NORTH LINCOLNSHIRE GREEN ENERGY PARK

Planning Act 2008

Infrastructure Planning (Applications Prescribed Forms and Procedure) Regulations 2009

North Lincolnshire Green Energy Park

Volume 9

9.47 Applicant's Response to UKWIN comments following the 8th December Request for Information

PINS reference: EN010116

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Contents

Acronyms and Abbreviations

Name	Description
AGI	Above Ground Installations
CBMF	Concrete Block Manufacturing Facility
CCUS	Carbon Capture, Utilisation and Storage
CO2	Carbon Dioxide
CoCP	Code of Construction Practice
COMAH	Control of Major Accident Hazards
DAS	Design and Access Statement
dDCO	Draft Development Consent Order
DHPWN	District Heat and Private Wire Networks
EIA	Environmental Impact Assessment
ERF	Energy Recovery Facility
ES	Environmental Statement
EV	Electric Vehicle
ExA	Examining Authority
H_2	Hydrogen
IEMA	Institute of Environmental Management and Assessment
LAQM	Local Air Quality Management
MW	Megawatt
NE	Natural England
NLC	North Lincolnshire Council
NLGEP	North Lincolnshire Green Energy Park
NSIP	Nationally Significant Infrastructure Project
OEMP	Outline Environmental Management Plan
PRF	Plastic Recycling Facility
RDF	Refuse Derived Fuel
RHTF	Residue Handling and Treatment Facility
SMP	Soil Management Plan
SoCG	Statement of Common Ground
SSSI	Site of Special Scientific Interest
SUDs	Sustainable Drainage System

1. INTRODUCTION

1.1 Overview

1.1.1 This report responds to UKWIN's comments to the 12th January deadline, published by the Secretary of State for Energy Security and Net Zero on the Planning Inspectorate website on the 16th January 2024 and the 22nd January 2024.

1.1.2 The Applicant acknowledges that submissions from other parties were received for the 12th January deadline, however no responses to these were considered necessary.

1.2 The Proposed Development

1.2.1 The North Lincolnshire Green Energy Park (NLGEP), located at Flixborough, North Lincolnshire, comprises an ERF capable of converting up to 760,000 tonnes of residual non-recyclable waste into 95 MW of electricity and a CCUS facility which will treat a proportion of the excess gasses released from the ERF to remove and store CO2 prior to emission into the atmosphere. The design of the ERF and CCUS will also enable future connection into the Zero Carbon Humber pipeline to be applied for, when this is consented and operational, to enable the possibility of full carbon capture in the future.

1.2.2 The NSIP incorporates a switchyard, to ensure that the power created can be exported to the National Grid or to local businesses, and a water treatment facility, to take water from the mains supply or recycled process water to remove impurities and make it suitable for use in the boilers, the CCUS facility, concrete block manufacture, hydrogen production and the maintenance of the water levels in the wetland area.

1.2.3 The Project will include the following Associated Development to support the operation of the NSIP:

- A bottom ash and flue gas residue handling and treatment facility (RHTF);
- A concrete block manufacturing facility (CBMF);
- A plastic recycling facility (PRF);
- A hydrogen production and storage facility;
- An electric vehicle (EV) and hydrogen (H2) refuelling station;
- Battery storage;
- A hydrogen and natural gas above ground installations (AGI);
- A new access road and parking;
- A gatehouse and visitor centre with elevated walkway;

- Railway reinstatement works including, sidings by Dragonby, reinstatement and safety improvements to the 6km private railway spur, and the construction of a new railhead with sidings south of Flixborough Wharf;
- A northern and southern district heating and private wire network (DHPWN);
- Habitat creation, landscaping and ecological mitigation, including green infrastructure and 65-acre wetland area;
- New public rights of way and cycle ways including footbridges;
- Sustainable Drainage Systems (SuDS) and flood defence; and,
- Utility constructions and diversions.

1.2.4 Additional information regarding the proposed development can be found in Chapter 1 and Chapter 3 of the submitted Environmental Statement (APP-049 and REP6-018).

2 RESPONSES TO UKWIN COMMENTS

2.1 Introduction

2.1.1 UKWIN raised a number of points in their Further Information, provided in response to the SoS letter of 8th December 2023 ('UKWIN Further Information response') and their comments on the Applicant's January 2024 response to the SoS letter ('UKWIN Comments on Document 9.4.6'). The Applicant has grouped these issues into a number of summary points, which it responds to below.

2.2 Weight to be given to NPS EN1 and EN3

2.2.1 NPS EN1 and EN3 are now designated (as of January 2024) and should accordingly be given significant weight as a statement of Government policy. As noted in the transitional provisions section, however, only applications accepted for examination following the designation must be determined in accordance with the NPS as a matter of law under Section 104 of the Planning Act 2008, rather than an important and relevant consideration under Section 105 of the Planning Act 2008, as is the case here.

2.3 Policy position in NPS EN1 and EN3 on overcapacity

2.3.1 Firstly, as stated in the Applicant's Closing Submissions (Executive Summary paragraph 10 and paragraphs 2.9-2.14) (AS-031), NPS EN1 and EN3 need to be read as whole. The Applicant's position is that the Proposed Development would not lead to over-capacity of residual waste at a national or local level, when read together with paragraph 2.7.29 which requires EfW to be fit for the future.

2.3.2 NPS EN1 and EN3 (now designated) are still supportive of EfW/ERF as part of the wider energy mix (see paragraph 2.7.2 of NPS EN3). If the Government position was that there was a national position of overcapacity, this would not be the case.

2.3.3 At paragraph 12 of UKWIN's Further Information response, the footnote quoted by UKWIN is there to clarify that the Government policy is that the proposed ERF should not result in an overcapacity of residual waste treatment (rather than not having an upper limit as is the case with other forms of renewable and low carbon energy). It doesn't suggest that the energy generation benefits of ERF are not taken into account in decision making and it is clear from the inclusion of ERF as Critical National Priority (CNP) infrastructure that the Government do support such projects where other policy requirements are met.

2.3.4 In terms of UKWIN's position that the policy relates to overall residual waste capacity (not just ERF), this supports the position taken by the Applicant in looking at all forms of residual waste treatment in its analysis (REP3-041).

2.3.5 In paragraph 13, UKWIN set out a number of policy requirements, all of which the Applicant has addressed:

- The Applicant recognises that an ERF has two roles - both to recover energy to generate low carbon electricity and treat waste. For this reason it has consistently demonstrated compliance with the waste hierarchy.

- The Applicant has provided an assessment of the conformity of the scheme with the waste hierarchy.
- The Applicant has set out considerable information on how the proposed capacity is compatible with and supports long term recycling targets.
- The Applicant has demonstrated that the Proposed Development will not result in an overcapacity at local or national level.

2.3.6 In paragraph 14, UKWIN makes a number of propositions which it states are Government positions, but which are in fact their interpretation of them. The Applicant's position, as stated above, is that the proposal complies with policy in NPS EN1 and EN3.

2.4 Policy requirement to demonstrate no overcapacity

2.4.1 Paragraph 32 of the UKWIN comments on Document 9.46 suggests that the inclusion of an overcapacity test means that there is a Government concern on avoiding overcapacity of residual waste managed through ERFs. The Applicant does not dispute this, and has therefore gone to great lengths to demonstrate that its proposed development meets this test. UKWIN appear to interpret this test as meaning that there is definitely an overcapacity, when the Applicant's position is that the policy requires consideration of *whether* there would be an overcapacity – its position is that there will not be, particularly when plants which do not meet environmental expectations of the Government and industry are taken into account, as well as the prospect that other projects might fail to proceed post planning, or might exit the market for other reasons.

2.5 EN3 - Requirement to be "Fit for the Future"

2.5.1 There is no doubt that to achieve Net Zero a massive step change is required in the way that the UK generates its energy and manages its emissions. The Applicant's position is that whilst this paragraph does, as UKWIN correctly point out, only apply to new NSIPs, it cannot be consistent with Government policy on Net Zero to require older, increasingly obsolete plants to continue at the expense of new, modern, efficient plants with carbon capture such as the North Lincolnshire Green Energy Park, especially given the demands made by waste producers regarding the sustainability of their service providers, for example associated with meeting their needs in reducing Scope 3 carbon emissions.

2.6 RDF availability assessment

2.6.1 The Applicant does not propose to respond point by point to all of UKWIN's comments on the Applicant's January 2024 response to the Secretary of State's information request (Document Reference 9.46). Instead it proposes to reiterate the following key messages in relation to projections of residual waste arising and disposal capacity. The Applicant confirms that the analysis presented in their January 2024 response incorporates changes to the EfW fleet outlined in Tolvik's "Energy from Waste Statistics 2022" report

published in May 2023. DEFRA statistics just released[1] shows recycling % has only increased 0.5% from the newly available UK 2021 figures even though there is an undercapacity of EfW plants in operation. Municipal biodegradable waste sent to landfill increased. There are factors other than the EfW capacity driving the recycling rates.

2.6.2 Given that the Proposed Facility will not compete with recycling because of the regulatory requirement for waste producers to apply the waste hierarchy, it will accept residual waste which would otherwise go to landfill or other energy recovery facilities or for export.

2.6.3 UKWIN appears to be of the view that only the case where waste reduction targets are achieved should be considered. As described in the Applicant's response to request for further information by the Secretary of State (Document Reference 9.49), the Applicant was invited by the Secretary of State to consider the possibility (actually probability in the Applicant's view) that these targets will not be achieved within the timeline that was put forward – hence the development of a number of scenarios in Annex 1 of that document.

2.6.4 At the same time, UKWIN appears to be of the view that carbon reduction targets are not met (despite being legally binding). This is inconsistent – if they assume waste reduction targets are met they should also assume carbon targets are met. UKWIN is silent on how this will be achieved. The Applicant's view remains that older, less efficient facilities or those in less favourable locations are likely to close, with the waste diverted to large facilities near CCS clusters where the CO2 can be captured and stored more cost effectively. The Applicant's view is that, when assessing future capacity, the Secretary of State should take into account the fact that many existing facilities will not be able to fit CCS owing to limited space, lack of proximity to a cluster or because it is not economic to do so.

2.6.5 One of the uncertainties when assessing future need is the extent to which existing pipeline projects are realised. These projects will be developed only if they are able to secure sufficient feedstock supplies to meet financing requirements. The Applicant's view is that the capacity of consented projects which have not yet reached financial close should be discounted in future capacity assessments, given that the Applicant will be competing with these projects for feedstock. Government policies on emissions are designed to ensure that the market brings forward capacity that offers the best environmental outcome.

2.7 Response to EWC codes

2.7.1 UKWIN seek to cast doubt on the availability of fuel for the proposed development through reference to a technical note produced by Beyond Waste to inform the Examining Authority with respect to the Medworth DCO application. The Applicant draws the Secretary of State's attention to two key points in this regard, as succinctly as possible, as follows.

2.7.2 Firstly, the Beyond Waste technical note, and UKWIN's submission (both published 16th January 2024), relate only to a single EWC code, 19 12 12

[1] https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste#:~:text=The%20recycling%20rate%20for%20waste,%2C%20and%2056.7%25%20in%20Wales. UK Statistics on Waste, updated June 2023.

'*other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11*'. This is only one of a large number of waste codes that the Applicant expects to be able to receive, the full list of which will be included in an Environmental Permit similar to that referenced in its previous response (Document Reference 9.46). This will include the far more relevant code 19 12 10 '*combustible waste (refuse derived fuel)*'. Only a minor proportion of the fuel received at the proposed development will be classified as 19 12 12.

2.7.3 The Footprint Services report at Appendix 1 of this document shows that on average only 16% of received fuel is allocated to code 19 12 12. This varies by site from zero % to 50%. This demonstrates inter alia that the code is accepted as a fuel, where it is available, but that typically it is not a major source of fuel, as well as that it is combustible.

2.7.4 Generally, all RDF, regardless of source and composition, will contain some inert materials alongside combustible materials in a residual waste where those components that it is practicable to separate and to recycle have been removed. Provided that the fuel meets the required specification, combustion allows energy to be recovered from combustible elements. Non-recyclable inert materials may not have an energy content, but treatment in the EfW allows them to be recovered in the form of an ash derived secondary aggregate product for construction applications where they would have no value if they were consigned to landfill. Recovery as an aggregate offsets the use of virgin aggregates, with a resulting carbon benefit.

2.7.5 Secondly, the analysis in the Beyond Waste technical note draws on data relating only to wastes classified as 19 12 12 that arise from the treatment of Construction, Demolition and Excavation (C, D & E) waste. It then draws an inference about wastes classified as 19 12 12 arising from Commercial and Industrial waste by inference. Beyond Waste is careful to acknowledge that its analysis and inference refers to the position in Kent (see for example, the underlined text on page 6 of that technical note). Its conclusions about the extent to which 19 12 12 wastes in Kent are combustible is one that is geographically-specific, since it depends on local waste arisings and composition, construction activity and waste treatment infrastructure. The position in Kent is not relevant to the Applicant's assessment of fuel availability, not least because of the significant EfW capacity already in operation in that county to divert combustible wastes from landfill.

2.7.6 Figure 1 is a graph showing the waste arising profile based on the three sites identified in the Beyond Waste technical report and its relevance to the Applicant's site. In summary, it shows that there is no benefit in using Medworth analysis to draw conclusions for the Applicant's site.

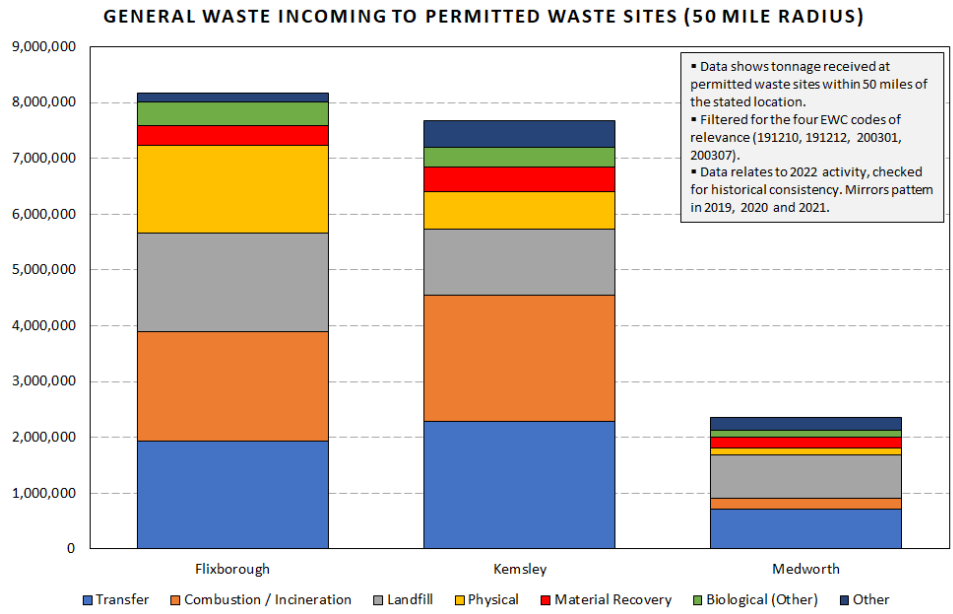

Figure 1 Waste arising profile based on three sites identified in the Beyond Waste technical report and its relevant to the Applicant's site

2.8 Waste hierarchy, overcapacity and the market

2.8.1 The Applicant recognises and supports inter alia the key principles relating to waste infrastructure development that are the waste hierarchy and avoidance of overcapacity. Residual wastes continue to be landfilled in the UK, contrary to the waste hierarchy, and this creates demand for significant additional diversion capacity, not least to address the urgent need to reduce greenhouse gas emissions. The gap between the proposed recycling target and the reality will widen the capacity gap and create greater future EfW capacity. Recent figures released from DEFRA[2] show a further decline in the percentage recycled from household waste with a 16% reduction in waste arisings to landfill. The official waste from English households recycling rate decreased by 0.7% to 43.4% in 2022, official statistics from DEFRA show. The total amount of waste recycled also decreased from 10.2 million tonnes in 2021 to 9.3 million tonnes in 2022 – an 8.6% decrease. The amount of dry material recycled in 2022 was 5.5 million tonnes, down by 0.4 million tonnes from 2021, a decrease of 7.1%. Food waste recycling rates also fell according to the latest figures. The tonnage of separately collected food waste sent for recycling fell by 2.6% to 499 thousand tonnes from 512 thousand tonnes in 2021.

2.8.2 The pipeline of proposed EfW plants to deliver additional diversion capacity for residual waste cannot be relied upon in its entirety. In referring to the Ince Marshes project and more recent Melton project, the Applicant's intention was simply to provide evidence that, in practice, proposed and consented plants are removed from that pipeline, and are delivered at throughput less than originally planned. This reality has been long

[2] https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste#:~:text=The%20recycling%20rate%20for%20waste,%2C%20and%2056.7%25%20in%20Wales. UK Statistics on Waste, updated June 2023.

recognised. Hence, planning for 'just enough' capacity is a strategy likely to fail, and not to meet the demands of the waste hierarchy.

2.8.3 In addition, consented facilities will not reach financial close, will not be built and will not become operational if there is insufficient fuel to meet their planned throughput. These are facilities with capital costs of several £100m, and their operators and funders are rational and shrewd and will require good evidence of long-term fuel supply prospects.

2.8.4 The waste market is a vibrant and dynamic one, responsive to the demand of waste producers. As mentioned above, the continuing landfill of residual waste contrary to the waste hierarchy creates a demand, and, together with other operators, the Applicant intends to provide supply to meet that demand. This demand is also increasingly for low carbon waste services, as producers seek to meet greenhouse gas reduction targets.

2.8.5 Markets work most effectively through competition, and the Applicant welcomes that competition. Its proposed development benefits inter alia from economies of scale, efficiency and carbon capture, together with proximity to established routes of waste export. These characteristics will render it highly competitive, and the Applicant considers that it will be preferred to other facilities in the fleet that have less attractive credentials.

2.8.6 As EfW is brought into the ETS following the Government response to consultation released in July 2023 "*Therefore, we intend to include EfW and waste incineration in the UK ETS from 2028. This will give a five -year period for the sector and their customers to prepare for implementation. We are minded to include a two-year phasing period, from 2026-2028, where installations will monitor their emissions, but we will consult on this further*", the cost of carbon will be internalised and act as a commercial discriminator between efficient plant with carbon capture and less efficient plant without carbon capture. Carbon credentials will not merely be a matter of corporate social (environmental) responsibility, but will provide operators with an advantage in terms of their pricing and return on investment. This will have a significant impact on the market dynamics of the existing and proposed EfW fleet in the UK.

2.8.7 Currently, demand for EfW outstrips supply such that there is market failure. In the event that capacity approaches or meets demand, prices will fall and the commercial pressure on less efficient plant without carbon capture will lead them to exit the market. The Applicant welcomes this competition.

2.8.8 Returning to reduction and recycling, levels of the waste hierarchy that are preferred to EfW, UKWIN's proposition is that these are threatened by the potential that EfW demand is met. This is a canard. The Applicant's intention in referring in Document Reference 9.46 to other markets in Europe is to demonstrate that, where supply exceeds demand, these priorities are not compromised. The response of the market is that waste is imported from further afield where demand outstrips supply and/or EfW plant close. Recycling rates continue to rise as these changes take effect.

2.8.9 This outcome should not be a surprise. Waste producers are bound by regulation to apply the waste hierarchy, and risk prosecution by the Environment Agency (or competent authority in the country concerned) if they do not do so. Clearly, diverting waste that should be recycled to EfW would be an offense, and that is one reason why it does not, and will not happen. Further, recycled materials have value, such that it costs waste

producers less to separate and to recycle than to pay the gate fee charged to have waste collected, treated and managed via EfW.

2.9 The plastics component in residual waste fuel

2.9.1 In paragraphs 89 and 103 of its response, UKWIN speculates about a potential effect of the removal of plastics waste on the calorific value of residual waste and the throughput required by the proposed development and other EfW plants in the fleet in order to maintain an electrical output from a given tonnage of residual waste.

2.9.2 In practice, waste composition is variable both spatially and temporally, and reflects a great many changes in the consumption of households and business and their behaviour as waste producers. The reduced quantities of plastics in residual waste referred to by UKWIN, for example as a result of a ban on single use items, are likely to be compensated by increases in the quantities of biomass materials used as substitutes in packaging solutions that will still bot be readily separated for recycling. Whilst the calorific value of the residual waste material on a per kg basis will be less, the mass of material used will increase and the net effect on the capacity of EfW required is likely to be immaterial.

2.9.3 The same effect is likely in other uses of plastics, for example where lighter weight polyester textiles are replaced by cotton. Over time, substitution of fossil plastics with biomaterials will increase the biogenic carbon content of residual waste and improve the carbon credentials of the proposed development.

2.9.4 Furthermore, as efforts are made to reduce the impact of packaging, some inert materials such as glass and metals are being replaced by those that are combustible, such as paper, card and biomaterials derived from seaweed, plant starch and plant protein. The effect of this replacement is likely to increase the calorific value of waste.

2.9.5 Nonetheless, these changes are difficult to forecast, and the Applicant has not attempted to model them in its assessment of fuel availability and carbon balance. It considers the comments made by UKWIN to be speculation that is partial and indefensible. They should not be accorded weight.

NORTH LINCOLNSHIRE GREEN ENERGY PARK

Planning Act 2008

North Lincolnshire Green Energy Park

Appendix 1 - Foorprint Services Report

PINS reference: EN010116

February 2024

Footprint Services

Sustainability for good

EVALUATING FUEL AVAILABILITY FOR THE NORTH LINCOLNSHIRE GREEN ENERGY PARK

REPORT PREPARED FOR NORTH LINCOLNSHIRE GREEN ENERGY PARK LTD
JANUARY 2024 (v1.3)

www.footprintservices.co

CONTENTS

GENERAL NOTES:

- *Waste volumes referred to in this report are taken from the national Waste Data Interrogator dataset, sourced from returns submitted by operators of permitted waste management sites to the Environment Agency. Figures refer to 2022 site activity.*
- *This report references two other documents. To avoid confusion, consistency of nomenclature has been applied throughout as follows:*
    - ***EN010116-001418 (UKWIN North Lincs response to SoS letter of 8 December 2023):** referred to as 'the UKWIN response' or 'the response'.*
    - ***EN010116-001419 (Technical note produced by Beyond Waste):** referred to as 'the Beyond Waste paper' or 'the paper'.*
    - *This report, prepared by Footprint Services, is described throughout as 'this report'.*

1. EXECUTIVE SUMMARY

In January 2024, the UK Without Incineration Network (UKWIN) responded to the ongoing consideration of evidence by the Secretary of State and the Planning Inspectorate regarding the proposed development of the North Lincolnshire Green Energy Park Energy Recovery Facility. As part of their response, they referred to a paper previously submitted by Beyond Waste to the Examination Authority of the DCO pertaining to a separate and unrelated proposal for an energy-from-waste facility in Medworth, Cambridgeshire.

This report explores the validity of the key assertions of the UKWIN response and the Beyond Waste paper. The conclusions are summarised as follows:

1.1. **Combustibility of EWC 191212 Waste:** The Beyond Waste paper cited by UKWIN suggests that only about 40% of EWC 191212 waste is combustible, which is critiqued as an understatement. This report aligns more with Tolvik Consulting's assumption that 70% is combustible, especially in the context of the North Lincolnshire Green Energy Park.

1.2. **Rejection of UKWIN's Submission:** The UKWIN submission, which leans on the Beyond Waste paper's findings, is recommended for dismissal in this report. The premise that only 40% of EWC 191212 waste is combustible is deemed unsound.

1.3. **Geographic Specificity of Findings:** The Beyond Waste paper's findings, based on data from Medworth and Kent, are not directly applicable to North Lincolnshire due to geographical and contextual differences. Thus, conclusions drawn from the paper are not relevant to the North Lincolnshire project.

1.4. **Questioning Beyond Waste Paper's Foundational Logic:** The Beyond Waste paper's central argument that the Medworth Waste Availability Assessment significantly overestimates available fuel is undermined by questionable foundational logic, and therefore this claim cannot be said to apply in North Lincolnshire.

1.5. **Potential for Energy Recovery from EWC 191212 Waste:** Despite challenges in processing, EWC 191212 waste, comprising low-value and non-recyclable materials, is considered a viable source for energy recovery.

1.6. **Energy from Waste Requirements and Feedstock Availability:** This report confirms that approximately 70% of landfilled EWC 191212 waste is suitable for Energy-from-Waste (EfW) processes. It estimates a theoretical feedstock availability of 1.3 million tonnes within a 50-mile radius of the proposed site. This feedstock includes the 70% combustible EWC 191212 waste, as well as other relevant waste streams such as municipal solid waste that are currently being sent to landfill.

1.7. **Clarification on Feedstock Sources:** This report clarifies that the feedstock for the project does not have to be limited to the currently-landfilled EWC 191212 waste or confined within a 50-mile radius of the proposed site. The focus on EWC 191212 is primarily because of its emphasis in the Beyond Waste paper.

2. ABOUT FOOTPRINT SERVICES

2.1. COMPANY SUMMARY

2.1.1. Footprint Services, an independent environmental consultancy based in Lincolnshire, was established in 2016. The company specialises in transforming, interpreting and presenting information regarding industrial waste and resources. Dedicated to unlocking the potential of environmental data, Footprint Services strives to convert this data into actionable insights that promote a more efficient and circular economy. The company is deeply committed to facilitating the transition to a sustainable circular economy. It has actively contributed to supporting Local Enterprise Partnerships, Local Authorities, industries and various organisations in developing policies and procedures aimed at fostering a future that is more resource-efficient.

2.2. DATA MANAGEMENT

2.2.1. The Footprint Services model is fuelled by raw data that consists of regulatory information from organisations such as the Environment Agency (EA), Natural Resource Wales, the Scottish Environment Protection Agency (SEPA), Defra and others. This information is subject to thorough reliability checks by the respective regulatory bodies before it is published. Part of this data is

released according to the scheduled programmes of these regulatory bodies, while other datasets are obtained through Freedom of Information requests. Each update is incorporated into the Footprint Services historical database, enhancing the repository with a comprehensive and deep datamining capacity.

2.3. COMPANY CLIENTS

2.3.1. Footprint Services provides bespoke consultancy, reports or do-it-yourself interactive analytical dashboarding services to over 100 subscribing clients from micro businesses and SMEs right up to multinational resource-focused companies. A monthly RDF export dashboard has a distribution list of over 200 recipients.

3. BACKGROUND TO THIS REPORT

3.1. NORTH LINCOLNSHIRE GREEN ENERGY PARK

3.1.1. The North Lincolnshire Green Energy Park project consists of an Energy Recovery Facility (ERF) converting up to 650,000 tonnes per annum of Refuse Derived Fuel (RDF) to generate a maximum of 95MWe and/or 380MWt to provide power, heat and steam on the site of the operating Flixborough Wharf on the River Trent, North Lincolnshire. The Project will incorporate battery storage, hydrogen production from the electrolysis of water, hydrogen storage, heat and steam storage. It will also include the treatment of bottom and fly ash, concrete block manufacturing, carbon dioxide capture and utilisation and an extended district heat network of 5km, plus a power and gas network to service a nearby proposed housing development. Development at the site will also include the upgrading of rail infrastructure to facilitate the delivery of RDF by low-carbon transportation, as well as improving road access to ease the flow of traffic.

3.2. NATIONALLY-SIGNIFICANT INFRASTRUCTURE PROJECT

3.2.1. Because the North Lincolnshire Green Energy Park ERF will recover energy in excess of 50MW, it requires a Development Consent Order (DCO) and has been classified as a Nationally Significant Infrastructure Project (NSIP).

3.2.2. The project is currently awaiting a decision by the Secretary of State based on evidence submitted by the project developers and other parties. In December 2023, the Planning Inspectorate extended an invitation for submissions relating to the application.

3.2.3. In January 2024, UKWIN[1] "*decided that it would be of assistance to the application's determination to provide updates and further information on this topic*" and submitted a response to the request for information.

3.3. UKWIN RESPONSE

3.3.1. In January 2024, UKWIN responded to argue against the development of the North Lincolnshire Green Energy Park ERF. As part of their response, they referred to a paper previously submitted by Beyond Waste to the Examination Authority of the DCO pertaining to a separate and unrelated proposal for an energy-from-waste facility in Medworth[2], Cambridgeshire.

3.3.2. Within the context of the Beyond Waste paper, UKWIN has asserted the following specific interpretations. It is important to note that the inclusion of these interpretations does not necessarily indicate agreement:

3.3.2.1. "*Not all material that is currently being landfilled is suitable for incineration. This unsuitability of some landfilled waste for use as a fuel for EfW extends beyond major mineral waste.*"

[1] *UKWIN: The United Kingdom Without Incineration Network is a network of anti-incineration campaigners. The network opposes the incineration of waste, including via gasification, pyrolysis and cement kilns.*

[2] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010110/EN010110-001764-David%20Kenyon%20-%20Other-%20MVV%20Volume%207.3%20Waste%20Fuel%20Availability%20Assessment%20Rev3%20(clean).pdf

3.3.2.2. "*This analysis indicates that only around 40% of landfilled waste assigned the EWC[3] code 191212 (for sorting residues) might be combustible. This is significant because a large proportion of landfilled waste falls under this code.*"

3.3.2.3. "*While it is the case that some waste under the EWC code 191212 is incinerated, the 191212 coded material sent for incineration is not the same material as the 191212 coded waste that is landfilled. That is to say, 191212 material arises as the result of sorting processes, and generally speaking the combustible fraction of that residual waste is sent to be incinerated while the non-combustible fraction is sent to landfill. This means that the provision of EfW capacity does not mean 191212 waste can be expected to be diverted from landfill.*"

3.3.2.4. "*The processing of mixed skip waste [associated with the 191212 waste code] generates residues of low combustibility after removal of wood and cardboard in sorting. These are normally referred to as trommel fines. There is a specific provision under the HMRC landfill tax regime to allow the disposal of these residues to landfill under the inactive waste classification if they meet a loss on ignition test. That is to say they have to prove they are not combustible to qualify. This by definition means they would be unsuitable for incineration.*"

3.3.2.5. "*It should also be noted that some of the 191212 coded material that is combustible is also recyclable.*"

4. THE 'BEYOND WASTE' PAPER

4.1. BACKGROUND TO THE PAPER

4.1.1. The paper, or technical note, referred to by UKWIN was produced by Alan Potter of Beyond Waste to assist the Examination Authority of the DCO into the Medworth EfW CHP proposal. The author has extensive experience of conducting Waste Needs Assessments for various authorities and sits on the Defra waste steering group. As such, the methodology and findings of the paper are evidently assumed by UKWIN to be reliable and robust. However, there are several identifiable concerns that weaken the validity of the conclusions drawn by the Beyond Waste paper. This report outlines these concerns.

4.1.2. The Beyond Waste paper is a narrow assessment of the availability of waste categorised as EWC 191212 in the area surrounding the Medworth EfW proposal. The focus on this individual waste code is clear from the full title of the paper ('Technical Note on EWC 191212 Waste').

4.1.3. The Beyond Waste paper addresses a specific matter regarding the assumption that all waste that is classified as EWC 191212 is suitable for incineration. The author states, "*I consider this approach significantly over-estimates the available fuel and this paper sets out why in my professional opinion this is the case*".

4.2. KEY CONCLUSIONS OF THE PAPER:

4.2.1. The key points relating to EWC 191212 are as follows (once again, the presentation of these statements does not necessarily indicate agreement with the conclusions):

- **Derivation of EWC 191212:** 191212 waste can only by definition come into existence following mechanical processing of waste.
- **Prevalence of Inert 191212:** Construction, Demolition & Excavation (CD&E) arisings account for the majority of waste produced nationally (62% by weight). An extrapolation is made within the paper that it therefore follows that much of EWC 191212 will be non-combustible given that most of it is likely to have come from a CD&E source.
- **Mixed Skip Waste:** Where domestic skip waste contains a large volume of EWC 170904 (mixed construction and demolition waste)[4], the paper concludes that, once any wood and cardboard are removed, the remaining residues are categorised as 191212 and are likely to be considered suitable for disposal in inert landfill.

[3] *European Waste Catalogue*

[4] *The author also notes 'or at times 200302' here, although EWC 200302 is 'waste from markets' and so this is discounted as being an applicable code for domestic mixed skip waste.*

- **Combustibility of Waste:** It challenges the assumption that all waste coded under EWC 191212 is suitable for incineration, suggesting that only about 40% of such waste is actually combustible.
- **Overestimation of Fuel Availability:** The paper argues that the updated Fuel Availability Assessment overestimates available fuel by not accurately considering the nature of waste under EWC 191212.

4.2.2. The paper also suggests that, in the case of the Medworth waste availability assessment, a "*very wide range of wastes*" was included in the analysis, "*a significant amount of which would not be classed suitable for incineration*". This implies an inherent overstatement of waste as potential feedstock for the EfW development.

5. ASSESSING THE 'BEYOND WASTE' PAPER

5.1. GENERAL POINTS

5.1.1. The paper was written for submission to the NSIP process for the development of the Medworth EfW CHP facility. Any conclusions drawn from an analysis of data in Cambridgeshire do not necessarily seamlessly translate into the different geographic and industrial profile of North Lincolnshire.

5.1.2. The paper addresses specific considerations about the combustibility of EWC 191212. It should therefore not be regarded as an assessment of the availability or combustibility of all suitable waste arisings, and any conclusions drawn for EWC 191212 cannot be applied to other EfW-suitable codes such as 200301 (Mixed Municipal Waste) and 191210 (Refuse Derived Fuels).

5.2. CURRENT EWC 191212 UTILISATION IN WASTE TO ENERGY SECTOR

5.2.1. Fig. 5.2.1 shows the received tonnage by EWC code for the top five EfW sites (by tonnage) in England. For these five sites, collectively accounting for over 4 million tonnes of energy from waste capacity, the percentage receipt of each of the three main EWC codes amounts to:

- EWC 191210: 43%
- EWC 200301: 34%
- EWC 191212: 23%

In the entire EfW sector in England (excluding co-combustion facilities like cement works, etc., and feedstock other than general waste such as biomass), the input of EWC 191212 accounts for 16% of the total feedstock.

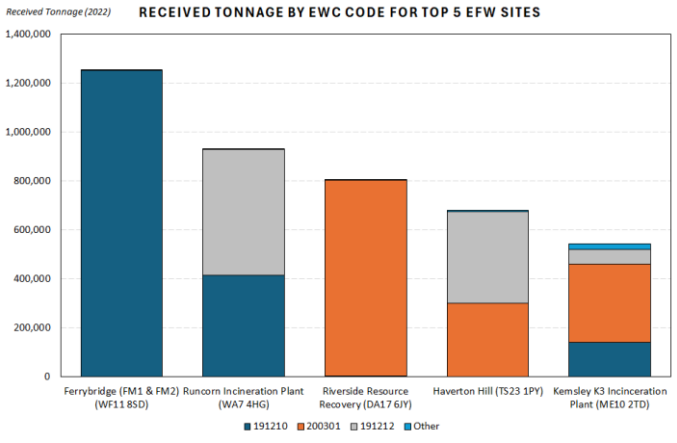

Fig. 5.2.1: Received tonnage by EWC code for top 5 EfW sites

5.2.2. This report concludes that EWC 191212 represents an underutilised resource for EfW recovery. The problematic nature of residues from mechanical processing makes them generally unsuitable for other higher-value recovery or recycling processes. This is due to their composite nature, fragment size or contamination. Fig. 5.2.2 indicates that there exists a strong opportunity in Yorkshire & Humber / East Midlands to improve on the recovery of EWC 191212 via EfW, diverting an underutilised energy feedstock from landfill. It is worth noting that Fig. 5.2.1 shows that, in the cases of Runcorn (North West) and Haverton Hill (North East), EWC 191212 is used in significant volumes,

higher than in other sites. This is corroborated in Fig. 5.2.2, where the incineration of EWC 191212 is comparatively high in the North East and the North West, suggesting that it is possible to extract much more combustible material from the stock of landfilled EWC 191212 than is currently being done in many regions, including in areas around the proposed development site.

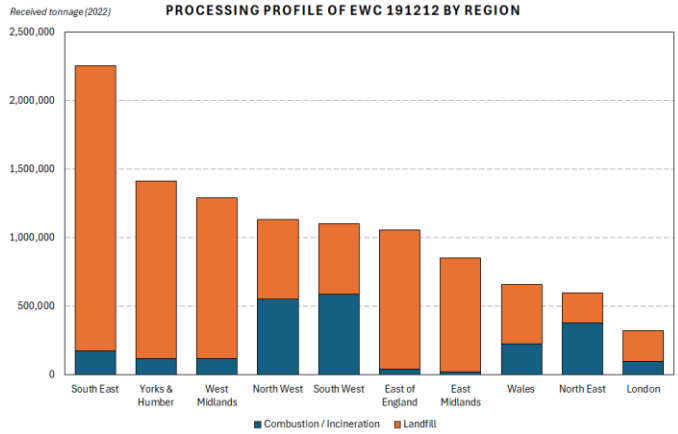

Fig. 5.2.2: Processing profile of EWC 191212 by region

5.3. CONSTRUCTION, DEMOLITION AND EXCAVATION (C,D&E) WASTE

5.3.1. One reference in the Beyond Waste paper is addressed in this section:

5.3.1.1. "*C,D&E waste represents the majority of waste produced nationally (62% by weight); and can be expected to represent the majority of waste produced within a Plan area.*"

5.3.2. Defra figures[5] state that the UK generated 59.1 million tonnes of non-hazardous C&D waste (excluding excavation wastes) in 2020. This, as a percentage of the total waste generated in the UK in 2020 (230 million tonnes) amounts to 26% of the UK waste. Certainly, if excavation wastes are included, it does amount to 62% as cited by the 'Beyond Waste' paper. However, excavation waste is largely soil and rock which need not be considered as EWC 191212. If excavated material is contaminated, such as material removed from an industrial brownfield site, it may need treating either in-situ or ex-situ, but, again, it would not then be categorised as EWC 191212 as there are specific EWC codes for such arisings such as EWC 170503* (soil and stones containing dangerous substances). Therefore, instead of referring to the 62% statistic, it is important to consider the starting point of the 26% that is specifically attributed to construction and demolition waste. This category includes a wide range of materials such as wood, metals, plastics, brick and more, some of which could potentially be utilised in the production of a low-grade refuse-derived fuel.

5.3.3. There is an unsubstantiated assumption made in the statement in the Beyond Waste paper that, because C,D&E waste represents the majority of waste produced nationally, it logically follows that the majority of EWC 191212 will consist of non-combustible rock or soil. This assertion is based on flawed logic, for although 191212 is something of a 'catch-all' code, it does not automatically follow that it will mirror the waste arising compositional profile of the UK. Since most of the weighty arisings within the C,D&E sector have perfectly usable EWC codes which will describe the segregated streams, there is no causal link between the size of the sector and the volume of EWC 191212 generated.

5.3.4. For excavation companies, the largest percentage of material handled is 170504 (soil and stones), followed by 190504 (Minerals (for example sand, stones)). 191212 comprises only 7% of outgoing material for all companies in England and Wales with the word 'Excavation' in their name. Moreover, in Yorkshire and Humber, looking at all companies where the largest incoming waste stream is 170504 (soil and stones), excluding landfill sites, 51 companies are identified with a total incoming volume of 3 million tonnes (2022 value), with the collective receipt of EWC 170504 as 2.7 million tonnes. By 'largest incoming' this has been set at 60% of incoming material to the site. For these 51 facilities, which includes aggregate recyclers, earthworks companies and other site works

[5] www.gov.uk/government/statistical-data-sets/env23-uk-waste-data-and-management

contractors, the total outgoing EWC 191212 tonnage amounted to just under 30,000 tonnes, less than 1% of the incoming feedstock.

5.3.5. As an argument for the perceived prevalence of EWC 191212 from C,D&E companies, the author of the Beyond Waste paper includes, as an Appendix, the introductory note from a permit for Silt Lagoons at Rainham and Wennington Marshes, showing that two new EWC codes (191209 and 191212) had been added to their permit. It is certainly the case that such sites can and do produce trommel fines, but this does not mean that the volumes are as significant as implied by the paper.

5.3.6. In 2022, a total of 1.6 million tonnes of material classified as EWC 191212 was received at landfill sites within 50 miles of the North Lincolnshire Green Energy Park site. A further 87,000 tonnes of material categorised as EWC 200301 was also landfilled. Analysis of the Waste Data Interrogator dataset reveals the type of waste companies that have sent EWC 191212 to landfill:

Facility Type	Example	% by weight
IBA / Aggregate Processing	e.g. Sandsfield Gravel Company Ltd	10%
General Waste Management	e.g. Arthurs Skips Ltd, Biffa Waste Services Ltd etc.	77%
Other	Includes organics processing (e.g. Hemswell Biogas Ltd), metals recycling (e.g. Sims Group UK Ltd) etc.	13%

Table 5.3.6

Therefore, the suggestion that most of the EWC 191212 being sent to landfill is non-combustible and therefore not of relevance for EfW waste availability assessments is not valid.

5.4. DOMESTIC SKIP COMPANIES

5.4.1. Two references in the Beyond Waste paper are addressed in this section:

5.4.1.1. "*Where this is mixed skip waste coded either under EWC 170904*[6] *or at times 200302 where a skip has been supplied to a householder, this skip waste will be subject to processing primarily to reduce the landfill tax liability associated with its disposal.*"

5.4.1.2. "*The processing of mixed skip waste generates residues of low combustibility after removal of wood and cardboard in sorting. These are normally referred to as trommel fines. There is a specific provision under the HMRC landfill tax regime to allow the disposal of these residues under the inactive waste classification if they meet a Loss On Ignition test. That is to say they have to prove they are not combustible to qualify. This by definition means that they would not be suitable for incineration.*"

5.4.2. The total volume of EWC 170904 received by permitted waste sites (excluding landfill and civic amenities) within 50 miles of the proposed North Lincolnshire Green Energy Park development amounted to 529,963 tonnes in 2022. This volume was received by companies such as Arthurs Skips, Associated Waste Management, CH Middletons Skip Hire, Wetherby Skip Services and Wold Skip Hire. These companies, along with others in the list, represent the kind of company referenced by the Beyond Waste paper, these being skip-based companies who serve a domestic customer base. The paper states that, from the mixed skip waste coded as 170904, obvious recyclables such as wood and cardboard are removed, with the remainder being regarded as 191212. The implication of the paper is that EWC 170904 minus cardboard minus wood = EWC 191212, and that this residue is typically suitable for inert landfill use, that is, it meets the Loss On Ignition test.

5.4.3. Given that the total volume of EWC 191212 sent out by all permitted waste companies within the 50-mile radius amounted to over 2 million tonnes in the same period, the 'domestic skip' argument accounts for barely a quarter of the EWC 191212 volume within the vicinity of the development.

5.4.4. To further reinforce the point, volumes of EWC 191212 received at either landfill or EfW within 50 miles amounted to 1.7 million tonnes. Even if *all* of the EWC 170904 material received by waste sites in the area became non-combustible 191212 (i.e. a complete absence of wood or cardboard), this would still only account for 31% of the total EWC 191212 disposed of.

5.4.5. It is worth stating for the sake of clarity that it is highly unlikely (to the point of near-impossibility) that the incoming skips would contain no materials worth removing. To use a data-based example,

[6] *EWC 170904 (mixed construction and demolition wastes). This waste code allows for the disposal of mixed construction & demolition waste. Allowed waste includes Wood, Metal, Brick, Plastics. (www.skipsandbins.com/type/ewc-17-09-04-mixed-construction-demolition-waste/)*

Arthurs Skips Ltd (S3 8AU) received 35,120 tonnes of EWC 170904 in 2022; this was their largest single code for received waste, making it very much the kind of company referenced in the Beyond Waste paper. However, the site disposed of a total of 18,820 tonnes of EWC 191212, indicating that the incoming material from the skip company contains significantly larger volumes of wood and cardboard than was suggested in the Beyond Waste paper.

5.4.6. This report concludes that, while the reference to domestic skip companies and the handling of EWC 170904 was a valid point, it appears that the relevance and impact is somewhat overstated.

5.5. MEDWORTH WASTE STREAMS SUITABILITY

5.5.1. One reference in the Beyond Waste paper is addressed in this section:

5.5.1.1. "*The Applicant has produced an updated Fuel Availability Assessment and I note that it uses the term HIC as a shorthand for combustible waste. However, closer examination of the waste codes included under this Basic Waste Categorisation shows it captures a very wide range of wastes, a significant amount of which would not be classed suitable for incineration.*"

5.5.2. The premise of the Beyond Waste paper is that the Medworth Fuel Availability Assessment refers to a wide range of waste streams categorised as Household, Industrial or Commercial (HIC), many of which are not suitable for combustion. The paper also notes that many of the resource streams entering the permitted waste system undergo various transformative or sorting processes and emerge as 191210, 191212 and 200301. Therefore, the author advises caution regarding the figures presented in the Medworth context, warning that some of the materials are not suited to energy recovery and that there was a significant risk of double-counting.

5.5.3. The implication within the Beyond Waste paper that the Medworth investigation has included a "very wide range" of irrelevant codes is not a fair critique because, although the Medworth Fuel Availability Report does initially refer to all HIC waste arisings featured within the Waste Data Incinerator (WDI), it then shortlists the arisings categorised as being appropriate for EfW, namely:

- 191210 (Refuse Derived Fuel)
- 191212 (Other wastes from mechanical processing)
- 200301 (Mixed municipal waste)
- 200307 (Bulky Waste)

Therefore, the approach taken by the author of the Medworth Fuel Availability Report is reasonable and satisfies both of the concerns raised regarding waste code selection and double counting. As such, the suggestion within the Beyond Waste paper that the Medworth Fuel Availability Report is including a 'very wide range of waste' is misleading when they are, in fact, only considering appropriate codes.

6. LANDFILLED WASTE AVAILABILITY

6.1. WASTE WITHIN ZONE OF PROPOSED DEVELOPMENT SITE

6.1.1. Of the main codes of relevance for EfW fuel availability assessments, a total of almost 1.8 million tonnes was received at landfill sites within 50 miles of the proposed development in 2022. Extending the range out to 100 miles, this total increases to over 3 million tonnes (see Table 6.1.1). (Note, these figures are not adjusted for the non-combustible proportion of EWC 191212).

Range	19 12 10	19 12 12	20 03 01	20 03 07	*Total*
0-50 miles	393	1,665,047	87,429	19,294	***1,772,163***
51-75 miles	0	209,233	18,991	494	***228,718***
76-100 miles	15,578	663,353	318,881	24,970	***1,022,782***
Total	***15,971***	***2,537,633***	***425,301***	***44,758***	***3,023,663***

Table 6.1.1: Landfilled waste streams by EWC code and distance from proposed site

6.1.2. Adjusting the tonnages presented in Table 6.1.1 in recognition that around 30% of EWC 191212 is likely to be non-combustible, Table 6.1.2 reveals that the available feedstock amounts to 1.3 million tonnes within 50 miles, and 2.3 million tonnes within 100 miles of the proposed development site.

Range	19 12 10	19 12 12	20 03 01	20 03 07	*Total*
0-50 miles	393	1,165,533	87,429	19,294	***1,272,649***
51-75 miles	0	146,463	18,991	494	***165,948***
76-100 miles	15,578	464,347	318,881	24,970	***823,776***
Total	***15,971***	***1,776,343***	***425,301***	***44,758***	***2,262,373***

Table 6.1.2: Landfilled waste streams by EWC code and distance from proposed site (adjusted to reflect the non-combustible fraction of EWC 191212)

6.1.3. Figure 6.1.2 displays a map showing the total amounts of these four waste codes received at landfill sites across England and Wales. The size of each bubble on the map indicates the tonnage received in 2022. The proposed development site is marked with a red dot, clearly highlighting the strategic importance of its location.

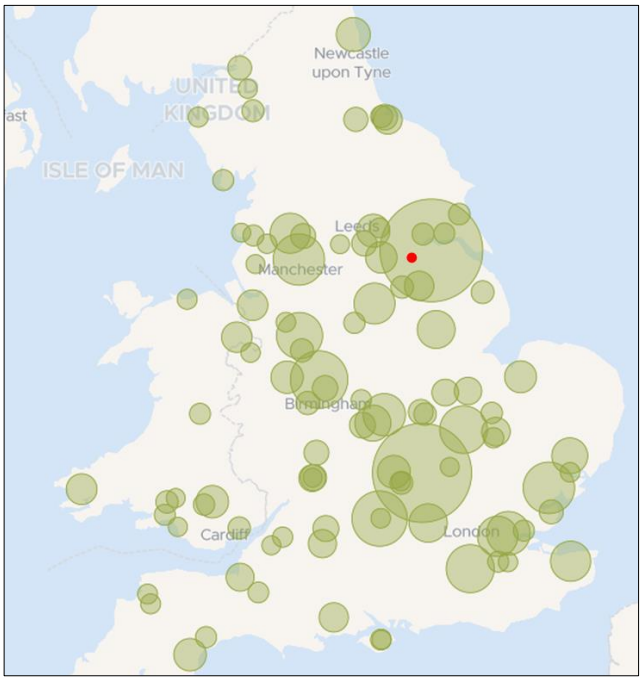

Fig. 6.1.2: Map of key waste receipts at landfill

6.1.4. Were we to assume a 70% combustible fraction of landfilled EWC 191212, then add on landfilled volumes of the other EfW-relevant waste streams (191210, 200301 and 200307), this would determine a reasonable estimate of the amount of feedstock that could be treated via energy recovery region-by-region. This analysis is presented in Fig. 6.1.3. The message that emerges from Fig. 6.1.3 is that a large volume of material is being lost to landfill that is residual, non-recyclable and suited to recovery via EfW processes (almost 8 million tonnes across England and Wales).

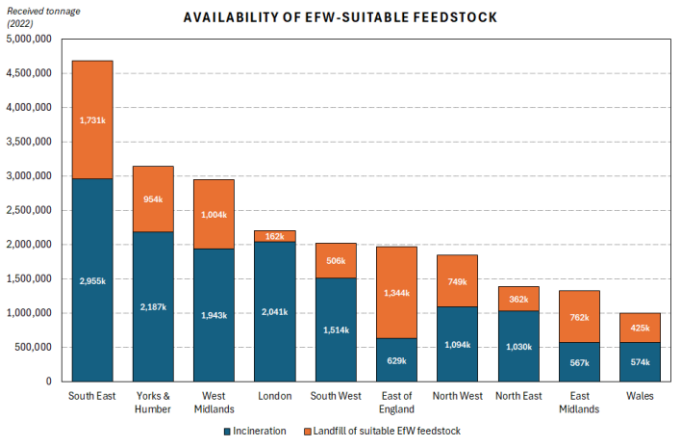

Fig. 6.1.3: Availability of EfW-suitable feedstock by region

6.1.5. Additionally, in the 12 months up to and including November 2023, 337,000 tonnes of processed RDF have been exported from England via the Humber ports destined for mainland Europe and Scandinavia. The majority of this tonnage passed through Immingham port, barely 30 miles from the proposed development site.

7. CONCLUSIONS

7.1.1. The Beyond Waste paper, which the UKWIN response cites as critical evidence, primarily asserts that only about 40% of the material classified under EWC 191212 should be considered combustible and thus included in Fuel Availability Assessments, with a maximum leeway of up to 50%. Nonetheless, the author of the paper acknowledges that Tolvik Consulting assume that 70% of EWC 191212 is combustible. This report concludes that although the Beyond Waste paper offers insightful observations on waste sector activities, its proposed 40% combustibility figure is unjustifiably low, based on an evaluation of waste data near the North Lincolnshire Green Energy Park proposal. A more realistic benchmark would be the 70% figure.

7.1.2. The UKWIN submission to the assessment process makes the following statement:

"*By way of providing an update and further information on this important topic, we submit to this Examination the technical note produced by Beyond Waste for the Medworth EfW CHP proposal Examination. This analysis indicates that only c40% of landfilled waste assigned the EWC code 191212 might be combustible. This is significant because a large proportion of landfilled waste falls under this code. This means that the evidence of quantities of 191212 going to landfill is not strong evidence of the availability of potential incinerator feedstock.*"

This report recommends that all references made to the Beyond Waste paper by UKWIN should be dismissed, given the unsound premise of the primary conclusion that only 40% of landfilled waste assigned the EWC code 191210 might be combustible.

7.1.3. The findings presented in the Beyond Waste paper were based on investigations pertaining to Medworth in Cambridgeshire as well as the inclusion of data from Kent. It does not follow that the conclusions are automatically applicable in a different geographic context such as North Lincolnshire.

7.1.4. It is unhelpful for UKWIN to cite a paper in their submission that is unrelated to the Application under consideration. This is particularly true since the paper examples waste generation and activity in Kent, over 200 miles away from the proposed development site in North Lincolnshire, as its benchmark. Assuming that waste processing infrastructure and feedstock availability in Kent are similar to those in North Lincolnshire is not a plausible assumption. Consequently, the findings about waste availability and any conclusions drawn from the paper have no relevance to the proposed development in North Lincolnshire and should be disregarded. UKWIN's assumption and assertion that the Beyond Waste paper is directly applicable to a distinctly different geographic area is inappropriate, and their conclusions are not substantiated by this report.

7.1.5. The Beyond Waste paper argues that the approach used in the Medworth Waste Availability Assessment "significantly overestimates the available fuel." Since the main purpose of the paper is to make this argument, the fact that the foundational logic is demonstrably questionable undermines the authority of the findings.

7.1.6. Although the current EWC 191212 waste being sent to landfill may not be immediately suitable for EfW processes without additional separation stages, this does not imply that it is non-combustible. This type of waste, which includes a substantial volume of low-value, residual, non-recyclable and problematic material, still holds potential for energy recovery. Although transforming it into fuel suitable for EfW poses mechanical segregation challenges, making it ready for recycling would be an even more daunting, if not insurmountable, task. Therefore, the EWC 191212 waste stream presents an opportunity for energy recovery that does not necessarily conflict with waste management options higher in the waste hierarchy.

7.1.7. Energy from waste requires a low-grade fuel which is tolerant to a range of materials and moisture levels. Given that EfW sites require fairly low CV compared to other traditional fuels[7], the findings of this report affirm the view that approximately 70% of the landfilled EWC 191212 is combustible at the level required by Energy from Waste facilities. Within 50 miles of the proposed site, applying a 70% adjustment to EWC 191212 and incorporating the landfilled volumes of EWCs 191210, 200301 and 200307, this gives a theoretical feedstock availability of 1.3 million tonnes.

7.1.8. It should be noted for purposes of clarity that it is not the presumption of this report that the only available feedstock is the presently-landfilled EWC 191212, nor is it presumed that all feedstock needs to come from a 50 mile radius. Waste is certainly able to travel further than the 50 mile radius used in this report, as evidenced by the shipment of RDF from England to facilities across mainland Europe, Scandinavia and further afield. The purpose of specifying such a limit was to demonstrate that within the immediate geographical neighbourhood of the North Lincolnshire Green Energy Park, there are sufficient waste resources available that may not be readily exploited by means other than by energy recovery. Furthermore, EWC 191212 has been the focus simply because of the reference to the Beyond Waste paper by UKWIN which argued that availability of EWC 191212 was considerably less than presumed, an argument that this report disagrees with and has set out evidence accordingly.

7.1.9. The debate around the North Lincolnshire Green Energy Park project encompasses various complex issues related to waste management and energy recovery. While UKWIN and the Beyond Waste paper raise valid concerns about the suitability and combustibility of certain waste types for energy recovery, these concerns do not fully apply to the context of the North Lincolnshire project. The analysis indicates that there are opportunities for more effective utilisation of certain waste codes like EWC 191212 in energy recovery, and that some of the assumptions made by Beyond Waste may not hold in this specific context. As such, while the concerns raised are important, they require careful consideration in relation to the specificities of the North Lincolnshire project.

[7] *The calorific value (CV) of MSW post-recycling is 10-14 MJ/kg, compared to coal (27-31 MJ/kg), wood pellets (17 MJ/kg) or natural gas (38 MJ/kg) (www.forestresearch.gov.uk).*