or</p>	<p>VES is responsible for site delivery and for complying with the terms of the Headlease with Tarmac so the Council risks associated with New Barnfield are removed from the Contract.</p>

Table 6.2: Risk comparison

Risk	Treatment in 2011 Contract	Impact of RPP
	failure to overreach the restrictive covenant will be a Council risk.	
Third Party rights and consents in relation to the Site and off site works	These risks rest with VES in the Contract and any failure to obtain such consents would be treated as a Contractor Default to the extent the failure impacted on the performance of the Services.	The RPP requires VES to obtain a number of consents from third parties to secure necessary access and rights over land in and adjacent to the Site. The Contract as varied will require VES to obtain any necessary consents from third parties to deliver the RPP at VES' cost and risk.
Land and construction	As above, the Council must lease the site to VES. The Contractor may seek compensation if the Council does not give access to the site.	As above, VES is responsible for site delivery and so the Council risks associated with New Barnfield are removed from the Contract. Unless the Council exercises its option to take an assignment of the Headlease at the end of the Contract Period (see below), under the RPP VES is liable for decommissioning and site clearance at the end of the useful life of the Facility.
Treatment of asset on early termination and expiry of the Contract	<p>Facility to be constructed on Council freehold site at New Barnfield. Site and facility constructed on it revert to Council on expiry or early termination of the Contract.</p> <p>The Council is liable for decommissioning and site clearance at the end of the useful life of the facility.</p> <p>The Council bears obsolescence risk in relation to the facility (i.e. the risk that the facility is still useful in the future and the risk that the facility can be filled is borne by the Council).</p>	<p>Facility to be constructed on site owned by Tarmac. Headlease granted by Tarmac to VES will be for a term of 50 years but with an option for VES to terminate the Headlease on the termination of the Contract. Simultaneously with the Headlease, VES will grant an underlease to the Council for a term of 30 years to reflect the terms of the Contract. The Council will grant a subunderlease to VES to mirror the Contract term. During any period when the subunderlease is in place, a Supplemental Agreement will "suspend" all of the Council's obligations as tenant under the underlease.</p> <p>The Contract and the leasing structure will assume that on expiry of the Contract the Headlease and</p>

Table 6.2: Risk comparison

Risk	Treatment in 2011 Contract	Impact of RPP
		<p>Facility remains with VES for the remainder of the term of the Headlease. However the RPP includes an option for the Council to acquire the ERF facility for the remainder of its operational life by permitting an assignment of the Headlease to the Council on payment by the Council of a one off payment.</p> <p>This structure means that (unless the Council exercises the option to take an assignment of the Headlease):</p> <ul style="list-style-type: none"> • VES is liable for decommissioning and site clearance at the end of the useful life of the facility. • VES bears obsolescence risk in relation to the facility (i.e. the risk that the facility is still useful in the future and the risk that the facility can be filled is borne by VES). <p>On early termination for Contractor Default the Council will have the option to take an assignment of the Headlease and retender the Contract but in other termination scenarios the Headlease will remain with VES and the Council will have no rights to the Facility after termination of the Contract.</p> <p>The compensation on termination provisions in the Contract are amended in the RPP proposals so they reflect the nature of the RPP asset and this lease structure and so the Council does not overcompensate VES on termination and the risk in the asset remains with VES after termination.</p>

Table 6.2: Risk comparison

Risk	Treatment in 2011 Contract	Impact of RPP
Minimum Tonnage	The Council must deliver or else pay for at least 180,000 tonnes of waste a year. However VES must also use reasonable endeavours to secure alternative waste if there is a shortfall (Substitute Waste mechanism – clause 25).	Commercial position remains the same under the RPP save that VES have agreed to reduce the Minimum Tonnage from 180,000 to 135,000 tonnes of waste a year which is an improved position for the Council. This reduction is subject to an agreement by the Council that it will not send waste to other fuel production processes (or third party EfW facilities) prior to sending to VES but does not restrict retention of material for re-use, recycling and/or composting.
Exclusivity	The Council must deliver to VES all residual municipal waste arising in Hertfordshire up to the agreed Maximum Tonnage (345,000 tonnes per annum). This does not include waste retained for recycling or composting. To allow the Council further flexibility, Veolia have also agreed that the Council may withhold the waste that it currently sends to Edmonton until January 2018 and further in any contract year up to 20,000 tonnes per annum.	No changes proposed by RPP save that (i) the carve out for Edmonton Waste up to 2018 is no longer applicable due to revised Planned Services Commencement Date of December 2020; and (ii) the carve out of 20,000 tonnes per annum will only be in place until 31 March 2025 given the reduction in GMT from 180,000 to 135,000 tonnes per annum.
Payment Mechanism as sole remedy	It is normal in PFI that the deductions available under the payment mechanism for performance, non-acceptance and failure to divert are the Council's sole remedy for the performance of the services (apart from claims under the indemnity for breach and/or termination).	No change
Failure to divert from landfill / Landfill Allowance Trading Scheme (LATS) risk	The Contractor takes landfill risk if it landfills more than the guaranteed amount. Waste landfilled in excess of the guaranteed amount will result in a diversion deduction whether or not LATS is actually incurred. However liability for failure to divert from landfill is capped at levels	No change (albeit the LATS risk is no longer relevant due to change in law since 2011)

Table 6.2: Risk comparison

Risk	Treatment in 2011 Contract	Impact of RPP
	<p>which are normal and on market. It is unlikely that the Council would incur greater liability than the cap unless it was already in a situation where the contract could be terminated.</p> <p>VES have also agreed to take full landfill tax risk for the life of the contract.</p>	
Failure to achieve recycling targets	VES have agreed to a further deduction under the Payment Mechanism that allows the Council to make deductions if VES fails to achieve its recycling targets	No change to Payment Mechanism remedy proposed by RPP. VES remain liable for failure to recycle albeit the target now relates to metals rather than the recycle associated with the MPT
Non Acceptance Deduction	Non-acceptance of waste results in the Council being able to deduct its <i>actual</i> mitigated costs of alternative disposal (but of course this is always subject to VES (an SPV and without assets beyond the project, see contracting with an SPV below))	No change to Payment Mechanism remedy proposed by RPP. VES remain liable for non-acceptance of waste
Performance Deduction	The Council may make performance deductions if key performance indicators are not achieved. However, as is normal, these are capped at a proportion of the unitary charge.	No change to risk allocation proposed by RPP. VES retain performance risk
Composition risk	This risk is generally shared between the public and private sector but VES have agreed to accept full composition risk provided the Council complies with its obligation to deliver waste up to the Maximum Tonnage (see Exclusivity above)	No change to risk allocation proposed by RPP. VES retain composition risk
Liability Caps	Indemnities are capped but the cap is on-market.	No change to liability caps proposed by RPP
Contracting with a Special Purpose Vehicle	As with all PFI, the Contract is entered into with a special purpose company established for the purpose of delivering the project. This means that, in reality, the	No change proposed by RPP. VES will refresh the PCG on the same terms so that the Council continues to have parent company guarantee support in the event of performance

Table 6.2: Risk comparison

Risk	Treatment in 2011 Contract	Impact of RPP
(SPV)	<p>ability of the Council to sue is limited because the SPV only has the project as its single asset. VES has agreed to give the Council a parent company guarantee. Although this is capped on termination for Contractor Default, no parent company guarantee at all would be given for the SPV obligations in a project finance deal and in any event it would be subordinate to the banks. Accordingly, this is a good position for the Council in comparison to other waste PPP/PFI deals.</p>	<p>failure by VES</p>
Change in Law	<p>In brief summary, this is a Council risk, if it is a general change of law which involves capital expenditure or if it is a specific or discriminatory change in law (i.e. one which relates to waste management, emissions, similar facilities or PFI). A change in law requires the Council to return VES to a no-better-no-worse position. This is an absolutely standard PFI position. VES have agreed an improved position however in that the Council is able to “claw back” from Veolia’s third party income any Council contribution to changes in law relating to capacity in the facility that is used by third party users (i.e. over time, the Council will only contribute on a pro rata basis equivalent to its usage of the facility)</p>	<p>No change to this risk allocation proposed by the RPP although the Change in Law “no better no worse” provisions have been amended to ensure VES are not overcompensated where the Facility is not transferred to the Council on expiry of the Contract</p>
“Compensati on Events” and breach by the Council	<p>Breaches of the Council’s express obligations in the contract may lead to claims by VES for compensation (including compensation for lost third party income) or termination of the Contract for “Authority Default”. During construction, the Council’s obligations are limited to its</p>	<p>RPP proposal removes Council’s risks associated with site delivery and obligations to comply with the lease (risk transferred to VES). Accordingly, under RPP Council’s obligations are limited to “non-hindrance” and requirement to deliver waste during the operational</p>

Table 6.2: Risk comparison

Risk	Treatment in 2011 Contract	Impact of RPP
	obligations in relation to the site and the lease (see above) and to non-hindrance. During the operational period, the Council's obligations are limited to delivering waste in relation to its exclusivity obligation (see above) and to complying with its obligations in relation to the lease of the site (see above)	period (see Exclusivity above)
"Relief Events"	There are certain events defined in the Contract that may prevent the Contractor from performing its obligations. While VES takes the risk for these events in terms of performance and cost, the Council is not entitled to terminate the contract if failure to perform arises directly as a result of a Relief Event. Relief Events include fire, flood and strikes.	No change

Appendix 7 – Equality Impact Assessment (EqIA)

Guidance is available on [Compass](#). Completion of an EqIA should be proportional and relevant to the anticipated impact of the project on equalities. The form can be tailored to your project and should be completed before decisions are made. Key EqIAs should be reviewed by the Business Manager or Service Head, signed off by your department's Equality Action Group (EAG) and sent to the Equality and Diversity team to publish on HertsDirect. For support and advice please contact equalities@hertfordshire.gov.uk.

STEP 1: Responsibility and involvement

Title of proposal/ project/strategy/ procurement/policy	Residual Waste Treatment Programme – Revised Project Plan	Head of Service or Business Manager	Matthew King
Names of those involved in completing the EqIA:	Jo Hawes	Lead officer contact details:	01992 556207
Date completed:	08/02/16	Review date:	TBC

STEP 2: Objectives of proposal and scope of assessment – what do you want to achieve?

<p>Proposal objectives:</p> <ul style="list-style-type: none"> – what you want to achieve – intended outcomes – purpose and need 	<p>The Council entered into contract with Veolia Environmental Services Ltd (VES) for residual waste treatment services including the design, construction, financing and operation of a Recycling and Energy Recovery Facility (RERF) at New Barnfield, Hatfield. Following the decision by the Secretary of State to reject planning permission for the RERF at New Barnfield, the Council has requested a Revised Project Plan (RPP) from VES.</p> <p>The RPP presented by VES is for an energy recovery facility at Rye House, Hoddesdon, acceptance of the RPP is one option that will be presented to Members of the Community Safety and Waste Management Panel before a recommendation is made to Cabinet.</p> <p>The existing disposal arrangements are in place until 2018, should the RPP not be accepted an EqIA would need to be drawn up once a decision has been made on what future approach is to be taken.</p> <p>The outcome of this EqIA is to identify and assess the impact that this decision will have on Hertfordshire</p>
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	<p>residents.</p> <p>This contract deals with HCC’s statutory duty to dispose of the county’s waste, and is not a service that interacts directly with the public.</p>
<p><u>Stakeholders:</u> Who will be affected: the public, partners, staff, service users, local Member etc</p>	<p>Internal Existing Staff County Councillors</p> <p>External Hertfordshire residents District and Borough Council members Town and Parish Councils</p>

STEP 3: Available data and monitoring information

Relevant equality information	What the data tell us about equalities
<p>For example: Community profiles / service user demographics, data and monitoring information (local and national), similar or previous EqlAs, complaints, audits or inspections, local knowledge and consultations.</p>	
<p>Equality Impact Assessment originally completed as part of the Residual Waste Procurement Project prior to appointing a preferred bidder.</p>	<p>The main impact identified was in relation to Southfield School, which was adjacent to the New Barnfield site. The RPP is in a different location, this impact is not relevant to the RPP proposal.</p> <p>A differential impact was identified as the project was devised to reduce the reliance of the whole county on landfill, and to reduce the impacts of haulage on the wider population.</p>
<p>Equality Impact Assessments from Local Authorities which have looked at changes to their waste disposal activities.</p>	<p>EqlAs have been gathered from Local Authorities which have made changes to large scale waste disposal contracts.</p> <p>EqlAs undertaken by the following Local Authorities have been reviewed and have informed this EqlA:</p> <ul style="list-style-type: none"> • Cornwall Council • Surrey County Council

STEP 4: Impact Assessment – Service Users, communities and partners (where relevant)

Guidance on groups of service users to consider within each protected group can be found [here](#)

Protected characteristic	Potential for differential impact (positive or negative)	What reasonable mitigations can you propose?
Age	No negative impacts currently identified.	Review and monitor.
Disability Including Learning Disability	No negative impacts currently identified.	Review and monitor.
Race	No negative impacts currently identified.	Review and monitor.
Gender reassignment	No negative impacts currently identified.	Review and monitor.
Pregnancy and maternity	No negative impacts currently identified.	Review and monitor.
Religion or belief	No negative impacts currently identified.	Review and monitor.
Sex	No negative impacts currently identified.	Review and monitor.
Sexual orientation	No negative impacts currently identified.	Review and monitor.
Marriage & civil partnership	No negative impacts currently identified.	Review and monitor.
Carers (by association with any of the above)	No negative impacts currently identified.	Review and monitor.
Carers and CARE ACT 2014	From April 2015, carers will be entitled to an assessment of their own needs in the same way as those they care for. If the focus of your EqIA relates to care and support, consider carers' new rights and see the Care Act pages on Compass for more guidance	
	No negative impacts currently identified.	Review and monitor.
Opportunity to advance equality of opportunity and/or foster good relations (Please refer to the guidance for more information on the public sector duties)		

Impact Assessment – Staff (where relevant)

Protected characteristic	Potential for differential impact (positive or negative)	What reasonable mitigation can you propose?
Age	No negative impacts currently identified.	Review and monitor.
Disability Including Learning	No negative impacts currently identified.	Review and monitor.

Protected characteristic	Potential for differential impact (positive or negative)	What reasonable mitigation can you propose?
Disability		
Race	No negative impacts currently identified.	Review and monitor.
Gender reassignment	No negative impacts currently identified.	Review and monitor.
Pregnancy and maternity	No negative impacts currently identified.	Review and monitor.
Religion or belief	No negative impacts currently identified.	Review and monitor.
Sex	No negative impacts currently identified.	Review and monitor.
Sexual orientation	No negative impacts currently identified.	Review and monitor.
Marriage & civil partnership	No negative impacts currently identified.	Review and monitor.
Carers (by association with any of the above)	No negative impacts currently identified.	Review and monitor.
Opportunity to advance equality of opportunity and/or foster good relations (Please refer to the guidance for more information on the public sector duties)		

STEP 5: Gaps identified

Gaps identified Do you need to collect more data/information or carry out consultation ? (A 'How to engage' consultation guide is on Compass). How will you make sure your consultation is accessible to those affected?	None identified.
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STEP 6: Other impacts

Consider if your proposal has the potential (positive and negative) to impact on areas such as health and wellbeing, crime and disorder and community relations. There is more information in the guidance.

STEP 7: Conclusion of your analysis

Select one conclusion of your analysis	Give details
<input checked="" type="checkbox"/> No equality impacts identified <ul style="list-style-type: none"> - No change required to proposal. 	<p>This contract deals with HCC's statutory duty to dispose of the county's waste, and is not a service that interacts directly with the public. No adverse impacts have been identified.</p> <p>There may be opposition to the proposal however at this stage there is nothing to suggest that a particular group of the community will be impacted or will be opposing the RPP.</p>
<input type="checkbox"/> Minimal equality impacts identified <ul style="list-style-type: none"> - Adverse impacts have been identified, but have been objectively justified (provided you do not unlawfully discriminate). - Ensure decision makers consider the cumulative effect of how a number of decisions impact on equality. 	
<input type="checkbox"/> Potential equality impacts identified <ul style="list-style-type: none"> - Take 'mitigating action' to remove barriers or better advance equality. - Complete the action plan in the next section. 	
<input type="checkbox"/> Major equality impacts identified <ul style="list-style-type: none"> - Stop and remove the policy - The adverse effects are not justified, cannot be mitigated or show unlawful discrimination. - Ensure decision makers understand the equality impact. 	

STEP 8: Action plan

Issue or opportunity identified relating to:	Action proposed	Officer Responsible and target date
<ul style="list-style-type: none"> - Mitigation measures - Further research - Consultation proposal - Monitor and review 		
Monitor and review	Monitor and review, should the RPP is accepted continue to monitor the EqIA to ensure it is still relevant.	TBC

Issue or opportunity identified relating to: <ul style="list-style-type: none"> – Mitigation measures – Further research – Consultation proposal – Monitor and review 	Action proposed	Officer Responsible and target date

This EqIA has been reviewed and signed off by:

Head of Service or Business Manager:

Date:

Equality Action Group Chair:

Date:

HCC’s Diversity Board requires the Equality team to compile a central list of EqIAs so a random sample can be quality assured. Each Equality Action Group is encouraged to keep a forward plan of key service decisions that may require an EqIA, but please can you ensure the Equality team is made aware of any EqIAs completed so we can add them to our list. (email: equalities@hertfordshire.gov.uk). Thank you.