Kent Waste Needs Assessment 2022 Update

Hazardous Waste Management Requirements in Kent

Report: Post Client Review

Version 1.1

Issued: 4th November 2022

BPP Consulting Document Control

Project: Kent Waste Needs Assessment 2022 Update

Report: Kent Hazardous Waste Management Requirements

Version Description: Post Client Review

Version No: 1.1

Date: 04.11.2022

Version No.	Version Description	Author	Date	Reviewed	Date
0.1	Draft for Internal review	Ella Mills	14.10.2022	Alan Potter (Partner)	14.10.2022
1.0	Client review	Alan Potter (Partner)	14.10.2022	*Bryan Geake (Client Contact)*	03.11.2022
1.1	Post Client Review	Alan Potter (Partner)	04.11.2022		
1.2	Post Consultation	Alan Potter (Partner)			

Table of Contents

List of Tables

Abbreviations and Glossary

Abbreviations

APCr	Air Pollution Control residues
CFC's	Chlorofluorocarbons
CRT	Cathode Ray Tube
C, D & E / CDEW	Construction, Demolition & Excavation Waste
EA	Environment Agency
ELVs	End of Life Vehicles
EWC	European Waste Catalogue
GVA	Gross value added
HTI	High Temperature Incinerator
HWI	Hazardous Waste Interrogator
HWRCs	Household Waste Recycling Centres
MRS	Metal Recycling Sites
nPPG	National Planning Guidance
PI	Pollution Inventory
WDI	Waste Data Interrogator
WEEE	Waste Electrical & Electronic Equipment

Glossary of Terms

Construction, Demolition & Excavation Waste	Waste arising from construction and demolition activity, including excavation during construction, maintenance and repair activities, and mainly consists of inert materials such as soils, and some non-inert materials.
Duty to Cooperate	A legal test that requires cooperation between planning authorities and other bodies to maximise the effectiveness of Plan making on strategic matters.
End of Life Vehicles (ELVs)	Vehicles classed as waste having been declared as no longer usable and for which a Certificate of Destruction has been issued by DVLA. Deemed hazardous until hazardous components removed via depollution processes.
Energy from Waste (EfW)	The use of waste to generate energy (power and/or heat) or produce a gas that can be used as a fuel.
Environment Agency	The body responsible for the regulation of waste management activities through issuing permits to control activities that handle or produce waste. It also provides information on waste management matters and deals with other matters such as water issues including flood protection advice.
European Waste Catalogue (EWC)	Comprehensive listing of wastes, divided into 20 chapters, most of which are industry-based, although some are based on materials and processes. Each waste type is assigned a unique six-digit code.
Hazardous Waste Landfill	Sites where hazardous waste may be disposed by landfill. This can be a dedicated site or a single cell within a non-hazardous landfill, which has been specifically designed and designated for depositing hazardous waste.
Hazardous Waste	Waste requiring special management under the Hazardous Waste Regulations 2005 due to it posing potential threat to public health or the environment (when improperly treated, stored, transported or disposed). This can be due to quantity, concentration, or characteristics of the waste.
Incineration	The controlled combustion of waste. Energy may also be recovered in the form of heat (see Energy from Waste).
Industrial Waste	Waste arising from any factory and from any premises occupied by an industry (excluding mines and quarries).
Landfill (including land raising)	The permanent disposal of waste to land, by the filling of voids or similar features, or the construction of landforms above ground level (land-raising).
Pollution Inventory	Dataset compiled by the Environment Agency from information supplied by operators of regulated industrial activities. The pollution inventory provides information about releases and transfers of substances including reporting on annual emissions of certain substances to air, controlled waters and land, and off-site transfers in wastewater and waste. Facilities such as incinerators (inc high temperature) and major industrial processing sites such as solvent blending facilities report through the Pollution Inventory.
Recovery	Subjecting waste to processes that recover value including recycling, composting or thermal treatment to recover energy.
Recycling	The reprocessing of materials extracted from the waste stream either into the same product or a different one.
Waste Transfer Station	A site to which waste is delivered for sorting or baling prior to transfer to another place for recycling, treatment or disposal.

1. Introduction

The term 'hazardous waste' is used in England, Wales and Northern Ireland to describe waste with hazardous characteristics as set out in the List of Wastes (LoW) Regulations.[1] Certain types of waste are classed as 'hazardous' because they possess properties that pose a threat to human health or the environment such as toxicity, flammability, corrosiveness and carcinogenicity. Hazardous waste, is different to other waste categories as it arises from several different, distinct, sources so does not occur as a discrete waste stream, being more a collection of different materials, which are generally collected and managed separately due to their hazardous properties. For example, fridges containing CFC gases and cathode ray tubes used in TV and computer monitor screens are classed as hazardous as are oily water, interceptor wastes and undepolluted scrap ('End of Life') vehicles, and they would usually be managed at different sites.

Hazardous wastes arise within the following waste streams depending on their origin:

- Local Authority Collected Waste (LACW)
- Commercial and Industrial Waste (C&I)
- Construction and Demolition and Excavation Waste (CDE)

As its management requirements are different to that of the non-hazardous elements of these waste streams, hazardous waste needs to be planned for separately. Therefore, to avoid 'double counting' the quantities should be deducted from consideration of the general C&I, CDE and LACW streams. As the hazardous waste stream is made up of very different types of materials, they are given separate consideration in this report.

1.1 Kent Minerals and Waste Local Plan

The baseline report used to underpin the early partial review of the Kent Minerals & Waste Local Plan (KMWLP) adopted in September 2020 was the 'Update' dated September 2018[2]. It assessed future needs for hazardous waste management capacity based on a review of Environment Agency data from the Hazardous Waste Interrogator, the Waste Data Interrogator and the Pollution Inventory. The most current year of data available at that time related to 2016 and the report found total hazardous waste arisings from Kent to be c260,500 tonnes. The report included an assessment of capacity for hazardous waste management within Kent, which indicated that c216,500 tonnes of hazardous waste were managed within Kent during 2016; suggesting that net self sufficiency was close to being achieved. It should be noted that data on the quantity of hazardous waste managed was taken as a proxy for assessment of actual consented capacity. Given the data used relates to tonnes of waste actually managed it is reasonable to believe that theoretical capacity would be significantly greater. This approach is also taken in this updated report and so it can be said that where close correspondence between quantities produced and quantities managed is found to exist it can be said with a high degree of confidence that a state of net self sufficiency exists.

[1] List of Wastes (England) Regulations 2005 which came into force on 16th July 2005. http://www.legislation.gov.uk/uksi/2005/895/contents/made

[2] https://consult.kent.gov.uk/file/5162974

Policy CSW 12 of the adopted KMWLP has a stated intention to "*maintain net self sufficiency in the management of hazardous waste throughout the plan period*" and, in light of this, a strategic site is identified in the KMWLP to receive air pollution control residues from Allington EfW plant. However, as recognised in the South East Waste Planning Advisory Group Statement of Common Ground, planning for net self sufficiency in the management of hazardous waste ignores the fact that the management of hazardous waste involves many distinct specialist management activities which are often only viable at a regional, or larger scale, and so it is not considered to be applicable to hazardous waste. Given KCC is a signatory to the SoCG it is now proposed to update the KMWLP, including Policy CSW12, to remove the objective of net self sufficiency (insofar as it relates to Hazardous Waste) as part of the update to the KMWLP.

This report updates and supersedes the 2018 report as an assessment of future hazardous waste capacity requirements in Kent using data from 2020. This report uses a combination of available datasets to provide a more current and accurate assessment of arisings and capacity.

2. Calculating a Baseline Arisings Estimate

The Environment Agency's Hazardous Waste Interrogator (HWI) provides data relating to movements of waste consigned as hazardous when it is moved and/or changes hands e.g., when it is passed from producer to manager. This means that hazardous waste consigned between producers and disposal/treatment facilities, as well as most consignments between treatment facilities and final disposal sites, are recorded and then aggregated into a single dataset and made publicly available in the annual HWI.

'Consignment notes' are used to record transfers of hazardous waste and it is the information from these notes that is reported in the HWI.

Where regular movements of similar types of hazardous waste occur, these may be reported on an annual 'season ticket' basis.

The recording method means that the dataset is incomplete for the following reasons:

- Consignment notes are not issued where hazardous waste is managed onsite by the producer or same operator.
- Certain types of hazardous waste may not be consigned by the producer if the producer is unaware that the waste is to be dealt with as hazardous waste. Therefore, such waste may only be recorded on receipt at a site with an Environmental Permit which is required to record and report inputs to the Environment Agency. These records are aggregated into the annual Waste Data Interrogator (WDI) released by the Environment Agency some 18 months later. For example, End of Life Vehicles, which are classed as hazardous waste, will often not be consigned to a vehicle de-pollution site because the producer (the owner of the vehicle) does not consider it to be hazardous waste and hence it is not recorded in the HWI. However, on acceptance at the de-pollution site, it would be recorded as hazardous waste as an input to a site with an Environmental Permit.

Both of the above cases result in under-reporting in the HWI of actual hazardous waste arisings. However, to a certain extent this is balanced by aspects of the hazardous waste consignment process that may result in double counting in the HWI which leads to over-reporting. For example, if waste is moved to an intermediate management site within Kent and then moved on to a further site it will be consigned twice and so reported twice. Also, the person consigning hazardous waste may not have facilities to precisely measure the quantity of waste being consigned so may estimate the amount per load. This may result in a discrepancy between the quantity recorded as having been consigned and the quantity actually recorded at the receiving site which would normally have a reliable measurement method such as a weighbridge.

In light of the limitations associated with sole reliance on the HWI data, a number of datasets have been accessed to generate estimates of hazardous waste arisings for Kent as follows:

1. The EA Hazardous Waste Interrogator 2020 - movements.
2. The EA Waste Data Interrogator 2020 – inputs to permitted management sites.
3. The EA Waste Data Interrogator 2020 – outputs from permitted management sites.

The results obtained from each dataset are set out below.

2.1 The EA Hazardous Waste Interrogator (HWI) 2020

The EA Hazardous Waste Interrogator 2020 indicates the following:

- In 2020 172,044 tonnes of hazardous waste were produced in Kent;
- Of this, 60,019 tonnes were managed in Kent and 112,026 tonnes managed outside Kent.
- In addition, 86,268 tonnes of waste were imported to Kent for management.

Comparison of the quantities produced (172,044) and quantities managed in Kent (146,287) suggests that in 2020 Kent was a net exporter of hazardous waste.

2.2 The EA Waste Data Interrogator (WDI) 2020

The values for inputs to sites and outputs from sites can differ because of potential missing movements associated with facilities that do not report inputs as comprehensively through the WDI and other facilities such as high temperature incinerators. Comparing the WDI output value with the input value can reveal discrepancies in recording of inputs to sites as hazardous waste. In some cases, output values are greater than inputs. In these cases, the output value may be used to give a more accurate estimate of arisings as it is capturing a more complete picture of arisings. This is considered below.

Inputs from Kent to permitted sites.
The EA WDI indicates the following:

- In 2020 199,173 tonnes of hazardous waste managed at permitted sites (both within and beyond Kent) were attributed to Kent as its source;
- Of this, the EA WDI indicates that 59,887 tonnes were managed in Kent.
- In addition, 108,204 tonnes of waste were imported for management in Kent.

Comparison of the total quantity managed i.e., produced (199,173) and quantities managed in Kent (168,091) again demonstrates that, while a significant quantity of hazardous waste was managed in Kent, in 2020, Kent was a net exporter of hazardous waste.

Outputs from Kent permitted sites.

The EA WDI indicates the following:

- In 2020 130,602 tonnes of hazardous waste was removed from EA permitted sites operating within Kent, of which 38,087 tonnes went on for further management at sites within Kent. Therefore, this latter value should be discounted from the output total as it will otherwise result in double counting i.e., recorded once as an output and then again as an input. This leaves a net output value of 92,515 tonnes.

Given that in some cases hazardous waste inputs may not be reported, a reconciliation process has been undertaken between the WDI input value and the WDI output value by facility type. The higher value between the input value and the output value has been taken as shown in Table 1.

Table 1: Plan Area Hazardous Waste Arisings: WDI Input vs. WDI Output Values.

Source: WDI 2020

Fate	WDI Plan Area Total Site Input	WDI Total Site Output	Preferred Value (1)
Landfill	28,314	2,548	28,314
Transfer	12,426	11,402	12,426
Treatment	84,164	27,606	84,164
Recovery inc MRS	43,187	89,047	89,047
Total	**168,090**	**130,602**	**213,951**

MRS = Metal Recycling Sites receiving End of Life Vehicles for processing

Table 1 shows that the total WDI output value is less than the total WDI input value for Kent by c37,500 tonnes. Table 1 also shows that the WDI input values are higher than output values for all the fates recorded in the WDI with the exception of waste managed at recovery facilities such as Metal Recycling Sites where WDI output is significantly higher. As explained above, the emerging preferred value takes the higher of the two sources, which is 213,951 tonnes in this case.

The data derived from the WDI and HWI referred to above is summarised in Table 2:

Table 2: Plan Area Hazardous Waste Arisings Data Sources

Blue indicates values contributing to arising's, pink to plan Area management capacity

	Plan Area Waste Arisings (tonnes)		Plan Area Management (tonnes)	
Data source	**Quantity Managed Attributed to Kent**	**Of which Quantity Managed outside Plan Area (exports)**	**Quantity Managed in Plan Area Attributed to Kent**	**Quantity Managed in Plan Area from outside (imports)**
HWI	172,044	112,026	60,019	86,268
WDI (inputs to facilities)	199,173	139,286	59,887	108,204
Preferred Value	**199,173**	**139,286**	**60,019**	**108,204**

The table, shows that more waste is recorded as arising from Kent in the WDI (199,173 tonnes) than the HWI input (172,044 tonnes). On that basis the WDI values are preferred. The same is true of quantities of waste managed in Kent where the total quantity recorded in the WDI is 168,091 tonnes (59,887 + 108,204) as compared with 146,287 tonnes (60,019 + 86,268) in the HWI. Comparison between arisings (199,173) and waste managed (168,091) suggests that while a significant quantity of hazardous waste was managed in Kent, in 2020, Kent was a net exporter of hazardous waste. However, given this data is only a snapshot of management capacity in Kent in the year 2020, it is expected that the true capacity will be in excess of that actually utilised.

2.3 Pollution Inventory Site Inputs

The EA Pollution Inventory captures data on waste arising from certain industrial installations, regulated under the Industrial Emissions Directive (IED) permitting regime. Such installations may manage their waste onsite or send their waste for offsite management. This dataset is considered for the following reasons:

- As previously stated, the HWI may not capture all hazardous waste arisings as waste managed on the site of production through onsite treatment doesn't need to be consigned and it may be managed onsite by a method that is recorded in the Pollution Inventory;
- As noted above, both the WDI input and output datasets can be prone to underreporting by misattribution of waste. The Pollution Inventory does record sources of inputs and so allows for a cross check of the WDI.

A check has therefore been made of hazardous waste data for facilities that report through the Pollution Inventory. This dataset shows that 111,705 tonnes of hazardous waste was produced by Plan Area installations reporting through this route. However, given that the value from the Pollution Inventory is significantly lower than the WDI and HWI values it hasn't been considered any further.

Tracking Exports of Kent's Hazardous Waste

In order to establish which WPAs to approach for the purposes of meeting the Duty to Cooperate, an assessment has been undertaken to identify those WPAs hosting facilities that received 500 tonnes of more of hazardous waste from Kent in 2020. However, because the HWI may be underreporting arisings (due to a number of reasons) a comparison has been undertaken using the WDI. As HWI entries are not site specific, to understand the discrepancies better, tonnages have been assessed by waste code and fate. The outcome and findings of the comparison exercise is shown in Table 3 below.

Table 3: WPA's Receiving Hazardous Waste from Kent (500t or more in either WDI or HWI)

Source: Environment Agency 2020

Deposit WPA	WDI Total (tonnes)	HWI Total (tonnes)	Hazardous Waste Management Detail
Bexley	1,049	0	ELVs, lead batteries for recovery
Bristol City	847	601	Infectious waste for incineration
Cambridgeshire	1,029	2468	Mixed hazardous waste from mechanical treatment and soils and stones for recovery
Cheshire West and Chester	1,175	833	Slags, and solid waste from gas treatment for storage and heat transmission oils for recovery
Derbyshire	516	1,064	Acids for treatment
East Sussex	1,088	0	Waste Electrical and Electronic Equipment (WEEE) and waste containing chlorofluorocarbons for recovery
Essex	1,232	928	Oil water for recovery and materials containing asbestos for transfer
Gloucestershire	0	590	Sludges
Greenwich	9,426	1,331	Oils for recovery
Hampshire	1,357	0	Dangerous chemical and cytotoxic medicines for incineration
Havering	690	507	Oils for treatment
Hertfordshire	1,210	1,392	Liquids and oils for treatment
Kingston Upon Hull City	1,108	0	Oils for recovery
Lancashire	8,882	7,236	Bottom ash to landfill
Leeds	6,749	6,965	Solid wastes from gas treatment for treatment
Leicestershire	535	0	WEEE for recovery
Lincolnshire	8,304	11,380	Materials containing chlorofluorocarbons and premixed wastes with one hazardous waste for recovery
Medway	4,645	3,613	Oils for recovery and infectious waste for treatment
Northamptonshire	24,846	24,501	Bottom ash to landfill, soils and stones for recovery, solid wastes from gas treatment for treatment
Nottinghamshire	938	527	Oils for recovery
Peterborough	1,056	0	CDE for landfill

Salford	1,323	1,204	Sludges for treatment
Sandwell	1,728	2,137	Materials containing asbestos for recovery
Sefton	0	616	Oils
South Gloucestershire	10,792	10,791	Solid wastes from gas treatment for recovery
Staffordshire	778	748	Hazardous components for recovery
Stoke-on-Trent City	1,368	1,440	Soils and stones for recovery
Suffolk	10,305	1,279	Solid wastes from gas treatment for recovery
Surrey	21,737	16,479	CDE, materials containing asbestos and sludges for landfill
Thurrock	4,669	577	Bituminous mixtures and materials containing asbestos for transfer
Walsall	0	920	Lead batteries
Warwickshire	574	0	Machining emulsions and solutions free of halogens for recovery
Wolverhampton	2,049	2,022	Soils and stones for treatment
Total	**132,004**	**102,149**	

Table 3 indicates that some inputs recorded as coming from Kent in the WDI are not being attributed to Kent in the HWI. In a smaller number of cases the situation is reversed. This suggests that the WDI dataset for Kent's hazardous waste arising is the most reliable and hence represents the 'best available' data for the purposes of forward planning for this waste stream in Kent.

Conclusion

Overall, hazardous waste arisings are significantly greater than that reported in *TRW5 Hazardous Waste Management Topic Paper 5* (100,748 tonnes). However, they are largely identical with the value obtained in 2016 using the WDI dataset (199,270 tonnes vs 199,173 tonnes).

Table 4 presents a comparison between the datasets for the 2016 and 2020 hazardous waste arisings in Kent.

Table 4: Comparison between data for Kent Hazardous Waste Arisings: 2016 vs. 2020

Dataset	2016	2020	Diff	%
WDI	199,270	199,173	-97	-0.05%
HWI	214,396	172,044	-42,352	-20%

This indicates that the tonnage reported in the WDI has seen zero-growth over the 4-year period from 2016. In contrast the HWI tonnages have decreased more markedly.

3. Composition of Plan Area Hazardous Waste

Table 5 below compares the profile of arisings for 2020 with that of 2016.

Table 5: Kent Hazardous Waste Arisings: Principal Waste Streams (5ktpa)
Source WDI plus HWI; Waste management facility outputs italicised

Category	2016	2020	% diff
Combustion residue	*63,519*	*61,532*	*-3%*
Contaminated CDEW	46,584	11,030	-76%
ELV	37,417	16,167	-57%
WEEE	23,297	13,653	-41%
ELV oils & batteries	*15,355*	12,503	-19%
Bottom ash & fly ash	*15,102*	*12,417*	*-18%*
Solidified wastes	*9,250*	8,453	-9%
Asbestos based CDEW	9,891	9,021	-9%
Clinical	6,087	6,591	8%
Physico-chemical treatment sludges	*5,996*	6,907	15%
Premixed wastes	23	9,744	+100%
Process residues	25	5,240	+100%

Comments on Table 5 are as follows:

1. Combustion residues – EWC 19 01 07* arise from EfW plants located in Kent listed below:
    - Kemsley SEP 12,447 tonnes
    - Allington EfW Plant 38,284 tonnes
2. Contaminated CDEW has reduced by 76%.
3. End of life vehicles have fallen significantly as has the output wastes of authorised ELV treatment facilities. This may be due to extracted fluids such as petrol and diesel being used onsite.
4. WEEE has reduced which may be as a result of the fall in the number of fridges with CFC's and the fall in CRT screens (TVs and computer monitors) as the quantity in the stock diminishes.
5. Bottom ash and fly ash – recorded under EWC code 10 01 14* reduced by 18%.
6. Solidified waste has reduced by 9%.
7. Asbestos based CDEW has reduced marginally.
8. Infectious clinical waste has increased marginally.
9. Physico-chemical treatment sludge has increased by 15%.
10. Two additional hazardous waste types appear in the WDI 2020 dataset, that of premixed wastes and process residues.

This comparison demonstrates how over a 4-year period the profile of arisings has changed and therefore illustrates that estimates of arisings ought to be kept under regular review to ensure that any emerging capacity requirements are properly understood and that planning policies remain fit for purpose.

4. Hazardous Waste Management Capacity in Kent

The following section addresses the management routes followed by hazardous waste managed within Kent. This provides the basis from which the existing baseline hazardous waste management capacity may be established. In establishing capacities only, the input values have been considered (as explained at the beginning of this report). This may underestimate overall capacity when considering Kent hosts two hazardous waste landfills in particular (Norwood Farm and Pinden Quarry).

Table 6: Inputs to Different Categories of Facilities Managing Hazardous Waste in Kent

Source WDI 2020

Site Category	Facility Type	Total
Landfill	Hazardous Merchant LF	9,342
	Hazardous Restricted LF	18,972
	Landfill Total	**28,314**
Metal Recycling Site	Vehicle Depollution Facility	30,419
	Metal Recycling	8,225
	Metal Recycling Site Total	**38,644**
Transfer	CA Site	2,552
	Clinical Waste Transfer	166
	Haz Waste Transfer	4,250
	Non-Haz Waste Transfer	2,524
	Transfer Total	**9,494**
Treatment	Biological Treatment	14,463
	Material Recycling Facility	30,622
	Physical Treatment	208
	Physical-Chemical Treatment	38,612
	Transfer/Treatment	260
	Treatment Total	**84,164**
Incineration	**Hazardous Waste Incinerator**	**4,543**
Storage	**Storage Total**	**2,932**
	Grand Total	**168,090**

4.1.1 Asbestos Waste Landfill

Examination of the WDI dataset indicates that 9,021 tonnes of asbestos containing waste was generated within Kent in 2020 of which 5,739 tonnes went direct to landfill. The dataset also reports that in 2020 the Pinden Quarry Landfill site in Kent received 9,342 tonnes of asbestos containing waste out of a total input of 13,002 tonnes, with the difference being made up by inert waste used as a cover/restoration material. This therefore indicates that, in 2020, marginally more asbestos based waste was managed in Kent to that produced (9,342 tonnes vs 9,021 tonnes). Environment Agency data for remaining void capacity of landfills at the end of 2020 indicates that there was only 121,500m^3 of remaining hazardous waste landfill void at Pinden Quarry.

4.1.2 Treatment Capacity for Air Pollution Control Residues

Provision has been made in the KMWLP for an extension to Norwood Farm landfill to accommodate residues from the Allington EfW. This is reserved for this use since it was understood at the time that the residues from Allington have particular properties[3] which meant the waste may only be managed by landfill[4]. However, it has subsequently become apparent this no longer appears to be the case with an increasing tonnage of the APC type residues produced by the plant being managed through alternative routes with nearly 50% recorded as going for management out of county by means other than landfill in 2020. This is displayed in Table 7 below.

Table 7: Destinations of APCr from Allington in 2020

Receiving Facility	Operator	Landfill	Treatment	Grand Total
Avonmouth Aggregate Facility	Carbon8 Aggregates		10,791	10,791
Brandon Aggregate Manufacturing Plant			420	420
Knostrop Waste Treatment Facility			6,749	6,749
Norwood Farm Landfill	WRG(Central)	18,972		18,972
Grand Total		**18,972**	**17,960**	**36,932**

4.1.3 Conclusion

Whilst provision has been made in the KMWLP for the continued disposal of Allington EfW residues to landfill (by virtue of Policy CSW5), the above assessment indicates that the need for additional void to the extent projected previously, may not materialise and that alternative management routes to landfill are viable. Given that landfill is at the bottom of the hierarchy future arisings of APC residue requiring management may be managed through methods other than landfill either within Kent or elsewhere. The tension between continuing to identify the Norwood Quarry site as a strategic allocation and the need to encourage diversion of this waste from landfill where possible is recognised in para 6.4.3 which states the following:

"*While there is a risk that identifying the extension area at Norwood Quarry as a Strategic Site for Waste could hinder the development of alternative treatment solutions for the flue ash, there is a need to make provision for this waste stream*."

In the absence of a firm alternative method of management and continued reliance on the existing landfill, albeit reducing and partial, it is considered that continued provision may be justified. Any proposal to develop the allocated site for the landfill of APCr ought to be justified at that time and in accordance with Policy CSW5 of the KMWLP. In that connection it is worth noting that a pilot plant has been permitted at Hermitage Quarry that seeks to use APCr in the manufacture of aggregate and that this process has reportedly been granted End of Waste status by the Environment Agency. This means that any APCr accepted may cease to be waste once incorporated into the process and therefore will have met its final fate in terms of management. This might provide a suitable alternative management route to landfill in the near future.

[3] Due to the type of grate system used i.e. fluidised bed.

[4] A representation for an enlarged extension to Norwood Farm Quarry was made by the promoter at the time of the 2016 KMWLP. No modification was made on the grounds that at the time the Waste Acceptance Criteria derogation permitting the continued disposal of APC residues to landfill may be withdrawn plus the void would only be needed for residues from the Allington EfW alone due to their particular properties.

Forecasting Future Hazardous Waste Arisings & Capacity Requirements

4.2 Future waste arisings

While Planning Practice Guidance advises that estimates of future hazardous waste arisings be based on extrapolation of time series data, reliance on historical data to establish possible future trends is not considered reliable due to frequent changes in the definition of hazardous waste and refinement of regulatory guidance that tends to expand the scope of the definition. For example, the Environment Agency has recently identified soft furnishing treated with persistent organic pollutants (PoPs), in the form of flame retardants, as hazardous requiring disposal by incineration. Also, as the baseline calculation methodology demonstrates, simple reliance on the HWI, as suggested by PPG, may significantly underestimate arisings.

The 2013 National Policy Statement for Hazardous Waste[5] states that arisings of hazardous waste are expected to increase for the following reasons:

- Continuing consumer demand means that hazardous waste will continue to arise as consumer durables containing hazardous materials are discarded.
- Increasing use of producer responsibility schemes, such as those provided for Waste Electrical and Electronic Equipment (WEEE) which require the separate collection of WEEE resulting in more hazardous items being removed from the mixed municipal waste stream, collected separately as hazardous waste.
- Changes to the list of hazardous properties in the revised Waste Framework Directive and changes to the European Waste List, lead to further increases in the amount of waste that must be managed as "hazardous".
- There are still uses in which components that become hazardous waste may be unavoidable for the foreseeable future. For example, the use of oil in internal combustion engines.

However, ultimately, it is reasonable to expect that over time hazardous waste production will stabilise, if not decline, for the following reasons:

1. Regulations banning the use hazardous materials and components in consumer products mean that over time the quantity of hazardous material in circulation should decline.
2. Hazardous materials such as asbestos and chromate treated wood bound up in the building stock will reduce as the elements are replaced.
3. The use of hazardous materials in manufacturing declines for both worker health & safety & product safety reasons.
4. The incidence of contamination by industrial use will reduce due to more stringent regulatory controls and point 3 above.

The Resources & Waste Strategy for England published by Government in 2018 specifically identified the need to encourage waste producers and managers to implement the waste hierarchy in respect of hazardous waste, but does not identify any specific actions to ensure this is achieved.

[5] National Policy Statement for Hazardous Waste: A framework document for planning decisions on nationally significant hazardous waste infrastructure Defra June 2013.

5. Overall Conclusions on Hazardous Waste Capacity Requirements

The main types of hazardous waste arising in Kent are as follows:

- Combustion residues - principally from Allington & Kemsley EfW plants;
- Contaminated C, D & E Waste inc asbestos arisings;
- Waste from End-of-Life Vehicle processing such as oils and lead acid batteries;
- WEEE Waste;
- Clinical Waste; and,
- Waste arising from waste treatment processes.

The adopted KMWLP seeks to address identified needs for hazardous waste management through the following policies:

- Policy CSW5 allocates an extension at Norwood Quarry for the landfilling of hazardous flue dust ash residues from EfW plants in Kent.
- Policy CSW12 specifically addresses applications for built hazardous waste management facilities in order to maintain net self-sufficiency in Kent.
- Policy CSW 13 provides for temporary permission to be granted for waste related development that facilitates the redevelopment of contaminated or brownfield land.

However, it should be noted that:

The need to consent an extension to landfilling APCr at Norwood Quarry in accordance with the allocation in Policy CSW5 should be subject to ongoing review and scrutinised at the time any related application comes forward.

The need to provide capacity to maintain net self sufficiency in Kent stated in Policy CSW12 is now proposed to be deleted. This is on the basis that the principle of net self sufficiency does not readily apply to hazardous waste where specialist facilities, often with a regional or national catchment are required to manage specialist hazardous waste streams. Furthermore, data for a single year should not be relied upon to establish the true balance between capacity and need over time. This is particularly when waste for which landfill capacity has been provided, which may not be used in any particular year but is available, is exported for other management as in the case of Allington EfW APCr. Therefore. deletion of the requirement for Kent to seek net self sufficiency in hazardous waste, as currently set out in Policy CSW12, is justified.