Medworth Energy from Waste
Combined Heat and Power Facility

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Waste Fuel Availability Assessment

~~Regulation reference: The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 Regulation 5(2)(q)~~

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Executive summary

Purpose of this report

The approach to assessing the need for the Proposed Development is governed by the Overarching National Policy Statement for Energy (EN-1) and the National Policy Statement for Renewable Energy Infrastructure (EN-3).

Specifically, EN-3 sets out policies relating to waste management and need, which states that the Project will need to satisfy the following:

> *'The [Secretary of State] should be satisfied, with reference to the relevant waste strategies and plans, that the proposed waste combustion generating station is in accordance with the waste hierarchy and of an appropriate type and scale so as not to prejudice the achievement of local or national waste management targets in England.'* (paragraph 2.5.70).

This report has been produced for the purpose of addressing the provisions of paragraph 2.5.70 of NPS EN-3 and an important feature is that it is presented in a transparent, auditable way. To ensure robustness it has been based on the most up-to-date, publicly available data and has followed three key steps:

- The scope of the assessment – both the spatial scope (Study Area) and the scope of the 'fuel sources' – has been clearly defined.
- Baseline data on the arisings, disposals and available capacity of the defined 'fuel sources' within the Study Area has been gathered and presented.
- Existing and predicted future capacity requirements of the defined 'fuel sources' within the Study Area have been analysed.

Overview of the assessment approach

Spatial scope of the assessment

In terms of national policy, the extant NPS EN-3 (paragraph 2.5.66) requires that applicants prepare *"an assessment… that examines the conformity of the scheme with the waste hierarchy and the effect of the scheme on the relevant waste plan or plans where a proposal is likely to involve more than one local authority"*. However, the revised draft ~~emerging replacement~~ NPS EN-3 states that a new EfW must not result in over capacity of EfW waste plants at a **national or local level** (~~paragraph 2.10.5).~~ paragraphs 3.7.7, 3.7.29 and 3.7.55). This subtle change in policy direction indicates that assessments such as this Waste Fuel Availability Assessment (WFAA) should address both the local and national position.

With both the extant and emerging national policy in mind, the WFAA has been based upon the following hierarchy of Study Areas:

- Full analysis of the **local** need for additional residual waste management capacity, based on the East of England position plus Lincolnshire, Leicestershire, Northamptonshire and Rutland waste ~~management~~ planning

authority areas (which are within a 2-hour drive time of the Proposed Development).

- Full analysis of the **national** need for additional residual waste management capacity, based upon the ~~UK~~ England position.

Fuel scope

Having identified the local and national Study Areas, it was important to understand and identify the type of fuel that the Proposed Development will be able to accept. This ensured that the assessment focused only on waste streams (and types of waste) relevant to the project.

The Proposed Development will be designed to accept residual Household, Industrial and Commercial (HIC) waste streams. Such waste will comprise loose residual waste and, in some cases, Refuse Derived Fuel (RDF), for example material which is presently exported ~~from the UK~~ for final treatment in energy from waste (EfW) facilities in continental Europe. Moreover, to ensure that the facility will not divert waste from management methods further up the waste hierarchy, it has been important to consider only those parts of the HIC waste stream that are presently managed at domestic landfill sites, or else exported for final treatment ~~to~~ at EfWs in Europe, which does not accord with the proximity principle.

The Proposed Development will require an Environmental Permit to operate. Under the provisions of this permit the Proposed Development will seek permission to accept HIC waste from the following European Waste Catalogue (EWC) chapters: 02 (waste from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing); 03 (waste from wood processing and the production of panels and furniture, pulp, paper and cardboard); 04 (wastes from the leather, fur and textile industries); 09 (wastes from the photographic ~~industry);~~industry); 15 (waste packaging, absorbents, wiping cloths, filer materials and protective clothing not otherwise specified); 17 (construction and demolition wastes (including excavation soil from contaminated sites)); 19 (waste from waste management facilities, off-site wastewater treatment plants and the preparation of water intended for human consumption and water for industrial use) and 20 (municipal waste (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions).

However, as the focus will be on EWC chapters 19 and 20 – with an anticipated 90-95% of the Proposed Development's fuel coming from waste streams within these chapters –these waste types have formed the main focus of the WFAA. Specifically, these comprise:

- 19 - waste from waste management facilities, off-site wastewater treatment plants and the preparation of water intended for human consumption and water for industrial use:
  - 19 12 wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified:
    - 19 12 10 combustible waste (refuse derived fuel); and
    - 19 12 12 other wastes (including mixtures of materials) from mechanical treatment of wastes.
- 20 - municipal waste (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions:

- 20 03 other municipal wastes:
  - 20 03 01 mixed municipal waste; and
  - 20 03 07 bulky waste.

Approach to gathering baseline data

For both the local and national Study Areas, the following have been considered:

- Data on current HIC arisings suitable for management at the Proposed Development – most notably, how much is sent to landfill.
- Data on how current HIC arisings suitable for management at the Proposed Development are managed.
- Data on existing HIC disposal capacity – both existing and anticipated future capacities.

Furthermore, in analysing data on capacity for the defined Study Areas of this WFAA, this assessment has sought to identify and discuss future waste management needs in terms of the following scenarios:

- Operational disposal capacity only.
- Operational and permitted disposal capacity.
- Operational, permitted and disposal capacity still 'in the planning system' (i.e., applications and where appropriate, allocations).

For the **local analysis** waste arisings, management, and capacity has been identified through baseline data gathering from published sources of information. Sources of information that have been used to provide this information comprise:

- Defra's Local Authority Collected Waste Statistics.
- The Environment Agency's Waste Data Interrogator.
- WasteDataFlow tool.
- Other Environment Agency data sources including data relating to remaining landfill capacity.
- Adopted and emerging Waste Local Plans, and their relevant supporting evidence bases, to identify whether there is likely to be a shortfall of suitable waste management capacity within the Study Area.
- Data used to support conclusions on capacity requirements set out in the following 'regional' reports:

- 'Residual Waste in London and the South-East – *Where is it going to go……?'* Tolvik Consulting Ltd (October 2018).
- *Landfill and Residual Treatment Capacity in the Wider South-East of England*, Report for the East of England Waste Technical Advisory Body; the Southeast Waste Planning Advisory Group; and the London Waste Planning Forum, Sacks Consulting (May 2021).

For the **national analysis** information on waste arisings, management and capacity at the national level has also been identified through baseline data gathering from published sources of information. Principal sources of information that have been used are as follows:

- *UK Statistics on Waste*, Defra (May 202~~2~~3 update).
- *UK Energy from Waste Statistics - 202~~1~~2*, Tolvik Consulting Ltd (May 202~~2~~3).
- *UK Residual Waste: 2030 Market Review*, produced by Tolvik Consulting Ltd on behalf of the Environmental Services Association (November 2017).
- *Overview of Statistics for RDF Export from England*, Footprint Services (December 2022).

Summary of findings

The **local analysis** has concluded as follows in terms of how residual household, industrial and commercial (HIC) waste is currently managed across the spatial scope of this assessment:

- In 2021, there was a total of approximately (~)9.~~8~~7 million tonnes of such waste arising in the Study Area.
- Of the potentially suitable waste generated in the Study Area, ~~over~~ almost 2.4 million tonnes were managed at the bottom of the waste hierarchy and sent to non-hazardous landfill in 2021.
- In addition to this, exports of RDF from ~~the UK~~ England stood at 1.7 million tonnes at the end of 2021, falling to 1.5 million tonnes at the end of 2022 - ~1~~63~~81,000 tonnes of which was likely exported to Europe directly from within the Study Area of this WFAA in 2021, falling to ~163,000 tonnes in 2022.

It has therefore been concluded that based upon the current pattern of waste arising and management across the spatial scope of this assessment, there is potential for ~~around~~ over 2.~~6~~5 million tonnes of material to be managed further up the waste hierarchy and/or at a location that is more proximate to the point of arising.

Looking ahead to the position over the next approximately 15-years, the evidence bases which underpin the development planning framework for waste across the spatial scope of this assessment, ~~concludes~~ identify an indicative shortfall of non-landfill HIC residual waste management capacity as follows:

- Up to 2030 – ~1.~~1~~3 million tonnes per annum.
- Up to 2035 – ~1.~~3~~5 million tonnes per annum.

These future gaps in capacity are validated/further supported by the findings of very recent regional studies by Tolvik and the East of England Waste Technical Advisory Body. These studies have concluded that due to the decline in non-hazardous landfill, the residual waste management capacity gap in the East of England alone will be between 1.~~4~~3 and 2.~~7~~6 million tonnes per annum. For the wider London and South-east area, which traditionally relies upon capacity in the surrounding area to manage its residual waste, there is a predicted future gap in capacity which equates to a need for between 2.8 and 5.4 million tonnes of additional EfW capacity (over and above that currently operational in London and the South-east).

The **national analysis** has concluded:

- In 2021, ~~~9.95~~ around 9 million tonnes of residual HIC waste was disposed of to landfill in England, and 1.7 million tonnes ~~was~~ were exported as refuse derived fuel (RDF) to Europe and beyond (falling to 1.5 million tonnes by the end of 2022).
- ~~By 2030, it is predicted that even if the Government's ambitious combined recycling target of 65% for municipal and 'municipal like' commercial and industrial waste is realised, there would remain a **minimum shortfall of ~1.6 million tonnes of residual HIC capacity in the UK** (rising to over 5 million tonnes if the Government's recycling target is undershot by 5%).~~
- By 2028, even if the Government's ambitious interim residual waste reduction targets set out in their 2023 Environmental Improvement Plan are achieved there is anticipated to be 21.4 million tonnes of residual HIC waste in England requiring management. Based on operational capacity available by 2027, there would remain **a minimum shortfall of 3.5 million tonnes of residual HIC capacity in England.**

In the context of these conclusions, the Proposed Development ~~could~~ **will not result in an over- supply of EfW capacity at either the local/ regional level or national level.** Indeed, the Proposed Development will offer up to 625,600 tonnes per annum of much needed capacity that would:

- Deliver implementation of the waste hierarchy – a cornerstone of England's waste management policy and legislative framework - ~~and divert~~ by diverting residual HIC waste from continued management at the bottom of the waste hierarchy (i.e., landfill) up to having value (in the form of electricity recovered from it); and
- Facilitate management within ~~the UK~~ England of significant quantities of residual HIC waste currently exported for management abroad. This would allow residual waste to be managed in accordance with the proximity principle – a further fundamental pillar of England's waste management policy and legislative framework.

Contents

1. Introduction

1.1 Background

1.1.1 Medworth CHP Limited (the Applicant) is applying to the Secretary of State for a Development Consent Order (DCO) to construct~~-~~, operate and maintain an Energy from Waste (EfW) Combined Heat and Power (CHP) Facility on the industrial estate, Algores Way, Wisbech, Cambridgeshire. Together with associated Grid Connection, CHP Connection, Water Connections, and Temporary Construction Compound (TCC), these works ~~are~~ comprise the Proposed Development.

1.1.2 The Proposed Development would recover useful energy in the form of electricity and steam from over half a million tonnes of non-recyclable (residual), non-hazardous municipal, commercial and industrial waste each year. The Proposed Development has a generating capacity of over 50 megawatts and the electricity would be exported to the grid. The Proposed Development would also have the capability to export steam and electricity to users on the surrounding industrial estate.

1.1.3 The Proposed Development is a Nationally Significant Infrastructure Project (NSIP) under Part 3~~-~~, Section 14 of the Planning Act 2008 (2008 Act) by virtue of the fact that the generating station is located in England and has a generating capacity of over 50 megawatts (section 15(2) of the 2008 Act). It, therefore, requires an application for a DCO to be submitted to the Planning Inspectorate (PINS) under the 2008 Act. PINS will examine the application for the Proposed Development and make a recommendation to the Secretary of State (SoS) for ~~Business,~~ Energy Security and ~~Industrial Strategy (BEIS)~~ Net Zero to grant or refuse consent. On receipt of the report and recommendation from PINS, the SoS will then make the final decision on whether to grant the Medworth EfW CHP Facility DCO.

1.2 The Applicant and the project team

1.2.1 The Applicant is a wholly owned subsidiary of MVV Environment Limited (MVV). MVV is part of the MVV Energie AG group of companies. MVV Energie AG is one of Germany's leading energy companies, employing approx. 6,500 people with assets of around €5 billion and annual sales of around €4.1 billion. The Proposed Development represents an investment of approximately £450m.

1.2.2 The company has over 50-years' experience in constructing, operating, and maintaining EfW CHP facilities in Germany and the UK. MVV Energie's portfolio includes a 700,000 tonnes per annum residual EfW CHP facility in Mannheim, Germany.

1.2.3 MVV Energie has a growth strategy to be carbon neutral by 2040 and thereafter carbon negative, i.e., climate positive. Specifically, MVV Energie intends to:

- reduce its direct carbon dioxide (CO_2) emissions by over 80% by 2030 compared to 2018;
- reduce its indirect CO_2 emissions by 82% compared to 2018;

- be climate neutral by 2040; and
- be climate positive from 2040.

1.2.4 MVV's UK business retains the overall group ethos of 'belonging' to the communities it serves whilst benefitting from over 50-years' experience gained by its German sister companies.

1.2.5 MVV's largest project in the UK is the Devonport EfW CHP Facility in Plymouth. Since 2015, this modern and efficient facility has been using around 265,000 tonnes of municipal, commercial and industrial residual waste per year to generate electricity and heat, notably for His Majesty's Naval Base Devonport in Plymouth, and exporting electricity to the grid.

1.2.6 In Dundee, MVV has taken over the existing Baldovie EfW Facility and has developed a new, modern facility alongside the existing facility. Operating from 2021, it uses up to 220,000 tonnes of municipal, commercial and industrial waste each year as fuel for the generation of usable energy.

1.2.7 Biomass is another key focus of MVV's activities in the UK market. The biomass power plant at Ridham Dock, Kent, uses up to 195,000 tonnes of waste and non-recyclable wood per year to generate green electricity and is capable of exporting heat.

1.2.8 To prepare the Environmental Statement (ES) for the Proposed Development, the Applicant has engaged WSP (previously Wood Group UK Limited). WSP is registered with the Institute of Environmental Management and Assessment (IEMA)'s Environmental Impact Assessment (EIA) Quality Mark scheme. The scheme allows organisations that lead the co-ordination of EIAs in the UK to make a commitment to excellence in their EIA activities and have this commitment independently reviewed.

1.3 The Proposed Development

1.3.1 The Proposed Development comprises the following key elements:

- The EfW CHP Facility;
- CHP Connection;
- Temporary Construction Compound (TCC);
- Access Improvements;
- Water Connections; and
- Grid Connection.

1.3.2 A summary description of each Proposed Development element is provided below. A more detailed description is provided in **ES Chapter 3: Description of the Proposed Development (Volume 6.2)** of the ES. A list of terms and abbreviations can be found in **Appendix A** to this document. The various elements of the Proposed Development comprise the following:

- EfW CHP Facility Site: A site of approximately 5.3ha located south-west of Wisbech, located within the administrative areas of Fenland District Council and Cambridgeshire County Council. The main buildings of the EfW CHP Facility would be located in the area to the north of the Hundred of Wisbech Internal Drainage Board (HWIDB) drain bisecting the site and would house many development elements including the tipping hall, waste bunkers, boiler house, turbine hall, air cooled condenser, air pollution control building, chimneys and administration building. The gatehouse, weighbridges, 132kV switching compound and laydown maintenance area would be located in the southern section of the EfW CHP Facility site.
- CHP Connection: The EfW CHP Facility would be designed to allow the export of steam and electricity from the facility to surrounding business users via dedicated pipelines and private wire cables located along the disused March to Wisbech railway. The pipeline and cables would be located on a raised, steel structure.
- TCC: Located adjacent to the EfW CHP Facility Site, the compound would be used to support the construction of the Proposed Development. The compound would be in place for the duration of construction.
- Access Improvements: includes access improvements on New Bridge Lane (road widening and site access) and Algores Way (relocation of site access 20m to the south).
- Water Connections: A new water main connecting the EfW CHP Facility into the local network will run underground from the EfW CHP Facility Site along New Bridge Lane before crossing underneath the A47 (open cut trenching or horizontal directional drilling (HDD)) to join an existing Anglian Water main. An additional foul sewer connection is required to an existing pumping station operated by Anglian Water which is located to the northeast of the Algores Way site entrance ~~and~~ into the EfW CHP Facility Site.
- Grid Connection: This comprises a 132kV electrical connection using underground cables. The Grid Connection route begins at the 132kV switching compound in the EfW CHP Facility Site and runs underneath New Bridge Lane, before heading north within the verge of the A47 to the Walsoken Substation on Broadend Road. From this point the cable would be connected underground to the Walsoken DNO Substation.

1.4 Purpose of this report

1.4.1 Overarching National Policy Statement for Energy ('NPS EN-1') together with National Policy Statement for Renewable Energy Infrastructure ('NPS EN-3') provide the primary basis for decisions on nationally significant renewable energy infrastructure. Draft NPS EN-1 and EN-3, published in March 2023, have also been considered due to their status as being important and relevant considerations in the decision-making process. At section 2.5, NPS-EN-3 sets out the policy principles in relation to waste combustion.

1.4.2 At paragraph 2.5.64, NPS EN-3 makes clear that waste combustion generating stations *'need not disadvantage reuse or recycling initiatives where the proposed*

development accords with the waste hierarchy.' This wording is mirrored in Draft EN-3 at paragraph 3.7.43.

1.4.3 Having established that principle, NPS EN-3 sets out what is expected in an applicant's assessment (paragraphs 2.5.66 to 2.5.69):

> *"An assessment of the proposed waste combustion generating station should be undertaken that examines the conformity of the scheme with the waste hierarchy and the effect of the scheme on the relevant waste plan or plans where a proposal is likely to involve more than one local authority.*
>
> *The application should set out the extent to which the generating station and capacity proposed contributes to the recovery targets set out in relevant strategies and plans, taking into account existing capacity.*
>
> *It may be appropriate for assessments to refer to the Annual Monitoring Reports published by relevant waste authorities which provide an updated figure of existing waste management capacity and future waste management capacity requirements.*
>
> *The results of the assessment of the conformity with the waste hierarchy and the effect on relevant waste plans should be presented in a separate document to accompany the application …"*

1.4.4 Draft NPS EN-3 extends the expectation of the assessment to include, at paragraph 3.7.45, *"the extent to which the generating station and capacity proposed is compatible with, and supports long-term recycling targets, taking into account existing residual waste treatment capacity and that already in development".*

~~1.4.4~~1.4.5 This Waste Fuel Availability Assessment (WFAA) is that 'separate document', prepared to demonstrate how the Proposed Development conforms both to the waste hierarchy and relevant waste plans and strategies as at the date of submission of the DCO application. This is version 3.0 of the WFAA. It has been prepared to reflect updated data, which has been published since versions 1 and 2 were published in June 2022 and March 2023 respectively.

1.5 Structure of this report

1.5.1 The structure of the remainder of this report is as follows:

- **Section 2:** Policy Context: Introduces the waste management hierarchy and other important policy frameworks that guide the need for the Proposed Development;
- **Section 3:** WFAA Methodology: This section sets out the way in which the availability of fuel to power the Proposed Development ~~will be~~ has been assessed;
- **Section 4:** WFAA Results: ~~Provides the evidence~~ Demonstrates that the Proposed Development will play an important role in the management of existing and future waste arisings in accordance with the waste hierarchy and that there is ~~enough~~ sufficient waste fuel available to power the Proposed Development; and

- **Section 5:** Conclusions.

1.5.2 To complement this report a terms and abbreviations document has been prepared, which covers all documentation submitted with the DCO application. These terms and abbreviations are reproduced at **Appendix A** to this document.

2. Policy context

2.1 Overview

2.1.1 The approach to assessing the need for the Proposed Development is governed by the Overarching National Policy Statement for Energy (EN-1) and the National Policy Statement for Renewable Energy Infrastructure (EN-3). Draft NPS EN-1 and EN-3, published in March 2023, have also been considered due to their status as being important and relevant considerations in the decision-making process.

2.1.2 Specifically, EN-3 sets out policies relating to waste management and need, which states that the Project will need to satisfy the following:

> *'The [Secretary of State] should be satisfied, with reference to the relevant waste strategies and plans, that the proposed waste combustion generating station is in accordance with the waste hierarchy and of an appropriate type and scale so as not to prejudice the achievement of local or national waste management targets in England…'* (paragraph 2.5.70); (see also paragraph 3.7.104 of Draft EN-3).

2.1.3 This WFAA is intended to address the provisions of paragraph 2.5.70 of NPS EN-3~~.~~ and 3.7.104 of Draft EN-3.

2.2 The waste hierarchy – what is it and why is it important?

The European context

2.2.1 The revised Waste Framework Directive (rWFD), which came into force on 12 December 2008 (Directive 2008/98/EC), established the overarching framework for the management of waste across the EU. It required Member States to introduce *"measures to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use".*

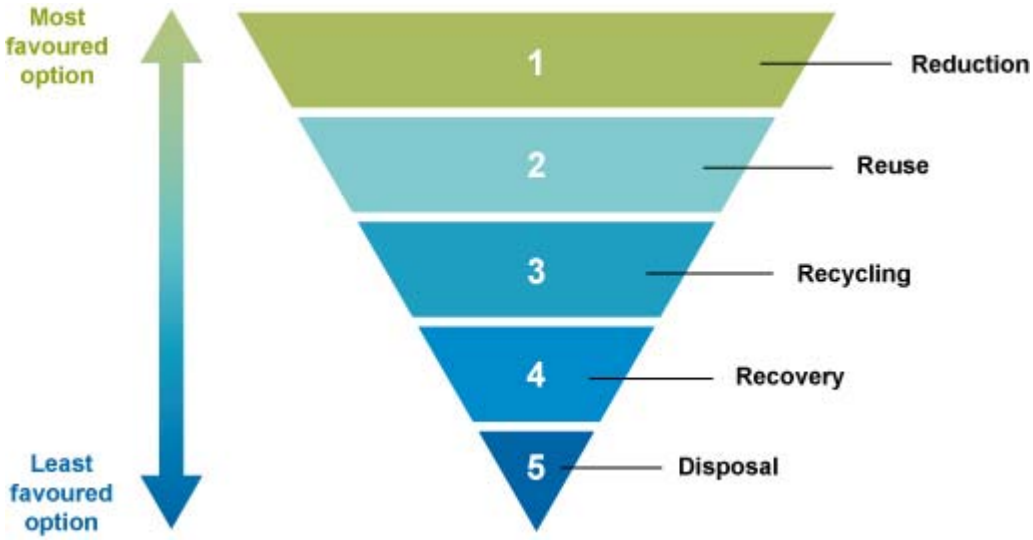
2.2.2 The rWFD brought together existing elements of waste legislation and introduced a new approach to waste management that focused more strongly on the prevention of waste.

2.2.3 The key element relevant to this WFAA is Article 4(1) of the rWFD, which introduced a new five-point waste hierarchy, based on the priority order of:

- Prevention (preferred option);
- Preparing for re-use;
- Recycling;
- Other recovery (e.g., energy recovery); and
- Disposal (i.e., landfilling or incineration without energy recovery).

2.2.4 This waste hierarchy is also illustrated in **Graphic 1: The Waste Hierarchy** ~~on the following page~~.

Graphic 1: The Waste Hierarchy



2.2.5 The emphasis of the hierarchy in the rWFD was a preference for waste prevention~~;~~ ~~and the confirmation~~ , whilst confirming that waste treatment involving energy generation is a recovery operation (subject to it achieving energy recovery efficiency expressed as R1 of 0.65 or more[1]). The Applicant's **Technical Note: R1 Calculation (Volume 9.24) [REP1-058]** confirms the EfW CHP Facility is a recovery operation, being designed to achieve an R1 value of 0.81.

2.2.6 On 31 December 2020 the UK exited the "implementation period" provided for by the European Union (Withdrawal) Act 2018[2] (Withdrawal Act 2018). Sections 2-3 of the Withdrawal Act 2018, as amended, provide that direct EU legislation, and EU-derived domestic legislation, continue to have effect in domestic law after that date. In summary, the interpretation of any retained EU law is to be the same as it was before that date, subject to the necessary amendments set out in the Waste (Miscellaneous Amendments) (EU Exit) (No. 2) Regulations 2019.

The national context

2.2.7 The rWFD was incorporated into national legislation, in England and Wales, by the Waste (England and Wales) Regulations 2011 (as amended) (the 'Waste Regulations 2011').

2.2.8 The Waste Regulations 2011 require, in Schedule 1, at paragraph 2(1), that the waste hierarchy, as set out in the rWFD, is applied by the appropriate authority as a "priority order" in waste prevention and management policy.

2.2.9 Schedule 1, at paragraph 2(2) requires that when applying the waste hierarchy, the appropriate authority must ensure that it:

"(a) encourages the options that deliver the best overall environmental outcome, which may require specific waste streams to depart from the hierarchy where this is

[1] The way in which the R1 criterion is calculated is set out in the rWFD. The Proposed Development is designed to achieve an R1 of >0.65 such that it would be regarded as a waste recovery activity.
2 European Union Withdrawal Act 2018. C 16.

justified by life-cycle thinking on the overall impacts of the generation and management of such waste;

(b) takes into account:

i. the general environmental protection principles of precaution and sustainability,

ii. technical feasibility and economic viability,

iii. protection of resources, and

iv. the overall environmental, human health, economic and social impacts."

2.2.10 The "appropriate authority" in England is defined in Regulation 3, as the Secretary of State for the Environment, Food and Rural Affairs.

2.2.11 This regulation has subsequently been enshrined in national waste management and planning policy as follows:

Overarching National Policy Statement for Energy ('NPS EN-1') and the National Policy Statement for Renewable Energy Infrastructure ('NPS EN-3')

2.2.12 As noted at the outset of this WFAA, NPS EN-1 and EN-3 provide the primary basis for decisions on nationally significant renewable energy infrastructure. Draft NPS EN-1 and EN-3, published in March 2023, have the status of being important and relevant considerations in the decision-making process. At section 2.5, NPS-EN-3 sets out the policy principles in relation to waste combustion. The equivalent section in Draft EN-3 is section 3.7.

2.2.13 NPS EN-1 sets out the Government's policy for the delivery of major energy infrastructure in England and Wales. To minimise risks to energy security and resilience, it set out (based on scenarios at time of publication) a requirement to provide new energy infrastructure to meet the need for 59GW of new electricity capacity across the UK by 2025.

2.2.14 Paragraph 4.1.2 states that given the level and urgency of need for infrastructure covered by Part 3 of NPS EN-1, the decision maker should start with a presumption in favour of granting consent to applications for energy NSIPs. The presumption applies unless any more specific and relevant policies set out in relevant NPSs clearly indicate that consent should be refused, subject to the provisions of Section 104 of the Planning Act 2008.

2.2.15 Draft EN-1 reiterates the presumption in favour of granting consent in paragraph 4.1.3, and further states that all applications for development consent for energy infrastructure should be assessed on the basis that the government has demonstrated that there is an urgent need for those types of infrastructure, that "substantial weight" should be given to this need when considering applications for development consent, and that the specific contribution of any individual project to satisfying the need is not required to be separately considered (paragraphs 3.2.5 to 3.2.7).

2.2.152.2.16 NPS EN-3 is relevant to the Proposed Development since it applies to nationally significant EfW infrastructure in England and Wales more than 50 MW electrical generating capacity.

2.2.162.2.17 At paragraph 2.5.64, NPS EN-3 makes clear that waste combustion generating stations '*need not disadvantage reuse or recycling initiatives where the proposed development accords with the waste hierarchy*.'

2.2.172.2.18 NPS EN-1 and EN-3 are presently undergoing review, with revised drafts published for consultation in ~~September~~ March 2021~~4~~3. The consultation ~~ended on 29 November 2021, but the Government has not yet published its response. The emerging~~ on these documents is ongoing. The revised draft NPS EN-3 includes some subtle changes to policies for EfWs – most notably that:

- A new EfW must not result in over capacity of EfW waste treatment at a national or local level (~~paragraph 2.10.5~~paragraphs 3.7.7, 3.7.29 and 3.7.55).
- An application for a new EfW must set out the extent to which it ~~would be~~ is compatible with and supports long-term recycling targets, taking into account existing treatment capacity and capacity already in development (paragraph ~~2.17.4~~3.7.45).

2.2.182.2.19 The adopted NPSs are the overarching policy documents which govern the decision ~~on~~ in respect of the Proposed Development ~~must be made in accordance with~~. The emerging draft NPS and other national and local policies (which are outlined in the remainder of this section) will be relevant and important considerations that the Secretary of State will consider in reaching his decision (s.104 (2) of the Planning Act 2008).

The National Planning Policy Framework (published July 2021) and associated Planning Practice Guidance[3]

2.2.192.2.20 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally prepared plans for development can be produced.

2.2.202.2.21 In respect of waste, the NPPF states that natural resources should be used prudently, and waste minimised (paragraph 8(c)). The document cross references the detailed guidance provided in the National Planning Policy for Waste (2014) (paragraph 4).

2.2.212.2.22 The associated Planning Practice Guidance (PPG) provides further information in support of the implementation of England's national planning policy. Most notably, the PPG sets out the importance of driving waste up the waste management hierarchy i.e., reduce; reuse; recycle; recover; and then dispose (paragraph 009 Reference ID: 28-009-20141016).

National Planning Policy for Waste (NPPW), published in October 2014

2.2.222.2.23 The National Planning Policy for Waste (NPPW) sets out government planning policy for waste – and specifically, the ambition to work towards a more sustainable

[3] Online resource first published in November 2016 and last updated in August 2022.

and efficient approach to resource use and management through (amongst other things):

> *"delivery of sustainable development and resource efficiency, including provision of modern infrastructure, local employment opportunities and wider climate change benefits, by driving waste management up the waste hierarchy"……..*
>
> *Providing a framework in which communities and businesses are engaged with and take more responsibility for their own waste, including by enabling waste to be disposed of or, in the case of mixed municipal waste from households, recovered, in line with the proximity principle[4]"* (paragraph 1).

The Waste Management Plan for England, published in January 2021

2.2.23~~2.2.24~~ The Waste Management Plan for England sets out a range of policy drivers, of which the most relevant to this WFAA are:

- Implementation of the waste hierarchy is both a guide to sustainable waste management and a legal requirement (page 14).
- In respect of the need to manage residual waste, the document states that: *"The government supports efficient energy recovery from residual waste – energy from waste is generally the best management option for waste that cannot be reused or recycled in terms of environmental impact and getting value from the waste as a resource. It plays an important role in diverting waste from landfill."* (page 17).
- The need to reflect the 'proximity principle' – this is within the context of the requirement to establish an integrated and adequate network of waste disposal installations for recovery of mixed municipal waste collected from private households. The requirement to adhere to the proximity principle also includes where such collection covers waste from other producers. The network must enable waste to be disposed of, or be recovered, in one of the nearest appropriate installations, by means of the most appropriate methods and technologies, in order to ensure a high level of protection for the environment and public health. The network shall be designed in such a way as to enable a movement towards the aim of self-sufficiency in waste disposal and the recovery of waste. However, consideration must be given to the geographical circumstances or the need for specialised installations for certain types of waste. This principle must be applied when decisions are taken on the location of appropriate waste facilities. (page 40).
- Efficient energy recovery from residual waste, which can deliver environmental benefits, reduce carbon impacts and provide economic opportunities, and innovative technologies which improve the environmental outcome for the treatment of residual waste are welcomed (page 45).

[4] As defined in Schedule 1, Part 1, paragraph 4 of The Waste (England and Wales) Regulations 2011 (S.I 2011/988) which, as amended, states that: *"The network must be designed to enable the [United Kingdom] as a whole to [move towards becoming self-sufficient in waste disposal and in the recovery of mixed municipal waste collected from private households, taking into account geographical circumstances or the need for specialised installations for certain types of waste."*

England's National Waste Strategy, published in December 2018

~~2.2.24~~2.2.25 This strategy, which focuses on municipal waste only, sets out the national commitment to preserve the stock of material resources by minimising waste, promoting resource efficiency, and moving towards a circular economy. It sets out the need to use resources efficiently and reduce the amount of waste society creates.

~~2.2.25~~2.2.26 Specifically, in terms of this WFAA, this strategy highlights the significance of the implementation of the waste hierarchy to achieve sustainable waste management practices. Furthermore, it sets out the need to increase municipal recycling rates to 65% by 2035 (*'Key Milestones'* page 13) and to reduce landfill to a maximum of 10% of total municipal waste by 2035 (*'Key Milestones'* page 13).

Recent amendments to the national context

~~2.2.26~~2.2.27 More recently, national legislation and policy has been refined further through the introduction of:

- The Environment Act 2021, which received Royal Assent in November 2021;
- The Government's *Net Zero Strategy: Build Back Greener*, which was published in October 2021; and
- The Government's *Environmental Improvement Plan 2023 – first revision of the 25 Year Improvement Plan*, which was published in January 2023.

~~2.2.27~~2.2.28 Together, these documents have introduced new provisions which have a direct bearing upon national waste policy.

Environment Act 2021

~~2.2.28~~2.2.29 In terms of the management of waste, section 57 of the Environment Act 2021 will replace section 45A Environmental Protection Act 1990 on waste collection and inserts new sections 45AZA-AZG. Notable changes are:

- Recyclable household waste must be collected separately from other household waste, for recycling or composting;
- Recyclable household waste must be collected as individual streams unless certain exceptions apply; and
- Food waste collection must take place at least once a week.

~~2.2.29~~2.2.30 These changes are to be made with the aim of driving the management of household waste up the waste hierarchy and boosting recycling rates. It is noted that these provisions were not yet in force as at the date of the DCO application.

Net Zero Strategy: Build Back Greener

~~2.2.30~~2.2.31 To complement the provisions of the Environment Act 2021, the government's *Net Zero Strategy: Build Back Better,* establishes a clear set of actions which seek to achieve net zero carbon emissions whilst promoting opportunities for jobs and prosperity. In respect of resource management and specifically waste, the strategy lays out the following Government commitment (last bullet point, page 27):

"To support our commitment to explore options for the near elimination of biodegradable municipal waste to landfill from 2028, we are bringing forward £295 million of capital funding which will allow local authorities in England to prepare to implement free separate food waste collections for all households from 2025."

2.2.312.2.32 There is, therefore, a clear policy commitment to seek to minimise the quantities of biodegradable household waste being sent to landfill and instead, boost current rates of recycling and composting.

Environmental Improvement Plan 2023

2.2.322.2.33 The Environmental Improvement Plan (EIP) seeks to build on the Government's vision set out in the 25 Year Environment Plan (25YEP), which was published in 2018. Specifically, the EIP is the first refresh of the 25YEP – a commitment which was set into law in the Environment Act 2021. The EIP reinforces the intent of the 25YEP and where the 25YEP set out the framework and vision, this document sets out the plan to deliver against 10 identified goals.

2.2.332.2.34 In particular, Goal 5 relates to the need to maximize our resources and minimize our waste and a new 'stretch' target is introduced, which is to halve residual waste produced per person by 2042. Allied to this headline target are a series of interim targets as:

- By 31/01/2028:
  - Reduce residual waste per person by 24% (from 2019 levels); and
  - Reduce residual waste in total tonnes by 21% (from 2019 levels).

2.2.342.2.35 The EIP notes (on page 147) that the achievement of these interim targets means that the total mass of residual waste (excluding major mineral waste) should not exceed 25.5 million tonnes by 31 January 2028.

The local context

2.2.352.2.36 The Proposed Development is located predominantly within Cambridgeshire County Council's administrative area (the EFW CHP Facility Site is in Cambridgeshire however part of the Grid Connection is in Norfolk). The current adopted development plans relevant to the Proposed Development include:

- The Cambridgeshire and Peterborough Minerals and Waste Local Plan 2036 (adopted July 2021).
- The current adopted Norfolk Minerals and Waste Development Framework, which comprises:
  - Core Strategy and Minerals and Waste Development Management Policies Development Plan Document 2010 – 2026 (adopted 2011);
  - Waste Site Specific Allocations Development Plan Document (DPD) (adopted 2013); and
  - Revised PDF policies map and the revised interactive policies map which includes the Site-Specific Allocations.

2.2.362.2.37 The principles of the waste hierarchy are reflected in the extant Cambridgeshire plan through headline objective 2, which seeks to *"move treatment of waste up the waste hierarchy".* Policy 1 (sustainable development and climate change), part (d) further embodies the need for waste management proposals, to show how the principles of the waste hierarchy have been considered and addressed. Furthermore, Policy 4 (providing for waste management) states that:

> *"In line with Objective 2 of this Plan, the Councils aim to actively encourage, and will in principle support the sustainable management of waste, which includes encouraging waste to move as far up the waste hierarchy as possible…..In order to ensure this aim can be met, waste management proposals must demonstrably contribute towards sustainable waste management, by moving waste up the waste hierarchy; and proposals for disposal must demonstrate that the waste has been pre-treated and cannot practicably be recycled."*

2.2.372.2.38 Likewise, in respect of the extant Norfolk planning policy, the principles of adherence to the waste hierarchy are embedded throughout the plan's policy provisions e.g., Core Strategy Policy CS10, which commits to not prejudicing the movement of waste up the waste hierarchy. Furthermore, the need to treat waste in accordance with the proximity principle is reflected in paragraphs 6.20 of the Core Strategy.

2.3 Summary

2.3.1 The waste hierarchy is a fundamental principle of waste management policy in England. In terms of the way in which we manage the waste that society produces, it is based on the priority order of:

- **Preventing** waste arising (preferred option);
- **Re-using** the waste materials that are produced;
- **Recycling** our waste;
- Other **recovery of value** from our waste (e.g., energy recovery); and
- **Disposal** of our waste (i.e., landfilling or incineration without energy recovery) (least preferred option).

2.3.2 The waste hierarchy and the need to comply with its principles is a cornerstone of England's current waste management policy. A commitment to ensuring that all decisions associated with the future management of waste have cognisance and reflect the values of the waste hierarchy is embodied in relevant national legislation and policy, as well as more local policy statements.

2.3.3 To ~~secure~~ guarantee the Applicant's commitment to compliance with the waste hierarchy, the following requirement has been agreed with Cambridgeshire County Council and included in Schedule 2 of the **draft DCO (Volume 3.1)**:

(1) Prior to commissioning, the undertaker will submit to the relevant planning authority a scheme, which sets out arrangements for maintenance of the waste hierarchy and which aims to minimise recyclable and reusable waste received

at the authorised development during the commissioning and operational period of the authorised development (the "waste hierarchy scheme").

(2) (2a) The waste hierarchy scheme will include details of:

- *operational procedures that seek to ensure that waste suitable for recycling and reuse is not received at the authorised development. these procedures are to be annually reviewed and, where practicable, improved;*
- *a record of the tonnages of any waste identified by the undertaker prior to tipping at the authorised development and rejected as it was identified as being suitable for recycling, reuse or both;*
- *a record of the tonnages of waste considered suitable for recycling, reuse or both that has been diverted further up the waste hierarchy by persons who also send waste to be processed at the authorised development, as far as practicable;*
- *a record to be kept of how these procedures have been regularly reviewed (on an annual basis at a minimum), what changes were made, and how these have reduced the amount of waste potentially suitable for recycling and reuse being identified by the undertaker prior to tipping at the authorised development and rejected;*
- *how Waste Transfer notes and weighbridge data detailing the sources of the residual waste will be collected and retained~~.~~;*
- *the types of waste and permitted EWC codes to be accepted at the authorised development as specified by the Environmental Permit~~.~~;*
- *how waste delivered to the authorised development will be checked to ensure compliance with the permitted EWC codes~~.~~;*
- *arrangements for ensuring that commercial suppliers deliver only those EWC codes which are permitted~~.~~; and*
- *records to be kept for the purpose of demonstrating compliance with the waste hierarchy scheme and for allowing inspection of such records by the relevant planning authority.*

(3) The waste hierarchy scheme must be implemented as approved under sub-paragraph (1).

2.3.4 Allied to this, is the need to manage waste in accordance with the proximity principle. Essentially this requires waste to be managed at facilities located as close as reasonably possible to where waste is generated - to reduce the need to travel but also to encourage communities to take responsibility for the waste they produce.

2.3.5 To guarantee the Applicant's commitment to compliance with the proximity principle, the following requirement has been agreed with Cambridgeshire County Council and included in Schedule 2 of the **draft DCO (Volume 3.1)**:

(1) Not less than 17.5% of the waste processed at the authorised development per operational year must originate from within Waste Area 1 unless otherwise

agreed by the relevant planning authority. Waste originating outside of Waste Area 1 and then transported to a waste loading point located in Waste Area 1 is not considered to have originated in Waste Area 1.

(2) Not less than 80% of the waste processed at the authorised development per operational year must originate from Waste Area 1 and Waste Area 2 unless otherwise agreed by the relevant planning authority. Subject to sub-paragraph (1), waste transported into Waste Area 2 to a waste loading point is considered to have originated in Waste Area 2.

(3) No more than 20% of the waste processed at the authorised development per operational year must originate from outside of Waste Area 1 and Waste Area 2 unless otherwise agreed by the relevant planning authority. Waste sent direct to the authorised development from a location that is not located in either Waste Area 1 or Waste Area 2 will be deemed to originate from outside of Waste Area 2.

(4) The maximum tonnage of waste received from any one waste planning authority's administrative area within Waste Area 2 must not exceed 312,800 tonnes in any operational year unless otherwise agreed by the relevant planning authority.

(5) From the date of final commissioning of the authorised development until the authorised development has been decommissioned in accordance with [the decommissioning requirement] (unless otherwise agreed by the relevant planning authority), the undertaker must maintain a written record, retained at the authorised development, of the quantities and origin of the waste treated by the authorised development for each operational year.

(6) From the date of final commissioning until the authorised development has been decommissioned in accordance with [the decommissioning requirement] (unless otherwise agreed by the relevant planning authority), on or prior to 1 February each year, the undertaker must provide to the relevant planning authority a report for the proceeding operational year (the "Waste Catchment Report"). The Waste Catchment Report must identify—

a. the waste throughput of the authorised development including the total tonnage of waste processed at the authorised development for the operational year;

b. waste catchment including as far as it is reasonably practicable to audit, the waste area for each waste loading point for waste processed at the authorised development for the operational year, separately totalling tonnages received from waste area 1, waste area 2 and outside of waste area 2; and

c. the total annual tonnage processed at the authorised development from each waste planning authority for the operational year.

(7) The relevant planning authority can request an interim Waste Catchment Report at any time for the preceding 12 month period. The undertaker must submit an interim Waste Catchment Report to the relevant planning authority within 6 weeks of receiving the request. The interim Waste Catchment Report must cover the 12 month period ending on the last day of the month the written request was

made by the relevant planning authority to the undertaker unless otherwise agreed by the relevant planning authority.

(8) In this paragraph—

"operational year" means the period from 1 January to 31 December, inclusive;

"throughput" means the tonnage of waste received at the authorised development;

"waste area 1" means a 75 kilometre radius from the point that has grid reference N307892.6931 and E545496.9373;

"waste area 2" means the area shown on the waste area 2 plan; and

"waste loading point" means the location where the waste is loaded onto a vehicle prior to being sent directly to the authorised development.

(9) In paragraph (6)(b) "waste area" means the areas or locations for each waste loading point, disaggregated to the smallest administrative area practicable, including but not limited to county, unitary, district, borough or postcode area.

2.3.52.3.6 A key ~~feature~~ purpose of this WFAA is to analyse the extent to which the Proposed Development would support the Government's policy principle of driving the management of waste up the established hierarchy and the extent to which the Proposed Development contributes to managing waste in a 'proximate' manner.

2.3.62.3.7 Importantly, this WFAA will also demonstrate ~~whether enough~~ that sufficient fuel is available for the Proposed Development, and that waste material would not be diverted from treatment/management higher up the waste management hierarchy.

3. Waste Fuel Availability Assessment: Methodology

3.1 Overview

3.1.1 An important feature of this WFAA is that it is presented in a transparent, auditable way. To ensure robustness it has been based on the most up to date publicly available data.

3.1.2 Key steps in the assessment will be:

- Task 1: Define the scope of the assessment – both the spatial scope (Study Area) and the scope of the 'fuel sources';
- Task 2: Gather baseline data on the arisings, disposals and available capacity of the defined 'fuel sources' within the Study Area;
- Task 3: Analyse existing and predicted future capacity requirements of the defined 'fuel sources' within the Study Area; and
- Task 4: Reporting.

3.1.3 The remainder of this section outlines further detail in respect of these 4 key tasks.

3.2 Task 1 – Define the scope of the Fuel Availability Assessment

3.2.1 At the outset of this assessment, it was crucial to identify both the **spatial scope** (Study Area) of the assessment and the **fuel scope** of the study.

Spatial scope

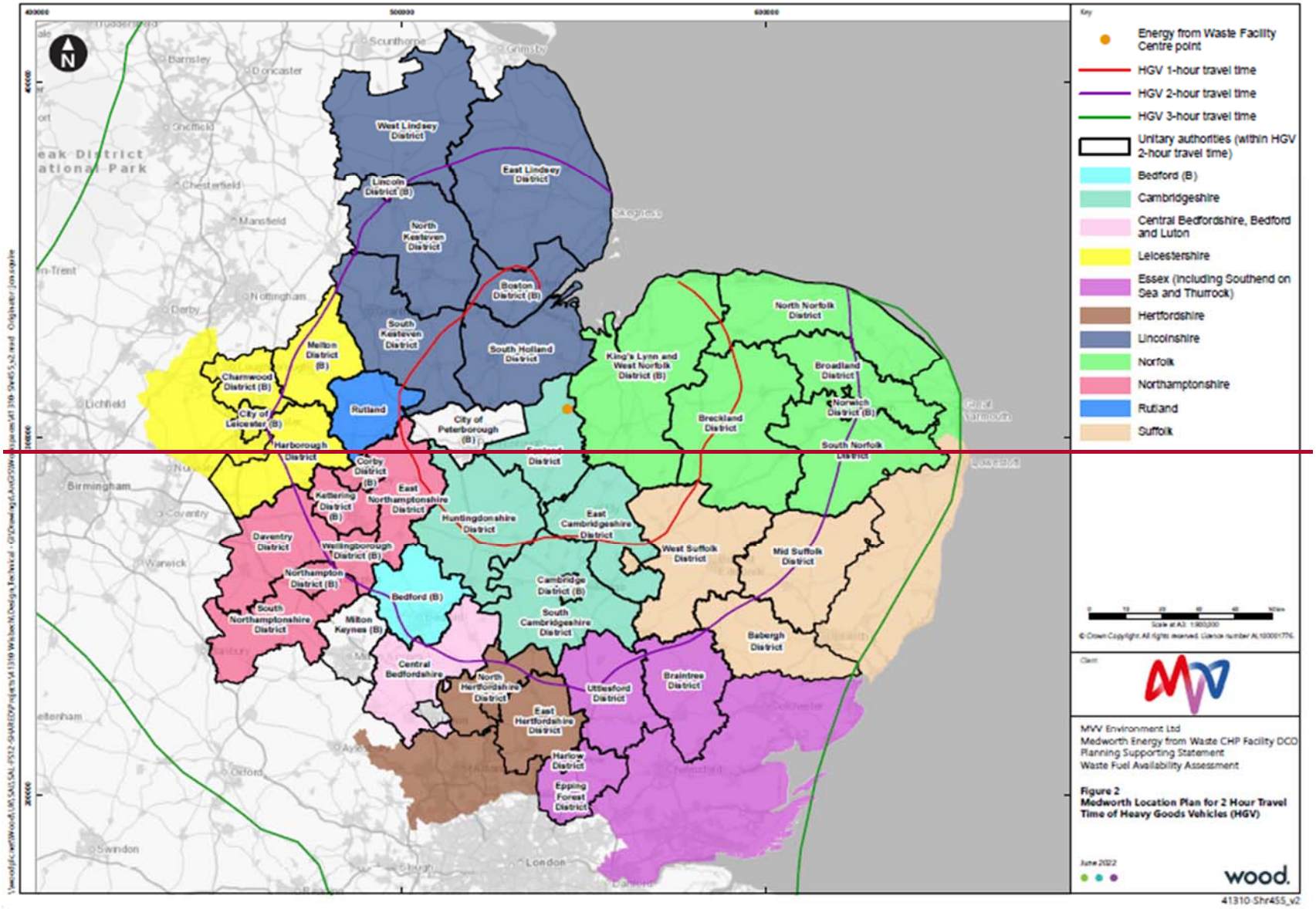
3.2.2 Waste markets in the UK are directly influenced by a range of factors including waste type, availability of management capacity and government fiscal, waste management and planning policies. Whilst prevailing planning policy (as outlined in **Section 2**) is that waste should be managed as close as possible to its point of origin, the complex range of influencing factors inevitably means there is a flow of material across the country (and beyond). In this context, it is important to recognise that the Proposed Development is likely to draw in waste from a wider area and that over the life of the Proposed Development, the area from which the Proposed Development will receive waste material is likely to change.

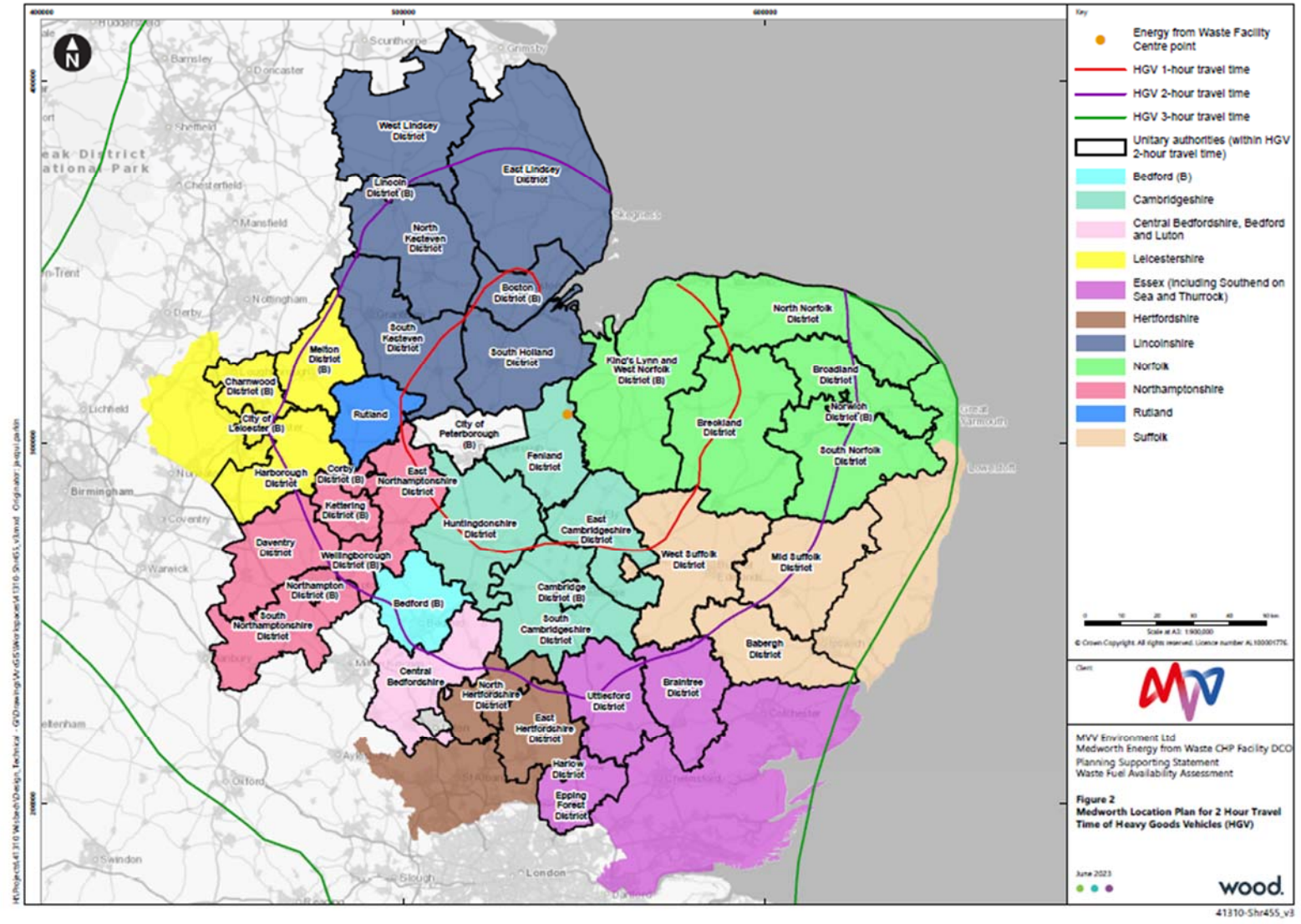
3.2.3 This DCO application must demonstrate that there is a need for the proposed waste management capacity~~.~~, and to do this requires defining a Study Area for the WFAA. Importantly though, the WFAA illustrates that even within a restricted geographic ~~catchment~~area, the need for the waste management capacity offered by the Proposed Development is evident. ~~This assessment is not a means of identifying that the Proposed Development should be tied to a specific catchment area.~~

3.2.4 The starting point for defining a Study Area was to look at the broad geographic area that the facility is likely to draw waste from, in order to identify the relevant waste ~~management~~ planning authority areas.

3.2.5 Professional judgement is that it is generally commercially viable to transport non-hazardous household, industrial and commercial waste from up to approximately (~) 2 hours away from the Proposed Development. Distances over 2 hours travel time from the Proposed Development can become increasingly expensive for those seeking to dispose of waste. As such, a 2-hour travel time from the centre of the Proposed Development site was applied in a GIS (geographical information systems) model, which resulted in the identification of a likely ~~'catchment area'~~geographic area from which the facility is likely to draw waste – see **Graphic 2 Medworth Location Plan for 2 Hour Travel Time of Heavy Goods Vehicles (HGV)** on the following page.

Graphic 2: Medworth Location Plan for 2 Hour Travel Time of Heavy Goods Vehicles (HGV)


Key
Energy from Waste Facility Centre point
HGV 1-hour travel time
HGV 2-hour travel time
HGV 3-hour travel time
Unitary authorities (within HGV 2-hour travel time)
Bedford (B)
Cambridgeshire
Central Bedfordshire, Bedford and Luton
Leicestershire
Essex (including Southend on Sea and Thurrock)
Hertfordshire
Lincolnshire
Norfolk
Northamptonshire
Rutland
Suffolk
West Lindsey District
East Lindsey District
Lincoln District (B)
North Kesteven District
Boston District (B)
South Kesteven District
South Holland District
Melton District (B)
Charnwood District (B)
City of Leicester (B)
Rutland
City of Peterborough (B)
Harborough District
Corby District (B)
Kettering District (B)
East Northamptonshire District
Daventry District
Wellingborough District (B)
Northampton District (B)
South Northamptonshire District
Milton Keynes (B)
Bedford (B)
Huntingdonshire District
East Cambridgeshire District
Cambridge District (B)
South Cambridgeshire District
Central Bedfordshire
North Hertfordshire District
East Hertfordshire District
Harlow District
Epping Forest District
Uttlesford District
Braintree District
Babergh District
West Suffolk District
Mid Suffolk District
South Norfolk District
Breckland District
Broadland District
Norwich District (B)
North Norfolk District
King's Lynn and West Norfolk District (B)
Peterborough District
Scunthorpe
Grimsby
Barnsley
Doncaster
Sheffield
Chesterfield
Mansfield
Nottingham
Derby
Lichfield
Birmingham
Coventry
Warwick
Oxford
Swindon
London
Slough
Norwich
Great Yarmouth
MVV Environment Ltd
Medworth Energy from Waste CHP Facility DCO
Planning Supporting Statement
Waste Fuel Availability Assessment
Figure 2
Medworth Location Plan for 2 Hour Travel Time of Heavy Goods Vehicles (HGV)
June 2022
wood.
41310-Shr455_v2


Key
Energy from Waste Facility Centre point
HGV 1-hour travel time
HGV 2-hour travel time
HGV 3-hour travel time
Unitary authorities (within HGV 2-hour travel time)
Bedford (B)
Cambridgeshire
Central Bedfordshire, Bedford and Luton
Leicestershire
Essex (including Southend on Sea and Thurrock)
Hertfordshire
Lincolnshire
Norfolk
Northamptonshire
Rutland
Suffolk
West Lindsey District
East Lindsey District
Lincoln District (B)
North Kesteven District
Boston District (B)
South Kesteven District
South Holland District
Melton District (B)
Charnwood District (B)
City of Leicester (B)
Rutland
City of Peterborough (B)
Fenland District
King's Lynn and West Norfolk District (B)
North Norfolk District
Broadland District
Norwich District (B)
Breckland District
South Norfolk District
Harborough District
Corby District (B)
East Northamptonshire District
Kettering District (B)
Huntingdonshire District
East Cambridgeshire District
Daventry District
Wellingborough District (B)
Northampton District (B)
South Northamptonshire District
Bedford (B)
Cambridge District (B)
South Cambridgeshire District
West Suffolk District
Mid Suffolk District
Babergh District
Central Bedfordshire
North Hertfordshire District
East Hertfordshire District
Uttlesford District
Braintree District
Harlow District
Epping Forest District
MVV Environment Ltd
Medworth Energy from Waste CHP Facility DCO
Planning Supporting Statement
Waste Fuel Availability Assessment
Figure 2
Medworth Location Plan for 2 Hour Travel Time of Heavy Goods Vehicles (HGV)
June 2023
wood.
41310-Shr455_v3

3.2.6 Based on this figure, the following Waste Planning Authorities (WPA) were identified as forming part of a potential catchment for the Proposed Development:

- Bedford (Unitary Authority);
- Cambridgeshire County Council;
- Central Bedfordshire (Unitary Authority);
- City of Peterborough (Unitary Authority);
- Essex County Council;
- Hertfordshire County Council;
- Leicestershire County Council (including Leicester City);
- Lincolnshire County Council;
- Luton (Unitary Authority);
- Norfolk County Council;
- Northamptonshire County Council (as of 1 April 2021, North Northamptonshire and West Northamptonshire Unitary Authorities);
- Rutland (Unitary Authority); and
- Suffolk County Council.

3.2.7 It is noted that the application of ~~a~~ an approximate two-hour travel time pulls in all Waste Planning Authorities (except ~~Milton Keynes,~~ Thurrock and Southend) which make up the former East of England planning region. As waste data is generally presented on a 'regional' basis (see later sections of this WFAA), and because a proportion of waste may come to the facility from outside the approximate two-hour travel time area, it has been considered appropriate to use the former East of England planning region (hereafter referred to simply as the East of England) as the basis for this WFAA.

3.2.8 However, as is illustrated in **Graphic 2 '*Medworth Location Plan for 2 Hour Travel Time of Heavy Goods Vehicles (HGV)*'** (see previous page), the approximate 2-hour travel time also includes Leicestershire (and Leicester City); Northamptonshire; Lincolnshire and Rutland – the latter of which are in the former East Midlands planning region. It is ~~therefore~~ considered appropriate to include these additional areas within the spatial scope of the WFAA on the basis of their proximity to the Proposed Development.

3.2.9 Previous iterations of this WFAA also included Milton Keynes. Following discussion with Statutory and Interested Parties, the Applicant agreed that this Waste Planning Authority area should be excluded from further consideration. This is because the boundary of this Waste Planning Authority area is at the limit of the indicative 2-hour drive time of the Proposed Development and also due to the fact that the Waste Planning Authority area falls within a different region (the South-East) to all other waste planning areas forming the Study Area.

~~3.2.9~~3.2.10 Whilst it is accepted that the application of GIS algorithms to arrive at a 2-hour travel time includes a level of professional judgement ~~as to~~ it is nonetheless considered a

useful start point from which to consider what constitutes a reasonable Study Area for a local assessment~~, it is nonetheless considered a useful start point.~~ . However, this must be put into the context of what national policy requires of this WFAA, as well as feedback from Stakeholders at the PEIR stage of this DCO application where further justification of the Study Area was requested.

~~3.2.10~~3.2.11 In terms of the latter, **Appendix B** of this document summarises comments received from Stakeholders at PEIR stage on (amongst other things) the proposed Study Area for the WFAA and includes commentary on how ~~this submission version of~~ the WFAA has sought to addresses the comments made.

3.2.12 During the Examination process, there has been material discussion about the appropriateness of including the entirety of WPAs – most notably Essex - within the Study Area, where only part of their overall area falls within the indicative 2-hour drive time of the Proposed Development.

3.2.13 The Applicant's position on this issue is clear. Due to the fluid nature of waste contracts and movements around the country, the 2-hour drive time has been used as an **indicator** (and *not* a limit) to inform which WPAs should be included within the Study Area for the WFAA. As **Graphic 2 '*Medworth Location Plan for 2 Hour Travel Time of Heavy Goods Vehicles (HGV)*'** indicates, except for Cambridgeshire, Peterborough and Rutland, there are no other WPAs out of the 16 which form the Study Area that are wholly within the indicative 2-hour drive time of the Proposed Development.

3.2.14 Since waste arisings and disposal data for HIC waste are presented on a WPA basis only, the whole WPA must be included in the WFAA Study Area in order to render that study robust. Future waste needs are also planned for at WPA level, and for the WFAA to be robust and realistic, the entire WPAs have therefore been considered. A number of Interested Parties have suggested that waste data is available at a more granular level i.e., at the District Council level, and as such the WFAA should reflect this. However, whilst this is true for local authority collected waste, waste from industrial and commercial sources – the much larger portion of the HIC waste stream and a significant market for the Proposed Development – is not available at this level. Notwithstanding this, it must also be recognised that waste is collected over a wide area and then taken to one or more waste transfer stations before despatch to its final treatment destination. In this regard, it would not be realistic/reasonable to have regard only to that portion of the WMA which lies within the 2-hour indicative drive time of the Proposed Development, because waste is drawn from the entirety of a WPA (via transfer stations) before ultimate disposal/ management. For these reasons, the WFAA has identified a study area based at the WPA level and consisting of all WPAs that fall within the indicative 2-hour drive time of the Proposed Development.

~~3.2.11~~3.2.15 In terms of national policy, the extant NPS EN-3 (paragraph 2.5.66) requires that applicants prepare *"an assessment that examines the conformity of the scheme with the waste hierarchy and the effect of the scheme on the relevant waste plan or plans where a proposal is likely to involve more than one local authority"*. However, the ~~draft emerging replacement~~ Draft NPS EN-3 states that a new EfW plant must not result in over capacity of EfW waste at a **national or local level** (~~paragraph 2.10.5).~~ paragraphs 3.7.7, 3.7.29 and 3.7.55). This subtle change in policy direction indicates

that assessments such as this WFAA should address both the local and national position.

3.2.123.2.16 Whilst the WFAA has thus ~~far sought to apply~~ identified a proportionate ~~catchment area~~ local Study Area by looking at where, commercially, the Proposed Development is likely to source waste from, it is apparent that consideration of such a local Study Area alone does not comply with government's emerging policy to assess both the local and national contexts.

3.2.133.2.17 With this in mind, it is considered that this WFAA should be based upon the following hierarchy of Study Areas:

- Full analysis of the **local** need for additional residual waste management capacity, based on the East of England position plus Lincolnshire, Leicestershire, Northamptonshire and Rutland.
- Full analysis of the **national** need for additional residual waste management capacity, based upon the ~~UK~~ England position.

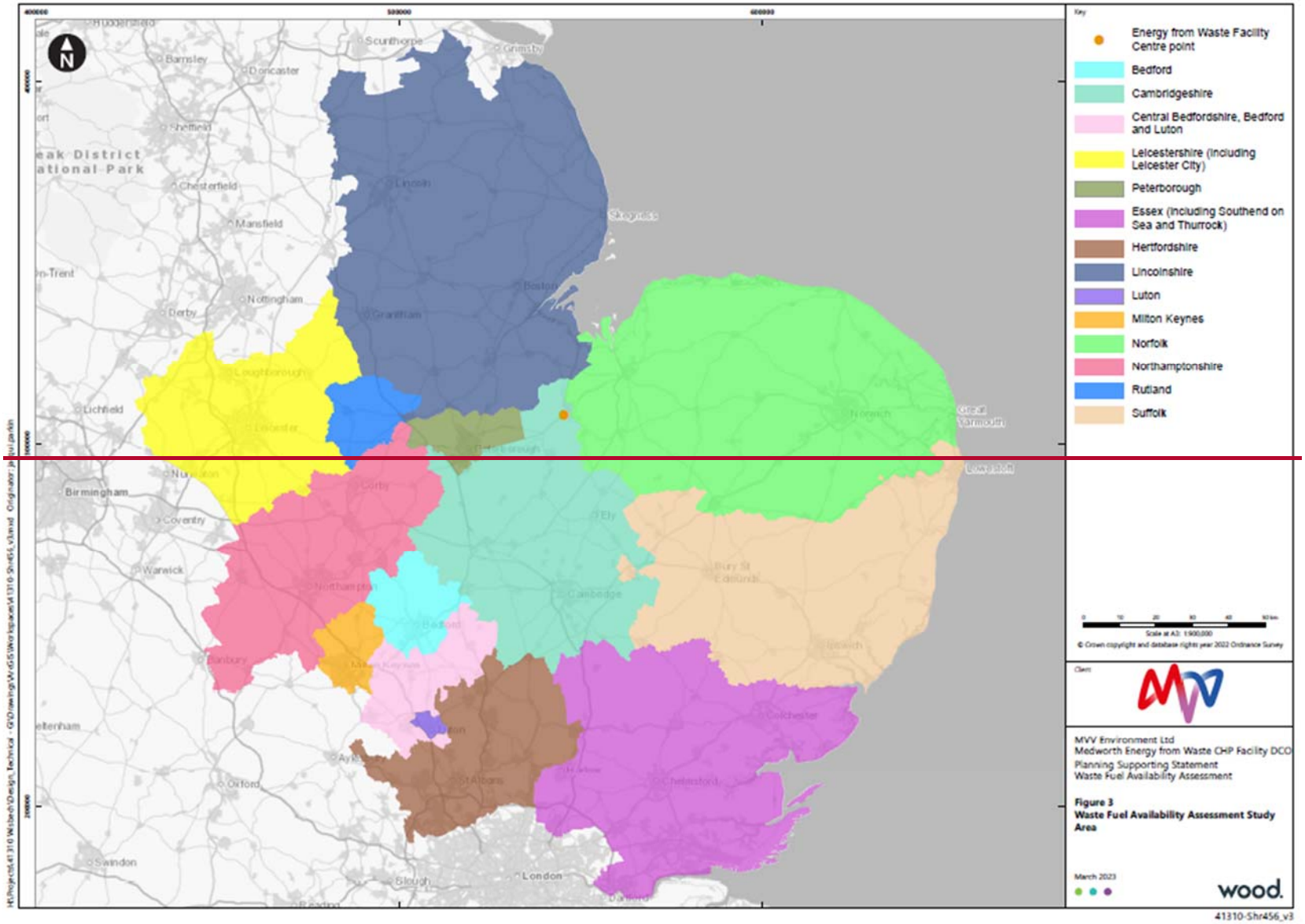
3.2.18 In terms of the national assessment, England, rather that the UK has been assessed. This is to ensure the proximity principle is considered (i.e. managing waste as close as possible to its point of arising); and to reflect the fact that to a material extent waste management and associated planning policy of direct relevance to the Proposed Development applies to England only (i.e. National Planning Policy for Waste (2014); The Waste Management Plan for England (2021); England's National Waste Strategy (2018) etc).

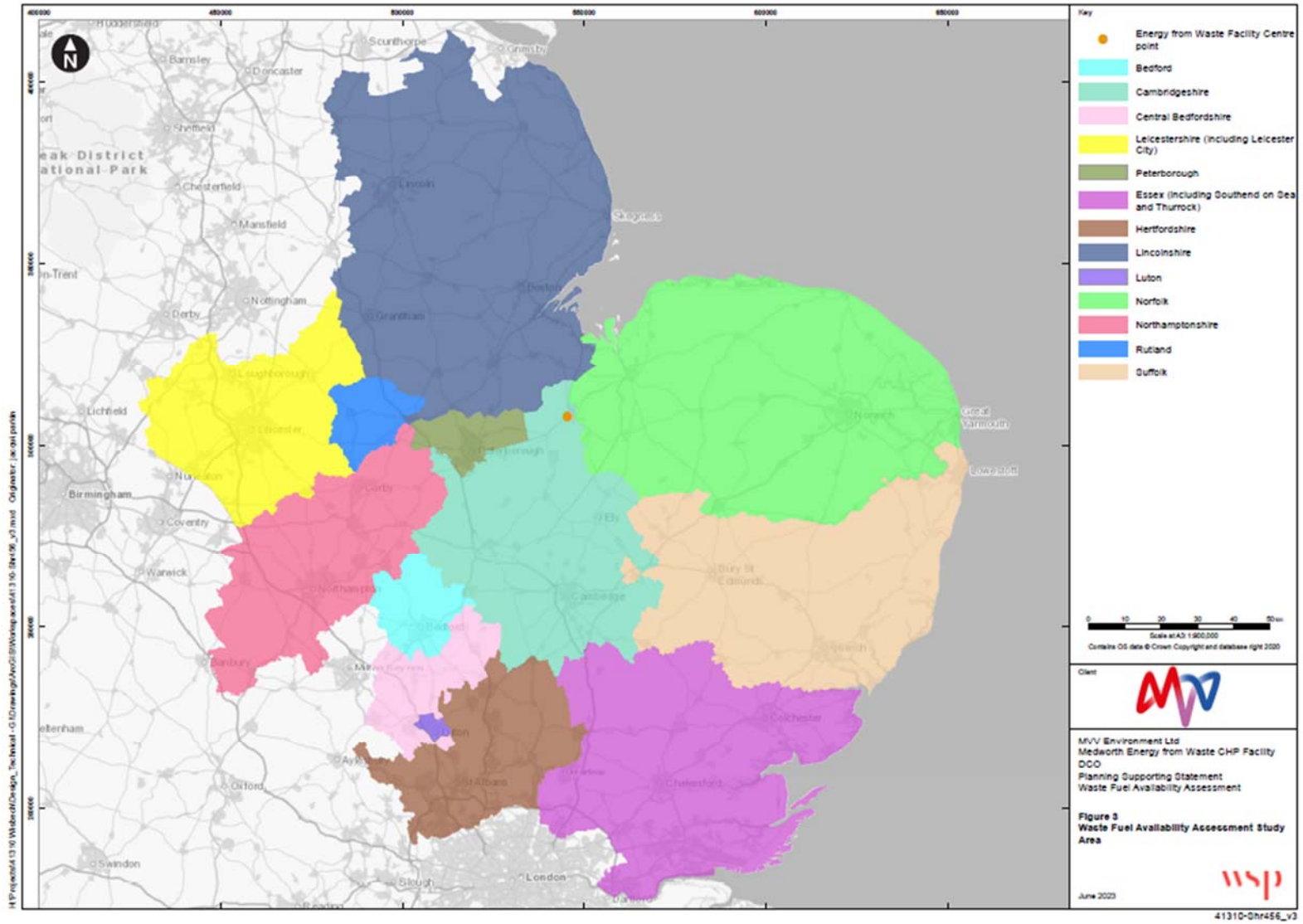
3.2.143.2.19 **Table 3.1 Definition of Study Areas applied in the WFAA** below, and **Graphic 3 Waste Fuel Availability Assessment Study Area** (on the following page) defines the local Study Area identified above.

Table 3.1 Definition of Study Areas applied in the WFAA

Study Area type	Geographical extent
Local	East of England region comprising: • Bedford (unitary) • Cambridgeshire • Central Bedfordshire (unitary) • Essex • Hertfordshire • Luton (unitary) • ~~Milton Keynes (unitary)~~ • Norfolk • Peterborough (unitary) • Southend on Sea (unitary) • Suffolk • Thurrock (unitary) With the addition of the following East Midlands Waste Planning Authorities: • Leicester City (unitary) • Leicestershire • Lincolnshire • Northamptonshire • Rutland
National	~~UK wide~~England

Graphic 3: Waste Fuel Availability Assessment Study Area


Key
Energy from Waste Facility Centre point
Bedford
Cambridgeshire
Central Bedfordshire, Bedford and Luton
Leicestershire (including Leicester City)
Peterborough
Essex (including Southend on Sea and Thurrock)
Hertfordshire
Lincolnshire
Luton
Milton Keynes
Norfolk
Northamptonshire
Rutland
Suffolk
Scale at A3: 1:900,000
© Crown copyright and database rights year 2022 Ordnance Survey
Client
MVV Environment Ltd
Medworth Energy from Waste CHP Facility DCO
Planning Supporting Statement
Waste Fuel Availability Assessment
Figure 3
Waste Fuel Availability Assessment Study Area
March 2023
wood.
41310-Shr456_v3


Key
Energy from Waste Facility Centre point
Bedford
Cambridgeshire
Central Bedfordshire
Leicestershire (including Leicester City)
Peterborough
Essex (including Southend on Sea and Thurrock)
Hertfordshire
Lincolnshire
Luton
Norfolk
Northamptonshire
Rutland
Suffolk
Client
MVV Environment Ltd
Medworth Energy from Waste CHP Facility
DCO
Planning Supporting Statement
Waste Fuel Availability Assessment
Figure 3
Waste Fuel Availability Assessment Study Area
June 2023
41310-0hr456_v3

Fuel scope

3.2.153.2.20 Having identified the local and national Study Areas, it was important to understand and identify the type of fuel that the Proposed Development will be able to accept. This will ensure that when studying the availability of fuel supplies, the assessment focuses only on waste streams (and types of waste) relevant to the project.

3.2.163.2.21 The Proposed Development will be designed to accept residual Household, Industrial and Commercial (HIC) waste streams. Such waste will comprise loose residual waste and, in some cases, Refuse Derived Fuel (RDF), for example material which is presently exported ~~from the UK~~ for final treatment in EfW facilities in continental Europe. Moreover, to ensure that the facility would not divert waste from management methods further up the waste hierarchy, it has been important to consider only those parts of the HIC waste stream that are presently managed at domestic landfill sites.

3.2.173.2.22 All waste is classified by the Waste Framework Directive into specific 'types' of material using a set of established classification codes. These codes are referred to as the LoW (List of Wastes) or EWC (European Waste Catalogue) code and have been important to consider in this fuel availability assessment because of the need to ensure that only those HIC wastes which could be managed at the Proposed Development are considered in the WFAA. For example, because it does not combust, rubble could not be managed at the Proposed Development and so needs to be discounted in this assessment.

3.2.183.2.23 Appropriate EWC waste categories from within the wider HIC stream, which would be potentially suitable for use in the Proposed Development have been identified.

3.2.193.2.24 The assessment has focussed on the HIC waste streams that are sent to non-hazardous landfill facilities i.e., waste that is managed lower down the waste hierarchy and in EWC terms, the HIC waste stream equates to wastes listed under the following chapters of the LoW:

- 01 – waste resulting from exploration, mining, quarrying and physical and chemical treatment of minerals;
- 02 – waste from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing;
- 03 – waste from wood processing and the production of panels and furniture, pulp, paper and cardboard;
- 04 – wastes from the leather, fur and textile industries;
- 08 – waste from the manufacture, formulation, supply and use of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks;
- 09 – wastes from the photographic industry;
- 10 – waste from thermal processes;
- 11 – waste from chemical surface treatment and coating of metals and other materials; non-ferrous hydrometallurgy;

- 12 – waste from shipping and physical and mechanical surface treatment of metals and plastics;
- 15 – waste packaging, absorbents, wiping cloths, filer materials and protective clothing not otherwise specified;
- 16 – wastes not otherwise specified in the list;
- 17 – construction and demolition wastes (including excavation soil from contaminated sites);
- 18 – waste from human or animal healthcare and/or related research (except kitchen and restaurant waste not arising from immediate health care);
- 19 – waste from waste management facilities, off-site wastewater treatment plants and the preparation of water intended for human consumption and water for industrial use; and
- 20 – municipal waste (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions.

~~3.2.20~~3.2.25 However, because HIC waste covers a wide cross section of waste types (as illustrated in the list above), this WFAA has taken into account the fact that parts of this stream will not be suitable for use as a fuel source at the Proposed Development e.g., rubble and soils. In recognition of this, and to avoid an over-estimation of available fuel, this assessment has excluded those waste types that are not suitable for combustion at the Proposed Development.

~~3.2.21~~3.2.26 Following on from this, the next step has been to consider which of those combustible wastes within the wider HIC waste stream would form the primary feed for the Proposed Development.

~~3.2.22~~3.2.27 The Proposed Development will require an Environmental Permit to operate. Under the provisions of this permit the Proposed Development will seek permission to accept HIC waste from only the following EWC chapters: 02 (waste from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing); 03 (waste from wood processing and the production of panels and furniture, pulp, paper and cardboard); 04 (wastes from the leather, fur and textile industries); 09 (wastes from the photographic industry); 15 (waste packaging, absorbents, wiping cloths, filer materials and protective clothing not otherwise specified); 17 (construction and demolition wastes (including excavation soil from contaminated sites)); 19 (waste from waste management facilities, off-site wastewater treatment plants and the preparation of water intended for human consumption and water for industrial use) and 20 (municipal waste (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions). Furthermore, the focus will be on EWC chapters 19 and 20 – with an anticipated 90-95% of the Proposed Development's fuel coming from waste streams within these chapters.

~~3.2.23~~3.2.28 Chapters 19 and 20 of the LoW are subdivided further into specific types of waste. This WFAA focuses on the following specific waste types in each of the two shortlisted LoW categories:

- 19 - waste from waste management facilities, off-site wastewater treatment plants and the preparation of water intended for human consumption and water for industrial use:
  - 19 12 wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified:
    - 19 12 10 combustible waste (refuse derived fuel); and
    - 19 12 12 other wastes (including mixtures of materials) from mechanical treatment of wastes.
- 20 - municipal waste (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions:
  - 20 03 other municipal wastes:
    - 20 03 01 mixed municipal waste; and
    - 20 03 07 bulky waste.

~~3.2.24~~3.2.29 These specific waste types have been selected because they predominantly comprise wastes suitable for combustion at the Proposed Development and as such, have formed the basis of the statistical analysis in the WFAA. As such, any further references in this WFAA to 'in scope' waste, effectively means combustible waste from these categories. By limiting the assessment to only these specific types of waste within LoW categories 19 and 20, the WFAA ensures that the worst-case scenario is assessed.

3.3 Task 2 – Gather baseline data

Overview

3.3.1 For each defined Study Area, the following have been considered:

- Data on current 'in scope' HIC arisings – most notably, how much is sent to landfill;
- Data on how current 'in scope' HIC arisings are managed; and
- Data on existing HIC disposal capacity – both existing and anticipated future capacities.

3.3.2 Importantly, when gathering data on available capacity, it has been key to define what constitutes 'capacity' – for example, is capacity only that which is operational or should it include that which has consent, but is not yet built/commissioned?

3.3.3 Indeed, when analysing available capacity assessments – both at the national and local level, differing approaches have been adopted by Waste Planning Authorities, Government, and research consultancies to defining capacity.

3.3.4 Given the uncertainties around the deliverability of schemes at the initial planning stage, some of the ~~assessments~~ data sources and reports that this WFAA relies upon conclude that sites in the planning process are not included as consented capacity. However, other ~~assessments~~ data sources choose to include sites in the

planning system and consented but non-operational capacity, as well as capacity that is fully operational. In considering and discussing the conclusions of these capacity studies (both at the local and national level), full commentary is provided in this WFAA on the differing approaches to the definition of existing disposal capacity.

3.3.5 In analysing data on capacity for the defined Study Areas of this WFAA, this assessment has sought to identify and discuss future waste management needs in terms of the following scenarios:

- Operational disposal capacity only;
- Operational and permitted disposal capacity; and
- Operational, permitted and disposal capacity in the planning system (i.e., applications and where appropriate, allocations).

Data sources

WFAA – Local analysis

3.3.6 Information on waste arisings, management, and capacity at the local/regional level has been identified through baseline data gathering from published sources of information and in consultation with the relevant WPA. Sources of information that have been used to provide this information are set out in **Table 3.2 Data sources** below.

Table 3.2 Data sources

Waste source	Source(s)	Limitations (if any)	Confidence
Current HIC arisings:			
Household waste aka Local Authority collected waste (LACW)	Defra Local Authority Collected Waste Statistics, 2020/21 and 2021/22	2020/21 data published in January 2022. 2021/22 data published in March 2023. The data does not define the EWC codes of the waste arisings.	High
Commercial & Industrial waste (C&I) – in defined LoW categories	Waste Data Interrogator (WDI) EWC chapters 19 and 20; Waste Received 2021 (published January 2023)	C&I waste arisings can only be estimated from WDI data on the origins of waste. WDI 'waste received' data only records details of waste received at permitted sites in England. Codes 19 12 10, 19 12 11* & 19 12 12 removed from included Treatment sites, with fate "Landfill", "Incineration" or "Recovery" to avoid double counting.	Medium
Identification of arisings sent to landfill:			
LACW	WasteDataFlow (WDF), 2020/21 (Q100 data) and 2021/22	The data does not define the EWC codes of the waste sent to landfill.	High
C&I	Waste Data Interrogator (WDI);	The WDI only records information on 'controlled' waste received at permitted	Medium

Waste source	Source(s)	Limitations (if any)	Confidence
	Waste Received 2021 (published ~~January~~ September 202~~3~~2)	waste sites regulated by the Environment Agency in the specified calendar year.	
Existing landfill capacity:			
C&I	EA data 'Remaining landfill capacity: England as at end 2021' (~~published January 2023~~September 2022)	Capacity data is provided in cubic metres. Conversion factors used to convert volume into weight estimates.	Medium

3.3.7 It should also be noted that the data sets which have been used to calculate existing HIC waste arisings are not all comparable with each other because they cover slightly different 12-month periods. For example, the Defra ~~LA~~ Local Authority Collected Waste (LACW) Statistics cover a monitoring year from April to March, however, Waste Data Interrogator (WDI) information covers calendar years (January – December)[5]. The WFAA has used the most up to date available data sets across a common year.

3.3.8 In terms of gathering baseline data on local HIC waste management capacity requirements, this WFAA has adopted a two-pronged approach:

- Reviewed adopted and emerging Waste Local Plans, and their relevant supporting evidence bases, to identify whether there is likely to be a shortfall of suitable waste management capacity within the Study Area; and
- Reviewed the conclusions on capacity requirements set out in the following 'regional' reports:
  - *'Residual Waste in London and the South-East – Where is it going to go……?'* Tolvik Consulting Ltd (October 2018). Whilst this report excludes Norfolk, Suffolk and Peterborough, it includes Essex, Southend, Thurrock, Hertfordshire, Bedfordshire~~, Milton Keynes~~ and Cambridgeshire.
  - Landfill and Residual Treatment Capacity in the Wider South-East of England, Report for the East of England Waste Technical Advisory Body; the Southeast Waste Planning Advisory Group; and the London Waste Planning Forum, Sacks Consulting (May 2021).

3.3.9 This two-pronged approach is important as it not only seeks to take account of the detailed capacity work carried out at the WPA level, but it also addresses the fact that Waste Local Plans in the defined Study Area are all at various stages of their development.

3.3.10 Some WPAs have up to date plans which forecast up to 2035, but others contain forecasts that are either out of date or which only look ahead by a few years. This limitation is of concern to this WFAA as the Proposed Development is anticipated to provide capacity from 2026 onwards and as such, a clear understanding of the likely

[5] The 2021 Waste Data Interrogator was ~~published~~ accessed in January 202~~2~~3.

capacity requirements from this year is required. As such, the evaluation of data carried out at the regional level (as set out in the reports referenced above), will allow local forecasts to be calibrated and where appropriate, updated to reflect the latest knowledge on future HIC capacity requirements.

WFAA – National analysis

3.3.11 Information on waste arisings, management and capacity at the national level has been identified through baseline data gathering from published sources of information. Principal sources of information that have been used to provide this information are as follows:

- *UK Statistics on Waste*, Defra (published May 2022 update);
- *UK Energy from Waste Statistics - 202~~1~~2*, Tolvik Consulting Ltd (May 202~~2~~3);
- *UK Residual Waste: 2030 Market Review*, produced by Tolvik Consulting Ltd on behalf of the Environmental Services Association (November 2017); and
- *Overview of Statistics for RDF Export from England*, Footprint Services (~~November~~ December 2022).

3.4 Task 3 – Analysis of existing and future capacity requirements

WFAA – National analysis

3.4.1 Using the data sources/reference reports identified under Task 2, this WFAA has sought to identify the extent to which there is a nationally recognised need for additional non-landfill, residual waste management treatment capacity.

3.4.2 The temporal scope of this part of the WFAA is entirely influenced by the timeframes reflected in those source reports identified under Task 2. Following review of these reports, the baseline year for this part of the WFAA is 2021, with projections of future requirements extending to 2030.

WFAA – Local analysis

3.4.3 Using the data gathered under Task 2, this part of the WFAA has sought to analyse the extent to which there is scope to divert 'in scope' HIC waste generated in the Study Area from landfill to the Proposed Development. This analysis represents:

- A current 'snapshot' of the present-day position within the local Study Area; and
- A forecast of future requirements, for facilities like the Proposed Development, to manage anticipated future HIC wastes.

3.4.4 The importance of focussing on the extent to which the Proposed Development would divert suitable material from landfill is a key feature of this study as it reflects the need to implement the waste hierarchy and drive the management of material up the hierarchy from simple disposal (i.e., landfill).

3.4.5 It is also important for this part of the WFAA to establish both a baseline year and a reasonable period for looking forwards.

3.4.6 The temporal scope of the WFAA has been determined by the availability of local/regional data (see Task 2 above) and uses the most recent year where publicly available data relating to **all** existing waste arisings and disposals is available i.e., 2021. Where later data is available, this has been used.

3.4.7 In terms of forecasts of future HIC waste disposal needs, this WFAA relies on those generated as part of the respective Waste Local Plan evidence bases within the Study Area. These evidence bases contain forecasts of likely future disposal needs based on comparing existing disposal capacity against anticipated future HIC waste arisings. Each assessment contains assumptions around future waste growth and recycling to arrive at conclusions around the amount of residual waste that will need managing over a specified period of time. This WFAA takes the conclusions of these studies into account and uses them as a basis for determining any identified gaps in local capacity.

3.4.8 Finally, and as noted in **Section 3.3.5** of this WFAA, in analysing local and regional forecasts of future disposal capacity requirements, this assessment has sought to identify and discuss future capacity needs in terms of three scenarios:

- Operational capacity only;
- Operational and permitted capacity; and
- Operational, permitted and capacity in the planning system (i.e., applications and where appropriate, allocations).

3.5 Task 4 – Reporting

3.5.1 Work carried out under Tasks 1-3 has been documented in **Sections 4 and 5** of this report. All data sources used in the assessment have been referenced.

4. Waste Fuel Availability Assessment: Local Analysis

4.1 Baseline position

Current HIC arisings (in defined LoW categories)

4.1.1 ~~In 2020/21, the~~ The total local authority collected waste by each WPA within the spatial scope is shown in **Table 4.1 Total Local Authority Collected Waste 2020/2021 and 2021/22 (tonnes)**. This is also broken down to show household and non-household waste collected by the authorities. This includes all LoW categories, with residual waste typically assigned to EWC code 20 03 01 and recyclable waste mapped to an EWC code based on the WDF material description.

4.1.2 The majority of LACW will be tied into existing contracts with varying durations for collection, treatment, and disposal.

4.1.3 This updated version of the WFAA (version 3) also reflects Defra updates to the LACW data. For comparison purposes, Table 4.1 below includes data for 2021/22.

Table 4.1 Total Local Authority Collected Waste 2020/2021 and 2021/22 (tonnes)

Origin WPA		Household - total waste (tonnes)	Non-household - total waste (tonnes)	Total local authority collected waste (tonnes)
East of England WPAs:				
Bedford	*2020/21*	75,661	7,940	83,601
	2021/22	77,007	9,753	86,760
Cambridgeshire County Council	*2020/21*	296,261	~~118,407~~18,407	~~414,668~~314,668
	2021/22	295,860	23,582	319,442
Central Bedfordshire	*2020/21*	127,525	5,526	133,051
	2021/22	127,334	7,488	134,822
Essex County Council (including Southend on Sea and Thurrock)	*2020/21*	~~761,679~~840,469	~~35,202~~39,348	~~796,881~~879,817
	2021/22	844,161	47,321	891,482

Origin WPA		Household - total waste (tonnes)	Non-household - total waste (tonnes)	Total local authority collected waste (tonnes)
Hertfordshire County Council	*2020/21*	513,443	27,247	540,690
	2021/22	503,191	30,631	533,822
Luton Borough Council	*2020/21*	80,525	9,209	89,734
~~**Milton Keynes Council**~~	*2021/22*	~~117,012~~78,753	~~7,073~~9,428	~~124,085~~88,181
Norfolk County Council	*2020/21*	408,667	16,103	424,770
	2021/22	421,493	18,964	440,457
Peterborough City Council	*2020/21*	86,889	5,272	92,161
	2021/22	86,036	4,678	90,714
Suffolk County Council	*2020/21*	339,716	28,203	367,919
	2021/22	348,301	34,225	382,526
East of England Total	*2020/21*	***~~2,807,378~~2,769,156***	***~~260,182~~157,255***	***~~3,067,560~~2,926,411***
	2021/22	**2,782,136**	**186,070**	**2,968,206**
'In-scope' East Midlands WPAs:				
Leicester City Council	*2020/21*	131,695	11,009	142,704
	2021/22	133,016	13,550	146,566
Leicestershire County Council	*2020/21*	309,313	18,325	327,638
	2021/22	310,600	22,962	333,562
Lincolnshire County Council	*2020/21*	337,169	8,469	345,638
	2021/22	346,514	12,800	359,314
Northamptonshire County Council*	*2020/21*	354,930	22,826	377,756
	2021/22	348,665	24,283	372,948

Origin WPA		Household - total waste (tonnes)	Non-household - total waste (tonnes)	Total local authority collected waste (tonnes)
Rutland County Council	*2020/21*	20,223	760	20,983
	2021/22	20,248	996	21,244
'In scope' East Midlands Total	*2020/21*	***1,153,330***	***61,389***	***1,214,719***
	2021/22	**1,159,043**	**74,591**	**1,233,634**
TOTAL	*2020/21*	~~**3,960,708**~~3,922,486	~~**321,571**~~218,644	~~**4,282,279**~~4,141,130
	2021/22	**3,941,179**	**260,661**	**4,201,840**

*For 2021/22, data is split between West and North Northamptonshire as these have since become separate Unitary Authorities. Together, these form the same region as the previous Northamptonshire County Council region and their waste data has therefore been combined for consistency.

Source: Defra - ENV18 - Local authority collected waste: annual results tables Table 1: Local Authority Collected and Household Waste Statistics 2020-21, England (published January 2022) and 2021/22 update (published March 2023)

4.1.4 In terms of arisings, the WFAA Study Area picture is that there was an increase of ~1.5% in total LACW arisings from 2020/21 to 2021/22.

4.1.5 However, Table 4.1 above only presents part of the picture in that it only considers LACW – which is only part of the wider fuel scope that the Proposed Development will manage. Residual waste generated by the industrial and commercial sectors will also be managed by the Proposed Development. To establish total residual waste arisings of **both** LACW and industrial and commercial waste, data set out in the Environment Agency's Waste Data Interrogator (WDI) (2021) has been examined.

~~4.1.3~~4.1.6 The HIC arisings for the defined LoW codes in 2021 are shown in **Table 4.2 HIC arisings for the defined LoW codes 2021 (tonnes)**. This is based on waste generated by origin WPAs, within the spatial scope, that have been received at permitted final disposal waste management facilities in England. It also includes LACW waste which has been assigned to the respective 'in scope' codes. In some instances, the WPA is not listed but the region is ('WPA not codeable') – the waste arisings recorded as such have been included for the respective spatial regions, shown separately in the table.

Table 4.2 HIC arisings for the defined LoW codes 2021 (tonnes)

Origin WPA	In scope HIC waste (tonnes)
East of England WPAs:	
Bedford	109,556
Cambridgeshire	836,626
Central Bedfordshire	38,214
Essex (including Southend on Sea and Thurrock)	2,622,008
Hertfordshire	992,481
Luton	205,370
~~**Milton Keynes**~~	~~124,772~~
Norfolk	859,841
Peterborough	136,555
Suffolk	635,705
WPA not codeable (Bedfordshire)	194,546
WPA not codeable (East of England)	12,963
East of England Total	**6,~~7~~643,8~~,~~6~~37~~5**
'In scope' East Midlands WPAs:	
Leicester	225,503
Leicestershire	736,007
Lincolnshire	1,097,143
Northamptonshire	969,436
Rutland	34,473
'In scope' East Midlands Total	**3,062,562**
TOTAL	**9,~~831~~706,~~199~~427**

Source: WDI 2021
Notes: 19 12 10, 19 12 11~~*~~ & 19 12 12 removed from included Treatment sites, with fate "Landfill"," Incineration" or "Recovery" to avoid double counting.
Permitted facility types 'mobile plant' and 'On/In Land' were excluded from the data.
Total may not sum due to rounding.

~~4.1.4~~4.1.7 This data shows that within the spatial scope of this WFAA, a total of approximately (~) 9.~~8~~7 million tonnes of **local authority collected waste, industrial and**

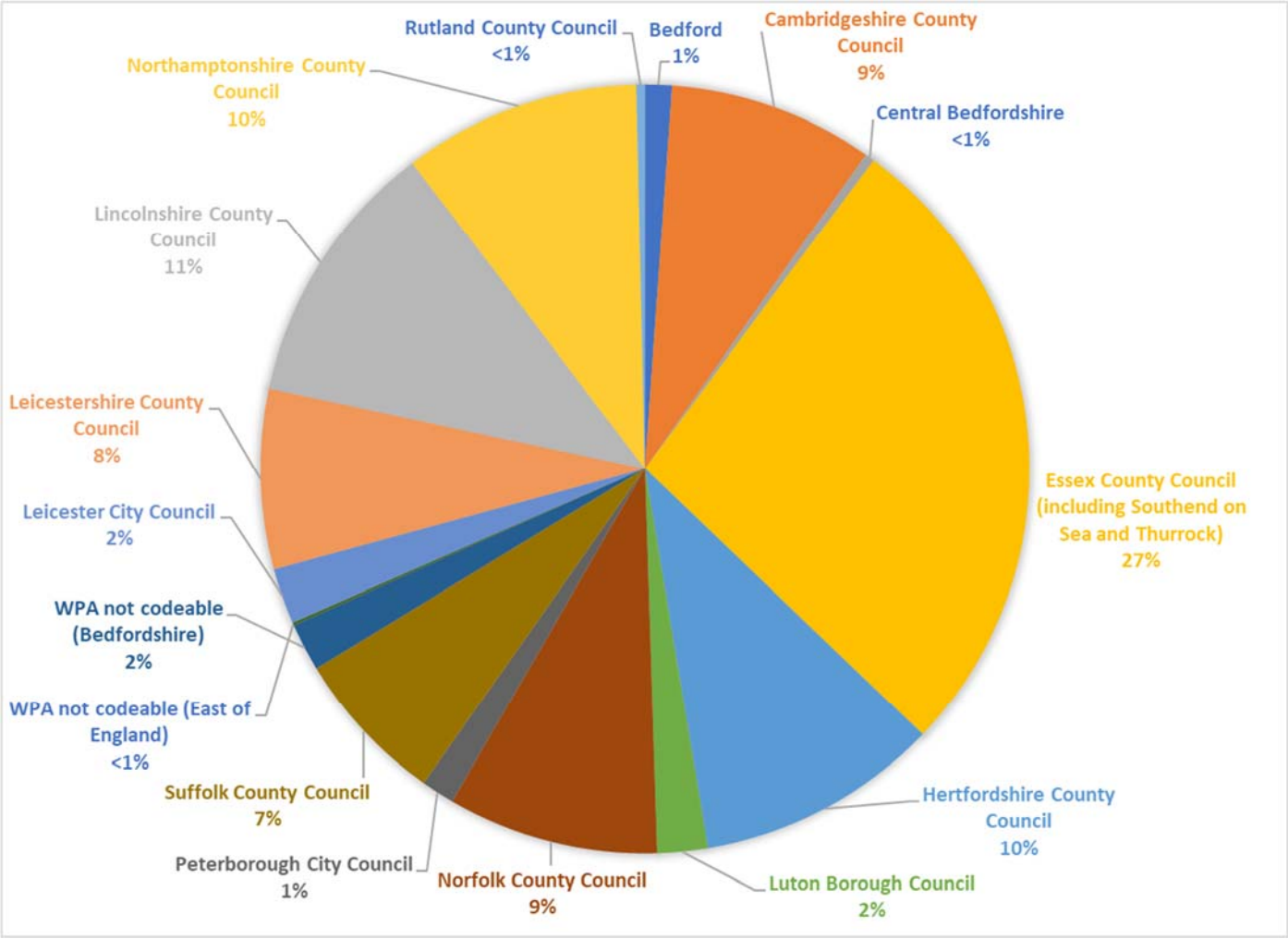
commercial waste, which is suitable for processing at the Proposed Development was generated in 2021.

4.1.8 In addition to this, **Graphic 4: In-scope residual waste in the Study Area**, illustrates that, with the exception of Essex (including Thurrock and Southend), which accounted for 27% of the residual waste arising in the Study Area, the remaining top 8 areas for the production of 'in-scope' residual HIC waste all held a broadly similar share i.e:

- Essex (including Southend and Thurrock) (27% of total residual waste)
- Lincolnshire (11% of total residual waste)
- Northamptonshire (10% of total residual waste)
- Hertfordshire (10% of total residual waste)
- Cambridgeshire (9% of total residual waste)
- Norfolk (9% of total residual waste)
- Leicestershire (8% of total residual waste)
- Suffolk (7% of total residual waste)

This indicates that fuel for the Proposed Development could be sourced from several counties surrounding (and including) Cambridgeshire.

Graphic 4: In-scope residual waste in the Study Area



Current disposal of HIC to landfill

4.1.54.1.9 Having established how much potentially suitable 'in scope' waste is produced in the Study Area, this next section of the assessment looks at how much of this material is presently managed at the bottom end of the waste hierarchy i.e., disposal to landfill.

4.1.10 In terms of LACW only (i.e. excluding waste generated by the industrial and commercial sectors which will also be managed by the Proposed Development), in 2020/21 and 2021/22 the amount of this material disposed to non-hazardous landfill by WPAs within the spatial scope is shown in **Table 4.3 Total local authority waste disposed to non-hazardous landfill (tonnes) (2020/21) and 2021/22). Graphic 5** illustrates these quantities as a proportion of the overall LACW arisings.

4.1.64.1.11 In total almost 830,000 tonnes were disposed to landfill in 2020/21, with rising to almost 900,000 tonnes in 2021/22.Whilst Essex sending sent the largest amount of waste LACW to landfill, followed by Cambridgeshire, who account for approximately 16% of the total sent the next largest amount in the East of England area, with almost a third of its LACW being sent to landfill in both years. In-scope East Midlands

areas also rely heavily on landfill to manage their LACW, with Leicester City and Leicestershire sending between a quarter and over a third of their LACW to landfill.

Table 4.3 Total local authority waste from Study Area disposed to non-hazardous landfill (tonnes) (2020/21 and 2021/22)

Origin WPA	Landfilled 2020/21 (tonnes)*	Landfilled 2020/21 (% of total LACW arisings)	Landfilled 2021/22 (tonnes)*	Landfilled 2021/22 (% of total LACW arisings)
East of England WPAs:				
Bedford	6,151	7.4	22,804	26.3
Cambridgeshire County Council	103,158	32.8	103,044	32.3
Central Bedfordshire	9,192	6.9	23,753	17.6
Essex County Council (including Southend on Sea and Thurrock)	402,500	45.7	385,690	43.3
Hertfordshire County Council	81,851	15.1	84,043	15.7
Luton Borough Council	20,190	22.5	16,427	18.6
~~Milton Keynes Council~~			~~50~~	
Norfolk County Council	13,414	3.2	55,912	12.7
Peterborough City Council	173	0.2	170	0.2
Suffolk County Council	8,345	2.3	10,031	2.6
East of England Total	~~645,024~~644,974	**21.1****	**701,874**	**22.7****
'In scope' East Midlands WPAs:				
Leicester	52,627	36.9	52,409	35.8
Leicestershire	91,017	27.8	84,339	25.3
Lincolnshire	8,631	2.5	14,129	3.9
Northamptonshire	30,373	8	37,401	10.0
Rutland	~~0~~0	0.0	0	0.0
'In scope' East Midlands Total		**182,648**	**15.0****	**188,278** **15.3****

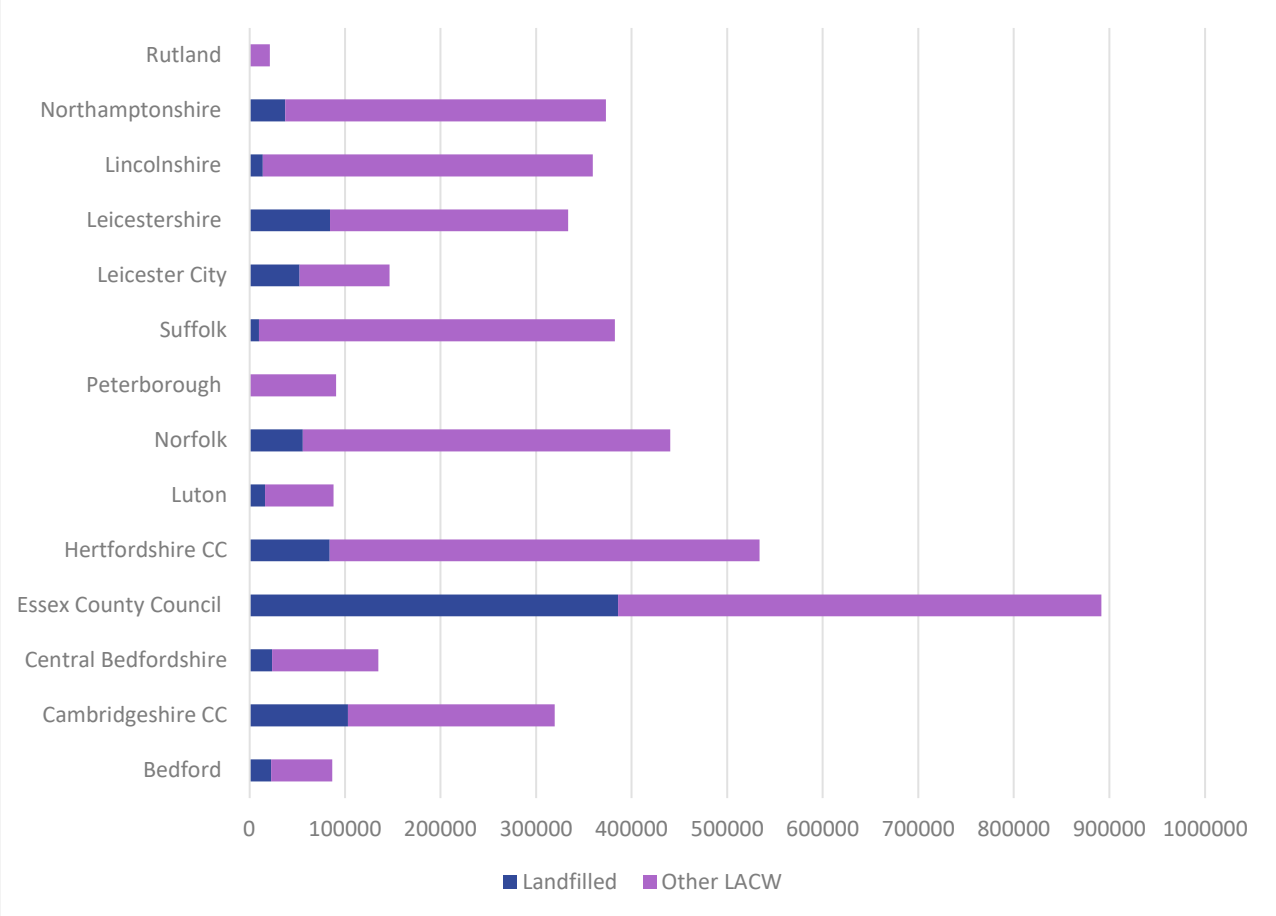
Origin WPA	Landfilled 2020/21 (tonnes)*	Landfilled 2020/21 (% of total LACW arisings)	Landfilled 2021/22 (tonnes)*	Landfilled 2021/22 (% of total LACW arisings)
East of England WPAs:				
TOTAL	~~827,672~~827,622	19.4**	890,152	20.6**

Source: WDF 2020/21 and 2021/22 data (Q100 data)
* Does not include Incinerator Bottom Ash/Fly Ash landfilled
**Total %s landfilled have been calculated as a portion of the total amount of LACW, which was as follows for 2020/21 and 2021/22:

- East of England = 3,050,587 tonnes in 2020/21 and 3,097,419 tonnes in 2021/22.

'In-scope' East Midlands = 1,214,719 tonnes for 2020/21 and 1,233,836 tonnes in 2021/22,

Graphic 5: Amount of LACW sent to landfill as a proportion of all arisings



4.1.12 The latest 2021/22 Defra data (*Local authority collected waste management - annual results 2021/22*) illustrates that specifically in the Eastern region of England, when compared to the national position, there is much greater reliance on landfill. Indeed, of all the English regions, the Eastern region sent the most LACW (in tonnage and as a %) to landfill in 2021/22.

4.1.13 For the Eastern region this is reported as follows (the figures given in red text and in brackets are the national, English rates, for comparison):

- 23.5% landfilled (8.1% for England).

- 28.4% incinerated (47.4% for England).
- 45.7% recycled and composted (41.5% for England).
- 2.4% managed in another (unspecified) way (3% for England).

4.1.74.1.14 ~~LACW is however,~~ LACW is also only part of the wider waste stream that the Proposed Development could accept. Waste from industrial and commercial sources would also be suitable. In 2021, HIC waste originating from within the WPAs within the spatial scope which was disposed to non-hazardous landfill are shown in **Table 4.4 HIC waste disposed to non-hazardous landfill (tonnes)**. The table shows the tonnages from all EWC codes in chapters 19 and 20 as well as those defined as part of the fuel scope. These figures include LACW waste categorised to the respective codes sent to landfill.

Table 4.4 HIC waste from Study Area disposed to non-hazardous landfill (tonnes)

Origin WPA	All EWC codes 19 and 20	In scope EWC codes 19 and 20
East of England WPAs:		
Bedford	33,016	31,980
Cambridgeshire	311,764	220,090
Central Bedfordshire	2,815	2,698
Essex County Council (including Southend on Sea and Thurrock)	1,247,433	1,162,417
Hertfordshire	309,779	208,901
Luton	62,642	62,642
~~**Milton Keynes**~~	~~**53,937**~~	~~**51,463**~~
Norfolk	57,601	40,832
Peterborough	13,726	10,940
Suffolk	130,794	76,767
WPA not codeable (Bedfordshire)	5,727	5,727
WPA not codeable (East of England)	4,422	2,069
East of England Total	~~**2,233,656**~~**2,179,719**	~~**1,876,526**~~**1,825,063**
'In scope' East Midlands WPAs:		
Leicester	6,850	3,793
Leicestershire	272,896	232,488
Lincolnshire	119,113	102,319

Origin WPA	All EWC codes 19 and 20	In scope EWC codes 19 and 20
Northamptonshire	237,266	210,512
Rutland	48	39
'In scope' East Midlands Total	**636,173**	**549,151**
TOTAL	**2,869~~69~~15,892~~9~~**	**~~2,425,677~~2,374,214**

Source: WDI 2021, based on 'waste received' at permitted non-hazardous landfill sites within England, with the origin of the defined WPA.

~~4.1.8~~4.1.15 The data in **Table 4.4 HIC waste disposed to non-hazardous landfill (tonnes)** demonstrates that of the ~~almost 9.8~~ ~9.7 million tonnes of HIC arisings (as set out in **Table 4.2 HIC arisings for the defined LoW codes 2021 (tonnes)**, ~~over~~ almost 2.4 million tonnes of suitable HIC waste generated within the WPAs within the spatial scope were sent to non-hazardous landfill in 2021. ~~Most notably,~~ Even excluding Essex~~-~~, which sent over 1 million tonnes of waste to landfill, in excess of 1 million tonnes of in scope waste was sent to landfill from the next six highest HIC landfilling areas. This includes Cambridgeshire itself, which at over 220,000 tonnes of HIC waste each year going into landfill, is the third highest area for reliance of landfilling (after Essex and Leicestershire).

~~4.1.9~~4.1.16 From the 'waste received' data it is not clear over what duration waste returns are completed by landfill operators and if the waste received is linked to several producers or single producers/managers of waste. The WDI 'waste removed' data can however identify the operators of permitted facilities who manage large amounts of waste and the subsequent destination of their waste. The 'waste removed' tonnages could be sent via an additional facility before a final destination of landfill, which is why a complete picture cannot be directly mapped from WDI.

~~4.1.10~~4.1.17 The data provides clear evidence that substantial quantities of potentially suitable material within the spatial scope of this WFAA are currently being disposed of to landfill – ~~over~~ almost 2.4 million tonnes.

Exportation of RDF

~~4.1.11~~4.1.18 **Section ~~4~~ 5** of this report (paragraphs 5.1.~~8~~9-5.1.1~~8~~5) details the extent to which ~~the UK~~ England exported residual HIC as RDF. It was noted that at the end of 2021, approximately 1.7 million tonnes of RDF were exported[6] ~~outside the UK~~[6] and that by the end of 2022, this figure had reduced to approximately 1.5 million tonnes – a fall of approximately 10%.

~~4.1.12~~4.1.19 **Table 4.5 Local authority RDF exports 2020/21 (tonnes)** below, provides a breakdown of local authorities in the spatial scope of this local analysis which exported RDF to European Union (EU) countries in 2020/21. The table also shows any contamination rejects (treatment process rejects) that have been exported to the EU, which would typically be within the fuel scope of the Proposed Development. The RDF generated by local authorities includes residual waste and comingled recyclate streams. The contamination rejects are from a mixture of the comingled

[6] *RDF Export Dashboard*, Footprint Services (December 2022) – utilising Environment Agency source data.
~~[6] *RDF Export Dashboard*, Footprint Services (December 2022) – utilising Environment Agency source data.~~

recyclate stream, source segregated stream and residual waste stream. In total, in 2020/21 almost 181,000 tonnes of RDF were exported to the EU from the Study Area of this WFAA. Norfolk County Council exported the largest amount of RDF during 2020/21. However, as mentioned above, it is also known that nationally, RDF exports have fallen by ~10% since 2020. This ~181,000 tonnes is therefore now likely to be in the order of ~162,500 tonnes.

Table 4.5 Local authority RDF exports 2020/21 (tonnes)

WPA	RDF	Contamination (process rejects)
East of England WPAs:		
Bedford	1,790	4,334
Central Bedfordshire	12,201	0
Essex County Council (including Southend on Sea and Thurrock)	0	0
Hertfordshire County Council	0	51
Norfolk County Council	150,580	0
East of England Total	**164,571**	**4,385**
Leicestershire County Council	156	258
Lincolnshire County Council	16,507	916
'In-scope East Midlands Total	**16,663**	**1,174**
TOTAL	**181,234**	**5,559**

Source: WDF 2020/21 data (Q100 data)

Summary of baseline position

4.1.134.1.20 This section of the WFAA has thus far demonstrated that in respect of those parts of the HIC waste stream that are potentially suitable for management at the Proposed Development:

- In 2021, there was a total of approximately ~~9.8million~~ 9.7 million tonnes of such waste arising in the Study Area;
- Of the potentially suitable waste generated in the Study Area, ~~over~~ almost 2.4 million tonnes were managed at the bottom of the waste hierarchy and sent to non-hazardous landfill in 2021; and
- In addition to this, exports of RDF from ~~the UK~~ England stood at 1.5 million tonnes at the end of 2022 - in the order of almost 163,000 tonnes of which was likely exported directly from within the Study Area of this WFAA.

4.1.144.1.21 It can therefore be concluded that based upon the current pattern of waste arising and management across the spatial scope of this assessment, **there is potential for ~~almost~~ over 2.6~~5~~ million tonnes of suitable HIC waste that is currently sent to landfill (almost 2.4 million tonnes) and/or exported as RDF (~~0.2million~~ 0.16 million tonnes) which could be managed further up the waste hierarchy and/or at a location that is more proximate to the point of arising.**

4.2 WLP forecast of future HIC residual waste requirements

Introduction

4.2.1 The information presented in this assessment has so far evaluated the current situation in relation to the arisings of material that would be suitable for management at the Proposed Development, and the extent to which such material would be diverted from landfill or exported for onward treatment and disposal.

4.2.2 In addition, the WFAA must also consider the extent to which the current/baseline position is predicted to continue or change.

4.2.3 Changes in population, household formation and commercial activity will all determine the amount of regional waste arisings that will be produced in the future. Similarly, the continued implementation of Government policies which seek a reduction in waste arisings, as well as greater emphasis on the need to recycle and reuse discarded material, will also impact on future waste management needs.

4.2.4 To establish the likely future position, this WFAA has sought to evaluate publicly available information – and most notably, the evidence bases which underpin the Waste Local Plans within this assessment's spatial scope.

4.2.5 Waste Local Plans may also predict changes in the management capacity within the Study Area, which can arise through the construction of permitted waste management facilities or the closure of others. It is assumed that where closures or the imminent opening of new facilities is known, this has been integrated into the Waste Planning Authorities' own capacity gap assessments.

Waste Local Plan evidence bases

4.2.6 Specifically, ~~25~~ 23 Waste Local Plans (adopted and emerging) and their supporting evidence bases have been reviewed, which cover the ~~18~~ 16 WPAs within the Study Area. Particular attention has been paid to any anticipated forecasted shortfalls and surpluses in future requirements, and the size of any such expected capacity shortfall~~-~~/surplus (if any).

4.2.7 **Table 4.6 Review of Waste Planning Authority waste requirements** below sets out the status of each of the Study Area WPA Waste Local Plans and provides commentary on the assessment of future HIC waste management capacity needs, and anticipated shortfalls in capacity, underpinning each development plan. Information in black text relates to data/ policy taken **directly** from the relevant development plan and which has been the subject of testing/ examination as part of the process of preparing the plan. Blue text represents where new, un-tested evidence has been presented by Waste Planning Authorities. *Red italicised text*

represents the Applicant's commentary/ interpretation on the content of an emerging development plan.

Table 4.6 Review of Waste Planning Authority waste requirements

Waste Planning Authority	Waste Local Plan	Factual Information from the Waste Local Plan / *Commentary*
East of England WPAs:		
Bedford City Council **Central Bedfordshire Council** **Luton Borough Council**	Bedfordshire and Luton Minerals and Waste Local Plan (adopted 2005) The Minerals and Waste Local Plan: Strategic Sites and Policies (MWLP:SSP) was adopted by Central Bedfordshire, Bedford Borough and Luton Borough Councils in January 2014	Both plans cover Bedford City, Central Bedfordshire, and Luton. Furthermore, the 2014 Plan is supported by Waste Technical Evidence Paper 2 *Assessment of Need for Additional Waste Management Capacity* (March 2012). Taking the latest available data i.e., that set out in the 2014 Plan, it is noted that waste arisings to be managed at 2013/14 and 2028/29 (tonnes) are as follows: Municipal Solid Waste (MSW) in 2013/14 – 306,000 MSW in 2028/29 – 371,000. Commercial and Industrial (C&I) waste in 2013/14 – 510,000 C&I waste in 2028/29 – 544,000. The Plan also predicts future additional recovery capacity (i.e., the amount by which capacity should increases each year) for MSW and C&I wastes required (in tonnes) as follows: **Year** / **Tonnes** **2013/14** 63,000 **2018/19** 161,000 **2023/24** 201,000 **2028/29** 229,000 It should be noted that only operational waste management capacity was used to calculate predicted future requirements. No account was taken in the above figures of facilities that have planning consent, but which remained unconstructed. In this context, the development of Rookery South Energy Recovery Facility (which was consented in 2011 but had not been constructed at the time of the adoption of the Strategic Sites and Policies document) has since been constructed and now provides ~545,000 tonnes of capacity. In this regard, the 2028/29 shortfall of 229,000 tonnes per annum now equates to a potential surplus of +316,000 tonnes per annum.

<table>
<tr><th>Waste Planning Authority</th><th>Waste Local Plan</th><th>Factual Information from the Waste Local Plan / Commentary</th></tr>
<tr><td></td><td></td><td>(Source of data: pages 19 & 20 of the Minerals and Waste Local Plan: Strategic Sites and Policies (adopted 2014)).</td></tr>
<tr><td>Cambridgeshire County Council

Peterborough City Council</td><td>Extant Plan:

Cambridgeshire and Peterborough Minerals and Waste Local Plan (adopted July 2021)

This emerging plan is supported by a Waste Needs Assessment: Cambridgeshire and Peterborough Minerals and Waste Local Plan</td><td>Taking the latest available data i.e., that set out in the adopted 2021 plan, it is noted (in Policy 3: Waste Management Needs) that future capacity gaps for Treatment and Energy Recovery Processes of non-hazardous municipal and C&I waste (in tonnes per annum) are as follows:

<table>
<tr><th>Year</th><th>tonnes per annum</th></tr>
<tr><td>2016</td><td>+ 139000</td></tr>
<tr><td>2017</td><td>+ 166,000</td></tr>
<tr><td>2021</td><td>+ 124,000 (+159,000)</td></tr>
<tr><td>2026</td><td>+ 23,000 (+590,000)</td></tr>
<tr><td>2031</td><td>- 57,000 (+518,000)</td></tr>
<tr><td>2036</td><td>- 80,000 (+495,000)</td></tr>
</table>

The figures in brackets include permitted but not operational developments. Specifically, this includes implementation of a historic planning consent for a 650,000 tonnes per annum EfW in Peterborough. This facility received planning consent from the Secretary of State in November 2009, but has thus far, yet to be built. In July 2018 an application to discharge/vary planning conditions was submitted. Condition 5 and 8 of the planning consent allows for a change in layout/design.

The Proposed Development, incorporating technology approved under the Section 36 consent, would generate 42.7MW electricity with an expected feedstock of 595,000 tonnes per annum. The original approved scheme had a maximum output of 80MW and feedstock of 650,000 tonnes per annum.

Considered at Planning Committee in October 2018, the revised scheme was approved in May 2019.

Source: Waste Needs Assessment -Cambridgeshire and Peterborough Minerals and Waste Local Plan (2016 to 2036) (page 51).</td></tr>
</table>

Waste Planning Authority	Waste Local Plan	Factual Information from the Waste Local Plan / *Commentary*
Essex County Council	Essex and Southend on Sea Waste Local Plan 2017 (adopted 2017) Non-Hazardous Waste Capacity Update Report (May 2018)	The 2018 Non-Hazardous Waste Capacity Update Report sets out capacity gaps for LACW and C&I waste over the plan period up to 2035. For LACW, Table 3 of this report identifies a capacity requirement of 20,000m^3 of additional landfill OR 209,000 tonnes per annum thermal treatment OR a combination of both. For C&I waste, the 2018 update report notes that there is no recovery capacity shortfall for non-hazardous waste management throughout the Plan period (paragraph 2.10, page 26).
Hertfordshire County Council	***Extant Plan:*** Waste Core Strategy and Development Management Policies Development Plan Document (adopted 2012) Waste Site Allocations Development Plan Document (adopted 2014) ***Emerging Plan:*** Hertfordshire Minerals and Waste Local Plan 2040: Draft Plan (July 2022) Waste Needs Assessment (June 2022)	Latest data is set out in the Hertfordshire Minerals and Waste Local Plan 2040: Draft Plan (July 2022) (Policy 3 *Meeting Waste Management Needs,* page 35), which sets out current needs from 2020 to 2040 according to waste management type. In terms of 'treatment and energy recovery' the draft plan notes that up to 2030, there will be a need for approximately 10,000 tonnes per annum of additional capacity – increasing to 21,000 tonnes per annum by 2040. However, the document also notes: • 500,000 tonnes of HCI waste was sent to landfill in 2020 (see Table 5, page 17). • All of Hertfordshire's non-recyclable local authority collected waste (approximately 260,000 tonnes in 2020) is managed outside of Hertfordshire at EfWs and landfills Buckinghamshire, North London, Bedfordshire and Oxfordshire. • Current contracts for the local authority collected waste expire in 2024 (paragraph 7.21, page 36) In respect of the final bullet point, paragraph 7.21 of the Waste Need Assessment (June 2022) states: *"In May 2020 the procurement of long-term (10 to 15 years duration) residual waste treatment/disposal contracts were agreed by Cabinet.* ***This means the WDA will be reliant on regional, or potentially national, treatment and disposal facilities*** *depending on available capacity and cost with competition for the use of facilities from other authorities and waste management companies."* *It is also worth noting that the position currently presented in the draft July 2022 Plan is one that differs significantly from the previous Draft Waste Local Plan (consultation January 2021), which was subsequently withdrawn, and which set out the following:*

Waste Planning Authority	Waste Local Plan	Factual Information from the Waste Local Plan / *Commentary*

Hertfordshire gaps in waste capacity (in tonnes):

Non-hazardous residual	
Year	tonnes
2019	577,092
2024	542,046
2029	507,363
2034	480,145

Indeed, the January 2021 draft Waste Local Plan Review (page 22) went on to conclude:

"……..there are significant capacity gaps for the management of the two largest waste streams: Non-Hazardous and C, D & E waste. There will be a significant shortfall in capacity for the recycling and composting of non-hazardous waste from the start of the Plan period and this is set to increase as arisings increase. There is also a significant shortfall in capacity to treat or dispose of the residual element of the non-hazardous waste stream."

Specifically, the decision to withdraw the January 2021 version of the emerging Waste Local Plan taken by the County Council's Full Committee on 14 December 2021 was to revise the Plan's approach to achieving net self-sufficiency - acknowledging the Council's intended procurement of contracts to manage Local Authority Collected Waste externally for the majority of the plan period.

The analysis which supports the emerging Waste Local Plan has yet to be tested in a public forum and differs significantly from the previous (2021) assessment, which identified a much larger (500,000tpa –

Waste Planning Authority	Waste Local Plan	Factual Information from the Waste Local Plan / *Commentary*
		480,000 tonnes per annum shortfall in capacity for HIC waste). As the 2022 analysis relies on exporting approximately 260,000 tonnes per annum of local authority collected waste to regional and even national facilities for treatment, this assessment has assumed that there will be a need to manage this tonnage in the period up to and beyond 2030. *For the purposes of this WFAA therefore, an indicative shortfall of -270,000 -281,000 has been assumed. This comprises 10,000 – 21,000 tonnes per annum shortfall identified in a June 2022 analysis, plus the 260,000 tonnes exported from the WPA.*
~~Milton Keynes Council~~	~~***Extant Plan:***~~ ~~Milton Keynes Waste Development Plan Document 2007-2026 (adopted February 2008)~~ ~~Plan:MK 2016 – 2031 (adopted March 2019)~~	~~The latest Plan (Plan: MK) contains little information in respect of planning for the future waste needs of Milton Keynes. As such, reliance has to be placed upon the Milton Keynes Waste Development Plan Document 2007-2026 (adopted February 2008)~~ ~~Table WCS4 (on page 19 of the 2008 plan) sets out additional capacity required at 2015 in Milton Keynes. For MSW/C&I waste, it is noted that there is no shortfall. In fact, a surplus of 193,000 tonnes per annum is noted.~~
Norfolk County Council	***Extant Plan:*** Norfolk Minerals and Waste Development Framework Core Strategy and Minerals and Waste Development Management Policies Development Plan Document 2010-2026 (adopted 2011) Waste Site Specific Allocations Development Plan Document (adopted 2013) ***Emerging Plan:***	The 2011 Norfolk Minerals and Waste Development Framework Core Strategy and Minerals and Waste Development Management Policies Development Plan Document 2010-2026 states (at paragraph 4.14-17, on pages 31-32): *"In order to help drive the management of waste up the waste hierarchy, additional plants to recover value from waste will also be needed……there is likely to be a need for a minimum of about 866,000 tonnes annual capacity of new recycling/composting/anaerobic digestion/other recovery (i.e. thermal treatment or similar) waste management infrastructure.* *Given that the County Council intends to procure a waste plant to deal with about 170,000 tonnes of waste per year, the shortfall reduces to about 696,000 tonnes per year.* *…… Norfolk does not have any facilities providing treatment capacity for the recovery of waste. Forecasts in Table A.2 show the treatment capacity forecast to be required for each year. 370,000 tonnes of treatment capacity will be required between 2010-2015 and a further 330,000 tonnes of treatment capacity will be required between 2015-2020."*

Waste Planning Authority	Waste Local Plan	Factual Information from the Waste Local Plan / *Commentary*
	Norfolk Minerals and Waste Local Plan Review: Preferred Options Consultation (30 October 2019) and the supporting Norfolk Minerals and Waste Local Plan Review Waste Management Capacity Assessment 2016 (March 2018) Norfolk Minerals and Waste Local Plan Review: Publication Document (May 2022) and the supporting Norfolk Minerals and Waste Local Plan Waste Management Capacity Assessment Containing 2019 and 2020 Data (2022)	The later Waste Site Specific Allocations Development Plan Document (adopted 2013), updated the information set out in the 2011 documents and states on page 7: *"By the end of 2026, there is a need to provide an additional … 703,000 tonnes of recovery infrastructure."* This position was updated in the Norfolk Minerals and Waste Local Plan Review: Preferred Options Consultation (30 October 2019) and the supporting 2018 Waste Management Capacity Assessment. The latter document concludes (on page 36): *"Norfolk does not have any final treatment or recovery facilities for residual LACW or C&I waste. Norfolk does have a significant amount of landfill void space in two permitted sites; however, the economics dictate that these are not the most viable option for such* *waste at the present time as they are not currently operational. Significant amounts of residual LACW and C&I waste are therefore either taken directly to Energy from Waste facilities (incinerators) or are processed into Refuse derived Fuel (RDF), which is subsequently transported to more distant EfW facilities"* To reflect this position, draft Policy WP1 in the 2019 Preferred Options Consultation set out the waste management capacity required as follows: **Year** / **LACW** / **C&I** **2016-2021** / 427,000 / 1,142,000 **2022-2026** / 446,000 / 1,232,000 **2027-2031** / 465,000 / 1,329,000 **2032-2036** / 484,000 / 1,456,000 More recent analysis of future capacity requirements is set out in the May 2022 Publication version of the Minerals and Waste Local Plan and the supporting Capacity Assessment. This concludes that there is sufficient capacity (3.534 million tonnes) in Norfolk to accommodate the forecast growth in waste arisings over the Plan period to 2038. *However, it is considered that this assessment is fundamentally flawed (and, further, represents a significant departure from the position presented in the 2019 Preferred Options consultation).*

<table>
<tr><th>Waste Planning Authority</th><th>Waste Local Plan</th><th>Factual Information from the Waste Local Plan / Commentary</th></tr>
<tr><td></td><td></td><td>Table 2 (page 9) in the 2022 Capacity Assessment details the existing waste management capacity in Norfolk. Of the 3.534 million tonnes, ~927,000 tonnes of waste is transfer capacity only – 616,000 tonnes of which is for non-hazardous waste. ~~Transfer~~ The Applicant considers that transfer capacity cannot be regarded as management capacity as it simply moves the waste on to somewhere else for treatment/ disposal.

With this in mind, for the purposes of this WFAA, the transfer tonnage (616,000 tonnes per annum) for non-hazardous waste has been included as a shortfall of capacity in Norfolk. This figure remains significantly below the requirements indicated in earlier iterations of the emerging plan.</td></tr>
<tr><td>Suffolk County Council</td><td>Suffolk Minerals and Waste Local Plan (adopted 2020)

Suffolk Minerals and Waste Local Plan Suffolk Waste Study (April 2018)</td><td>Suffolk Minerals and Waste Local Plan (page 32) states:

<table><tr><th colspan="3">Predicated waste arisings (in tonnes per annum)</th></tr><tr><th>Year</th><th>LAWC</th><th>C&I</th></tr><tr><td>2015/16</td><td>397,000</td><td>795,000 to 769,000</td></tr><tr><td>2020/21</td><td>415,000</td><td>857,000 to 697,000</td></tr><tr><td>2025/26</td><td>433,000</td><td>960,000 to 632,000</td></tr><tr><td>2030/31</td><td>452,000</td><td>1,039,000 to 574,000</td></tr><tr><td>2035/36</td><td>470,000</td><td>1,039,000 to 531,000</td></tr></table>
Suffolk Minerals and Waste Local Plan Suffolk Waste Study 2018 (page 55) also states:

“The available treatment capacity for non-hazardous waste in Suffolk is approximately 373,000 tonnes per annum. In addition to this there is incineration capacity of 269,000 tonnes per annum. This gives a total of 643,000 tonnes per annum for residual waste. There is therefore sufficient non-hazardous waste treatment capacity for the forecast arisings.”</td></tr>
<tr><td>Thurrock</td><td>Thurrock Local Development Framework: Core Strategy and Policies for the Management of Development (adopted January 2015) Thurrock</td><td>Chapter 5 of the Core Strategy cross refers to the Thurrock Waste Arising and Capacity Studies (2009 and 2010). In respect of recovery capacity, this concluded that there was the following waste capacity gap up to 2025:

“There is, at 2010 no operational treatment recovery other than tyre</td></tr>
</table>

Waste Planning Authority	Waste Local Plan	Factual Information from the Waste Local Plan / *Commentary*
	Council - Core Strategy and Policies for Management of Development (as amended), adopted January 2015	*recovery facility and niche Waste Electrical and Electronic Equipment (WEEE) facilities. Thurrock therefore requires additional recovery capacity. The 2010 study identifies the need for between 71,200 to 133,000 tonnes per annum by the end of the Plan period. There is consent for 300,000 tonnes recovery facility but this is currently non-operational at this stage ……This consented provision, could meet all Thurrock's needs."* The additional capacity referred to in this evidence base is the Tilbury Green Power plant, which was originally granted planning consent in 2009.The original consent was varied by the Secretary of State on 19 July 2011, 20 August 2014, and on 26 March 2020, the latter to increase the generating capacity of the combined generating station (Phase 1 and 2) to 80MW. The consented development consists of two generation units (Phase 1 and 2) processing up to 650,000 tonnes of waste per annum. Phase 1 (300,000 tonnes per annum of wood biomass capacity has been built). Phase 2 (350,000 tonnes per annum of EfW capacity) has yet to be built.
'In scope' East Midlands WPAs:		
City of Leicester	***Extant Plan:*** Leicestershire and Leicester Waste Development Framework: Waste Core Strategy and Development Control Policies up to 2021 (adopted October 2009) ***Emerging Plan:*** City of Leicester Local Plan 2020-2036 (draft for consultation March 2020)	The extant waste planning policy framework covers both the City of Leicester and Leicestershire County Council. The emerging policy framework, however, is Leicester City only. Leicestershire and Leicester Waste Development Framework: Waste Core Strategy and Development Control Policies (2009) sets out an indicative scale and number of facilities required for the recovery of municipal waste. The plan states that the amount of residual municipal and C&I waste requiring treatment or disposal after recycling at the end of the plan Period is estimated at around 900,000 tonnes per annum (938,095 tonnes per annum). To prevent this amount all having to go to landfill between four at 250,000 tonnes per annum or nineteen at 50,000 tonnes per annum energy/value recovery facilities would be required. *(Source: page 20 of the Leicestershire and Leicester Waste Development Framework: Waste Core Strategy and Development Control Policies up to 2021, adopted October 2009):* In the emerging City of Leicester Local Plan 2020-2036 (page 196), it is noted that there is no up to date analysis of future waste management requirements set out in this Plan. Instead, the Plan notes that the City Council will continue to meet the existing requirements as defined by the adopted Waste Development

<table>
<tr><th>Waste Planning Authority</th><th>Waste Local Plan</th><th>Factual Information from the Waste Local Plan / Commentary</th></tr>
<tr><td></td><td></td><td>Framework (WDF) until a replacement Waste Plan can be adopted. This will mean that Leicester City Council will provide a level of waste management capacity that is enough to accommodate the quantity of the region's waste.</td></tr>
<tr><td>Leicestershire County Council</td><td>Extant Plan:
Leicestershire Minerals and Waste Local Plan Up to 2031 (adopted 2019)

Plan is supported by the Waste Needs Assessment (December 2015)

Review of the Leicestershire Minerals and Waste Local Plan 2019-2031 (November 2022)</td><td>Leicestershire Minerals and Waste Local Plan Up to 2031 (page 45) states:

Indicative scale (tonnes per annum [tpa]) and number of facilities required for the recovery of local authority collected waste and commercial & industrial waste, based on operational capacity.

<table><tr><th>Year</th><th>Gross Requirement (tpa)</th><th>Capacity (tpa)</th><th>Shortfall (tpa)</th></tr><tr><td>2020/21</td><td>160,295</td><td>109,000</td><td>51,295</td></tr><tr><td>2025/26</td><td>183,449</td><td>164,000</td><td>19,449</td></tr><tr><td>2030/31</td><td>207,488</td><td>184,00</td><td>23,448</td></tr><tr><td>Plan Period</td><td>207,488</td><td>109,000</td><td>98,448</td></tr></table>
This assessment of need has not been required to be updated as part of the November 2022 review. Furthermore, the November 2022 document notes at paragraph 1.1.8 that "The Review concludes that the LMWLP is performing well, including at appeal, and its implementation is delivering sustainable minerals and waste development in Leicestershire as intended." In this regard, the conclusions of the December 2015 need assessment are considered to still be valid.</td></tr>
<tr><td>Lincolnshire County Council</td><td>Extant Plan:
Lincolnshire Minerals and Waste Local Plan: Core Strategy and Development Management Polices (adopted June 2016)</td><td>The review of the Lincolnshire Minerals and Waste Local Plan (February 2021), on page 49, sets out the net changes in waste management capacity and the effect on waste management capacity gap projections.

For energy recovery, the plan notes that additional capacity is still required to address a growing capacity gap going forward. Although suitable sites are allocated in the Site Locations Plan, it is noted that it will be</td></tr>
</table>

<table>
<tr><th>Waste Planning Authority</th><th>Waste Local Plan</th><th>Factual Information from the Waste Local Plan / Commentary</th></tr>
<tr><td></td><td>Lincolnshire Minerals and Waste Local Plan: Site Locations (adopted December 2017)

Emerging Plan:
Review of the Lincolnshire Minerals and Waste Local Plan (February 2021)</td><td>for market forces and the economics of developing additional EfW that will influence the delivery of additional capacity.

The following gap in capacity is noted (tonnes per annum):

<table>
<tr><th>Year</th><th>Gap in capacity</th><th>tpa</th></tr>
<tr><td>2015</td><td>Gap</td><td>5226</td></tr>
<tr><td>2016</td><td>Net Capacity Change</td><td>0</td></tr>
<tr><td>2017</td><td>Net Capacity Change</td><td>0</td></tr>
<tr><td>2018</td><td>Net Capacity Change</td><td>0</td></tr>
<tr><td>2020</td><td>Gap</td><td>93,564</td></tr>
<tr><td>2025</td><td>Gap</td><td>101,604</td></tr>
<tr><td>2031</td><td>Gap</td><td>110,811</td></tr>
</table>

The plan also notes that there is a predicted capacity gap for non-hazardous landfill (~70,290 tonnes per annum in 2020; ~100,346 tonnes per annum in 2025; and ~132,100 tonnes per annum in 2031).</td></tr>
<tr><td>Northamptonshire County Council</td><td>Northamptonshire Minerals and Waste Local Plan (update adopted in July 2017)

Northamptonshire County Council Waste Needs Assessment (December 2020)

Northamptonshire Minerals and Waste Local Plan: Minerals and Waste Monitoring Report 2020</td><td>The Northamptonshire Minerals and Waste Local Plan (update adopted in July 2017) sets out the predicted gap in waste management capacity at Table 7, page 42, which states:

<table>
<tr><th colspan="3">Capacity Gap (in million tpa)</th></tr>
<tr><td>Year</td><td>Advance treatment</td><td>Non-Inert Landfill</td></tr>
<tr><td></td><td>Current capacity (2012) +0.64</td><td>Current capacity (2012) +0.45</td></tr>
<tr><td>2016</td><td>-0.21</td><td>0.33 to 0.49</td></tr>
<tr><td>2021</td><td>-0.22</td><td>0.45 to 0.62</td></tr>
<tr><td>2026</td><td>-0.25</td><td>0.46 to 0.64</td></tr>
<tr><td>2031</td><td>-0.28</td><td>-0.67 to 0.85</td></tr>
<tr><td colspan="3">(Note: the ranges given above are without and with residues)</td></tr>
</table></td></tr>
</table>

Waste Planning Authority		Waste Local Plan	Factual Information from the Waste Local Plan / *Commentary*
			However, this position has since been updated in both an updated Needs Assessment, which was published at the end of 2020 and the 2020 Minerals and Waste Local Plan Monitoring Report. Table 14 (page 49) of the updated need assessment sets out indicative total waste management capacity needs. This indicates that by 2030 for 'treatment and other forms of recovery', there will be a need for an additional 293,000 tonnes per annum of capacity and by 2040, this increases to 356,000.
Rutland Council	**County**	***Extant Plan:*** Rutland Core Strategy Development Plan Document (adopted July 2011) Site Allocations and Policies Development Plan Document (adopted October 2014) ***Emerging Plan:*** Rutland County Council Local Plan 2018-2036 – Pre-Submission draft (February 2020) This emerging policy is supported by a Local Waste Needs Assessment (September 2018) and the Rutland County Council Local Plan Authority Monitoring Report 2021/22.	The most up to date position on waste capacity requirements is set out in the Rutland County Council Local Plan 2018-2036 (page 142), which states: The indicative waste management capacity requirements up to 2036 include: • Biological processing capacity of 11,000 tonnes per annum, • Advanced treatment of 29,000 tonnes per annum. • The estimated inert disposal/recovery capacity requirement up to 2036 is 31,000 tonnes per annum. This headline position is underpinned by the Local Waste Needs Assessment (September 2018), which states (in Table 5 on page 17), the following: Comparison of current and future waste management and disposal requirements (tonnes per annum) (for advanced treatment) **Year** / **Capacity Requirement (tpa)** / **Capacity Gap (tpa)** **2016** 22,000 22,000 **2021** 24,000 24,000 **2025** 25,000 25,000 **2031** 27,000 27,000 **2036** 29,000 29,000 *Whilst it is acknowledged that the emerging Rutland Local Plan 2018-2036 was withdrawn in September 2021, its reason for withdrawal was not related to any waste planning aspects of the document – but instead*

Waste Planning Authority	Waste Local Plan	Factual Information from the Waste Local Plan / ***Commentary***
		to the housing provision contained in the emerging Plan. On this basis, it is considered that the Local Needs Assessment (September 2018) remains a valid evidence base from which to draw conclusions.

Summary of WLP forecasted future HIC residual waste requirements

4.2.8 The information set out in the suite of adopted and emerging Waste Local Plans and other Development Plan documents, as presented in **Table 4.6 Review of Waste Planning Authority waste requirements**, is clearly extensive. There is considerable, publicly available data which underpins the waste management capacity provision made in the Waste Planning Authorities' respective land use planning documents.

4.2.9 However, this data is not always consistent in approach and timescales of forecasts differ. Baseline assumptions can vary, as too can the detail of the forecasts and identified capacity gaps (or surpluses) identified.

4.2.10 Notwithstanding this, this WFAA has sought to collate (on an indicative basis), the extent to which the planning authorities across the spatial scope of this assessment have predicted future needs for residual HIC waste management capacity. The results of this collation exercise are based on the details presented in **Table 4.6 Review of Waste Planning Authority waste requirements** above and are set in **Table 4.7 Summary of WPA forecasted future residual waste requirements** below. Where shortfalls/ surpluses are taken directly from the respective Waste Local Plans, this is shown in black text. Where the Applicant has sought to update the position in the extant development plan/ provide further interpretation on a WPA's current waste management needs, this is shown in *red italicised text*.

Table 4.7 Summary of WPA forecasted future residual waste requirements

Waste Planning Authority	Year of document publication that data taken from	Shortfall in HIC treatment capacity identified	Indicative size of identified shortfall (-) or surplus (+) in HIC waste management capacity (tonnes per annum)		~~Comments/limitations~~ Applicant comments/limitations of the data
			Period up to 2030	Period up to 2035 (and beyond)	
East of England WPAs:					
Bedford City Council **Central Bedfordshire Council** **Luton Borough Council**	2014	No	*+316,000**	*None identified, but assume continuation of up to 2030 position*	*The identified 2028/9 shortfall in HIC waste management capacity of 229,000 tonnes per annum excluded the development of Rookery South Energy Recovery. The facility (which was consented in 2011 but had not been constructed at the time of the adoption of the Strategic Sites and Policies document) has since been constructed and now provides ~545,000 tonnes of capacity.* **In this context, it can be considered that Bedford, Central Bedfordshire and Luton has ~~an~~ **~316,000 tonnes per annum of surplus capacity**.*
Cambridgeshire County Council **Peterborough City Council**	2020	Yes	No shortfall identified	-80,000	This figure excludes permitted, but non-operational capacity. If this is included, there is an estimated surplus of 495,000 tonnes per annum capacity by 2036. However, it should be noted that permitted capacity includes implementation of a historic planning consent for a 595,000 tonnes per annum EfW in Peterborough*. This facility received planning consent from the Secretary of State in November 2009, but has thus far, not been built. The EfW would utilise gasification technology, which in recent years ha~~ve~~s proved problematic in terms of financing. This WFAA has therefore considered that the likelihood of this additional capacity coming forwards in Peterborough is low.].

Waste Planning Authority	Year of document publication that data taken from	Shortfall in HIC treatment capacity identified	Indicative size of identified shortfall (-) or surplus (+) in HIC waste management capacity (tonnes per annum)		~~Comments/limitations~~ Applicant comments/limitations of the data
			Period up to 2030	Period up to 2035 (and beyond)	
Essex County Council (including Southend on Sea)	2017	Yes	-209,000	-209,000	Shortfall is for LACW over a 20-year period up to 2035 and the numbers quoted are on a tonnes per annum basis. No shortfall anticipated for C&I waste.
Hertfordshire County Council	2021	Yes	*-270,000*	*-281,000*	*10,000 – 21,000 tonnes per annum shortfall identified in a June 2022 analysis. However, this analysis (which supports an emerging Waste Local Plan) has yet to be tested in a public forum and differs significantly from a previous (2021) assessment that identified a much larger (500,000tpa – 480,000 tonnes per annum shortfall in capacity for HIC waste). It is noted that the latest analysis relies on exporting approximately 260,000 tonnes per annum of local authority collected waste to regional and even national facilities for treatment. As such, this assessment has assumed that there will be a need to manage this tonnage in the period up to and beyond 2030.*
~~Milton Keynes Council~~	~~2008~~	~~No~~	~~*No shortfall identified - +193,000*~~		~~The available data indicates a surplus of 193,000 tonnes per annum for MSW and C&I combined in 2015. This is however based upon analysis set out in a 2008 document, so potentially significantly dated.~~
Norfolk County Council	2022	Yes	*-616,000*	*-616,000*	*Data clearly indicates that there remains no meaningful final treatment/recovery capacity in Norfolk.* *Whilst it is acknowledged that Table 2 of Norfolk County Council's Minerals and Waste Local Plan: Waste Management Capacity Assessment (2022), includes a number of final treatment/ recovery facilities in Norfolk, the majority of these are not suitable for the management of residual non-hazardous HIC waste.* *Of the 19 facility types listed in Table 2, there is only one category – non-hazardous waste transfer and treatment – which would provide the capacity required for the*

Waste Planning Authority	Year of document publication that data taken from	Shortfall in HIC treatment capacity identified	Indicative size of identified shortfall (-) or surplus (+) in HIC waste management capacity (tonnes per annum)		~~Comments/limitations~~ Applicant comments/limitations of the data
			Period up to 2030	Period up to 2035 (and beyond)	
					management of non-hazardous HIC residual waste. The data set out in Table 2 indicates that such facilities only managed ~81,000 tonnes of such material in 2020. Furthermore, as a portion of this capacity relates to 'transfer' and not final management, an undefined amount of this capacity is simple transfer out of Norfolk for management elsewhere. *As such, whilst it is accepted that there is treatment/ recovery capacity in Norfolk, there is no meaningful residual HIC waste capacity. Indeed, the vast majority of the 3.3 million tonnes of capacity detailed in Table 2 relates to capacity offered by x3 Anglian Water wastewater treatment facilities (~1 million tonnes per annum); an Animal By-Products incinerator (~400,000 tonnes per annum); a paper and pulp re-processing facility (~500,000 tonnes per annum); and transfer stations (~800,000 tonnes per annum). The remaining capacity is that offered by metal recycling sites; anaerobic digestor/ composting facilities; a materials recycling facility (MRF); a waste electrical and electronic equipment (WEEE) facility; inert waste transfer; and a chemical treatment facility for hazardous waste.* *Therefore, as explained in Table 4.6, the identified shortfall in this WFAA is equivalent to the amount of non-hazardous waste that is transferred out of Norfolk (via transfer stations in the county) for onward treatment / final disposal. The Applicant considers it appropriate to classify this as a shortfall and regards references to management capacity within the Minerals and Waste Local Plan review to be incorrect.*
Suffolk County Council	2020	No	*No shortfall identified, however, no potential surplus quantified*		Up to date assessment which considers that the available treatment capacity for non-hazardous waste in Suffolk is approximately 373,000 tonnes per annum, plus incineration capacity of 269,000 tonnes per annum – enough to manage forecast arisings.

Waste Planning Authority	Year of document publication that data taken from	Shortfall in HIC treatment capacity identified	Indicative size of identified shortfall (-) or surplus (+) in HIC waste management capacity (tonnes per annum)		~~Comments/limitations~~ Applicant comments/limitations of the data
			Period up to 2030	Period up to 2035 (and beyond)	
Thurrock	2015	Yes	-71,200 to -133,000	-71,200 to -133,000	Shortfall range identified in assessment based on data that is now ~10-years old. Plan also noted that if a consented EfW facility were to be constructed, then the identified capacity requirements would be met. However, ~~consented~~ EfW capacity of ~350,000 tonnes per annum (associated with Phase 2 of the Tilbury Green Power facility) has been consented since 2009 and remains unbuilt (despite the biomass phase of the project having been constructed). This WFAA has therefore considered that the likelihood of this additional capacity coming forwards in Thurrock is low and as such the identified gap of between 71,200 to 133,000 tonnes per annum remains.
TOTAL FOR EAST OF ENGALND	-	-	**~~-657,200~~ -850,200 to ~~-719,000~~ -912,000**	**-~~7~~948~~8~~1,200 to ~~8~~-10~~,~~003,000**	-
In Scope East Midlands WPAs:					

Waste Planning Authority	Year of document publication that data taken from	Shortfall in HIC treatment capacity identified	Indicative size of identified shortfall (-) or surplus (+) in HIC waste management capacity (tonnes per annum)		~~Comments/limitations~~ Applicant comments/limitations of the data
			Period up to 2030	Period up to 2035 (and beyond)	
City of Leicester	2009	Yes	*Unquantified (but potentially significant) shortfall*		The data available for Leicester is significantly out of date and relates to Leicestershire and Leicester. It stated that by 2021, 938,095 tonnes per annum of additional residual municipal and C&I waste treatment capacity was required. Leicestershire's 2019 analysis of additional needs indicates a shortfall of up to ~23,000 tonnes per annum. This therefore implies that a significant (but uncalculated) shortfall remains for Leicester City.
Leicestershire County Council	2019	Yes	-23,448	-23,448[a]	Data relates to Leicestershire only
Lincolnshire County Council	2021	Yes	-101,604[a]	-110,811	Significant gap also predicted for non-hazardous landfill (~70,290 tonnes per annum in 2020; ~100,346 tonnes per annum in 2025; and ~132,100 tonnes per annum in 2031).
Northamptonshire County Council	2020	Yes	-293,000	-356,000	Identified capacity gap is for anaerobic digestion EfW, wood waste EfW and other physical/chemical treatment processes.
Rutland County Council	2020	Yes	-27,000	-29,000	Figures relate to the potential shortfall in advanced treatment capacity.
TOTAL FOR 'IN SCOPE' EAST MIDLANDS WPAs	-	-	**-445,052**	**-519,259**	-
GRAND TOTAL					-

Waste Planning Authority	Year of document publication that data taken from	Shortfall in HIC treatment capacity identified	Indicative size of identified shortfall (-) or surplus (+) in HIC waste management capacity (tonnes per annum)		~~Comments/limitations~~ Applicant comments/limitations of the data
			Period up to 2030	Period up to 2035 (and beyond)	
			~~-1,102,252 To 1,164,052~~ -1,295,252 to -1,357,052	~~-1,267,459 To~~ -1,460,459 to ~~-1,329,259~~ -1,522,259	

a – No figure predicted for this period, so previously stated shortfall simply assumed to carry forwards.

4.2.11 In summary therefore, the evidence bases which underpin the development planning framework for waste across the spatial scope of this assessment, conclude an indicative **minimum** shortfall of non-landfill HIC residual waste management capacity as follows:

- Up to 2030 – ~1.~~1~~3 million tonnes per annum; and
- Up to 2035 – ~1.~~3~~5 million tonnes per annum.

4.2.12 However, the accuracy of these anticipated capacity requirements is compromised by the fact that the Waste Local Plans in the defined Study Area are all at various stages of their development.

4.2.13 Some WPAs have up to date plans which forecast up to 2035, but others contain forecasts that are either out of date, or which only look ahead by a few years.

4.2.14 This WFAA has sought~~-~~, where appropriate, to set out a narrative in the commentary column of **Tables 4.6 Review of Waste Planning Authority waste requirements** and **4.7 Summary of WPA forecasted future residual waste requirements**, which has brought the local forecasts up to date – *see the red italicised text*. Importantly, this additional narrative has highlighted that:

- There is some potentially significant EfW capacity that has been included and relied on in WPA's capacity requirement assessments, which remains unbuilt despite having planning consent (and has been at this status for some considerable time) i.e., Peterborough Green Energy EfW (695,000 tonnes per annum); Phase 2 of the Tilbury Green Power Plant (Thurrock) (350,000 tonnes per annum); and
- There is some EfW capacity that has been included in WPA's capacity requirement assessments, which has since closed down i.e., Hoddesdon EfW plant (Hertfordshire) (100,000 tonnes per annum).
- There is some mechanical biological treatment (MBT) capacity that that is assumed to represent 100% final disposal capacity in some capacity gap assessments. Of note is the Cambridgeshire assessment, which relies on all 200,000 tonnes per annum capacity of the Waterbeach MBT facility as final disposal capacity. However, a significant proportion of the 200,000 tonnes throughput emerges from the plant as refuse derived fuel. This must then either be sent for recovery or disposed of in landfill. It is considered ~~a~~ an extremely conservative assumption of 50%[7] of MBT input emerges from the plant as refuse derived fuel.
- There are some recent updated capacity assessments by WPAs that have yet to be tested in a public arena and which differ significantly from the findings of earlier studies which underpin extant plans e.g., Norfolk and Hertfordshire's capacity assessments (dated May and June 2022 respectively). Earlier studies noted significant shortfalls in HIC treatment

[7] A report for the Scottish Government (*Alternative Residual Waste Treatment – Biostablisation, Report for Zero Waste Scotland, Ricardo (2022)*) reviewed the data from several MBT facilities. In respect of the Waterbeach facility, it found that 90% of the waste that enters the facility emerges as refuse derived fuel requiring final treatment in landfill or EfW facilities. The 50% assumption included in this WFAA is therefore a **very** conservative one. Indeed, as the Waterbeach MBT plant is presently not operational (June 2023), 100% of the material that would otherwise been managed by the facility is currently requiring final treatment elsewhere.

capacity. However, despite no new HIC treatment capacity coming on stream in these WPAs, and exportation of approximately 876,000 tonnes of HIC waste each year to other WPAs, the latest conclusions being drawn by these WPAs are that there are no shortfalls in capacity.

4.2.15 Whilst these limitations in the reliability of the Waste Local Plans have been identified, and whilst the associated shortfalls in capacity are significant, the WFAA has assessed the reasonable worst-case scenario of the waste fuel availability~~, so disregarding these potential shortfalls~~. The consequence of these limitations is that the stated shortfalls/surpluses in capacity as identified in **Tables 4.6 Review of Waste Planning Authority waste requirements** and **4.7 Summary of WPA forecasted future residual waste requirements** are, for some WPAs, likely to be significant under-estimates of the true position – potentially in the order of ~2 million tonnes per annum.

Summary of the local analysis

4.2.16 The analysis of the local (East of England) baseline position in respect of the availability of suitable residual HIC waste material has concluded that:

- In 2021, there was a total of approximately 9.~~8~~7 million tonnes of such waste arising in the Study Area;
- Of the potentially suitable waste generated in the Study Area, ~~over~~ almost 2.4 million tonnes were managed at the bottom of the waste hierarchy and sent to non-hazardous landfill in 2021; and
- In addition to this, exports of RDF from ~~the UK~~ England stood at 1.7 million tonnes at the end of 2021, falling to 1.5 million tonnes at the end of 2022 - approximately 163,000 tonnes of which was likely exported directly from within the Study Area of this WFAA.

4.2.17 It can therefore be concluded that based upon the current pattern of waste arising and management across the spatial scope of this assessment, there is potential for around 2.~~6~~5 million tonnes of material to be managed further up the waste hierarchy and/or at a location that is more proximate to the point of arising.

4.2.18 Work to establish the future requirement for additional residual waste management capacity at the local level via review of the WLP evidence bases in the Study Area of this WFAA supports the above finding that there is potential for around 2.~~6~~5 million tonnes of waste to be managed further up the waste hierarchy.

4.2.19 Using data which underpins the development planning framework for waste across the spatial scope of this assessment, over the next ~15-years, the WLP evidence bases conclude an indicative shortfall of non-landfill HIC residual waste management capacity as follows:

- Up to 2030 – ~1.~~1~~3 million tonnes per annum.
- Up to 2035 – ~1.~~3~~5 million tonnes per annum.

4.2.20 ~~It has however~~In addition, ~~been recognised~~ it is important to recognise that the WLP evidence bases are not without their limitations~~(~~, and in some cases are likely to represent a significant under-estimation of the true need for additional capacity,

potentially trebling the indicative shortfall identified above~~,~~ (as a consequence of capacity being lost or remaining unbuilt for some time as highlighted above). To address this, the next section of this WFAA evaluates data and analysis carried out at the regional level, which will allow local forecasts to be ~~calibrated~~ validated and where appropriate, updated to reflect the latest thinking on future HIC capacity requirements. The regional reports of note are as follows:

- *'Residual Waste in London and the South-East – Where is it going to go……?'* Tolvik Consulting Ltd (October 2018). Whilst this report excludes Norfolk, Suffolk and Peterborough, it includes Essex, Southend, Thurrock, Hertfordshire, Bedfordshire~~, Milton Keynes~~ and Cambridgeshire.
- Landfill and Residual Treatment Capacity in the Wider South-East of England, Report for the East of England Waste Technical Advisory Body; the Southeast Waste Planning Advisory Group; and the London Waste Planning Forum, Sacks Consulting (May 2021).

4.3 Regional forecasts of future HIC residual waste requirements

Residual Waste in London and the South-East – Where is it going to go….? Tolvik Consulting Ltd (October 2018)

4.3.1 Whilst this report looks at the position across London and the South-East, the Study Area extends into the East of England and includes:

- Bedford;
- Buckinghamshire;
- Central Bedfordshire;
- Cambridgeshire;
- Essex;
- Luton;
- ~~Milton Keynes;~~
- Southend on Sea; and
- Thurrock.

4.3.2 Indeed, the only WPA areas not covered by this regional study but within the East of England scope of this WFAA are Norfolk, Peterborough, and Suffolk. No WPAs within the East Midlands region are covered by this study.

4.3.3 The study considered future capacity of EfW in London and the South-east up to 2025, potential scenarios for flow of RDF exports to Europe after Brexit and, critically, the available non-hazardous landfill capacity within London and the South-east to receive this waste.

4.3.4 The key findings were:

- Based on a 'median' scenario of increased rates in household waste recycling rates of 49% by 2025 and 55% by 2035, by 2025, there could be a cumulative shortfall of 4.7 million tonnes of non-hazardous landfill capacity across London and the South-east.
- Even assuming ambitious progressive recycling of 51.4% by 2025 and 60% by 2035, and that most planned large scale EfW capacity is developed in London and the South-east, there remained a 'high risk' that there would be a shortfall in non-hazardous landfill capacity of 9.75 million tonnes after 2025.
- Given the very real prospect of a shortfall in non-hazardous landfill capacity in London and the Southeast beyond 2025, it was concluded that a potential solution would be to develop additional EfW capacity. Should a "zero landfill" policy be adopted across London and the Southeast, in which no residual waste would be landfilled by 2025 (like the current Greater London Authority's policy of working towards not sending any biodegradable waste to landfill by 2026), the report notes that between 2.1 and 4.7 million tonnes of additional EfW capacity (over and above that currently operational in London and the South-east) would need to be available. Most notably, these conclusions were based upon the inclusion of capacity offered by nine EfWs which, at the time of writing the report, were unconsented, but in the planning system and were considered likely to come forward by 2025. However, of these nine facilities, two have subsequently been refused planning consent – Kemsley North, Kent (390,000 tonnes per annum capacity) and Rye House in Hertfordshire (320,000 tonnes per annum). This 'loss' of ~710,000 tonnes per annum of residual waste management capacity means that the conclusions of the report require consequential adjustment, meaning that **between 2.8 and 5.4 million tonnes of additional EfW capacity is needed.**

4.3.5 Whilst it is acknowledged that this study does not cover 3 of the 12 WPAs which make up the East of England part of the spatial scope of the WFAA local ~~analysis~~Study Area, its broad conclusions are relevant to this assessment – in particular due to waste flowing across regional boundaries for final treatment and the likelihood that EfW facilities in proximity to the Study Area will also be in proximity to London and the Southeast region – so that after 2025, there is unlikely to be sufficient non-hazardous landfill capacity in the London and wider South-east area to manage anticipated non-hazardous residual waste.

4.3.6 The report concludes that this position must be addressed by a combination of a range of measures as follows: increasing recycling rates, increasing exports of RDF to Europe, transporting residual waste to elsewhere in the UK; carefully managing existing consented landfill capacity; delivering additional non-hazardous landfill capacity; and developing additional EfW capacity.

4.3.7 However, it is considered ~~by this WFAA~~ that the potential application of some of these suggested measures is ~~somewhat~~ – in some cases – limited.

4.3.8 In terms of increasing recycling rates, this issue is discussed in more detail in **Sections 5.2.10 to 5.2.~~12~~36** of this WFAA, where it is concluded that under the provisions of national policy and legislation, an increase in current HIC recycling

rates in England from 45.5% to 65% will present a significant challenge – a challenge that will lead to a continued requirement to fill existing gaps in residual waste management capacity.

4.3.9 Furthermore, ~~regarding~~ the increased exportation of RDF to mainland Europe~~, it is considered that this~~ would not comply with the Government's adopted proximity principle (managing waste as close as possible to its point of arising) when seeking acceptable waste management solutions~~.~~, nor be in keeping with current trends of decreasing RDF exportation (as a direct consequence of European taxation and increasing haulage costs).

4.3.10 Finally, in terms of the development of new landfill capacity, given national policy commitments to driving waste up the waste management hierarchy and diverting waste from landfill, it is unlikely that this would be an acceptable solution.

4.3.11 As such, it is concluded by this WFAA that the most policy compliant solution for managing future residual HIC waste from London and the South-east would be via the development of additional recovery capacity. This is particularly relevant to the Proposed Development, as the capacity offered by the Medworth CHP would contribute to meeting a continued regional (and national) need to divert residual HIC waste from disposal via landfill and ensure that value is recovered from the residual waste stream.

Landfill and Residual Treatment Capacity in the Wider South-East of England, Report for the East of England Waste Technical Advisory Body; the Southeast Waste Planning Advisory Group; and the London Waste Planning Forum, Sacks Consulting (May 2021)

4.3.12 This study, which was completed in May 2021, sought to obtain an understanding of the current requirement for residual waste management capacity in an area known as the 'Wider South-East', which covers the planning regions previously known as the East of England, the South-east of England and London.

4.3.13 The findings of this study are particularly relevant to this W~~F~~FAA as, unlike the October 2018 Tolvik study referred to above, the conclusions comprehensively cover the East of England part of the local Study Area.

4.3.14 Specifically, for the year 2020, the study considers:

- Available non-hazardous landfill capacity in the East of England.
- Capacity of residual waste treatment facilities in the East of England. In this regard, the study has included not just operational facilities, but facilities that are under construction, or have consent and are considered certain to be delivered within the next three years.
- Future likely residual non-hazardous waste arisings within the Study Area (based upon 4 separate recycling scenarios).
- Total forecast non-hazardous residual waste capacity gap.

4.3.15 Conclusions of the study are set out in **Table 4.8 Total Forecast Non-Hazardous Residual Waste Capacity Gap in the East of England (2020)** below. This is a

summary version of Table 4 from the May 2021 final report, which has been amended to only reflect the East of England position:

Table 4.8 Total Forecast Non-Hazardous Residual Waste Capacity Gap in the East of England (2020)

	Recycling Rate			
	50%	**55%**	**60%**	**65%**
Total residual waste	4,216,000	3,794,400	3,372,800	2,951,200
Residual waste treatment capacity	2,225,000	2,225,000	2,225,000	2,225,000
Residual waste treatment capacity gap (tonnes)	**1,991,000**	**1,569,400**	**1,147,800**	**726,200**

4.3.16 **Table 4.8 Total Forecast Non-Hazardous Residual Waste Capacity Gap in the East of England (2020)** illustrates that the capacity gap in the East of England in 2020 was predicted to range from approximately 0.7 million tonnes per annum up to almost 2 million tonnes per annum.

4.3.17 Specifically, the report concludes that *'until existing planning permissions start construction, or new facilities come forward, and recycling rates increase, the Wider Southeast of England is therefore likely to remain at least partially dependent on facilities outside its area as well as facilities abroad.'*

4.3.18 It should be noted that the May 2021 study does not include any forecasts for population or economic growth, both of which could cause an increase in the quantity of waste arising. It should also be noted that the report recognises that there are significant challenges in achieving the target of 65% recycling and composting of non-hazardous waste.

4.3.19 Such challenges are discussed in more detail in **Sections 5.2.10 to 5.2.12** of this WFAA, where it is concluded that under the provisions of national policy and legislation, an increase in current HIC recycling rates in England from 45.5% to 65% will be a significant challenge.

4.3.20 This WFAA has also sought to 'validate' the findings of the Sack's May 2021 study by setting out an up-to-date review of operational EfW capacity; capacity under construction; consented capacity (but not built); and capacity in the planning system – see **Appendix C** of this document. This review has demonstrated that at the end of 2021, there was the following EfW capacity within the East of England:

- Consented and operational – 925,000 tonnes per annum.
- Consented and under construction – 595,000 tonnes per annum.
- Consented and not built – 595,000 tonnes per annum.
- In planning – 150,000 tonnes per annum.

4.3.21 Consented EfW capacity which is either operational or under construction (as set out in **Appendix C** of this document), equates to ~1,520,000 tonnes per annum – ~705,000 tonnes per annum below the findings of the May 2021 study (which, as set out in Table 4.8 above, assumed a residual waste treatment capacity of 2,225,000 tonnes).

4.3.22 However, it is also noted that the Sacks report includes final treatment capacity offered by mechanical biological treatment (MBT) facilities, which is excluded from **Appendix C**. For completeness **Appendix D** sets out available MBT capacity in the East of England and concludes that existing MBT capacity offers in the region of 100,000 tonnes per annum of final disposal capacity (and an extremely conservative assumption that ~50% of input to MBT facilities emerges as refuse derived fuel). There is no consented (and not built) or planned MBT capacity in the Study Area. This means that the Sack's May 2021 study is over-reporting available capacity by a minimum of ~605,000 tonnes per annum (705,000 tonnes per annum EfW capacity minus 100,000 tonnes per annum MBT capacity) - and therefore under-reporting the overall capacity gap.

4.3.23 Taking both the EfW and MBT capacity into account, it is considered that the May 2021 report's capacity gap in the East of England in 2020 of ~0.7 million tonnes per annum up to almost 2 million tonnes per annum is under-reported by ~605,000 tonnes and is therefore more likely to be in the order of over 1.3 million (at 65% recycling) to almost 2.6 million tonnes per annum (at 50% recycling).

4.4 Overall conclusions of the local analysis

4.4.1 The analysis of the local (East of England plus parts of the East Midlands) baseline position in respect of the availability of suitable residual HIC waste material has concluded that there is potential for around 2.65 million tonnes of material to be managed further up the waste hierarchy and/or at a location that is more proximate to the point of arising.

4.4.2 In addition to this, WLP evidence bases conclude an indicative shortfall of non-landfill HIC residual waste management capacity in the local Study Area as follows:

- Up to 2030 – ~1.13 million tonnes per annum.
- Up to 2035 – ~1.35 million tonnes per annum.

4.4.3 These identified gaps in future residual waste capacity is are supported further/validated by work carried out at the East of England regional level, which concludes:

- The current residual waste management capacity gap in the East of England alone is considered to range from approximately 1.3 million tonnes per annum up to approximately 2.6 million tonnes per annum should recycling targets not be met.
- Furthermore, given the prospect of a shortfall in non-hazardous landfill capacity in London and the Southeast beyond 2025, between 2.8 and 5.4 million tonnes of additional EfW capacity needs to become available. Due to the overlap with large portions of the Study Area, existing capacity within the

Study Area is likely to be required to meet the needs of London and the Southeast, in addition to the needs of waste planning authorities within the Study Area.

4.4.4 The local position is therefore clear. For the East of England part of the overall local Study Area (i.e., most of the Study Area), there is an existing residual waste capacity gap of between 1.3 to 2.6 million tonnes per annum – a gap that is predicted to increase substantially beyond 2025 as non-hazardous landfill sites throughout the wider area fill up. This is validated by the evidence set out in the Waste Local Plans, which indicate that there is no planned surplus in HIC residual waste management capacity – but rather a shortfall of up to ~1 million tonnes per annum of capacity in the East of England. For the wider London and South-East area (which includes large swathes of the southern part of this WFAA's local Study Area), this gap in residual waste management capacity is predicted to be in the order of 2.8-5.4 million tonnes per annum.

5. Waste Fuel Availability Assessment: National Analysis

5.1 Current baseline position

Waste arisings

5.1.1 Latest Government data states that in 2018, the UK generated a total of 222.2 million tonnes of waste and that 8~~5~~4% of this material was generated in England[7~~8~~]. Data for 2020 is available for England, which states that:

- In 2020, 27.0 million tonnes of waste was generated by households in England (an increase of 21% from 2019).
- In 2020, 33.8 million tonnes of commercial and industrial waste was generated in England (a decrease of 9% since 2019).

5.1.2 Available government data does not however, set out how much of the total arisings constituted 'residual waste' i.e., that which was not recycled or reused, but instead was sent to energy recovery, landfill or exported as refuse derived fuel.

5.1.3 In their 2017 report[8~~9~~], the Environmental Services Association (ESA) - the trade association representing the UK's resource and waste management industry – set out an analysis of how much of total waste arisings in the UK were considered residual waste. This concluded that in 2016, there were approximately **27.1 million tonnes of residual waste** (+/- 2 million tonnes), of which 12.2 million tonnes were going to landfill.

5.1.4 This position was updated in May 2022 with the publication of *'UK Energy from Waste (EfW) Statistics – 2021'*, Tolvik Consultancy Ltd (hereinafter referred to as the 2022 Tolvik report). This stated that:

> *"It is estimated that in 2021 EfW inputs[10] represented 56% (2020:52%) of the UK Residual Waste market."* (**Section 3**, page 4).

~~5.1.5 On this basis, total residual waste arisings in the UK were estimated in the 2022 Tolvik report to be:~~

5.1.5 A further update to this May 2022 Tolvik report was published in May 2023. Whilst this included updated information relating to EfW inputs and capacities, the 2023 update did not provide updated figures for the totality of the national residual waste market, i.e. the amount of residual waste, after reuse and recycling, that requires final treatment at EfW facilities or landfill. Notwithstanding this, for the purposes of this WFAA, it is considered appropriate to apply the following assumptions in order to calculate total residual waste arisings for **England**:

[7~~8~~] *UK Statistics on Waste*, DEFRA (May 202~~2~~3).
[8~~9~~] *UK Residual Waste: 2030 Market Review*, produced by Tolvik Consulting Ltd on behalf of the Environmental Services Association (November 2017).
[10] Inputs relates to the amount of residual waste received at energy from waste plants.

- ~~2020 (total EfW inputs of 14.07 million tonnes (derived from Figure 6 of the~~ The May 2022 Tolvik report~~)/52 * 100) = **27.1**~~ estimate that EfW inputs represented 56% of the UK residual waste market remains a valid assumption; and
- It would be appropriate to apply the national 56% on a pro-rated basis to the England-only EfWs to arrive at a total residual waste market figure for England. Appendix 1 (page 10) of the 2023 Tolvik report details the 2021 and 2022 EfW inputs for all operational and in commissioning EfWs in England, Scotland, Wales and Northern Ireland. To arrive at an England only EfW inputs figure, the following calculation has been made:

Total EfW inputs 2021 = 14.94 million tonnes

Less EfW inputs in Scotland (1 million tonnes)

Less EfW inputs in Wales (0.4 million tonnes)

Less EfW inputs in Northern Ireland (0.05 million tonnes)

- = Total EfW inputs for England of 13.5 million tonnes.

Total EfW inputs 2022 = 15.32 million tonnes

Less EfW inputs in Scotland (1.1 million tonnes)

Less EfW inputs in Wales (0.4 million tonnes)

Less EfW inputs in Northern Ireland (0.1 million tonnes)

= Total EfW inputs for England of 13.7 million tonnes.

~~5.1.6~~ On this basis, total residual waste arisings in the England are estimated to be:

- 2021 (total EfW inputs ~~of 14.85~~ in England of 13.5 million tonnes (derived from ~~Figure 7~~ page 10 of the May 202~~1~~3 Tolvik report)/56 * 100) = **2~~6~~4.~~5~~1 million tonnes.**
- 2022 (total EfW inputs in England of 13.7 tonnes (derived from page 10 of the May 2023 Tolvik report)/56*100) = **24.5 million tonnes.**

Waste disposals

Domestic management

~~5.1.6~~5.1.7 In terms of the way in which the UK presently disposes of its waste, national data[7] states the following:

- For waste generated by households:
  - In 2020, the UK recycled 44.4% (12.0 million tonnes) of its household waste – for England only, the recycling rate was slightly lower at 44.0% (9.9 million tonnes).

- Recycling rates for household waste have deceased marginally from 2015. For the UK, recycling in 2015 was 44.5% (11.9 million tonnes), and for England, it was slightly lower at 44.3% (9.9 million tonnes).
- In 2020, 12.6 million tonnes of the UK's municipal wastes were sent to landfill, of which 6.1 million tonnes was biodegradable. For England only, in the same year, 10.4 million tonnes of municipal wastes were landfilled, of which 4.9 million tonnes was biodegradable.
- For commercial and industrial waste, there is little accurate data available on current recycling rates for this waste stream (or indeed, landfilling rates). However, national studies, when seeking to establish assumed rates of recycling for this sector. have adopted recycling rates for 'municipal like C/I waste' of between 47% and 65% in 2016[8].

~~5.1.7~~5.1.8 As noted above, in May 2022, the report entitled *'UK Energy from Waste Statistics – 2021'*, Tolvik Consultancy Ltd, updated this position and noted that in respect of residual waste, in 2020, 14.07 million tonnes (52%) were managed via EfW, rising to 14.85 million tonnes in 2021 (56%). It is assumed that the remainder was either (a) exported as RDF (see below); or (b) disposed of to landfill.

Exportation

~~5.1.8~~5.1.9 Refuse derived fuel (RDF) is produced from various types of residual waste such as municipal solid waste, industrial waste or commercial waste and includes biodegradable material as well as plastics. Non-combustible materials such as glass and metals are removed, and the residual material is then shredded to produce an RDF. RDF is used to generate energy at recovery facilities.

~~5.1.9~~5.1.10 Shipments of RDF into or out of the UK are subject to prior written notification and consent in accordance with the Waste Shipment Regulations. The Environment Agency records international shipments permitted under the Trans-frontier Shipment of Waste Regulations 2007.

~~5.1.10~~5.1.11 At the end of 2021, 1.71 million tonnes of RDF were exported outside ~~the UK~~of England[~~9~~11]. By the end of 2022, this figure had reduced to approximately 1.54 million tonnes (which had been exported over the period December 2021-22). Most of this material was sent to northern continental Europe (Netherlands and Germany) and Scandinavia (Sweden, Norway, and Denmark) for energy recovery by incineration.

~~5.1.11~~5.1.12 RDF market growth trends show that the exportation of RDF outside the ~~UK~~ England is generally decreasing. Between the end of 2020 and the end of 2022, the market growth reduced by approximately 13% as shown in ~~**Figure 4**~~ **Graphic 6 RDF market growth trend (year-on-year)**.

~~5.1.12~~5.1.13 Whilst 2020/21 could be regarded as an anomaly period given the COVID-19 global pandemic and its effects in relation to the shrinking of the economy and associated drop in production of waste, this is not the primary reason why exports of RDF have fallen in recent years.

[~~9~~11] *RDF Export Dashboard*, Footprint Services (November 2022) – utilising Environment Agency source data.

5.1.135.1.14 This shrinking of exports can be attributed to a consequence of the Netherlands announcement of a ~£28 per tonne tax on the import of all foreign waste for incineration[1012] at the end of 2019 and on increasing haulage costs, which is making exportation of RDF a less financially viable option.

5.1.145.1.15 For this reason, when considering the reliance that the ~~UK~~ England places upon the exportation of residual waste in the form of RDF, ~~whilst this WFAA acknowledges that the global pandemic may have artificially exacerbated this reducing reliance,~~ a general reduction in the rate of exportation is ~~accepted~~ expected due to external fiscal measures and costs associated with haulage, notwithstanding that the global pandemic may have artificially reduced the level of exports. As such, this assessment assumes that the lower rates of RDF export for the end of 2022 of ~1.5 million tonnes (as illustrated in **Graphic ~~4~~ 6 RDF market growth trend (year-on-year)** on the following page) are likely to continue – at least in the short to medium term until further domestic disposal capacity is secured (which will then allow export rates to reduce further).

[1012] Letsrecycle news: 'dutch-senate-backs-rdf-tax-but-court-case-looms'.

Graphic 46: RDF market growth trend (year-on-year)-, England

Source: Footprint Services.

Landfill

5.1.155.1.16 As noted above, in 20201, 14.07 13.5 million tonnes of residual wastes (526%) were managed via EfW in England. It has also been shown that at the end of 20201, 1.87 million tonnes of RDF were exported outside the UK. At the end of 2021, 1.71 million tonnes of RDF were exported outside the UKEngland, falling to approximately 1.54 million tonnes at the end of 2022.

5.1.165.1.17 As it is assumed that the remaining waste was disposed to landfill, landfill rates of residual waste in England are estimated to be as follows:

- 20201 – 274.1 million tonnes total residual waste arisings – (143.075 EfW inputs + 1.87 RDF exports) = **11.2 8.9 million tonnes of residual waste were sent to landfill.**
- 2021 — 2 - 624.5 million tonnes total residual waste arisings – (143.85 EfW inputs + 1.75 RDF exports) = **9.952 million tonnes of residual waste were sent to landfill.**

Summary of waste disposals

5.1.175.1.18 Based upon the findings of this section of this WFAA, **Table 5.1 ~~UK~~ England Residual Waste Disposals ~~2020 and~~ 2021 and 2022** below sets out a summary of the way in which residual waste was managed/disposed of ~~in 2020~~.

Table 5.1 ~~UK~~ England Residual Waste Disposals ~~2020 and~~ 2021 and 2022

	Disposal method (million tonnes)			Total residual waste (million tonnes)
	Energy from waste	Exported as RDF	Landfilled	
~~2020~~	~~14.07~~	~~1.8~~	~~11.2~~	~~27.1~~
~~*(as a %)*~~	~~*(52%)*~~	~~*(7%)*~~	~~*(41%)*~~	
2021	143.85	1.7	~~9.95~~8.9	~~26.5~~24.1
(as a %)	*(56%)*	*(7%)*	*(37%)*	
2022	13.8	1.5	9.2	24.5
(as a %)	*(56%)*	*(6%)*	*(38%)*	

5.1.185.1.19 This table illustrates that for the baseline year of 2021, there were approximately 2~~6~~4.~~5~~1 million tonnes of residual HIC waste in the ~~UK~~England, 14~~3~~.~~8~~5 million tonnes of which was disposed of via EfW. Accounting for the fact that 1.7 million tonnes of material was exported as RDF, this means that in 2021 around ~~10~~ 9 million tonnes of residual HIC waste was managed at the bottom of the national waste management hierarchy i.e., it was disposed of via landfill - material that must be managed further up the national waste management hierarchy if the UK is to achieve more sustainable patterns of waste management. Similar national disposal patterns for HIC were recorded in 2022, with over 9 million tonnes of residual HIC waste being sent to landfill in England.

Residual HIC waste management capacity (non-landfill)

5.1.195.1.20 Latest data in respect of waste management capacity for residual HIC waste is set out in the Tolvik report entitled *'UK Energy from Waste Statistics – 202~~1~~2'*, (May 202~~2~~3). Specifically, Figure ~~6~~ 3 of this report states that UK EfW throughputs at the end of 202~~0~~1 were 14.~~07~~9 million tonnes, which increased to ~~14.85~~ 15.3 million tonnes by the end of 202~~1~~2, and ~~as at December 2020~~by 2027, UK operational capacity was predicted to increase further to ~~19.4~~ 20.7 million tonnes per annum ~~by the end of 2026~~ (Section 7 of the 2022 Tolvik report). By reviewing the operational EfWs and EfW's in construction/ commissioning data set out on pages 10 and 11 of the 2023 Tolvik report, it is possible to calculate operational capacity for England only (by simply removing the Scottish, Welsh and Northern Ireland capacity). Analysis of this data concludes that by 2027, **EfW capacity in England was predicted to be 17.9 million tonnes** (13.9 million tonnes operational and 4 million tonnes under construction).

5.1.21 The emerging provisions of the draft NPS EN-3 state that a new EfW must not result in an over capacity at a national or local level (paragraphs 3.7.7, 3.7.29 and 3.7.55). As such, for completeness, this WFAA has considered all differing types of capacity as follows:

~~5.1.20 It should be noted however, that the Tolvik 2022 report draws a distinction between 'operational' capacity and 'headline' capacity – the latter including projects seeking planning consent, projects which have planning consent or for which planning consent has been refused but some form of appeal/new submission is expected. The report identifies a further 2.3million tonnes of 'headline' capacity (taking the total operational + headline capacity to 21.7 million tonnes beyond 2026). Importantly though, the report highlights that for projecting future EfW capacity in any analysis of the UK residual waste market, this is more appropriately measured by the operational capacity only. As such, this WFAA places reliance operational rather than headline capacity.~~

~~5.1.21 As part of this WFAA, validation of the Tolvik 2022 data has been sought by setting out an up-to-date review of operational EfW capacity; capacity under construction; consented capacity (but not built); and capacity in the planning system – see **Appendix C** of this document. This review has demonstrated that at the end of 2021, there was the following EfW capacity within England:~~

- Consented and operational ~~– 15,588,000 tonnes per annum.~~;
- Consented and under construction;
- Consented and not built; and
- In planning.

5.1.22 A full review of each of these differing types of capacity is presented in **Appendix C** of this document. This demonstrates that at the end of 2021, there was the following potential EfW capacity within England:

- Consented and operational – 15.8 million tonnes per annum.
- Consented and under construction – ~~3,796,000~~ 4.4 million tonnes per annum.
- Consented and not built – 1~~1,743,0~~00.6 tonnes per annum.
- In planning – 3~~,610,000~~ .6 million tonnes per annum.

~~5.1.22 How these findings compare with the Tolvik 2022data is set out in **Table 5.2 Comparison of Operational and Headline Capacities** below:~~

~~Table 5.2 Comparison of Operational and Headline Capacities~~

	~~Tolvik 2022 data~~	~~WFAA Data~~	~~Commentary~~
~~**Operational capacity (including in construction)**~~	~~19.4~~	~~19.4~~	~~Comparable data~~

~~'Headline' capacity (consented and not built and in planning)~~	~~2.3~~	~~15.4~~	~~Estimated that ~2.1 million tonnes of the WFAA 'headline capacity' is tied up gasification and//or older projects (pre-2016)~~
~~Total~~	~~21.7~~	~~34.8~~	-

5.1.23 ~~**Table 5.2** illustrates that operational capacity set out in **Appendix C** of this WFAA is comparable to that assumed in the Tolvik 2022 report. The same cannot be said for 'headline capacity' though, with the WFAA data suggesting more capacity in the system than the Tolvik 2022 report has assumed. However~~In terms of the consented and not built capacity and that which is in the planning system, it is considered that significant care must be taken with the ~~'consented and not built' capacity~~ data set out in **Appendix C** for the following reasons:

- The consented capacity data includes a large number of consents issued some 5+ years ago, for which it is unclear whether the relevant permission has been implemented (or lapsed)~~;~~. This includes 595,000 tonnes per annum capacity associated with the Peterborough Renewable Energy Facility. The Applicant is of the view that this facility will not be developed because:
    - It was approved in 2009 and has not been built yet.
    - The facility uses Advanced Combustion Technology, the UK funding market is reluctant to fund this type of technology.

  In this regard, it is considered that the Proposed Development would not be competing with this facility for residual waste.
- The consented capacity data includes significant amounts of gasification le~~a~~d EfW projects – for which financial backing is no longer forthcoming~~; and~~.
- It is unclear from the data available the extent to which consented capacity relates specifically to the waste streams being targeted by the Proposed Development – for example, a large number of projects are designed to manage RDF or biomass.
- In terms of the 'in planning' capacity offered by the facilities set out in **Appendix C**, as these developments are at the same stage in the consenting process as the Proposed Development, the Applicant considers that the capacity they offer does not represent a confirmed alternative. Notwithstanding this, there are two significant projects at the 'in planning' stage in the Lincolnshire area, which relate to two separate DCO applications: North Lincolnshire Green Energy Park at Flixborough, near Scunthorpe (at 650,000 tonnes per annum); and Boston Alternative Energy Facility (at 1.2 million tonnes per annum). The Flixborough facility is within the Yorkshire and Humberside region and as such, sits outside the Study Area of the WFAA (and so would be unlikely to be competing for the same residual waste as the Proposed Development). The Boston facility, however, is in the East of England region, and could be one of the UK`s largest EfWs, planned to generate approximately 80MW of renewable energy to the grid. The facility would utilise Advanced Thermal Conversion technology to

process refuse derived fuel (RDF). However, it is not considered that this proposed facility represents an alternative for the management of residual waste being available for the Proposed Development due to the following:

- The Boston facility requires RDF fuel to arrive at the facility via boat at a purpose built dock; no waste or RDF may be transported to the facility by road.
- The RDF fuel base this project is looking to capture is UK based material currently being exported to Europe.
- Only ~163,000 tonnes of RDF is identified as coming from the Study Area (see paragraph 4.1.20).

For these reasons, it is not considered that the 'in planning' capacity identified in Appendix C will have a significant detrimental impact on the Applicant's ability to source residual HIC waste within the Study Area requiring treatment further up the waste management hierarchy.

5.1.24 Importantly, it is noted that the May 2023 version of the Tolvik report **does not** report on capacity that is either consented and unbuilt or in the planning system. Instead, the Tolvik 2023 report provides a view on the level of capacity that will be available by 2027 (based upon existing and committed projects). In this regard, this WFAA has considered it appropriate and more robust to draw upon the more certain Tolvik 2023 definition of capacity when evaluating compliance with the provisions of the emerging NPS EN-3 i.e. that which is operational or under construction.

5.1.25 As part of this WFAA, validation of the Tolvik 2023 capacity data has been sought by drawing a comparison with the WFAA's own up-to-date review of operational EfW capacity and capacity under construction – see **Appendix C** of this document.

5.1.26 However, in doing this, it should be noted, that the Tolvik 2023 report draws a distinction between 'operational' capacity and 'permit' capacity, and notes (in Section 6, page 8) that *"Permit Capacity is not suitable for projecting future EfW capacity – as EFWs generally do not operate at this level. Operational Capacity is a more appropriate measure."* The figures referenced by Tolvik (2023), equate to approximately 88% of permit capacity. However, the data set out in **Appendix C** has not been adjusted to reflect operational capacity.

5.1.27 How the **Appendix C** findings compare with the Tolvik 2023 data is set out in **Table 5.2 Comparison of Permit and Operational Capacities** below:

Table 5.2 Comparison of Permit and Operational EfW Capacities in England (million tonnes)

	Tolvik 2023 data	WFAA Data	Commentary
Operational capacity	13.9	15.8	The majority of the capacity figures in Appendix C are based upon 'permit' capacity rather than operational capacity. Using the Tolvik 2023 calculation that states that operational capacity is ~88% of permit capacity, the total given in Appendix C of this WFAA would equate to **13.9 million tonnes** – comparable to the Tolvik data.
Capacity in construction/ commission	4.0	4.4	The majority of the capacity figures in Appendix C are based upon 'permit' capacity rather than operational capacity. Using the Tolvik 2023 calculation that states that operational capacity is ~88% of permit capacity, the total given in Appendix C of this WFAA would equate to **3.5 million tonnes** – comparable to the Tolvik data.
Total	***17.9***	***20.2***	The majority of the capacity figures in Appendix C are based upon 'permit' capacity rather than operational capacity. Using the Tolvik 2023 calculation that states that operational capacity is ~88% of permit capacity, the total given in Appendix C of this WFAA would equate to **17.8 million tonnes** – comparable to the Tolvik data.

5.1.28 **Table 5.2** illustrates that when accounting for the fact that operational capacity in existing and under construction EfWs in England equates to ~88% of the total permitted capacity, the data set out in **Appendix C** of this WFAA is comparable to that assumed in the Tolvik 2023 report.

~~5.1.24~~5.1.29 For these reasons and given that the Tolvik 202~~2~~3 report is based upon a 'live' database of capacity which has the benefit of in-depth, commercial analysis, specific to the HIC residual waste treatment capacity, this assessment of national need is based on the operational ~~and headline~~ capacity assumptions of the Tolvik ~~2022 report~~2023 report. The Applicant considers that this approach to the meaning of "capacity" is consistent with the test set out in the Revised Draft NPS EN-3.

Summary of EfW capacity

~~5.1.25~~5.1.30 EfW throughputs in England at the end of 202~~0~~1 were ~~14.07~~ 13.5 million tonnes, which increased to 1~~4~~3.8~~5~~ million tonnes by the end of 202~~1~~2. As at December 202~~0~~2, operational EfW capacity in England was predicted to increase further to 17.9~~.4~~ million tonnes per annum by the end of ~~2026 (with an additional 2.3 million tonnes of consented and unbuilt, and unconsented capacity in the planning system)~~2027.

5.2 Future baseline

5.2.1 Having set out the baseline position in terms of the ~~UK's~~ England's residual HIC waste arisings, disposals and capacities, this section of this WFAA seeks to draw upon available evidence to set out forecasts of:

- Future HIC residual waste arisings;

- Future patterns of HIC residual waste disposals; and
- Future HIC residual waste capacity requirements.

Future residual waste arisings

5.2.2 In section 4.6 of their 2017 report (Figure 22), ESA and Tolvik set out five UK scenarios which analysed anticipated future total residual HIC waste arisings. These scenarios are replicated in **Table 5.3 2030 Residual Waste Scenarios** below and seek to identify how much residual waste is likely to require management **after** recycling has taken place. Recycling in this regard includes the separation of all 'dry' materials such as glass, paper, cardboard, plastics and metals as well as green waste and food waste composting.

Table 5.3 2030 UK Residual Waste Scenarios

Scenario	2030 UK Recycling Rate			Average Annual Growth		2030 Residual Waste (million tonnes)
	Household waste	Municipal C/I Waste	Combined	Household waste	Municipal C/I Waste	
No change	44%	61%	52%	0.5%	0.7%	29.5
50% household	50%	63%	57%	0.5%	0.7%	26.8
55% household	55%	65%	60%	0.5%	0.7%	24.5
Circular Economy target	60%	70%	65%	0.4%	0.5%	21.0
High recycling	65%	78%	71%	0.4%	0.5%	17.3

Source: Figure 22, UK Residual Waste: 2030 Market Review, produced by Tolvik Consulting Ltd on behalf of the Environmental Services Association (November 2017).

5.2.3 As is shown above, the central/median scenario, which assumed a combined 2030 household recycling rate of 55% stated that total residual HIC waste arisings for the UK were anticipated to be 24.5 million tonnes by 2030. Using Government data that states that England is responsible for ~84% of all waste arisings (see paragraph 5.1.1 of this WFAA), HIC arisings for England by 2030, under the central/ median scenario above, would be **20.6 million tonnes**.

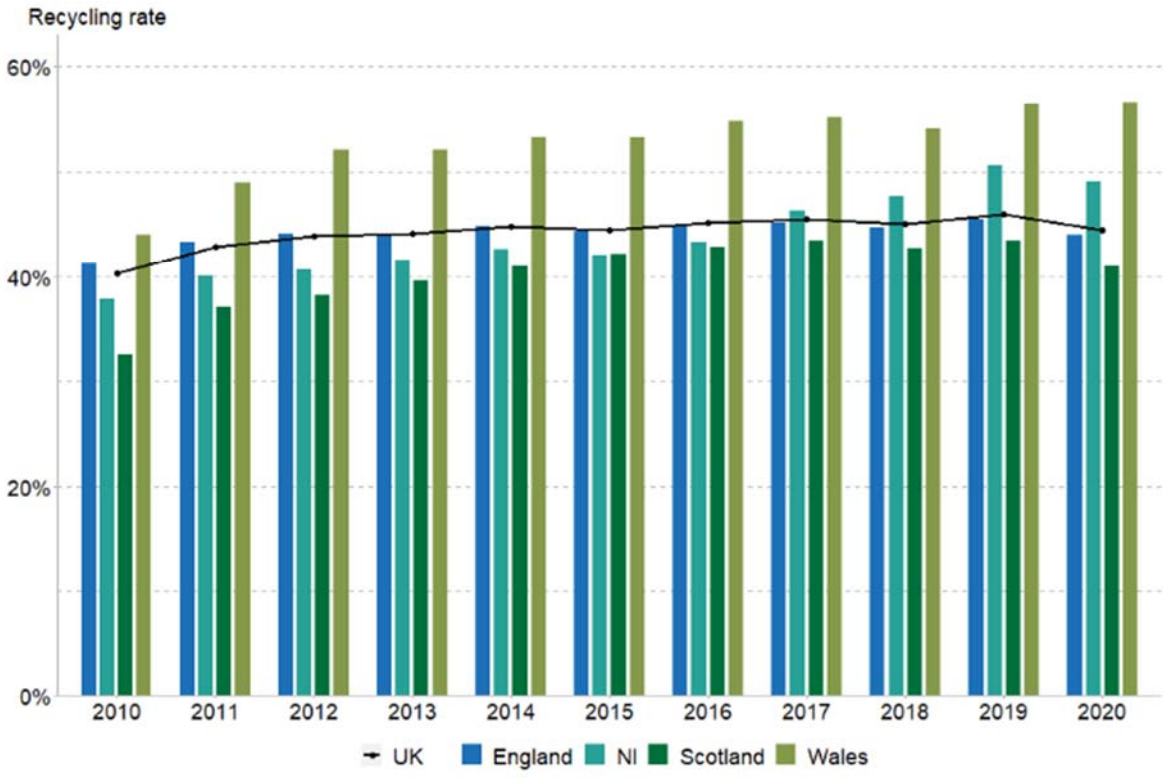
5.2.4 However, consideration needs to be given as to whether the median scenario is the most appropriate scenario to adopt for the purposes of this WFAA.

5.2.5 Extant Government policy, as set out in *'Our Waste, Our Resources: A Strategy for England'* (December 2018) requires that 65% of municipal waste is recycled by 2035 and that by the same time, the amount sent to landfill is reduced to 10% of total municipal waste arisings. However, at present, there are no nationally published targets for the recycling of waste from commercial and industrial sources.

5.2.6 It ~~could be~~ is considered that the 'high recycling' scenario ~~is the one that best fits~~ does not accord with Government policy ~~given that this reflects a 65% recycling level for household waste. However~~and as such, ~~the~~ its realisation ~~of this scenario~~ is regarded as highly unlikely. This is because this scenario is predicated on the achievement of a combined household /municipal waste recycling rate of 71% by 2030. As noted above, current Government policy is the achievement of a municipal waste recycling rate of 65% five years later – by 2035.

5.2.7 ~~As~~ Furthermore, as previous sections of this report have demonstrated, the baseline UK recycling rate for household waste in 2020~~-~~/21 was 44.4%, and for England, this baseline rate was even lower at 44.0%, rising to only 44.1% in 2021/22. **Graphic ~~5~~ 7 Recycling rate from Waste from Households, UK and country split, 2010–2020** on the following page illustrates the historical trend in recycling in England since 2010/11. This shows that for the past 10-years, the national rate has remained broadly constant.

Graphic ~~5~~7: Recycling rate from Waste from Households, UK and country split, 2010–2020



Source: *UK Statistics on Waste* (DEFRA, May 2022)

5.2.8 When the 2017 ESA/Tolvik report containing the above referenced recycling scenarios was drafted, the established recycling target for municipal waste as set out in the Waste Management Plan for England, was to achieve at least 50% by 2020 (which reflects the provisions of Waste Framework Directive). Indeed, not only

is this former municipal waste recycling target substantially lower than the current target of 65% by 2035, but it is also one that the UK continued to fall considerably short of achieving in 2020/21 and 2021/22.

5.2.9 To achieve the Government's new, more stringent target of 65% by 2035, there needs to be an increase of 21% in recycling in England over the next 15-years. There would also need to be a likely substantial increase in municipal type C&I waste recycling – a waste stream for which there is little reliable data – which under the 'high recycling' scenario would be to a level which exceeds the Government's current municipal waste recycling target by 13%.

5.2.10 The ability to achieve these substantially higher recycling targets over the short to medium term ~~must be in question~~needs to be considered in the context of the existing statutory and policy framework. As noted in **Section 2** of this report, extant national legislation and policy aimed at achieving improved levels of sustainable waste management has been refined further through the introduction of:

- The Environment Act 2021, which received Royal Assent in November 2021;
- The Government's Net Zero Strategy: Build Back Greener, which was published in October 2021; and
- The Government's Environmental Improvement Plan 2023.

5.2.11 Together, these documents seek to drive the management of household waste up the waste hierarchy and boost recycling rates and reduce residual waste by re-enforcing the requirement for recyclable household waste to be collected as individual streams (unless certain exceptions apply) – which most Waste Collection Authorities (WCAs) already do - but also to separately collect food waste once a week to achieve the near elimination of biodegradable municipal waste from landfill by 2028. To achieve this, £295 million of capital funding, which will allow local authorities in England to prepare to implement free separate food waste collections for all households from 2025, has been committed.

5.2.12 However, ~~the extent to which~~ one should be careful before automatically assuming that this commitment to improve the separate collection of food waste will ~~have on the achievement of~~ achieve overall municipal waste recycling targets of 65% (and a corresponding reduction in the amount of residual waste generated) ~~is considered to be limited~~.

5.2.13 Future enhancements to recycling levels will depend upon a complex range of factors, including changes to waste policy, availability of funding, markets for secondary and recycled materials, public attitudes to recycling and available treatment capacity. The ability to achieve enhanced rates will also depend upon the amount of 'headroom' that a Waste Collection Authority has, to enhance its capture rates of recyclable material.

5.2.14 Government statistics on local authority collected waste – the annual results tables from January 2010 to March 2021 (Department for Environment, Food and Rural Affairs, December 2021) illustrate that the East of England is already a strong performer in municipal waste recycling with the annual rate in the last two years being ~2% above the national average – see **Table 5.4 Municipal Recycling Rates in the East of England and East Midlands 2019-21** below. The East Midlands

however, (part of which forms part of the local Study Area for this WFAA) performs slightly below the national average.

Table 5.4: Municipal Recycling Rates in the East of England and East Midlands 2019-21

Area	2019/20 (%)	2020/21
East of England	48.6	46.2
East Midlands	44.2	41.4
England average	45.5	44.0

5.2.15 Analysis of how the WCAs in the Study Area achieve their respective recycling rates (which feed into the regional averages set out in Table 5.4 above) is set out at **Appendix E** of this WFAA. Specifically, this summarises the municipal waste streams that are separately collected by the WCAs within the local Study Area of this WFAA~~.~~ :

- Of the 43 WCAs within the East of England area, 33 – or 78% - already separately collect food waste.
- ~~5.2.15~~ Of the 18 'in-scope' East Midlands WCAs, 11% already separately collect food waste.
- Notwithstanding this, across the whole of the local Study Area for this WFAA, 57% already collect food waste.

5.2.16 On this basis, it is considered that whilst the provisions of the Environment Act 2021 and the Government's Net Zero Strategy will undoubtedly have a positive effect on increasing municipal recycling rates at a national level, given that a large percentage of WCAs within the local Study Area of this WFAA already engage in the separate collection of food waste, it is questionable ~~that~~ whether this measure will readily facilitate the national achievement of a further 21% points in municipal waste recycling, to achieve an overall target of 65%.

5.2.17 Allied to this, there is little in the way of existing or emerging Government waste management policy or committed funding (over and above the £295m ring-fenced to facilitate the separate collection of food waste), ~~which indicates that there is likely to be~~ to facilitate a significant shift in the way municipal wastes are managed in the short to medium term.

5.2.18 With these points in mind, it is considered unrealistic for this WFAA to adopt the 'high recycling' scenario when seeking to establish future likely quantities of residual HIC waste.

~~5.2.19 Instead, for this WFAA it is considered that it would be more appropriate to assume a residual waste management level in 2030 of between the median scenario (55% municipal waste recycling) and that of the Circular Economy (60% municipal waste recycling) scenario identified in the 2017 Tolvik report. Indeed, the Circular Economy Scenario results in a 'combined' municipal recycling rate of 65%, which is considered to provide some alignment with the existing Government target of~~

~~achieving 65% municipal waste recycling by 2030 – although it is noted that given the narrative in **Sections 5.212 to 5.2.17** above, even the achievement of this is considered to be optimistic.~~

~~5.2.20 By adopting these scenarios as the basis for this WFAA, as outlined in Table 5.3 above, future baseline levels of HIC residual waste are estimated to be **between 21.0 and 24.5 million tonnes by 2030.**~~

5.2.19 Instead, for this WFAA it is considered appropriate to adopt the median scenario, given that this aligns most closely with extant Government policy. Notably:

- The median scenario adopts a combined household and municipal waste target of 60% by 2030 – extant Government policy requires 65% recycling for municipal waste 5 years after this date (by 2035).

~~5.2.21~~ ~~The adoption of the 'median' and 'Circular Economy' scenarios also~~ The median scenario sits well with the provisions of the recently published Environmental Improvement Plan (EIP) 2023, which seeks the total mass of residual waste in the UK not exceeding 25.5 million tonnes by the beginning of 2028~~.~~ (the median scenario predicts UK residual waste in 2030 to be 24.5).

5.2.20 By adopting this scenario as the basis for this WFAA, as outlined in Table 5.3 above, future baseline levels of HIC residual waste for the UK are estimated to be 24.5 million tonnes by 2030. Using Government data which states that England is responsible for ~84% of all waste arisings (see paragraph 5.1.1 of this WFAA), future baseline levels of HIC residual waste for England would be ~20.6 million tonnes by 2030.

~~5.2.22~~5.2.21 ~~However, for~~ For completeness, this WFAA has also considered:

- The implications of achieving the EIPs interim target (2) of reducing the total mass of residual waste to a level not exceeding 25.5 million tonnes by the beginning of 2028;
- The implications of achieving the EIPs longer term 'stretch' target of halving residual waste produced per person by 2042 (equating to no more than 287kg per capita); and
- Whether there are other 'credible' emerging technologies which may negate or significantly reduce the future need for the capacity offered by the Proposed Development.

5.2.22 The targets in the first two bullets are tied to the reduction in residual waste. This will be managed in large part due to the achievement of the 65% recycling target. The assessment of the levels of residual waste in these scenarios therefore incorporates the achievement of the 65% recycling target.

5.2.23 In respect of the first bullet, using Government data which states that England is responsible for ~84% of all waste arisings (see paragraph 5.1.1 of this WFAA), interim target (2) for England would mean reducing the total mass of residual waste to a level not exceeding 21.4 million tonnes. As of the end of 2022, operational and 'in construction' EfW capacity in England equates to 17.9 million tonnes by 2027 (as predicted by Tolvik in their May 2023). This means that should the Government's

EIP interim target (2) be achieved, by 2028 there would be a shortfall in residual waste management capacity of **3.5 million tonnes**.

5.2.235.2.24 ~~In respect of the first bullet~~In respect of the second bullet point above, a **fundamental** factor is that the EIP neither includes a clear strategy nor puts the required funding in place to set out **how** a halving of residual waste by 2042 will be achieved - especially given the stagnating municipal recycling rates already discussed in this assessment. The Applicant therefore considers it a reasonable assumption that there will not be any significant changes in the amount of residual HIC waste requiring management in the short to medium term, leading up to 2042.

5.2.245.2.25 Despite there necessarily being ~~significant doubt~~ some uncertainty surrounding the prospect of achieving a halving residual waste by 2042 or the achievability of ~~the halving of~~ a significant reduction in residual waste ~~by~~ during the intervening years up to 2042, this assessment has nonetheless sought to understand the 'need case' for the capacity offered by the Proposed Development in the event of such an aspirational target being achieved.

5.2.255.2.26 Current Office for National Statistics (ONS) population predictions are that in 2043, there will be approximately 61,744,098 people in England – and at 287kg of residual waste per head, this equates to 17.7~~2~~ million tonnes of residual waste. Whilst current operational and 'in construction' EfW capacity in England equates to 17.9~~.4~~ million tonnes (as predicted by Tolvik in 202~~2~~3), inevitably by 2042, a large proportion of the existing capacity will be ~~decommissioned and/or require upgrading – particularly the older/ smaller non-R1 compliant facilities~~aging and may have been decommissioned. Due to advances in technology, replacement facilities may require a separate application for development consent due to the additional generation capacity that similarly sized EfW Facilities are now capable of. This is considered to be particularly likely in respect of older facilities that are not R1-compliant. Information as to the current age of the existing EfW Capacity in England has been provided at **Appendix C** to provide an indication of how much capacity is likely to have been lost by 2042[13]. With this in mind, it is considered that even in the unlikely event of the EIP stretch target of halving residual waste by 2042 being achieved, there remains a clear need for the modern, CHP enabled, and decarbonisation ready capacity offered by the Proposed Development.

5.2.265.2.27 In respect of the ~~second~~ third bullet point above, whilst it is acknowledged that there are emerging technologies and initiatives which may contribute to the achievement of future patterns of sustainable waste management, such initiatives are embryonic in stage and yet to be proven. A key example in this regard is the potential for residual waste to be used in the manufacture of sustainable aviation fuels (SAF) – as championed in the Government's *Jet Zero Strategy – Delivering Net Zero Aviation by 2050* (July 2022).

5.2.275.2.28 Government grant funding has been given to five alternative aviation fuel projects, although only three of these are seeking to produce fuels using non-recyclable household waste.

[13] As set out in Appendix C, the 10 oldest facilities will all be over 40 years old by 2042 and account for 3.2 million tonnes of existing capacity.

5.2.285.2.29 One is Velocys, a residual waste-to-fuel project at Immingham in Lincolnshire. The project was first announced in 2018 and experienced a setback in 2021 when Shell ended its support. Velocys is now projecting that the plant will enter operations in 2028. The other residual waste derived SAF projects securing funding were the Lighthouse Green Fuels Project in Teesside promoted by Alfanar Energy, which is projected as becoming operational in 2028, and Rand Fulcrum BioEnergy Ltd in Ellesmere Port, Cheshire, which is projected to begin operations in 2027.

5.2.295.2.30 It is not considered that these projects represent a credible alternative to the Proposed Development because:

- All the projects receiving Government funding and which plan to use residual waste sit outside the Study Area of this WFAA.
- The SAF developments represent a first-of-a-kind production plants which carry with them high capital costs, as well as technology and economic risk. These aspects currently present a barrier to private investment.
- No facilities currently exist either in the UK or Europe, with the first potentially becoming operational in 2027.
- Any residual waste to fuel facility going into successful operation may replace EfW facilities utilising Advanced Combustion Technology, such as gasification, which will be unable to compete once their ROC subsidies expire. In 2021 EfW capacity utilising Advanced Conversion Technology totalled around 1 million tonnes. Such facilities need an RDF/SRF type feedstock, and their cost base is such that, once their ROC subsidies expire, they may be unable to compete with a Waste to Chemical/Waste to Fuel production facility. It therefore seems reasonable to assume that as these less efficient facilities decommission due to the impact of ROC expiry, their capacity will be cumulatively replaced by new Waste to Chemical/Waste to Fuel production facilities of equal capacity, with no net impact on the residual waste capacity demand.

5.2.305.2.31 For these reasons, there is a significant question mark over the ability of emerging technology such as that proposed to generate SAF to provide adequate capacity to accommodate future residual waste. Furthermore, the use of residual waste to create SAF would not result in the management of that waste being driven further up the waste management hierarchy than use of the waste at the Proposed Development – the recovery of heat and electricity (as would be the case for the Proposed Development) is, in waste planning policy terms, equivalent to the development of SAF.

5.2.32 In addition to SAF, consideration has been given to the potential capacity offered by co-incineration at cement kilns.

5.2.33 As set out in the May 2023 Tolvik Report *UK Energy from Waste Statistics – 2022* (page 11), in 2022, 10 cement kilns (out of 11 operational facilities in the UK) accepted a total of 0.5 million tonnes of solid recovered fuel (SRF). Whilst this was a 28% increase on the tonnage in the previous year, this reflected investment activity at several kilns. Furthermore, there is evidence to suggest that the capacity offered by co-incineration at cement kilns is unlikely to increase substantially from 2022 levels. Specifically, in their November 2017 report entitled *UK Residual Waste:*

20230 Market Review, Tolvik conclude (page 24) that *"cement kiln acceptance of SRF will grow to a level of around 0.6 - 0.7 million tonnes."*

5.2.34 Whilst it is accepted that **nationally** co-incineration at cement kilns currently offers ~0.5 million tonnes of additional treatment capacity for pre-processed residual waste (with the potential for this to increase slightly), at a **local/regional** level, co-incineration does not offer a credible alternative to the Proposed Development. This is because:

- The proximity principle would be compromised as, other than the Ketton Works near Stamford, there are no cement works within the Study Area of the WFAA. The Applicant understands that this facility accepts a range of alternative fuels including SAF. However, no data on SAF usage is publicly available for this facility. Assuming an equal share of co-incineration capacity across the 11 UK cement works, a reasonable assumption is that Ketton could offer in the region of ~45,000 tonnes worth of residual waste capacity.
- Cement kilns require waste to be processed to very specific standards before they can use the waste. Due to this, the Applicant does not consider that the Proposed Development will be competing with cement kilns for waste fuel.

~~5.2.31~~5.2.35 With these points in mind, it is not considered that emerging technologies such as the manufacture of SAF from residual waste or potential capacity offered by co-incineration of residual waste at cement kilns represent a credible or better alternative to the Proposed Development. In any case, even if the 0.5 million tonnes worth of national capacity (and the ~45,000 tonnes of capacity offered by the only cement works in the Study Area) was included in this assessment, the amount of waste that could be handled via co-incineration is so limited that existing and predicted shortfalls in HIC residual waste management capacity remain well in excess of the capacity offered by the Proposed Development.

Waste disposals

~~5.2.32~~5.2.36 In terms of future patterns of disposal for residual HIC waste, in line with the policy framework outlined in **Section 2** of this WFAA, it is assumed that there will continue to be an underlying need to drive the management of waste as far up the waste hierarchy as possible and minimise the amount of material disposed of to landfill.

~~5.2.33~~5.2.37 In addition to this, as the UK strives to comply with the proximity principle and the achievement of sustainable patterns of waste management, it is also assumed that there will be a need to reduce reliance on the exportation of residual waste.

Forecast residual HIC waste management capacity (non-landfill)

~~5.2.34~~5.2.38 As noted in **Section 5.1.19**, in terms of operational capacity, the May 202~~2~~3 Tolvik report concluded that **operational EfW capacity by the end of 202~~6~~7 was predicted to be 17.9~~.4~~ million tonnes**.

~~5.2.35~~5.2.39 As has already been illustrated in this section, by 20~~30~~28, should Government interim targets set out in their 2023 Environmental Improvement Plan be achieved there is anticipated to be ~~between 21.0 and 24.5~~ ~21.4 million tonnes of residual HIC waste in ~~the UK~~ England requiring management. However, up to 202~~6~~7 (and

beyond) there is only anticipated to be around 17.9~~.4~~ million tonnes of operational EW capacity – which gives **a shortfall of ~~between 1.6 million tonnes and 5.1~~ 3.5 million tonnes**.

5.3 Conclusions of the national analysis

5.3.1 The analysis of the national (~~UK~~England) position in respect of the availability of residual HIC waste material has concluded that:

- ~~In 2020, 11 million tonnes of residual HIC waste was disposed of to landfill (falling to 9.95 million tonnes in 2021) and 1.8 million tonnes was exported as RDF to Europe and beyond (falling to 1.7 million tonnes in 2021 and then to 1.5 million tonnes in 2022).~~
- In 2021, there was approximately 24.1 million tonnes of residual HIC waste in the England, 13.5 million tonnes of which was disposed of via EfW. Accounting for the fact that 1.7 million tonnes of material was exported as RDF, this means that in 2021 **around 9 million tonnes of residual HIC waste was managed at the bottom of the national waste management hierarchy** i.e., it was disposed of via landfill - material that must be managed further up the national waste management hierarchy if the UK is to achieve more sustainable patterns of waste management. Similar national disposal patterns for HIC were recorded in 2022, with over 9 million tonnes of residual HIC waste being sent to landfill in England.
- Operational EfW capacity by the end of 202~~6~~7 was predicted to be 17.9~~.4~~ million tonnes.
- By 203~~0~~28, even if the Government's ambitious inter~~recycling ta~~im r~~g~~esidual ~~t of 65% combined for~~ waste reduction targets set ~~municipal~~ out in their ~~and 'municipal like' commercial and industrial waste is realised,~~ 2023 Environmental Improvement Plan are achieved there is anticipated to be ~~between 21.0 and 24.5~~ 21.4 million tonnes of residual HIC waste in the ~~UK~~ England requiring management. Based on the above, by 203~~0~~28, it is therefore predicted that, there would remain a **minimum shortfall of ~~1.6~~ 3.5 million tonnes of residual HIC capacity in the ~~UK (rising to over 5 million tonnes if the Government's recycling target is undershot by 5%)~~England.**

6. Overall conclusions

6.1 Overview

6.1.1 The approach to assessing the need for the Proposed Development is governed by the Overarching National Policy Statement for Energy (EN-1) and the National Policy Statement for Renewable Energy Infrastructure (EN-3).

6.1.2 Specifically, EN-3 sets out policies relating to waste management and need, which states that the Project will need to satisfy the following:

> *'The [Secretary of State] should be satisfied, with reference to the relevant waste strategies and plans, that the proposed waste combustion generating station is in accordance with the waste hierarchy and of an appropriate type and scale so as not to prejudice the achievement of local or national waste management targets in England.'* (paragraph 2.5.70).

6.1.3 This WFAA is intended to address the provisions of paragraph 2.5.70 of NPS EN-3 and an important feature is that it is presented in a transparent, auditable way. To ensure robustness it has been based on the most up to date publicly available data and has followed three key steps:

- The scope of the assessment – both the spatial scope (Study Area) and the scope of the 'fuel sources' – has been clearly defined;
- Baseline data on the arisings, disposals and available capacity of the defined 'fuel sources' within the Study Area has been gathered and presented; and
- Existing and predicted future capacity requirements of the defined 'fuel sources' within the Study Area have been analysed.

6.2 Summary of the results

6.2.1 The local analysis has concluded that in terms of the way is which residual HIC waste is currently managed across the spatial scope of this assessment:

- In 2021, there was a total of approximately 9.~~8~~7 million tonnes of such waste arising in the Study Area;
- Of the potentially suitable waste generated in the Study Area, ~~over~~ almost 2.4 million tonnes were managed at the bottom of the waste hierarchy and sent to non-hazardous landfill in 2021; and
- In addition to this, exports of RDF from ~~the UK~~ England stood at 1.7 million tonnes at the end of 2021 falling to 1.5 million tonnes at the end of 2022- approximately 163,000 tonnes of which was likely exported directly from within the Study Area of this WFAA.

6.2.2 It can therefore be concluded that based upon the current pattern of waste arising and management across the spatial scope of this assessment, there is potential for

around 2.6 million tonnes of material to be managed further up the waste hierarchy and/or at a location that is more proximate to the point of arising.

6.2.3 Looking ahead to the position over the next approximately 15-years, the evidence bases which underpin the development planning framework for waste across the spatial scope of this assessment, point to an indicative shortfall of non-landfill HIC residual waste management capacity as follows:

- Up to 2030 – ~1.~~1~~3 million tonnes per annum; and
- Up to 2035 – ~1.~~3~~5 million tonnes per annum.

6.2.4 These future gaps in capacity are validated/further supported by the findings of very recent regional studies which have concluded that due to the decline in non-hazardous landfill, the residual waste management capacity gap in the East of England alone will be between 1.~~4~~3 and 2.~~7~~6 million tonnes per annum - a gap that is predicted to increase substantially beyond 2025 as non-hazardous landfill sites throughout the wider area fill up. For the wider London and South-east area, which traditionally relies upon capacity in the surrounding area to manage its residual waste, there is a predicted future gap in capacity which equates to a need for between 2.8 and 5.4 million tonnes of additional EfW capacity (over and above that currently operational in London and the South-east)

6.2.5 The national analysis has concluded:

- In 2021, 9.~~95~~2 million tonnes of residual HIC waste was disposed of to landfill and 1.~~7~~5 million tonnes was exported as RDF to Europe and beyond; and
- By 20~~30~~28, it is predicted that even if the Government's ambitious ~~combined recycling target of 65% for municipal and 'municipal like' commercial and industrial waste is realised,~~ interim residual waste reduction targets set out in their 2023 Environmental Improvement Plan are achieved, there would remain a **minimum shortfall of ~~1.6~~ 3.5 million tonnes of residual HIC capacity in ~~the UK~~ (rising to over 5 million tonnes if the Government's recycling target is undershot by 5%)England.**

6.2.6 In this context of the above conclusions, the Proposed Development ~~could~~ **will not result in an over-supply of EfW capacity at either the local/ regional level or national level.** Indeed, the Proposed Development will offer up to 625,600 tonnes per annum of much needed capacity that would:

- Deliver implementation of the waste hierarchy – a cornerstone of England's waste management policy and legislative framework - and divert waste from continued management at the bottom of the waste hierarchy (i.e., landfill) up to having value (in the form of electricity recovered from it); and
- Facilitate management within ~~the UK~~ England of significant quantities of residual HIC waste exported for management abroad. This would allow waste to be managed in accordance with the proximity principle – a further fundamental pillar of England's waste management policy and legislative framework.

Medworth Energy from Waste
Combined Heat and Power Facility

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Waste Fuel Availability Assessment Appendix A Terms and Abbreviations

Regulation reference: The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 Regulation 5(2)(q)

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Appendix A
Terms and Abbreviations

The following terms (**Table A1**) and abbreviations (**Table A2**) have been adopted within the Waste Fuel Availability Assessment (WFAA).

Table A1 Terms

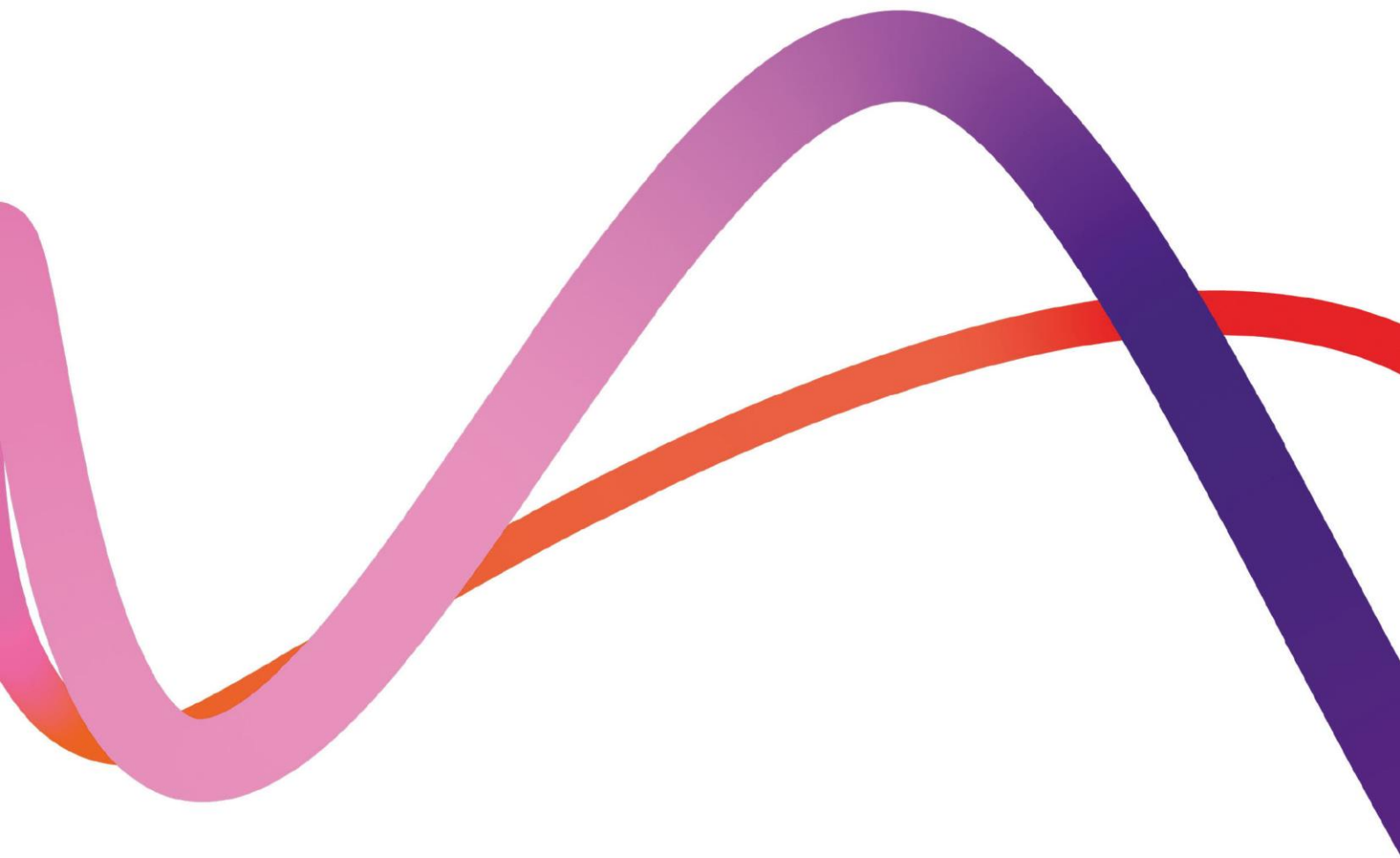
Term	Definition
[the] Applicant	The party applying for the Medworth Energy from Waste Combined Heat and Power Facility Development Consent Order, in this case Medworth CHP Ltd, a wholly owned subsidiary of MVV Environment Ltd
Application Site	The land upon which the Proposed Development would be placed.
Development Consent Order (DCO)	The form of development consent granted by the Secretary of State pursuant to the 2008 Act to authorise a Nationally Significant Infrastructure Project. A DCO can incorporate or remove the need for a range of consents which would otherwise be required for such a development. A DCO can also include rights of compulsory acquisition.
MVV	Refers to MVV Environment Limited, the parent company of the Applicant, and/or any other MVV companies within the MVV Energie AG group.
National Planning Policy Framework (NPPF)	The document which sets out the government's planning policies for England.
National Planning Policy for Waste (NPPW)	The document which sets out detailed waste planning policies and which should be read in conjunction with the National Planning Policy Framework.
National Policy Statements (NPS)	Documents which set out the primary policy considerations for Nationally Significant Infrastructure Projects.
National Policy Statement EN-1	National Policy Statement - Overarching NPS for Energy.
National Policy Statement EN-3	National Policy Statement - Renewable Energy Infrastructure.
National Policy Statement EN-5	National Policy Statement - Electricity Networks Infrastructure.
Nationally Significant Infrastructure Project (NSIP)	Large energy and infrastructure projects, including railways, large wind farms, power stations, reservoirs, harbours, airports and sewage treatment works, as defined in the 2008 Act.

Term	Definition
[the] Proposed Development	The whole of the development comprising the EfW CHP Facility, CHP Connection, Grid Connection, Water Connections, Access Improvements and Temporary Construction Compound.
Stakeholder	An organisation or individual with a particular interest in, or potential to be affected by, the Proposed Development.
Statutory Consultee	Organisations that the Applicant and/or the competent authority (the Secretary of State) is required to consult, by virtue of the EIA Regulations and the Infrastructure Planning (Applications: Prescribed Forms and Procedure)) Regulations 2009 (as amended).
Study Area	The geographical area under consideration. The Study Area can be specific to an individual environmental discipline.
Waste Transfer Station	A site where waste is taken once it has been collected. While at the station, waste may be stored, sorted and/or separated before being transported on to another area or facility.

Table A2 Abbreviations

Abbreviation	Definition
CCC	Cambridgeshire County Council
DCO	Development Consent Order
Defra	Department for Environment, Food and Rural Affairs
EA	Environment Agency
EfW	Energy from Waste
EN-1	Overarching National Policy Statement for Energy
EN-3	National Policy Statement for Renewable Energy Infrastructure
EN-5	National Policy Statement for Electricity Networks Infrastructure
EU	European Union
HIC	Household, industrial and commercial waste
km	Kilometre (a thousand metres)
m	Metre
MSW	Municipal Solid Waste
MW	Megawatts

Abbreviation	Definition
NPPF	National Planning Policy Framework
NPPW	National Planning Policy for Waste
NPS	National Policy Statements
NSIP	Nationally Significant Infrastructure Project
ONS	Office for National Statistics
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
RDF	Refused Derived Fuel
Tpa	Tonnes per annum
TRN	Trunk Road Network
UGC	Underground Cable
UKCP	UK Climate Projections
WFD	Water Framework Directive
WPA	Waste Planning Authority
WTS	Waste Transfer Station



Medworth Energy from Waste
Combined Heat and Power Facility

PINS ref. EN010110
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JuneMarch 2023

Waste Fuel Availability Assessment Appendix B Summary of Stakeholder Comments on the WFAA

Regulation reference: The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 Regulation 5(2)(q)

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Appendix B
Summary of Stakeholder comments on the WFAA

Summary of comment	How issue has been considered/ addressed
Spatial Scope / Study Area:	
Draft WFAA cites no evidence to support the application of a 2-hour journey for the study area.	Professional judgement is that it is commercially viable to transport non-hazardous household, industrial and commercial waste from up to approximately 2 hours away from any treatment facility. Distances over 2 hours travel time become increasingly more expensive for individuals and organisations requiring disposal of waste. This application of professional judgement has been explained in paragraph 3.2.5 of this WFAA.
The study area chosen for the WFAA is too large.	At PEIR stage, the study area was drawn to represent an approximate 2-hour drive time from the Proposed Development. However, for the submission WFAA, the study area for the local assessment has been reduced to reflect the East of England region (the basis upon which a lot of publicly available waste arisings, disposals and capacities data is presented), and the 2-hour drive time has only been applied to validate this reduced study area.
Concern about the assumptions that source Local Authorities do not align with the proximity principle.	As noted above, the study area for the WFAA has been reduced from that presented at PEIR stage. This WFAA assessment has sought to reflect a local study area which aligns with the former East of England planning region. This area is validated by the application of an approximate 2-hour drive time area from the Proposed Development and also aligns with the way in which numerous waste data sets/ capacity assessments have been presented.
Suggestion to exclude the following WPA from the study area within the final Waste Fuel Availability Assessment: Central Bed, Coventry, Essex, Hertfordshire, Luton, Milton Keynes, NE Lincolnshire, N Lincolnshire, Nottingham City, Nottinghamshire, Suffolk, Warwickshire.	As part of the drafting of the submission version of the Waste Fuel Availability Assessment (WFAA), further consideration has been given to the scope of the study area for assessment. In line with the existing National Policy Statement for Renewable Energy Infrastructure (EN-3) and the emerging updated version of this, the WFAA now considers the availability of waste in the context of local and national need. In terms of 'local' need, the extent of the study area has been informed by the 2-hour travel time and is defined as being the former East of England planning region and selected close Waste Planning Authorities in the East Midlands (i.e., Leicester and Leicestershire; Northamptonshire, Lincolnshire and Rutland). The WFAA now excludes Coventry, NE Lincolnshire, N Lincolnshire, Nottingham City, Nottinghamshire, and Warwickshire.
Complaint that the study area in the Draft Waste Fuel Availability Assessment (dWFAA) and the policy considerations in Chapter 5 of the PEIR do not match, as the dWFAA considers policy from a much wider area.	The WFAA identification of policy is undertaken in order to inform the study area for the potential importation of waste and it therefore differs from ES **Chapter 5 Legislation and Policy (Volume 6.2)** which considers policy relevant to the consideration of the Proposed Development i.e., national policy and the planning policy of the host local planning authorities.

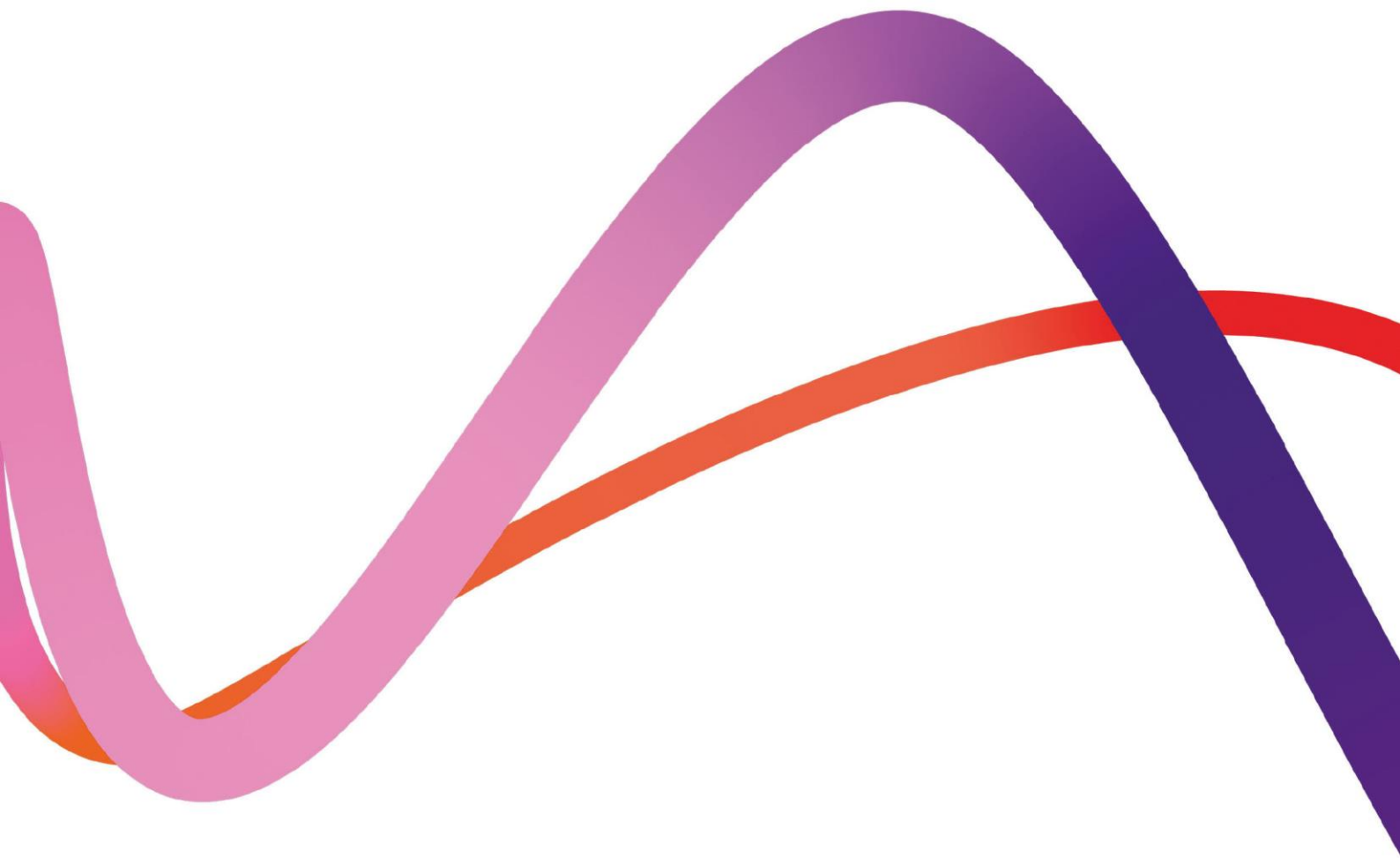
Summary of comment	How issue has been considered/ addressed
Request for the policy considerations in Chapter 5 of the PEIR to consider policy for a much wider area, in order to match the study area of the Draft Waste Fuel Availability Assessment.	
Complaint that the Draft Waste Fuel Availability Assessment only addressed proximity in relation to the export of Refuse Derived Fuel. Suggestion that the final Waste Fuel Availability Assessment set out how the Proposed Development contributes to the Waste Planning Authority's proximity considerations regarding HIC residual waste given this source will form the majority of fuel supply.	The WFAA has assessed both the local/ regional requirement for the Proposed Development as well as the national need. This has concluded that there is insufficient residual waste management capacity available to ensure that non-recyclable waste can be managed as far up the waste hierarchy as possible (i.e., diverted from landfill) and in a manner which complies with the proximity principle (i.e., treating waste as close as possible to its point of arising). Whilst this latter point is especially relevant for the significant quantities of residual waste that are presently exported from England for management via EfW in mainland Europe, it is also relevant in terms of the waste that is presently exported from the East of England region for final disposal.
Data Used / Evidence:	
Concern that there is no evidence that the local authorities listed in the Draft Waste Fuel Availability Assessment have committed to using the Proposed Development if consented	Waste management contracts are commercially sensitive and the subject of ongoing change. As such, until such time as there is some certainty around the Proposed Development, it is unlikely that there would be any commercial commitments expressed to use the Proposed Development. Notwithstanding this, the WFAA has concluded that there is sufficient residual waste generated both 'locally' and nationally and insufficient, corresponding waste management capacity to manage this waste i.e., there is a clear need for the Proposed Development.
Suggestion that it is unlikely that the Bedfordshire Minerals and Waste Local Plan area will have the shortfall of waste treatment options anticipated in the Draft Waste Fuel Availability Report due to the Rookery South ERF serving the Bedford Borough and Central Bedfordshire Councils.	It has been acknowledged in Tables 4.6 and 4.7 of the WFAA that the Rookery South Energy Recovery Facility now provides capacity to meet the shortfall identified in the *Bedfordshire Minerals and Waste Local Plan: Strategic Sites and Policies document* (adopted 2014).

Summary of comment	How issue has been considered/ addressed
Suggestion for the Draft Waste Fuel Availability Assessment to either make it clear that the double-counting of transfer movements within the WDI has been included and provide an indication of the level of error this introduces or make an allowance for it.	It is not considered that there is potential for significant levels of double counting in the WDI data presented in the WFAA. The WDI data presented relates to 'in scope' HIC waste that has been received at specific final disposal permitted waste management facilities within the spatial scope of the WFAA. This point has been clarified in Tables 3.2 and 4.2 of the WFAA, where it is noted that quantities of 'in scope' waste managed at 'treatment facilities' and ultimately disposed of via landfill, incineration or recovery have been removed from totals.
Suggestion that the final Waste Fuel Availability Assessment sets out how existing targets and reductions relating to waste reduction, reuse and recycling have been considered. Concern that the draft Waste Fuel Availability Assessment does not consider existing targets and reductions relating to waste reduction, reuse and recycling as it assumes the maintaining of current levels of residual waste landfilling in the 'without Proposed Development' scenario. Concern that the draft Waste Fuel Availability Assessment does not provide details of sorting methods and destinations, as requested by King's Lynn and West Norfolk Council during engagement. Suggestion that the final Waste Fuel Availability Assessment addresses the comments of King's Lynn and West Norfolk Council during engagement regarding information on waste sorting and destination.	The focus of the Waste Fuel Availability Assessment (WFAA) is on the availability of residual waste i.e., that part of the waste stream that is left over after reuse, recycling and other forms of recovery have taken place. It is therefore implicit in the WFAA that the fraction of the household and commercial waste stream that is 'residual' is not able to be managed in any other way apart from incineration (with or without energy recovery) or landfill. A requirement has been included in Schedule 2 of the draft DCO to ensure that the Proposed Development complies with the waste hierarchy.
Complaint that data relied upon in the Draft Waste Fuel Availability Assessment is dated, such as the capacity gap identified for Norfolk County Council from 2013.	The WFAA is based upon the latest published evidence bases which underpinned the Waste Local Plans of those Waste Planning Authorities in the assessment's study area. However, it is acknowledged that some of this data was out of date. A such, in the submission version of the WFAA, an updated position in terms of newly consented capacity (as well as capacity which may have been lost) has been presented.

Summary of comment	How issue has been considered/ addressed
	In addition to this, the WFAA has analysed some up-to-date regional studies, which are based upon the spatial study area for the WFAA. Analysis of these regional studies has assisted with both updating and calibrating the reported findings of the Waste Local Plan evidence bases / statements of future capacity needs.
Waste Hierarchy:	
Suggestion that the assumptions in the draft Waste Fuel Availability Assessment are flawed as much of the waste to supply the Proposed Development could be managed further up the waste hierarchy.	The focus of the WFAA is on the availability of residual waste i.e., that part of the waste stream that is left over after reuse, recycling and other forms of recovery have taken place. It is therefore implicit in the WFAA that the fraction of the household and commercial waste stream that is 'residual' is not able to be managed in any other way apart from incineration (with or without energy recovery) or landfill. A requirement has been included in Schedule 2 of the draft DCO to ensure that the Proposed Development complies with the waste hierarchy.
Concern that the draft Waste Fuel Availability Assessment is incomplete and flawed due to it not addressing the waste hierarchy.	The WFAA has considered future residual waste management needs both locally and nationally and has concluded that there is a need for additional residual wate management capacity - and especially capacity that offers an alternative to landfill (which is at the very bottom of the waste management hierarchy). Additionally, (and importantly), the WFAA only considers the need for the Proposed Development in the context of how much residual waste will require management in the future. In other words, the achievement of national targets for the recycling and reuse of waste have already been taken into account when considering how much residual waste is likely to require management in the future. The point about addressing the waste hierarchy more explicitly in the WFAA is noted and the assessment has been amended to include a 'waste hierarchy statement of compliance'.
Recovery Capacity / Availability:	
Complaint that the Draft Waste Fuel Availability Assessment assumes that all HIC waste currently landfilled will be suitable for incineration.	Assumptions around the achievement of waste reduction and recycling targets form an implicit part of the WFAA. As such, the WFAA has considered only those fractions of the waste stream that would be suitable for incineration and are presently being landfilled.
Concern that 1 million tonnes of the 3.5 million tonnes of HIC waste identified in the Draft Waste Fuel Availability Assessment will be recycled rather than incinerated as the 2035 target for recycling is 65%, a 20% increase in current municipal solid waste recycling.	Considerations around the achievement of a range of national recycling targets and current levels of municipal waste recycling is set out in the WFAA (see Section 5). This is complemented by a detailed analysis of current and future planned collection regimes across the WFAA study area. This analysis considers, in detail, the extent to which the achievement of recycling targets will affect the availability of 'in scope' residual waste.
Complaint that the Draft Waste Fuel Availability Assessment does not identify	Noted. The PEIR version of the Waste Fuel Availability Assessment (WFAA) was based upon the latest published evidence bases which underpinned the Waste Local Plans of those Waste Planning Authorities in the assessment's study area. However, it is acknowledged that some of this

Summary of comment	How issue has been considered/ addressed
other existing or proposed recovery facilities. Request that information on the location of existing and proposed recovery facilities is included with the Draft Waste Fuel Availability Assessment, and for the information to be extended to show if there is any surplus or deficit of capacity beyond the study area. Complaint that the Draft Waste Fuel Availability Assessment does not consider the utilisation of existing incineration capacity with the study area, as there is already 287,000 tonnes of unutilized incinerator capacity available.	data was out of date. A such, in the submission version of the WFAA, an updated position in terms of newly consented capacity (as well as capacity which may have been lost) has been presented. In addition to this, the WFAA has analysed some up-to-date regional studies, which are based upon the spatial study area for the WFAA. Analysis of these regional studies has assisted with both updating and calibrating the reported findings of the Waste Local Plan evidence bases / statements of future capacity needs.
Waste Composition:	
Complaint that the Draft Waste Fuel Availability Assessment does not provide an analysis of the composition of the potential feedstock and if being used as feedstock is the most sustainable use for this form of material. Request that consideration is given to likely future alterations in waste composition Draft Waste Fuel Availability Assessment. Complaint that the Draft Waste Fuel Availability Assessment does not account for changes in the quantity and composition of HIC arising from policy drivers that are likely to occur during the development's operational phase.	Noted. Whilst the focus of the WFAA is on the availability of residual waste only i.e., that after recycling has taken place, it is acknowledged that specific recycling / recovery initiatives may change the composition of the residual waste stream. An obvious example of this is the removal of food waste for recycling. In this regard, the issue of changing composition has been considered in the updated WFAA. Specifically, existing and future plans of Waste Collection Authorities within the spatial scope of the WFAA in respect of food waste collection has been analysed in detail (see new Appendix D).

Summary of comment	How issue has been considered/ addressed
Consultation:	
Suggestion that a further round of consultation take place once issues with the draft Waste Fuel Availability Assessment have been addressed.	The draft document was consulted upon at Statutory Consultation. Feedback received from consultees has been considered and informed the preparation of the final document. No further rounds of pre-application consultation were considered necessary. However, there is still the opportunity for Stakeholders to comment on the WFAA. Once the application has been accepted by the Planning Inspectorate, Stakeholders and members of the public can submit representations and register to be involved in the Examination as an Interested Party.



Medworth Energy from Waste
Combined Heat and Power Facility

PINS ref. EN010110
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Waste Fuel Availability Assessment Appendix C Energy from Waste Capacity Data

Regulation reference: The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 Regulation 5(2)(q)

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Region	Name of Facility	Waste Planning Authority	Operator	Capacity ('000 tonnes per annum)	Commentary/ Notes	Operational Start Year
Consented and operational capacity in the WFAA local study area and East Midlands, South-East and London (as neighbouring regions):						
East of England	SUEZ Suffolk - EfW Facility / Great Blakenham	Suffolk County Council	Suez	295	As reported in the UK EfW Statistics 2022 (May 2023) and the RTAB report (May 2021).	2014
	Rookery South ERF (Central Bedfordshire)	Central Bedforshire Council	Covanta/GIG	545	As reported in the UK EfW Statistics 2022 (May 2023) and the RTAB report (May 2021). 2018 Tolvik report notes headline capacity as 585ktpa.	2022
	Peterborough EfW Facility	Peterborough City Council	Viridor	85	As reported in the UK EfW Statistics 2022 (May 2023) and the RTAB report (May 2021).	2015
Sub-total				**925**		
East Midlands	Lincolnshire EfW Facility / North Hykeham	Lincolnshire County Council	FCC	190	As reported in the UK EfW Statistics 2022 (May 2023).	2014
	Eastcroft Energy from Waste Facility / "Nottingham Waste Incinerator	Nottingham City Council	FCC	200	Reported capacity in the UK EfW Statistics 2022 (May 2023) of 200ktpa.	1973
	NewLincs ERF	Lincolnshire County Council	Tiru	56	As reported in the UK EfW Statistics 2022 (May 2023).	2003
Sub-total				**446**		
London	Riverside Resource Recovery Facility	London Borough of Bexley	Cory	850	Capacity as reported in the RTAB (May 2021) report. UK EfW Statistics 2022 (May 2023) reports capacity as 785ktpa. A variation to the Section 36 Consent and deemed planning permission granted on 17 December 2021 has increased this to 850,000 tonnes https://www.gov.uk/government/publications/riverside-resource-recovery-facility-variation-to-section-36-consent-electricity-act-1989	2011
	SELCHP ERF	Lewisham London Borough Council	Veolia	439	Capacity as reported in RTAB (may 20210) report. 2018 Tolvik report cites capacity as 447ktpa. UK EfW Statistics 2022 (May 2023) reports capacity as 550ktpa.	1993
	Beddington Energy Recovery Facility	Sutton London Borough Council (Joint plan with Croydon, Merton and Kingston)	Viridor	278	Capacity as reported in the RTAB report. UK EfW Statistics 2022 (May 2023) lists capacity as 347kpta.	2019
	Edmonton EfW Facility	London Borough of Enfield	LondonEnergy (formerly London Waste Ltd)	495	As reported in the RTAB (May 2021) report.UK EfW Statistics 2022 (May 2023) reports capacity as 620ktpa. Tolvik 2018 report sets capacity at 535ktpa.	1974
Sub-total				**2062**		
South East	Allington Waste Management Facility (Kent Enviropower)	Kent County Council	FCC	500	As reported in the RTAB (May 2021) report. UK EfW Statistics 2022 (May 2023) report capacity as 560ktpa. 2018 Tolvik report sets capacity at 486ktpa.	2008
	Kemsley K3	Kent County Council	E.On, enfinium and D S Smith	657	As reported in the UK EfW Statistics 2022 (May 2023)and the RTAB (May 2021) report. Capacity increased by 107ktpa in 2021 from 550ktpa to 657ktpa.	2020
	Lakeside EFW	Slough Borough Council	Lakeside	460	As reported in the RTAB (May 2021) report. UK EfW Statistics 2022 (May 2023) report capacity as 468ktpa. Tolvik 2018 report sets out capacity as 442ktpa.	2010
	Greatmoor EFW	Buckinghamshire Council	FCC	345	As reported in the UK EfW Statistics 2022 (May 2023)and the RTAB (May 2021) report. Tolvik 2018 report serts capacity at 279ktpa.	2016
	Ardley EfW Facility	Oxfordshire County Council	Viridor	326	As reported in the UK EfW Statistics 2022 (May 2023)and and the RTAB (May 2021) report. Tolvik 2018 report serts capacity at 292ktpa.	2014
	Newhaven ERF	East Sussex County Council	Veolia	242	As reported in the UK EfW Statistics 2022 (May 2023) and the RTAB (May 2021) report. Tolvik 2018 report serts capacity at 234ktpa.	2011
	Integra South West ERF (Marchwood)	Hampshire County Council	Veolia	220	As reported in the UK EfW Statistics 2022 (May 2023)and the RTAB (May 2021) report. Tolvik 2018 report serts capacity at 203ktpa.	2004
	Integra South East ERF (Portsmouth)	Portsmouth	Veolia	220	As reported in the UK EfW Statistics 2022 (May 2023)and the RTAB (May 2021) report. Tolvik 2018 report serts capacity at 210ktpa.	2005
	Integra North ERF (Chineham)	Hampshire County Council	Veolia	110	As reported in the UK EfW Statistics 2022 (May 2023)and the RTAB (May 2021) report.	2003
	Milton Keynes Waste Recovery Park	Buckinghamshire County Council	Amey	94	As reported in the UK EfW Statistics 2022 (May 2023)and and the RTAB (May 2021) report. Tolvik 2018 report serts capacity at 86ktpa.	2018
	Enviropower Ltd, Lancing	West Sussex County Council	Enviropower	75	As reported in the UK EfW Statistics 2022 (May 2023). Primarily used for C&D/ skip waste. Not included in the 2021 RTAB report, but capacity of 33ktpa included in the 2018 Tolvik report.	2008
	Isle of Wight Resource Recovery Facility	Isle of Wight Council	Amey	60	As reported in the RTAB (May 2021) report. Capacity not reported in the UK EfW Statistcs 2022 (May 2023).	2023
	Slough Heat & Power / Slough Multifuel	Slough Borough Council	SSE/CIP	438	As reported in the RTAB (May 2021) report. 2018 Tolvik report notes headline capacity as 400ktpa. UK EfW Statistics 2022 (May 2023) reports capacity at 480ktpa.	unkown but replacement plant currently being built to be completed in 2024
Sub-total				**3747**		
GRAND TOTAL FOR WFAA STUDY AREA AND ITS ADJACENT REGIONS				**7,180**		

Region	Name of Facility	Waste Planning Authority	Operator	Capacity ('000 tonnes per annum)	Commentary/ Notes	
Consented and operational capacity in the remaining English regions:						
Northeast	Tees Valley EfW Facility	Stockton on Tees Borough Council	Suez	756	As reported in the UK EfW Statistics 2022 (May 2023).	1998/2009
	Wilton 11 EfW	Middlesborough Borough Council	Suez	500	As reported in the UK EfW Statistics 2022 (May 2023).	2017
Sub-total				**1256**		
Northwest	Runcorn EfW	Joint Merseyside and Halton Waste Local Plan	Viridor	1,100	As reported in the UK EfW Statistics 2022 (May 2023).	2015
	Bolton ERF	Greater Manchester City Council	Suez	107	As reported in the UK EfW Statistics 2022 (May 2023).	2001
Sub-total				**1,207**		
Southwest	Severnside Energy Recovery Centre	South Gloucestershire Council	Suez	467	As reported in the UK EfW Statistics 2022 (May 2023).	2016
	Severn Road RRC	Bristol City Council	Viridor	377	As reported in the UK EfW Statistics 2022 (May 2023).	2020
	Devonport EfW CHP Facility	Plymouth City Council	MVV	265	As reported in the UK EfW Statistics 2022 (May 2023).	2015
	Cornwall Energy Recovery Centre	Cornwall Council	Suez	240	As reported in the UK EfW Statistics 2022 (May 2023).	2017
	Javelin Park ERF	Gloucestershire County Council	UBB	190	As reported in the UK EfW Statistics 2022 (May 2023).	2020
	Exeter ERF	Devon County Council	Viridor	60	As reported in the UK EfW Statistics 2022 (May 2023).	2014
Sub-total				**1599**		
West Midlands	Tyseley ERF	Birmingham City Council	Veolia	441	As reported in the UK EfW Statistics 2022 (May 2023).	1996
	Staffordshire ERF/Four Ashes ERF/w2R	South Staffordshire Council	Veolia	340	As reported in the UK EfW Statistics 2022 (May 2023).	2014
	CSWDC Waste to Energy Plant	Coventry City Council	Coventry City Council	315	As reported in the UK EfW Statistics 2022 (May 2023).	2001
	EnviRecover EfW Facility	Worcestershire County Council	Severn	230	As reported in the UK EfW Statistics 2022 (May 2023).	2017
	Stoke EfW Facility	Staffordshire County Council	MESE	210	As reported in the UK EfW Statistics 2022 (May 2023).	1997
	Wolverhampton EfW Facility	Wolverhampton / Black Country	MESE	118	As reported in the UK EfW Statistics 2022 (May 2023).	1998
	Dudley EfW Facility	Dudley / Black Country	MESE	105	As reported in the UK EfW Statistics 2022 (May 2023).	1998
	Battlefield EfW Facility	Shropshire Council	Veolia	102	As reported in the UK EfW Statistics 2022 (May 2023).	2015
Sub-total				**1861**		
Yorkshire and Humberside	Ferrybridge Multifuel 1 (FM1)	Wakefield Metropolitan District Council	WTI	725	As reported in the UK EfW Statistics 2022 (May 2023).	2015
	Ferrybridge Multifuel 2 (FM2)	Wakefield Metropolitan District Council	WTI	725	As reported in the UK EfW Statistics 2022 (May 2023).	2019
	Allerton Waste Recovery Park	North Yorkshire County Council	Amey	320	As reported in the UK EfW Statistics 2022 (May 2023).	2018
	Sheffield ERF	Sheffield City Council	Veolia	245	As reported in the UK EfW Statistics 2022 (May 2023).	2006
	Leeds Recycling and ERF	Leeds City Council	Veolia	190	As reported in the UK EfW Statistics 2022 (May 2023).	2016
	Kirklees EfW Facility	West Yorkshire Council	Suez	150	As reported in the UK EfW Statistics 2022 (May 2023).	2002
	Hull Energy Works (in commissioning)	East Riding Council	Engie	315	As reported in the UK EfW Statistics 2022 (May 2023).	2021
Sub-total				**2670**		
GRAND TOTAL FOR REST OF ENGLAND				**8,593**		

Sources:

UK Energy from Waste Statistics - 2022 (May 2023), Tolvik Consulting Ltd

Residual Waste in London and the South East: Where is it going to go……..? - (October 2018), Tolvik Consulting Ltd

Landfill and Residual Treatment Capacity in the Wider South East of England , Report for the Regional Technical Advisory Body (RTAB) (May 2021), Sacks Consulting

Residual Waste EfW WiKi Waste - website accessed 05/04/22

Region	Name of Facility	Waste Planning Authority	Operator	Capacity ('000 tonnes per annum)	Commentary/ Notes
Consented and under construction capacity in tthe WFAA local study area and East Midlands, South-Esat and London (as neighbouring regions):					
East of England	Rivenhall	Essex County Council	Indaver	595	As reported in the RTAB (May 2021) report. The planning portal shows that planning permission was successfully implemented prior to 2 March 2016. In February 2022 the Council voted to extend the permission for the site but not to allow for the incinerator to be built without the associated infrastructure which formed part of the original application.
Sub-total				**595**	
East Midlands	Newhurst ERF	Leicestershire County Council	Biffa/Covanta/GIG	350	As reported in the UK EfW Statistics 2022 (May 2023).
	Drakelow Energy Generation Facility	Derbyshire County Council	Vital	170	As reported in the UK EfW Statistics 2022 (May 2023).
Sub-total				**520**	
London	EcoPark Energy Centre/ North London Heat and Power	London Borough of Enfield	North London Waste Authroity	205	Incinerator proposed to replace existing Edmonton incinerator by around 2025, to be located next to the current incinerator site. A Development Consent Order was issue by BEIS in February 2017. The existing plant would be decommissioned and demolished 2028, once the new facility up and running. Environmental Permit issue in June 2017. To avoid double counting, only the **additional** capacity offerred by this replacement plant has been included i.e. 700,000 tonnes per annum - the existing capaity to be replaced of 495,000 tonnes per annum.
	Cory Riverside Energy	London Borough of Bexley	Cory	800	2023 Tolvik report notes headline capacity as 650ktpa. Original planning consent granted 11 January 2008 (reference: 7/11615/FUL). Application to SoS for Energy for increase to 785 ktpa (reference: 99/02388/CIRC24). Approved in 2021.
Sub-total				**1005**	
South East	Charlton Lane Eco Park (Eco Park ACT)	Surrey County Council	Suez	55	As reported in the UK EfW Statistics 2022 (May 2023).
	Forest Road ERF (Isle of Wight)	Isle of Wight Council	Amey	30	As reported in the UK EfW Statistics 2022 (May 2023).
Sub-total				**85**	
GRAND TOTAL FOR WFAA STUDY AREA AND ITS ADJACENT REGIONS				**2205**	

Region	Name of Facility	Waste Planning Authority	Operator	Capacity ('000 tonnes per annum)	Commentary/ Notes
Consented and under constructon capacity in the remaining English regions:					
Southwest	Bridgwater Resource Recovery	Somerset County Council	Equitix/Iona	123	As reported in the UK EfW Statistics 2022 (May 2023).
Sub-total				**123**	
West Midlands	Baddersley EfW	Warwickshire County Council	Equitix	130	As reported in the UK EfW Statistics 2022 (May 2023).
	Kelvin Energy ERF, Land at Giffords Recycling, Kelvin Way, West Bromwich	Sandwell Council	efinium / Verus Energy Oak Limited	395	Planning application for a 395ktpa scheme submitted in October 2017 (ref DC/17/61177) and allowed on appeal in September 2019 (details of the appeal on the Sandwell Council entry for application DC/17/61177; appeal ref: 3216591). Permit application for the 400tkpa scheme was submitted in July 2018 and re-advertised in October 2018 (EPR/DP3038JC/A001). The Environment Agency issued a permit in July 2019 [EPR/DP3038JC]. Construction began in November 2021.
Sub-total				**525**	
Yorkshire and Humberside	Skelton Grange, Leeds	West Yorkshire	enfinium (formerly Multifuel Energy Ltd) (owned by First Sentier Investors)	300	Planning permission granted to Biffa in February 2013 for a 300,000tpa conventional incinerator for C&I and possibly MSW. In May 2019 it was reported that Wheelabrator had secured the right to buy the site from the Harworth Group and that the intention was to increase capacity to 410,000tpa. Planning reference for Biffa's 300ktpa plant is 11/03705. A permit was granted in December 2020 [EPR/UP3904PA/A001]. In December 2020 Wheelabrator announced the sale of their UK EfW division to the European Diversified Infrastructure Fund III, an infrastructure fund managed by First Sentier Investors (FSI). It was reported in July 2021 that full commissioning of the plant is planned for 2025 and that it will be built by HZI.
Sub-total				**300**	
Northeast	None recorded	~	~	~	~
Sub-total				**0**	
Northwest	Hooton Park Sustainable Energy (Hooton Park ACT)	Merseyside County Council	BWSC/CoGen	266	As reported in the UK EfW Statistics 2022 (May 2023).
	Lostock Sustainable Energy Plant	Cheshire West and Chester Council	FCC	600	As reported in the UK EfW Statistics 2022 (May 2023).
	Protos Refuse Derived Fuel Plant/ Ince Marshes	Cheshire West and Chester Council	Biffa/Covanta/GIG	410	As reported in the UK EfW Statistics 2022 (May 2023).
Sub-total				**1276**	
GRAND TOTAL FOR REST OF ENGLAND				**2224**	

Sources:

UK Energy from Waste Statistics - 2022 (May 2023), Tolvik Consulting Ltd

Residual Waste in London and the South East: Where is it going to go.....? - (October 2018), Tolvik Consulting Ltd

Landfill and Residual Treatment Capacity in the Wider South East of England , Report for the Regional Technical Advisory Body (RTAB) (May 2021), Sacks Consulting

Residual Waste EfW WiKi Waste - website accessed 05/04/22

Region	Name of Facility	Waste Planning Authority	Operator	Capacity ('000 tonnes per annum)	Commentary/ Notes
Consented and not built capacity in the WFAA local study area and East Midlands, South-Esat and London (as neighbouring regions):					
East of England	Storeys Bar Road, Fengate, Peterborough	Peterborough City Council	Peterborough Renewable Energy Ltd	595	Principal planning consent is 08/01081/ELE issed by the Secretary of State in November 2009. The permission was subject to an subsequent amendment (ref. 18/01259/DISCHG), which was permitted on 10 May 2019. Three planning conditions associated with this permission were discharged in July 2019 (Ref: 19/00467/DISCHG). If this facility was to be built, there is a consition attached to the consent (condition 28) which states that a minimum of 80% of the feedstock must originate from (a) an area within a 32km radius of the site; or (b) an area within the adminstrative bundary of Peretborough; or (c) n area within the adminstrative bundary of Cambridgeshire.
Sub-total				**595**	
East Midlands	Energy Recovery Centre, Willowbrook East Industrial Estate, Shelton Road, Corby	Northamptonshire County Council	Corby Ltd	260	Planning application submitted in January 2019 (reference: 19/00027/WASFUL) proposal announced in January 2019 for an EfW capable of receiving RDF derived from HIC waste steams. Full permission granted on 4 October 2019. In May 2020 Corby Ltd put in an application to discharge a number of the planning conditions (20/00025/WASDOC).
	Gretton Brook Road	Northamptonshire County Council		154	In April 2020 the applicant put in a planning application to vary the consent to allow a change of technology to bubbling fluid bed (BFB) combustion and to increase the total maximum throughput to 154,000 tonnes per annum and this was approved in August 2020 (20/00022/WASVOC and 20/00023/WASVOC).
	Bulwell Energy Recovery Facility, Nottingham Energy Park	Nottingham City Council	Bullwell Energy Ltd	160	Planning permission for 30ktpa granted 25 June 2013 (reference: 13/00757/PMFUL3), and request for an extension to 160ktpa granted in 14 June 2014 (reference: 13/03051/PMFUL3). Pyrolysis/gasification-type incinerator described as a "demonstrator plant" using RODECS® system to process MSW and C&I. Permit issued in April 2015 and late 2018.
	East Midlands Energy Re-generation (EMERGE) Centre.	Nottinghamshire County Council	Unipier UK Ltd	525	Application received approval from Nottinghamshire County Council in 2021 subject to completion of the Section 106 Agreement. Permit issued in March 2022.
Sub-total				**1099**	
London	Thames Gateway Energy Facility, London Sustainable Industries Park, Dagenham Dock	Dagenham, Essex	Thames Gateway Waste to Energy Ltd	200	Gasification-type incinerator intended to treat C&I waste. Granted planning permission 31 March 2011 (Ref: 10/00287/FUL). Construction reportedly began in late 2012. It was announced in October 2015 that almost 75% of the piling has been completed on site. Applicant were discharging planning conditions in June 2016. Permit JP3237KY issued and subsequently varied in 2015 to change the gasification technology from Cyclamax to Chinook and to increase the capacity (permit EPR/CP3737CV/V003). In December 2018 the planning permission was varied to increase the capacity from 180ktpa to 200ktpa, but the technology remained as gasification
	Brent Cross	London Borough of Barnet	Hammerson and Standard Life Investments	130	Planning permission granted 23 July 2014 (reference: F/04687/13). The capacity of the gasification-type incinerator includes a portion for business waste with the rest being for municipal waste. According to the Brent Cross London website: "In July 2018 the decision was taken to defer the start on site for the development works due to increased market risks in the UK with the intention to start once conditions are more settled".
Sub-total				**330**	
South East	Former Wealden Brickworks off Langhurst Wood Road, Horsham	West Sussex	Brtainiacrest Recycling	180	Planning permission WSCC/062/16/NH allowed on appeal in Februay 2020 with 28 planning conditions, including an R1 condition (PINS Ref APP/P3800/W/18/3218965).
	Tilbury Green Power	Essex County Council	AET/BWSC	350	Total permitted capacity is 650,000tpa but only the first phase for 300,000tpa of waste wood has been implemented.
Sub-total				**530**	
GRAND TOTAL FOR WFAA STUDY				**2554**	

Region	Name of Facility	Waste Planning Authority	Operator	Capacity ('000 tonnes per annum)	Commentary/ Notes
Consented and not built capacity in the remaining English regions:					
Southwest	Canford Efw	Dorset County Council	Canford Renewabe Energy Ltd	100	An EfW facility based upon Gasification technology. Originally owned and developed by New Earth Solutions as part of a wider development at the Canford site in Dorset, it was granted planning consent in 2013 and was intended to be operational by 2015, generating 10MWe. The adjacent MBT plant is operational but no construction is understood to have progressed on the EfW facility.
	Swindon Energy Plant	Swindon, Wiltshire	Crapper and Sons	70	An EfW facility originally based upon Gasification technology. Consented on Crapper and Sons Landfill site in Wootton Basset, as part of a number of other facilities including a Biomass project from Waste Wood and a Mechanical Treatment process. The initial works were reported as commenced, but no construction is understood to have progressed on the site of the EfW facility to date.
	Land At Keypoint, Thornhill Road, South Marston	Swindon, Wiltshire	Rolton Kilbride / Legal & General Properties	150	Planning permission granted on appeal in June 2019 with both R1 and climate change planning conditions. Originally proposed to use ENERGOS gasification technology, but at appeal the prospect of using Japanese gasification technology was raised. Planning application submitted in June 2016 [S/16/1055] and refused in September 2017 and subsequently appealed in February 2018 (Appeal Ref. 3197964).
	Northacre Renewable Energy Centre, Stephenson Road, Northacre Trading Estate, Westbury	Wiltshire County Council	Northacre Renewable Energy Ltd (Hills Group)	243	In August 2020 a planning application was made to change the technology to conventional incineration and the Council voted to approve this in June 2021 subject to a potential call-in by the Secretary of State (20/06775/WCM).
	Hill Barton Energy Generation Facility, Hill Barton Business Park, Stuart Way, Clyst St. Mary, Exeter	Devon County Council	Exeter Waste to Energy Limited	87	RDF facility. Planning permission granted by Devon County Council in March 2010 (DCC/2909/2009) and varied in November 2019 (DCC/4150/2019). Permit application consultation announced in December 2020, which states that the plant would process commercial and industrial waste in the form of RDF through gasification (EPR/EP3105BJ/A001). The permit was issued in July 2021.
	Eco Park, Chapel Lane, Parley (near Bournemouth Airport)	Devon County Council	Eco Sustainable Solutions	50	A planning application was submitted in March 2021 (ref 8/21/0207/FUL). The Planning Committee voted to approve the application in March 2022.
	Cornwall BioPark	Cornwall County Council	Green EfW Investments Ltd	80	Planning consent issued on the 6th of November 2012, with application submitted in July 2012 [See planning application (ref. PA12/06846)]. Intended to derive 40,000 tonnes of RDF for on-site gasification from 70,000 tonnes of Cornwall's commercial waste. Last known activity was an application for a Non Material Amendment in October 2014 (PA14/09431), and on the 1st of November 2016 a notice was made for compulsory strike-off of GreenEfW Investments Limited and GreenEfW Cornwall Limited
West Midlands	The Wand, Land off Fryers Road	Walsall	BH EnergyGap	300	The project started as a proposal for a gasification-type incinerator intended to burn mixed municipal commercial, industrial and municipal waste. Initial planning application approved in January 2009 and revised planning application approved in September 2013 (re 13/0725/WA). Planning permission was varied in November 2015 and this included an increases stack height (15/1157). Planning application 19/1172 was registered by Walsall Council in September 2019 and on the 28th of May 2020 the Planning Committee voted in favour of planning consent. In June 2020 an application was made to vary the permit to change the technology to conventional incineration and to increase the maximum capacity to around 478,300 tonnes per annum [EPR/AP3832WS/V002].
	Faraday Avenue, Hams Hall, North Warwickshire	Warwickshire County Council	Rolton Kilbride	150	Gasification planning application submitted June 2016 and granted in February 2017 with a Design Stage R1 Condition (ref. NWB/16CM011).
	Bloomfield Recycling Depot	Sandwell Council	High Energy Fuels Ltd	180	In August 2015 planning permission was granted for a gasification plant to treat up to 100,000tpa of C&I and deomolition wood waste, including compressed paper pellets (Dudley Ref P15/0685). Permit for a pyrolysis scheme on this site granted in March 2020 (ref EPR/CP3836QX/A001). Planning application approved in November 2019 to allow for 180,000tpa of "torrefied solid fuels" waste biomass / RDF to be treated through pyrolysis (Dudley planning ref P19/0720).
Yorkshire and Humberside	New Beck Energy Centre	(Immingham) North-East Lincolnshire	North Beck Energy	560	North Beck Immingham Energy From Waste Plant is a 49.5MW biopower project. It is planned in England, the UK. The project is currently in permitting stage. It will be developed in single phase. Post completion of the construction, the project is expected to get commissioned in 2022.
	Belmont Industrial Estate, Rochdale Road, Triangle, Sowerby Bridge	Calderdale	Calder Valley Skip Hire	10	Application was submitted in January 2017 (ref 17/00113/WAM) and this was unanimously refused by the Planning Committee on the 19th of December 2017. This was subsequently appealed in July 2018 with the inquiry beginning in April 2019 (PINS ref 3205776). Inquiry hearings closed in November 2019 and planning permission was granted subject to conditions in February 2020.

	Land Off Sandall Stones Road, Kirk Sandall (3Rs)	Doncaster	BH EnergyGap (Doncaster) Ltd	350	Planning application 20/01774/TIPA was approved at a planning committee in March 2022.
	Land South West Of Melton Waste Park, Melton, North Ferriby	East Riding of Yorkshire	Solar 21 Renewable Energy Limited	250	A planning application received in March 2018 (18/00703/CM) for an increase in the capacity associated with 11/05606/STPLF which was granted permission in November 2011. A decision was made in July 2018 to approve the planning application subject to finalising s106 agreement. The decsion notice granting consent was issued in February 2019
	Alpha Grimsby Renewable Energy Centre, Vireol Plc, Energy Park Way, Grimsby	North East Lincolnshire	Great Coates Energy Ltd / Synpower	226	Planning permission granted in January 2019 by North East Lincolnshire Council (DM/0329/18/FUL) for 170-200ktpa and then varied in July 2021 to increase the throughput to 226ktpa tpa of RDF
	South Humber Bank Energy Centre, South Humber Bank Power Station, South Marsh Road, Stallingborough, Grimsby	North East Lincolnshire	EP UK Investments (EPUKI)	753	A Development Consent Order for the larger version of the scheme was issued in November 2021. The proposal intends to use conventional incineration to treat Refuse Derived Fuels. An environmental permit variation was granted in May 2020 (ref EPR/MP3235LY/V009).
	Grimsby Renewable Power Facility, Moody Lane	North East Lincolnshire	Royal Dahlman	54	Gasification-type incinerator that would be a demonstrator plant for experimental MILENA technology received planning permission in May 2014 (DM/0099/14/FUL) and an environmental permit in December 2014 (DM/0099/14/FUL) . It is stated in the Environmental Statement that: "The vast majority of feedstock will be pre-processed refuse derived fuel (RDF) which is derived from processing of commercial and industrial (skip) wastes at Melton"
	Knapton Green Energy Facility, Landfill Site Knapton Quarry, East Knapton, Malton	North Yorkshire County Council	Knapton Green Energy, Tetragen and NCG Estates.	130	Planning permission was granted in 2018 for a 65ktpa gasification plant (NY/2016/0194/ENV). The description of the technology was changed in April 2019 to remove the reference to gasification (NY/2019/0038/NMT), and it seems possible that the plant will therefore ultimately use conventional incineration (although this has not been confirmed). In March 2021 planning permission was granted for an increase in capacity to 130ktpa (NY/2019/0078/73) for a non-gasification incinerator.
	Southmoor Energy Centre, Kellingley Colliery, Weeland Road (near Knottingley)	North Yorkshire County Council	Peel Environmental / Harworth Estates (HEPGL) / Southmoor Energy Centre Limited	350	Planning application for an incinerator submitted in May 2013 (planning application NY/2013/0128/ENV), and planning consent was issued February 2016. Peel stated in 2013: "It will use up to 280,000 tonnes per year of non-hazardous residual waste including industrial, commercial and possibly household from across the region". Peel announced in March 2019 that "Plans...are progressing, with the company expecting to be on site in Autumn 2019" and stated that: "Peel Environmental is proposing to make some changes to the existing planning permission, one of which is to increase the fuel for the facility from 280,000 tonnes to 350,000 tonnes per year". Environmental Permit issued in October 2019 (EPR/FP3437QL/A001). A proposal to vary the planning consent (NY/2019/0005/73) was registered in January 2019 and granted in February 2020.

	Kingspan Insulation Ltd, Enterprise Way, Sherburn In Elmet, Selby	North Yorkshire County Council	Kingspan	132	Application made in December 2016 for RDF gasification plant (ref 2016/1456/EIA) using a feedstock "sourced from recycling centres from outside of the Sherburn Industrial Estate". Planning Permission granted in October 2016 .
	Land at former Templeborough Steel Works, Sheffield Road, Templeborough	Rotherham	Rolton Kilbride / Cracknore Investment	215	ACT facility for RDF. Planning permission granted by Rotherham Metropolitan Borough Council in October 2016 (RB2016/0891). The applicant has stated that the facility would have the capacity to process feedstock including commercial and industrial waste, with an element of construction and demolotion and potentially municipal solid waste. It was anticipated that the feedstock would comprise waste from across the Rotheram and Sheffield area. It was reported that a Scoping Request was submitted in April 2016
	Land East Of Former Gas Works, Airedale Road, Keighley	West Yorkshire	Halton Group / JO Steel / Endless Energy	148	August 2016 - application was submitted for the plants anf these this was approved in February 2017 (Ref 16/06857/FUL). Environmental permit issued by the Environment Agency in December 2020 (EPR/ZP3537AT).
	Newfields Industrial Estate near Hull docks	Hull	NRG Hull	320	In October 2020 NRG Hull had applied to East Riding of Yorkshire Council to build an incinerator to treat "low-grade refuse-derived fuel" [Planning reference 20/03081/CM]. Approved in April 2021.
Northeast	Graythorp Energy Centre, Land to the South of Tofts Road, West Graythorp	Hartlepool Borough Council	Graythorpe Energy Ltd	560	RDF facility to treat "dry household and industrial waste". Hartlepool Borough Council voted to approve planning permission H/2019/0275 in July 2020.
	Site of Redcar Bulk Terminal, Redcar	Redcar and Cleveland	PMAC Energy	450	RDF facility. Project announced in July 2018. Planning permission was granted in January 2021 and is set for completition in 2025 [R/2020/0411/FFM.
	Billingham Reach EfW, Billingham Reach Industrial Estate, Stockton	Tees Valley	Tees Eco Energy Ltd (TeesEco)	375	RDF facility. Original planning application for fluidised bed biomass-only plant approved in October 2009 (09/1562/EIS). Application to vary to being a moving grate (conventional incineration). RDF plant approved in November 2016 (16/2165/VARY). Permit application for RDF plant made in November 2017 and granted in September 2018 [EPR/NP3537YY/A001].
Northwest	Darwen Energy Recovery Centre	Blackburn with Darwen	Suez	500	In August 2019 planning permission had been granted (ref 10/19/0495) but that "construction of the plant is now dependent on the waste management company securing a contract to continue managing Lancashire's residual waste".The plant is proposed to use conventional incineration technology
	Kingmoor Energy Recovery Facility, Kingmoor Park East, Carlisle (CA31)	Cumbria	Fortum Carlisle Limited, Kingmoor Park Properties and Verus Energy Ltd	274	RDF facility. Planning application submitted for RDF gasification plant in June 2016 (ref PL\1572\05 and 1/16/9005). Cumbria County Council granted planning permission in October 2016. In November 2017 it was made known that the operator wished to increase the capacity to 250ktpa and change the technology from gasification to moving grate combustion and intended to submit a Section 73 application in Early 2018. Section 73 application to vary the technology etc went live in September 2018 and was approved in January 2019 (ref 1/18/9012).Consultation on the permit application opened in July 2020 and closed 30 November 2020 (EPR/SP3609BX/A001).
	Longridge Road Energy Centre, Red Scar Industrial Estate, Ribbleton, Preston	Lancashire	Miller Turner Group	395	Planning application granted with an R1 condition for a conventional moving grant incinerator in November 2019 (LCC/2019/0029). Intended to treat both mixed waste and RDF.
	Heysham Energy Recovery Facility, Heysham Gateway, Imperial Road, Lancaster West Business Park	Lancashire	Veolia	330	Planning application submitted in March 2019 and approved in October 2019 (LCC/2019/0021). In September 2019 Veolia applied for an Environmental permit and this was issued in May 2020 (EPR/VP3437QR/A001).
	Greengate Energy Recovery Facility, Greengate Works, Sherdley Road, St Helens, Merseyside	St Helens	ESB Asset Development and Pilkington	300	Proposed gasification plant intended to use RDF from municipal and C&I waste. Planning application submitted November 2016 and granted March 2017 (P/2016/0804/FUL). Modified scheme to increase the capacity to 300,000 tpa of municipal, commercial and industrial waste was approved in December 2018 (P/2018/0675/WEIA). Environmental permit application submitted in November 2019 (EPR/TP3909PL/A001).
	Fleetwood Energy Centre, Jameson Road, Fleetwood	Lancashire	Reform Energy NW Limited	80	Planning permission granted in December 2016 for a variation of the scheme (ref LCC/2016/0021). No sign of progress as of February 2020, e.g. planning conditions have not been discharged and an Environmental Permit application has not been made.
GRAND TOTAL FOR REST OF ENGLAND				**8172**	

Sources:

United Kingdom without Incineration Network (UKWIN), website - accessed 06/03/22

Residual Waste in London and the South East: Where is it going to go…….? - (October 2018), Tolvik Consulting Ltd

Residual Waste EfW WiKi Waste - website accessed 05/04/22

Region	Name of Facility	Waste Planning Authority	Operator	Capacity ('000 tonnes per annum)	Commentary/ Notes
In planning' capacity in the WFAA local study area and East Midlands, South-Esat and London (as neighbouring regions):					
East of England	Archers Fields Energy Recovery Facility	Essex County Council	Clearaway Recycing Ltd	150	Planning application submitted in October 2020 (ESS/120/20/BAS). Application validated on 29 January 2021. Proposal is for gasifciation technology to manage RDF entirely from Clearaway Recycling Ltd operations. Portal states that the committee report is being drafted but no indication of when this application may go to committee.
Sub-total				**150**	
East Midlands	Boston Alternative Energy Facility (BAEF)	Lincolnshire County Council	Alternative Use Boston Projects Limited	1,000	National Infrastructure application accepted for examination in 2021. Deadline for decision by 6 July 2023. Water borne RDF only thus would only be ~100,000 tonnes of the Medworth market.
Sub-total				**1,000**	
London	None recorded	~	~	0	
Sub-total				**0**	
South East	Circular Technology Park, Former Ford Blockworks, Ford Airfield Industrial Estate, Ford, Arundel	West Sussex County Council	Grudon and Viridor	275	The site has planning permission for a gasification-type incinerator approved in July 2014 (ref WSCC/096/13/F), with decision notice issued in January 2015. In September 2019 it was announced that Viridor had joined Grundon for this project and in March 2020 it was announced that Grundon would be moving to a conventional incinerator technology for the plant and to increase the capacity from 200,000 to 275,000 and intended to submit a planning application to allow for this. A planning application for the revised scheme was submitted in July 2020 [WSCC/036/20]. In November 2020 West Sussex issued a Regulation 25 request for further information and in January 2021 the deadline for the applicant to provide this information was extended to 5th April 2021. In April 2021 application WSCC/036/20 was withdrawn and a revised planning application was submitted which had a reduced building height but the same stack height (ref WSCC/011/21).
	Reading Quarry	West Berkshire Council	J Miuld (Reading) Ltd	150	On 16 September 2020 J Mould put in a planning application for an incinerator (reference: 20/02029/COMIND). According to the planning application's planning statement, it is intended to treat RDF from household, industrial and commercial sources "from the on-site Reading Quarry Waste Recycling and Transfer Facility (WRTF) and other sites in the locality". The form of incineration technology is gasification base (moving grate, gassified then combusted). Revised ES chapters were submitted in December 2021. No indication of when this application may go to committee.
Sub-total				**425**	
GRAND TOTAL FOR WFAA STUDY AREA AND ITS ADJACENT REGIONS				**1,575**	

Region	Name of Facility	Waste Planning Authority	Operator	Capacity ('000 tonnes per annum)	Commentary/ Notes
In planning' capacity in the remaining English regions:					
Southwest	Portland Port, Castletown	Devon County Council	Powerfuel Portland	200	RDF facility. A consultation on the permit application began in June 2021 (ref EPR/AP3304SZ/A001). Planning application was submitted in September 2020 [application ref WP/20/00692/DCC]. A regulation 25 request was made in May 2021.
West Midlands	Kidderminster Energy Park, Next to Liberty Aluminium, Stourport Road, Kidderminster	Warwickshire County Council	Power Generation East Midlands / Bio Global Industries	75	Incinerator announced in May 2020 to treat commercial and industrial waste. Planning appication submitted to Worcestershire County Council in August 2020 (20/000034/CM). Due to Covid, the consultation was suspended. The planning consultation was re-opened in July 2021 as a result of a document having been unintentionally omitted from the County Council's website.
Yorkshire and Humberside	North Lincolnshire Green Energy Park, Flixborough Wharf, Flixborough Industrial Estate	North Lincolnshire Council	North Lincolnshire Green Energy Ltd	650	National Infrastructure application accepted for examination in June 2022 for a conventional incinerator accepting RDF. Eamination underway and expected to close in May 2023. https://infrastructure.planninginspectorate.gov.uk/projects/yorkshire-and-the-humber/north-lincolnshire-green-energy-park/
Northwest	None recorded	~	~	0	
GRAND TOTAL FOR REST OF ENGLAND				**925**	

Sources:

United Kingdom without Incineration Network (UKWIN), website - accessed 06/03/22

Residual Waste in London and the South East: Where is it going to go.....? - (October 2018), Tolvik Consulting Ltd

Residual Waste EfW WiKi Waste - website accessed 05/04/22

Medworth Energy from Waste
Combined Heat and Power Facility

PINS ref. EN010110
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Waste Fuel Availability Assessment Appendix D Mechanical Biological Treatment (MBT) Capcity Data

Regulation reference: The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 Regulation 5(2)(q)

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Region	Name of Facility	Waste Planning Authority	Operator
Consented and operational capacity in the WFAA local study area and East Midlands, South-Esa			
East of England	Waterbeach	Cambridgeshire County Council	Amey
	Coutauld Road	Essex County Council	UBB
Sub-total			
East Midlands	Bursom	Leicester City	Biffa
	Cotesbach	Leicestershire County Council	Beaupark Group
	Sinfin Road	Derbyshire County Council	Shanks
Sub-total			
London	Frog Island	East London Waste Authroity	Shanks
	Jenkins Lane	East London Waste Authroity	Shanks
	Old Kent Road	Southwark	Veolia
Sub-total			
South East	Brookhurst Wood	West Sussex County Council	Biffa
	Milton Keynes	Milton Keynes	Amey
Sub-total			

GRAND TOTAL FOR WFAA STUDY AREA

Region	Name of Facility	Waste Planning Authority	Operator
Consented and operational capacity in the remaining English regions:			
Northeast	Byker	Newcastle	Suez
	Aycliffe Quarry	Darlington	Stonegrave Aggregates
Sub-total			

Northwest	Hespin Wood	Cumbria	Shanks
	Sowerby Wood	Cumbria	Shaks
	Bredbury Park	Greater Manchester	Viridior
	Longley Lane	Greater Manchester	Viridior
	Cobden Street	Greater Manchester	Viridior
	Reliance Street	Greater Manchester	Viridior
	Renescience	Cheshire	DONG
Sub-total			
Southwest	Canford	Poole	Panda
	Avomnouth	Bristol City Council	Panda
	Nothacre	Wiltshire County Council	Hills
Sub-total			
West Midlands			
Sub-total			
Yorkshire and Humberside	Manvers	Barnsley, Doncatser and Rotherham	Shanks
	South Kirkby	Wakefield	Shanks
	Allerton Park	North Yorkshire	Amey
Sub-total			

GRAND TOTAL FOR REST OF ENGLAND

Source:

2017 Briefing Report: Mechanical Biological Treatment - 15 Years of UK Experience (September 2

Capacity ('000 tonnes per annum)	Effective 'final disposal'assumption based on 50% residual output (30% loss of mass by drying and 20% recovery of recyclates)
ıt and London (as neighbouring regions):	
200,000	100000
377,000	188500
577,000	
150,000	75000
50,000	25000
72,000	36000
272,000	
180,000	90000
180,000	90000
87,000	43500
447,000	
327,000	163500
120,000	60000
447,000	
1,743,000	

Capacity ('000 tonnes per annum)	Effective 'final disposal'assumption based on 50% residual output (30% loss of mass by drying and 20% recovery of recyclates)
120,000	60000
50,000	25000
170,000	

75,000	37500
75,000	37500
92,000	46000
110,000	55000
73,000	36500
65,000	32500
120,000	60000
610,000	
125,000	62500
200,000	100000
90,000	45000
415,000	**207500**
0	0
0	**0**
286,000	143000
145,000	72500
260,000	130000
691000	**345500**

1,886,000

017), Tolvik Consulting Ltd

Commentary	Adjusted Capacity ('000 tonnes per annum)
Sacks report has this final treament capacity as 60,000	100000
This facility is no longer operational and is scheduled for imminent demolition.	0
	100000
This site is also known as 'Ball Mill'. The technology utilized under the contract is the only one in the UK . Unusual technology.	75000
This facility ceased being operational in 2016 and was mothballed. Application made in 2020 to covert the MBT to a MRF (2020/0657/03 (2020/CM/0045/LCC). This was refused consnet.	0
This facility is no longer operational.	0
	75000
Contract ends 2027, loss making	90000
Contract ends 2027, loss making	90000
Site remains operational.	43500
	223500
RDF from this facility is exported to Europe.	163500
Unclear if this is MBT or EfW - MK Resource Recovery	60000
	223500
	622,000

Commentary	Adjusted Capacity ('000 tonnes per annum)
Operational Suez Contract Only runs to 2024	60000
Operational	25000
	85000

Operational	37500
Operational	37500
Operational	46000
Operational	55000
Operational	36500
Operational	32500
Opertaional	60000
	305000
	62500
MRF , MBT Only recorded 2000 tonnes and site was recently up for sale	100000
Odour issues	45000
	207500
~	0
	0
Loss making	143000
No MBT. X2 MRF/AD.	0
No MBT. MRF/AD/EfW North Yorkshire county council deducted £650,000 from its contract with Amey for "consistently" missing recycling targets at its mechanical biological treatment (MBT) plant.	0
	143000
	740,500

Medworth Energy from Waste
Combined Heat and Power Facility

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Waste Fuel Availability Assessment
Appendix E Waste Collection Authority Arrangements

Regulation reference: The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 Regulation 5(2)(q)

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Waste Planning Authority	Waste Collection Authority	Food Waste Collected Separately (Y/N)	Plans to Separately Collect Food Waste in the Future (Y/N)	Materials Collected Separately	Future Waste Management Plan (Y/N)	Future Waste Management Plan Overview	Source
Bedford Borough (Unitary)	Bedford Borough Council	N	N	•Dry mixed recycling •Household •Garden	Y Minerals and Waste Local Plan: Strategic Sites and Policies 2014	The Vision for Waste by 2028 •Promote reduction of waste •To move away from dependence upon landfilling •To provide greater capacity for the recovery of materials and energy •Other recovery operations, such as those involving energy recovery, have an order of priority above Disposal and below Recycling.	•Minerals and Waste Local Plan: Startegic Sites and Policies, (January 2014). Bedford Borough, Central Bedfordshire and Luton Borough Councils. •https://www.bedford.gov.uk/rubbish-recycling-and-waste/
Cambridgeshire County Council	Cambridgeshire City Council	N	Y Food waste collection trial in selected areas from Nov 21-ongoing The food waste is taken to the composting plant at the Waste Management Plan at Waterbeach.	•Dry mixed recycling •Household •Garden •Food waste trial in selected areas	Y Cambrideshire and Peterborough Minerals and Waste Local Plan 2021-2036	•Councils are keen to support opportunities to contribute positively to the sustainable management of waste •The council express a vision to improve sus but do not have many plans for specific waste management solutions. •Where the need for additional capacity for the disposal of non-hazardous waste is demonstrated such capacity must be provided through extension to existing Non-Hazardous Waste and Stable Non-Reactive Hazardous Waste (SNRHW) disposal sites	•https://cccandpcc.sharepoint.com/sites/PCCPlanningPolicyPublicData/Shared%20Documents/Forms/AllItems.aspx?id=%2Fsites%2FPCCPlanningPolicyPublicData%2FShared%20Documents%2FPlanning%20Policy%2FAdopted%20Local%20Plan%2FMinerals%20and%20Waste%20Local%20Plan%2F1%29%20Minerals%20and%20Waste%20Local%20Plan%20Adopted%20July%202021%2Epdf&parent=%2Fsites%2FPCCPlanningPolicyPublicData%2FShared%20Documents%2FPlanning%20Policy%2FAdopted%20Local%20Plan%2FMinerals%20and%20Waste%20Local%20Plan •https://www.cambridgeshire.gov.uk/residents/waste-and-recycling
	East Cambrideshire Distrcit Council	Y	n/a	•Dry mixed recycling •Household •Garden and food			
	Fenland District Council	N	N	•Dry mixed recycling •Household •Garden			
	Huntingdonshire District Council	Y	n/a	•Dry mixed recycling •Household •Garden and food			
	South Cambrideshire District Council	Y	Y Food waste collection trial in selected areas from Nov 21-ongoing The food waste is taken to the composting plant at the Waste Management Plan at Waterbeach.	•Dry mixed recycling •Household •Garden and food •Food waste trial in selected areas			
Central Bedfordshire (Unitary)	Central Bedfordshire Council	Y	n/a	•Dry mixed recycling •Household •Garden •Food •Glass collection in selected areas	Y Minerals and Waste Local Plan: Strategic Sites and Policies 2014	The Vision for Waste by 2028 •Promote reduction of waste •To move away from dependence upon landfilling •To provide greater capacity for the recovery of materials and energy •Other recovery operations, such as those involving energy recovery, have an order of priority above Disposal and below Recycling.	•https://www.centralbedfordshire.gov.uk/migrated_images/minerals-waste_tcm3-2120.pdf •https://www.centralbedfordshire.gov.uk/info/2/waste_and_recycling
Peterborough City Council (Unitary)	Peterborough City Council	Y	n/a	•Dry mixed recycling •Household •Garden •Food	Y Cambrideshire and Peterborough Minerals and Waste Local Plan 2021-2036	•Councils are keen to support opportunities to contribute positively to the sustainable management of waste •The council express a vision to improve sus but do not have many plans for specific waste management solutions. •Where the need for additional capacity for the disposal of non-hazardous waste is demonstrated such capacity must be provided through extension to existing Non-Hazardous Waste andStable Non-Reactive Hazardous Waste(SNRHW)disposal sites	•https://cccandpcc.sharepoint.com/sites/PCCPlanningPolicyPublicData/Shared%20Documents/Forms/AllItems.aspx?id=%2Fsites%2FPCCPlanningPolicyPublicData%2FShared%20Documents%2FPlanning%20Policy%2FAdopted%20Local%20Plan%2FMinerals%20and%20Waste%20Local%20Plan%2F1%29%20Minerals%20and%20Waste%20Local%20Plan%20Adopted%20July%202021%2Epdf&parent=%2Fsites%2FPCCPlanningPolicyPublicData%2FShared%20Documents%2FPlanning%20Policy%2FAdopted%20Local%20Plan%2FMinerals%20and%20Waste%20Local%20Plan • https://www.peterborough.gov.uk/residents/rubbish-and-recycling/bin-waste-advice
Essex County Council	Basildon Borough Council	Y	n/a	•Dry mixed recycling excluding glass •Household •Garden and Food •Glass	Y Joint Municple Waste Management Strategy for Essex 2007-2032	Vision of the Essex Waste Partnership •To create, promote or support campaigns that avoid or reduces waste, improve or maximises recycling and composting and minimise the environmental impacts of managing, treating and disposing of waste in Essex •we propose to introduce new treatment plants using Mechanical Biological Treatment (MBT). MBT processes any 'black bag' waste and recovers further material for recycling. Part of the remaining material can either be manufactured into a fuel for energy production or can be sent to landfill. •This means regarding waste as a sustainable resource:- Recover - extract every bit of value from material destined for disposal. •An energy plant recovers power from solid recovered fuel. Any energy plant built in Essex will be technologically advanced, environmentally sound and will meet the highest standards of emission control.	https://www.basildon.gov.uk/Rubbish
	Braintree District Council	Y	n/a	•Dry mixed recycling excluding Glass •Household •Garden •Food			https://www.loveessex.org/recycling-at-home/braintree/
	Brentwood Borough Council	Y	n/a	•Paper and Cardboard •Household •Garden •Food •Glass			https://www.brentwood.gov.uk/waste-and-recycling
	Castle Point Borough Council	Y	n/a	•Dry mixed recycling excluding Glass •Household •Garden •Food •Glass •Mixed textiles and clothes			https://www.castlepoint.gov.uk/refuse-collection/

	Chelmsford City Council	Y	n/a	•Tins,Glass and small electrical items •Household •Garden •Food •Cardboard •Mixed textiles and clothes •Paper •Plastics •Clothes and Shoes			https://www.chelmsford.gov.uk/bins-and-recycling/
	Colchester Borough Council	Y	n/a	•Food •Paper and Card •Glass and Cans •Plastics •Clothes and Shoes •Household •Garden			https://www.colchester.gov.uk/recycling-and-rubbish/
	Epping Forest District Council	Y	n/a	•Dry mixed recycling excluding Glass •Household •Garden and Food •Glass •Electrical items, batteries and textiles			https://www.eppingforestdc.gov.uk/recycling-and-rubbish/
	Harlow Council	Y	n/a	•Dry mixed recycling •Household •Garden •Food			https://www.harlow.gov.uk/bins-and-recycling
	Maldon District Council	Y	n/a	•Dry mixed recycling excluding Glass •Household •Glass •Food •Garden (Charged) •Textiles and Clothes			https://www.maldon.gov.uk/info/20000/waste_and_recycling
	Rochford District Council	Y	n/a	•Dry mixed recycling •Household •Garden and Food •Textiles and Clothes			https://www.rochford.gov.uk/environment/recycling/what-goes-where
	Tendring District Council	Y	n/a	•Plastic, Cans and Tins •Household •Paper and Card •Food •Garden (Charged)			https://www.tendringdc.gov.uk/rubbish-and-recycling/new-waste-service
	Uttlesford District Council	Y	n/a	•Dry mixed recycling •Household •Food •Garden (Charged)			https://www.uttlesford.gov.uk/article/5188/Household-waste-and-recycling

Hertfordshire County Council	Broxbourne Borough Council	Y	n/a	•Plastic, Cans and Tins •Household •Paper and Card •Food •Garden •Glass	Y Hertfordshire Waste Development Framework Waste Core Strategy & Development Management 2012-2026 https://www.hertfordshire.gov.uk/media-library/documents/environment-and-planning/planning/planning-in-hertfordshire/waste-local-plan/waste-core-strategy-and-development-management-policies-document.pdf	There is a need to promote residual waste facilities that complement the waste hierarchy and help secure self-sufficiency in landfill allowance. There is a range of existing and emerging technologies to treat residual waste by biological, mechanical and thermal means and the Waste Core Strategy and Development Management Policies document does not restrict any of these coming forward. The Hertfordshire Renewable and Low Carbon Energy Technical Study46 also identifies energy recovery from waste as a means of contributing to reduced carbon emissions from Hertfordshire's built environment The 'Waste Strategy for England 2007' strongly supports energy from waste as being a key part of the waste management approach	https://www.broxbourne.gov.uk/downloads/download/6/a-z-of-recycling
	Dacorum Borough Council	Y	n/a	•Dry mixed recycling •Household •Food •Garden			http://www.dacorum.gov.uk/home/environment-street-care/recycling-refuse-waste
	East Herts Council	Y	n/a	•Dry mixed recycling •Household •Food •Garden •Paper			https://www.eastherts.gov.uk/bins-waste-and-recycling/blue-recycling-bins
	Hertsmere Borough Council	Y	n/a	•Dry mixed recycling •Household •Garden and Food			https://www.hertsmere.gov.uk/Environment-Refuse-and-Recycling/Recycling--Waste/Bin-collections/What-goes-in/What-goes-in-my-bin.aspx
	North Hertfordshire Distrct Council	Y	n/a	•Dry mixed recycling •Household •Food •Garden •Paper			https://www.north-herts.gov.uk/houses-what-goes-my-bins-0
	St Albans City and District Council	Y	n/a	•Dry mixed recycling •Household •Food •Garden (Charged) •Paper •Small electrical items, textiles and household batteries			https://www.stalbans.gov.uk/about-my-bins
	Stevenage Borough Council	Y	n/a	•Food and Garden •Glass •Paper and Cardboard •Plastic and Metal •Household			https://www.stevenage.gov.uk/waste-and-recycling/your-waste-bins-and-recycling-containers
	Three Rivers District Council	Y	n/a	•Food •Garden •Dry mixed recycling •Household			https://www.threerivers.gov.uk/service/waste-collection
	Watford Borough Council	Y	n/a	•Food •Garden •Dry mixed recycling •Household			https://www.watford.gov.uk/bins/using-bins
	Welwyn Hatfield Borough Council	Y	n/a	•Food •Garden •Dry mixed recycling •Household			https://www.welhat.gov.uk/rubbish-recycling/bin-use/4
Leicestershire County Council	Leicester City Council	Y/N There is no kerb-side collection of food waste however the waste contractor seperates 20,000 tonnes of waste per year which is taken to an anaerobic digester.	N	•Household •Dry mixed recycling •Garden (Charged)	Y Draft Resources and Waste for Leicestershire 2022-2050 https://www.leicestershire.gov.uk/sites/default/files/field/pdf/2022/1/27/summary-of-draft-resources-and-waste-strategy-2022-2050.pdf	Using waste as a resource can help to reduce the raw materials needed for producing new goods, which has environmental, social and financial benefits. The County Council, over the period of this draft Strategy (to 2050), are likely to procure further contracts for waste treatment capacity. The technologies and options available to utilise for residual waste treatment change over time, but they should be assessed in the light of the vision and objectives. The Partnership will implement and promote separate food waste collections to all households, subject to confirmation of Government policy, legislation and the provision of funding.	https://www.local.gov.uk/case-studies/anaerobic-digestion-reducing-landfill-waste https://www.local.gov.uk/case-studies/anaerobic-digestion-reducing-landfill-waste
	Blaby District Council	N	N	•Household •Garden (Charged) •Dry mixed recycling			https://www.blaby.gov.uk/waste-and-recycling/household-waste/recycling-collections/
	Charnwood Borough Council	N	N	•Household •Garden (Charged) •Dry mixed recycling			https://www.charnwood.gov.uk/pages/what_can_and_cannot_be_recycled
	Harborough District Council	N	N	•Household •Garden (Charged) •Dry mixed recycling			https://www.harborough.gov.uk/info/20058/domestic_waste/418/bins_and_collections_information/3
	Hinckley and Bosworth Borough Council	N	N	•Household •Garden •Dry mixed recycling •Textiles and Shoes			https://www.hinckley-bosworth.gov.uk/whatgoesinbins
	Melton Borough Council	N	N	•Household •Garden (Charged) •Dry mixed recycling			https://www.melton.gov.uk/waste-and-recycling/
	North West Leicestershire Distrcit Council	N	Y Trial in place for 4,000 households	•Household •Batteries and Mobile phones •Textiles •Paper •Garden •Cardboard •Plastics, Aluminium, Steel and Glass			https://www.nwleics.gov.uk/pages/recycling_containers
	Oadby and Wigston Borough Council	N	N	•Household •Garden (Charged) •Dry mixed recycling			https://www.oadby-wigston.gov.uk/pages/recycling_collection

Lincolnshire County Council	Boston Borough Council	N	N	•Household •Dry mixed recycling •Paper and Cardboard •Garden (Charged)	Y Waste Strategy for Lincolnshire Lincolnshire Waste Partnership Adopted January 2019 https://www.lincolnshire.gov.uk/downloads/file/1898/joint-municipal-waste-management-strategy-2019-pdfa	To consider the introduction of separate food waste collections where technically, environmentally and economically practicable. reducing reliance on landfill, maximising opportunities for the re-use and recycling of waste, facilitating new technologies to maximise the renewable energy potential of waste as a resource, and promoting the use of carbon capture technology. All councils offer separate food waste collections. Promote the development of infrastructure for new and existing waste stream	https://www.mybostonuk.com/operations/
	East Lindsey District Council	N	N	•Dry mixed recycling excluding Glass •Household •Garden (Charged)			https://www.e-lindsey.gov.uk/Waste
	City of Lincoln Council	N	N	•Dry mixed recycling excluding Glass •Household •Garden (Charged)			https://www.lincoln.gov.uk/downloads/file/442/domestic-refuse-recycling-and-composting-policy
	North Kesteven District Council	N	N	•Household •Dry mixed recycling •Paper and Cardboard •Garden (Charged)			https://www.n-kesteven.gov.uk/residents/waste-and-recycling/find-information-about-the-waste-service/what-goes-in-my-green-lidded-bin/
	South Holland District Council	N	N	•Household •Dry mixed recycling •Paper and Cardboard •Garden (Charged)			https://www.sholland.gov.uk/RecyclingGuide
	South Kesteven District Council	N	Y 1 year long trial is currently undergoing to be diverted to AD	•Household •Dry mixed recycling •Garden (Charged)			http://www.southkesteven.gov.uk/index.aspx?articleid=9021
	West Lindsey District Council	N	N	•Household •Dry mixed recycling •Garden (Charged) •NEW: paper and cardboard collection starting in March 2022			https://www.west-lindsey.gov.uk/my-services/refuse-and-recycling/waste-services-information/bin-guides/blue-bin-guide-and-information/
Luton Borough Council (Unitary)		N	Y/N A trial began in 2019 for the collection of food waste caddies however ended due to Covid-19. No plans are in place to restart the trial	•Household •Dry mixed recycling excluding Glass •Glass •Garden (Charged)	Y Minerals and Waste Local Plan: Strategic Sites and Policies 2014 •https://www.centralbedfordshire.gov.uk/migrated_images/minerals-waste_tcm3-2120.pdf •https://www.bedford.gov.uk/rubbish-recycling-and-waste/	The Vision for Waste by 2028 •Promote reduction of waste •To move away from dependence upon landfilling •To provide greater capacity for the recovery of materials and energy •Other recovery operations, such as those involving energy recovery, have an order of priority above Disposal and below Recycling.	https://m.luton.gov.uk/Page/Show/Environment/Rubbish_waste_and_recycling/Pages/Bin-collection.aspx
Norfolk County Council	Breckland District Council	N	N	•Household •Dry mixed recycling •Garden (Charged)	Y Norfolk Minerals and Waste Development Framework 2010-2026 https://www.norfolk.gov.uk/what-we-do-and-how-we-work/policy-performance-and-partnerships/policies-and-strategies/minerals-and-waste-planning-policies/adopted-policy-documents	In order to help drive the management of waste up the waste hierarchy, additional plants to recover value from waste will also be needed. Norfolk will be a leader in waste prevention and increasing the recycling of resources and recovery of energy from waste. Large and medium-sized facilities for minerals extraction and waste management will be preferentially located close to the Norwich Policy Area, Great Yarmouth urban area, King's Lynn or Thetford.	https://www.breckland.gov.uk/rubbish
	Broadland District Council	Y	n/a	•Household •Dry mixed recycling •Garden (Charged) •Food			https://www.southnorfolkandbroadland.gov.uk/rubbish-recycling
	Great Yarmouth Borough Council	N	N	•Household •Dry mixed recycling •Garden (Charged)			https://www.great-yarmouth.gov.uk/rubbish-and-recycling
	King's Lynn & West Norfolk Borough Council	Y	n/a	•Household •Dry mixed recycling •Garden (Charged) •Pre-orgainised clinical waste •Food			https://www.west-norfolk.gov.uk/info/20140/what_goes_in_each_bin
	North Norfolk District Council	N	N	•Household •Dry mixed recycling •Garden (Charged)			https://www.north-norfolk.gov.uk/tasks/environmental-services/renew-a-brown-garden-bin/
	Norwich City Council	Y	n/a	•Household •Dry mixed recycling •Garden (Charged) •Food			https://www.norwich.gov.uk/info/20001/bins_and_recycling
	South Norfolk District Council	N	N	•Household •Dry mixed recycling •Garden (Charged)			https://www.southnorfolkandbroadland.gov.uk/rubbish-recycling

West Northamptonshire Council		Y	n/a	•Household •Dry mixed recycling •Garden (Charged) •Food	Y Minerals and Waste Local Plan July 2017 https://www.northamptonshire.gov.uk/councilservices/environment-and-planning/planning/planning-policy/minerals-and-waste-planning-policy/Pages/update-of-the-adopted-minerals-and-waste-local-plan.aspx	A sustainable waste management network requires both primary and advanced waste management facilities. This in turn should reflect both the catchment area and functional role. These should also go to locations where investment can be optimised and sustainable development can occur. More significant facilities for waste management should also seek to create higher value waste management related jobs at the respective facility	https://www.westnorthants.gov.uk/bins-recycling-and-street-cleaning
North Northamptonshire Council		Y	n/a	•Household •Dry mixed recycling •Garden •Food			https://www.northnorthants.gov.uk/bins-recycling-and-street-cleaning
Rutland County Council		N	N	•Household •Dry mixed recycling including batteries •Garden (Charged)	Y Waste Management and Streetscene Strategy 2020-2036 https://www.rutland.gov.uk/_resources/assets/attachment/full/0/97492.pdf	Our aims: where prevention, reuse or recycling are not possible, to maximise the recovery of energy and value from waste This strategy reflects the 'waste hierarchy', which defines how we should think about waste, by preventing items from becoming waste in the first place, where this is possible, and then viewing all waste that is created, as a resource.	https://www.rutland.gov.uk/my-services/waste-and-recycling/
Suffolk County Council	Baberg and Mid Suffolk District Council	N	Y/N Babergh District Council's Labour group launched a 'Keep Babergh Tidy' campaign which included a call on the council to introduce a food collection service.	•Household •Dry mixed recycling excluding Glass •Garden (Charged)	Y Suffolk Minerals & Waste Local Plan (SMWLP) - Adopted 9 July 2020 https://www.suffolk.gov.uk/planning-waste-and-environment/minerals-and-waste-policy/suffolk-minerals-and-waste-development-scheme/	waste management sites will only be permitted in appropriate locations and will be required to be operated to high standards, so that they do not cause a significantly adverse impact upon the environment, landscape character, historic environment or local amenity or endanger human health. It will work proactively with applicants to find solutions which mean that proposals can be approved wherever possible, and to secure minerals and waste development that improves the economic, social and environmental conditions in the area.	https://www.midsuffolk.gov.uk/waste-services/
	East Suffolk Council	N	N	•Household •Dry mixed recycling excluding Glass •Garden (Charged)			http://www.eastsuffolk.gov.uk/waste/waste-collection-and-disposal/bin-collection/
	Ipswich Borough Council	N	N	•Household •Dry mixed recycling excluding Glass •Garden			https://www.ipswich.gov.uk/yourbins
	West Suffolk Council	N	N	•Household •Dry mixed recycling •Garden (Charged)			https://www.westsuffolk.gov.uk/bins/index.cfm?aud=resident
Milton Keynes		Y	n/a	•Household •Dry mixed recycling excluding Glass •Glass •Garden and Food •Batteries	N The current plan is in place until 2026, there has been no development of the future plan as of yet.		https://www.milton-keynes.gov.uk/waste-recycling
Thurrock		Y	n/a	•Household •Dry mixed recycling •Garden and Food			
Southend on Sea		Y	n/a	•Household •Dry mixed recycling (plastics, glass, cans) •Food			
				•Paper •Textiles •Small electrical			
				•Garden (charged separately)			

	Total WCAs	Total collecting food	% collecting food
East of England	43	33	76.74418605
East Midlands (in scope)	18	2	11.11111111
	61	35	57.37704918