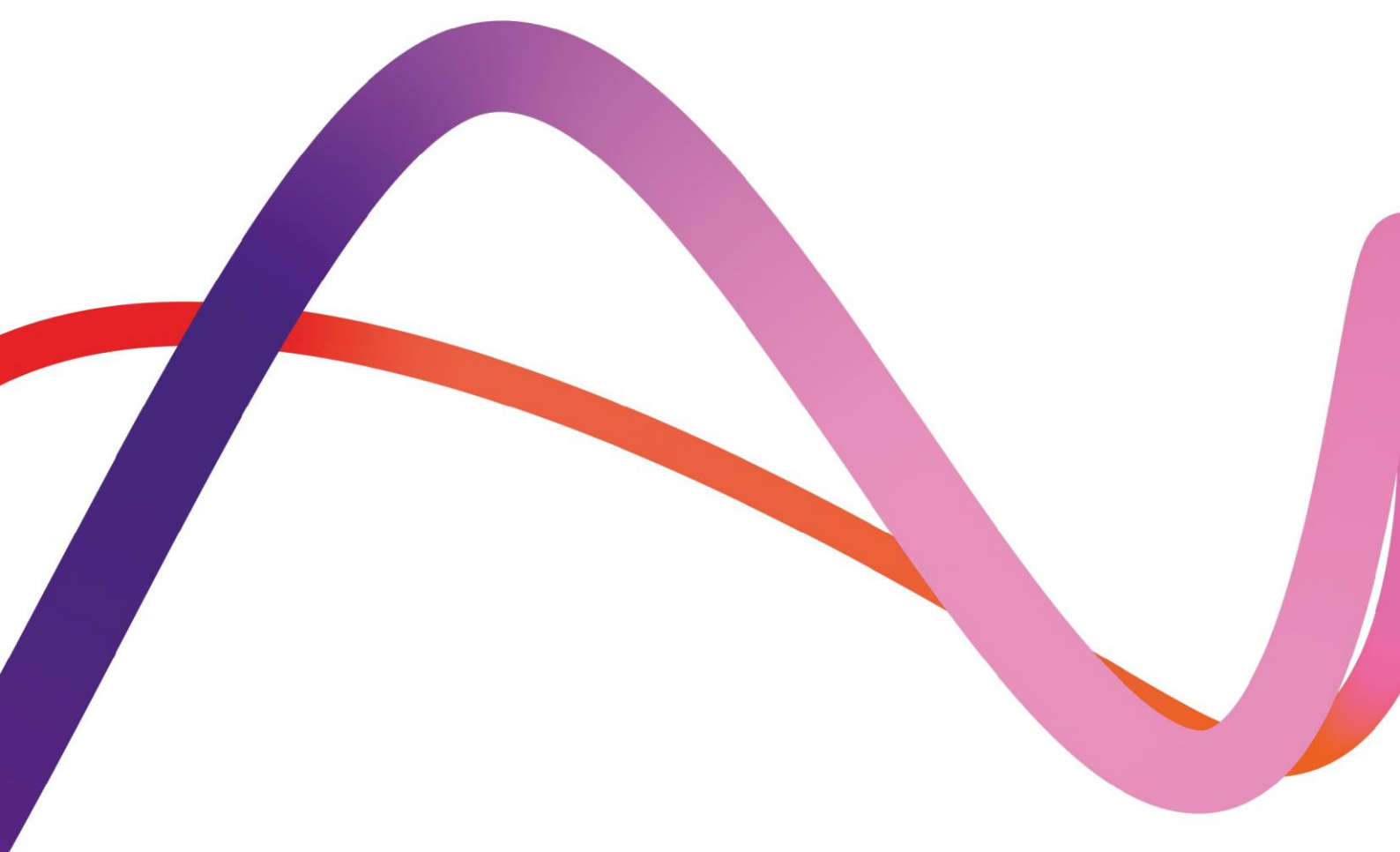


# Medworth Energy from Waste Combined Heat and Power Facility



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Deadline 8  
August 2023



## **Applicant's comments on the Deadline 7 Submissions: Part 2 Other Interested Parties**

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# 1. Introduction

## 1.1 Background

1.1.1 Medworth CHP Limited (the Applicant) submitted an application for development consent to the Secretary of State on 7 July 2022 (the Application). The Application was accepted for examination on 2 August 2022. The Examination of the Application commenced on 21 February 2023.

1.1.2 This document, submitted for Deadline 8 (18 August 2023) of the Examination, contains the Applicant's comments on Deadline 7 submissions made by the following Interested Parties:

- United Kingdom Without Incineration Network (UKWIN) [REP7-051] – see Table 2.1 of this document;
- Jenny Perryman [REP7-047] – see Table 3.1 of this document; and
- RSPB England [REP7-050] – see Table 4.1 of this document.

1.1.3 The Applicant's responses to Deadline 7 submissions made by Statutory Parties are presented in a separate document (Part 1) (**Volume 18.2a**). The Applicant's comments on the responses to the Examining Authority's Third Written Questions (ExQ3) made by Statutory and Other Interested Parties at Deadline 7, are presented in **Volume 18.4**.

1.1.4 The Applicant's comments on submissions made at Deadline 7A are provided separately in Volume **18.3** of its Deadline 8 submission.



## 2. Comments on Deadline 7 submissions from United Kingdom Without Incineration Network (UKWIN)

**Table 2.1 Comments on Deadline 7 submissions from UKWIN – UKWIN's D7 Comments on REP6-025, REP6-029 & REP6-030 [REP7-051]**

Topic/Para	UKWIN submission	Applicant Comment
<b>REP6-025: 15.3 WRITTEN SUMMARY OF THE APPLICANT'S ORAL SUBMISSIONS AT ISH7</b>		
<b>ISH 7 Action Point 1 [EV-082] – National Waste Fuel Suitability</b>		
1	ISH7 Action 1 [EV-082] is framed as follows: “[The] Applicant limits itself to certain waste types for its local analysis in recognition that some of the household and commercial waste material will not represent suitable fuel for the current proposal. Can the Applicant confirm if it has applied this approach to the National analysis and, if not, justify why?”	The Applicant can confirm that the national analysis of fuel availability in the <b>WFAA Rev 3.0 [REP5-020]</b> only considers waste that would be suitable for treatment at the Proposed Development. The Applicant's response at Deadline 7 to the IP's comments at Deadline 6 (paragraphs 49-55), as set out in the <b>Applicant's Comments on Deadline 6 submissions Part 2 Other Interested Parties – Volume 16.4b [REP7-029]</b> , provides a full explanation of this.
2	The Applicant's response discusses considerations with respect to Tolvik's 2017 future waste arisings predictions but not with respect to the analysis set out in the Applicant's D5 WFAA [REP5-020] in relation to meeting the UK Government's residual waste reduction targets for 2027 and 2042.	
3	The Applicant does not respond to the criticism that they do not appear to take into account the fact that not all waste is suitable for incineration when they calculate residual waste at 5.2.26 of their D5 WFAA, where they state: “Current Office for National	The residual waste targets set out in the Environmental Improvement Plan 2023 are based upon a clear definition of residual waste as follows:



Topic/Para	UKWIN submission	Applicant Comment
	<p>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 million tonnes of residual waste” and then go on to compare this 17.7 million tonne total residual waste figure (excluding major mineral waste) directly with the figure of 17.9Mtpa of EfW capacity as if all residual waste could be incinerated.</p>	<p>1. That sent to landfill, put through incineration, or used in energy recovery in the UK, or that is sent overseas to be used in energy recovery (page 144); and                  2. Excluding major mineral wastes (page 147).</p> <p>It is therefore reasonable to assume that the overwhelming majority of residual waste, as defined by the Government in their EIP targets will be suitable for management at the Proposed Development i.e., up to 25.5 million tonnes by the beginning of 2028 and up to 287kg per capita by 2042.</p>
<p>4</p>	<p>As such, the Applicant has not defended the robustness of their D5 WFAA conclusion on paragraph 5.3.1 that: “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”.</p>	<p>See responses to paragraphs 1-3 above. In conclusion, the WFAA provides a clear and robust case of need – and one which is based upon a range of up to date, publicly available, credible and rigorously examined data sources. This has continued to conclude that there is insufficient existing or planned residual waste management capacity available to ensure that residual, 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).</p> <p>Even if, as the IP asserts, not all residual waste defined by the targets of the EIP is suitable for combustion at the Proposed Development, the predicted 2028 capacity gap of 3.5 million tonnes by 2028 is so large that the need for the Proposed Development remains. Table 4.4 of the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> indicates that at a local level, around 85% of HIC waste from the Study Area which was disposed of at landfill sites was suitable for management at the Proposed Development. If the same assumption is extrapolated to the 2028 EIP target, of the 3.5 million tonne gap in capacity, almost 3 million tonnes would be of material suitable for treatment via energy recovery – a significant gap in capacity which the Proposed Development would contribute to meeting.</p>



Topic/Para	UKWIN submission	Applicant Comment
5	<p>Similarly, the Applicant has not defended the robustness of their conclusion at paragraph 5.2.26 of their D5 WFAA that: “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 million tonnes of residual waste. Whilst current operational and ‘in construction’ EfW capacity in England equates to 17.9 million tonnes (as predicted by Tolvik in 2023), inevitably by 2042, a large proportion of the existing capacity will be aging and may have been decommissioned...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”.</p>	<p>See responses to paragraphs 1-4 above. The targets for residual waste reduction in the Environmental Improvement Plan are based upon a definition of residual waste which excludes significant non-combustible sources i.e., mineral waste.</p> <p>In terms of the 2042 target, the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> has demonstrated that whilst it is challenging to identify the waste capacity gap in 2042, being 19 years hence, the 10 oldest EfW facilities will all be over 40 years old, and account for 3.2 million tonnes of capacity that may be lost. The Proposed Development would therefore provide capacity that is not only currently needed (see the response to paragraph 4 above), but also enable England to future proof its EfW assets through the provision of a modern, clean facility, which seeks the recovery of heat and power through the management of residual waste.</p>
6	<p>Leaving aside UKWIN's established and outstanding concerns that the Applicant is using an outdated population forecast and that their methodology and approach for trying to reduce the 17.9Mpta EfW capacity figure is flawed, UKWIN's key WFAA criticism that is relevant to the Applicant's response to ISH7 Action Point 1 is that the Applicant is comparing the total residual waste (excluding major mineral waste) figure directly with their expectations of future EfW capacity, and as such are mistakenly assuming that all of that 17.7Mt of residual waste would be suitable for incineration.</p>	<p>Through the application of the most robust population forecasts (the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> utilises the most up to date <b>full</b> projections, whilst it is noted that the IP has relied upon the less robust ‘interim’ projections), the Applicant has sought to quantify the levels of residual waste should the Government's 2042 stretch target be achieved.</p> <p>The Applicant has consistently acknowledged the difficulties associated with predicting, with any accuracy, what the gap in residual waste management capacity will be some 19 years hence. This uncertainty applies to all aspects of the prediction, including the continued availability of existing capacity, the degree to which targets are met (or fallen short of), and the additional uncertainty around population levels, and this uncertainty increases the further into the</p>



Topic/Para	UKWIN submission	Applicant Comment
		<p>future such estimations are being made. For example, the 17.9 million tonnes capacity figure taken from the 2023 Tolvik report, is a 2027 figure – the actual capacity some 15 years after this date is likely to look very different. Indeed, as the Applicant has outlined in the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b>, the 10 oldest EfW facilities will all be over 40 years old, and account for 3.2 million tonnes of capacity that may be lost. The Proposed Development would therefore provide capacity that is not only currently needed (see the response to paragraph 4 above), but also enable England to future proof its EfW assets through the provision of a modern, clean facility, which seeks the recovery of heat and power through the management of residual waste.</p>
7	<p>The Applicant's lack of a response to this historic criticism, about which they were expected to comment as part of responding to ISH7 Action Point 1, could be indicative of the notion that providing a meaningful response would require the Applicant to either defend the indefensible by arguing that all residual waste would somehow be suitable for incineration when they have already admitted that this is not the case, or to concede that the amount of residual waste suitable for incineration in the event that waste fell in line with the 2027 and 2042 targets would be far lower than the levels of available feedstock that they are relying on for their WFAA to justify their proposed new incineration capacity.</p>	<p>See responses to paragraphs 1-6 above. Considering these responses, the Applicant maintains its position that the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> gives full and robust consideration to the implications of achieving the Government's Environmental Improvement Plan's (EIP) targets. being achieved. Furthermore, in doing so, there remains a clear need for the capacity offered by the Proposed Development – both currently and in the future.</p>
8	<p>Whatever the Applicant's reasons for failing to address the issue, UKWIN asks that the Examining Authority and Secretary of State give this issue the full attention it deserves.</p>	<p>Noted. See the Applicant's responses to paragraphs 1-7 above.</p>
9	<p>Reviewing the transcript of ISH7 [EV-074], it is crystal clear that Action Point 1 arose out of UKWIN's concerns specifically with the way that the Applicant's national analysis of waste versus</p>	<p>See the Applicant's responses to paragraphs 1-7 above.</p>



Topic/Para	UKWIN submission	Applicant Comment
	capacity with respect to meeting the residual waste reduction targets appeared to assume that all of this residual waste would be suitable for incineration, despite elsewhere making it clear that not all residual waste is suitable for incineration.	
10	Reviewing the transcript to ISH7 Part 1 [EV-074], an action arose for the Applicant to check whether the limitation to certain waste types was also applied to the national analysis with respect to the impact of meeting residual waste targets.	As agreed with the Examining Authority, the Applicant has checked the position in respect of assumptions around combustibility of residual waste in the national assessment. The Applicant can confirm that the national assessment has only considered residual waste that would be suitable for treatment at the Proposed Development. This matter was addressed in full in the <b>Applicant's comments on Written Representations: Part 2 – Other Interested Parties, Volume 16.4b [REP7-029]</b> , relating to paragraphs 49-55 of the IPs comments on the Applicant's updated local analysis, submitted at deadline 7.
11	UKWIN's reading of the Applicant's ISH6 submissions suggests either that the Applicant failed to carry out that check or failed to share the results with the Examination.	See the Applicant's responses to paragraphs 1-7 above.
12	While the Applicant, in their national analysis, has not attempted to limit their estimates of future residual waste to that which would be suitable for incineration, UKWIN has done so in its analysis set out in REP6-042.	The IP's submissions are noted. However, the Applicant considers that their national analysis of future residual waste requirements as set out in Section 5 of the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> and in line with the Applicant's responses to paragraphs 1-7 above, are both reasonable and robust.
13	UKWIN's more thorough analysis concluded that there simply would not be enough waste to justify the additional incineration capacity proposed for Medworth were the Government's targets to be met.	The IP's submissions are noted. However, the Applicant considers that their national analysis of future residual waste requirements as set out in Section 5 of the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> and in line with the Applicant's responses to paragraphs 1-7 above, are both reasonable and robust.





Topic/Para	UKWIN submission	Applicant Comment
14	Put another way, the proposed Medworth capacity would be incompatible with the achievement of the Government's residual waste reduction targets and could therefore be expected to hamper the management of waste at the higher tiers of the waste management hierarchy.	The IP's submissions are noted. However, the Applicant considers that their national analysis of future residual waste requirements as set out in Section 5 of the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> and in line with the Applicant's responses to paragraphs 1-7 above, are both reasonable and robust.
15	Worryingly, the Applicant has not only failed to correct the assessment in their D5 WFAA, but they have repeated the misleading 17.7Mt figure in their comments on the responses to the ExA's second set of Written Questions.	The figure of 17.7 million tonnes relates to a calculation of residual waste by 2042 (see paragraph 5.2.26 of the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> ). As this calculation has been based upon (1) the Government's target of 287kg of residual waste per capita; and (2) the ONS's population predictions using the most up to date <b>full</b> projections, (rather than the IP's suggestion that reliance is placed upon the less robust 'interim' projections), the Applicant disagrees that this calculation misleading.
16	As REP6-027 records, on electronic pages 60-61, Wisbech Town Council argued in REP5-024 that it is essential that the overall conclusions included at Section 6 appropriately consider the implications of the EIP targets.	Noted and agreed. The <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> fully considers the implications of the EIP targets in paragraphs 5.2.21 to 5.2.26.
17	In REP6-027 the Applicant responded to Wisbech Town Council by claiming that: "...Looking ahead to 2042 – it is concluded that should Government residual waste reduction targets be achieved; it is anticipated that there will be around 17.7 million tonnes of residual waste in England that requires management. Current predictions are that there are 17.9 million tonnes of available capacity in England..."	Noted and agreed.
18	The Applicant appears to be continuing to compare apples and oranges by using the 17.7 million tonne figure for total residual waste to try to justify a need for incineration capacity, including	The Applicant disagrees with this submission. Please see the Applicant's responses to paragraphs 1-7 above.



Topic/Para	UKWIN submission	Applicant Comment
	the additional new capacity proposed for Medworth, that would only be capable of treating a portion of that residual waste.	
19	This D6 response from the Applicant highlights how reliant they appear to be on using faulty assumptions to prop up their flimsy need case.	The Applicant disagrees with this submission. The Applicant strongly maintains that the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> gives full and robust consideration to the implications of achieving the Government's Environmental Improvement Plan's (EIP) targets. being achieved. Furthermore, in doing so, there remains a clear need for the capacity offered by the Proposed Development – both currently and in the future.
<b>Comments on Applicant's REP6-025 Appendix A - Technical Note: Reduction in Energy Inputs</b>		
20	Table 3.1 of the Applicant's REP6-025 Appendix A ('Technical Note: Reduction in Energy Inputs') confirms that power output could be significantly lower than the nominal figure advertised within the NSIP application for the proposed development.	Table 3.1 of <b>REP6-025</b> Appendix A confirms a 0.2 – 1 % annual loss of efficiency, which the Applicant does not consider significant.
21	This is relevant to consideration of this NSIP proposal within the planning balance, alongside the fact that some of that energy would be needed to operate the plant itself (known as 'the parasitic load') and the fact that if the plant operates with a Carbon Capture and Storage (CCS) scheme this would increase the parasitic load further reducing electricity output, thereby reducing the benefits of the scheme and the weight to be given to those benefits.	There is a parasitic load requirement regardless of the mode of operation and that is why the Applicant has published gross and net electrical power output figures from the outset. Where a CCS scheme is realised, there is a clear positive benefit on climate change to compensate for the increase in parasitic load.
22	The Applicant's REP6-025 Appendix A Table 3.1 only sets out the impact of reduced load and hours of operation on gross power output, but the discussion at ISH7 that led to Action Point 2 [EV-	In the Applicant's view, gross power generation is the most important metric, as a reduction in operating hours does not affect parasitic load during periods of power generation. During periods of reduced boiler



Topic/Para	UKWIN submission	Applicant Comment
	082] related not just to gross power generation but to how much was exported to the grid (i.e. generation net of the parasitic load).	load, the parasitic load is also reduced, so the effect on net power generation is less than that on gross power generation. Therefore, an assessment of gross power generation represents the reasonable worst-case scenario.
23	ISH7 Action Point 2 states: "Applicant to produce a technical note focusing on the effects that a reduction in the predicted calorific content of waste and/or overall available fuel can have, particularly in relation to the operability of the CHP and electricity components of the Proposed Development". (emphasis added).	Noted, this technical note was submitted at Deadline 6 [REP6-025 Appendix A].
24	It should have been clear to the Applicant that the reference to 'electricity components' in ISH7 Action Point 2 included net electrical output to the grid in line with Mr. Carey's ISH7 comments, not just gross power generation.	See response at 22, above.
25	As noted in the Part 2 transcript for ISH7 [EV-075], the discussion included the following statement from Mr. Carey for the Applicant: "So if anything was to be reduced, it would be electricity going into the grid rather than heat going to customers".	Noted.
26	This statement from Mr. Carey about reduced output to the grid appears to have been part of the 'issue' that formed the request from the Examining Authority at ISH7 which shortly followed Mr. Carey's statement.	The Applicant does not wish to speculate on the reasons for the specific drafting used in the Examining Authority's question. However, the Applicant produced REP6-025 Appendix A in response to ISH7 Action Point 2 [EV-082] and has received no further questions from the Examining Authority on this matter.
27	That is to say, the Examining Authority's statement that: "[Mr] Carey, if you accept an action for this issue to be further investigated in terms of what the consequences of the different of a reduction in the outputs is going to be, particularly for those two	See response at 26 above.



Topic/Para	UKWIN submission	Applicant Comment
	<p>components in terms of the electricity and CHP” appears to have included Mr. Carey’s comments about the export of electricity to the grid as part of the ‘issue’ expected to be addressed by the Applicant.</p>	
28	<p>Operating the facility with just one line would halve the amount of gross power generated but would more than halve the amount of net electricity exported to the grid.</p>	<p>The Applicant disagrees with the IP on this point.</p> <p>The parasitic load is already considered in the net power generation figures. Furthermore, with only one line operating, the parasitic load would be reduced so, in fact, the opposite is true.</p>
29	<p>This is because a plant operating only one of its lines still needs to meet the electricity requirements (the parasitic load) of the same buildings and much of the same equipment as a facility operating two lines.</p>	<p>The Applicant disagrees with the IP on this point.</p> <p>The majority of parasitic demand comes from the process and not the buildings. For example, the largest single electrical consumer is the induced draft (ID) fan and there would be one per line. With one line off, the respective ID fan would be either at minimum load or off which would have a significant positive effect on parasitic load.</p>
30	<p>As such, the fact that the Applicant’s REP6-025 Appendix A Table 3.1 focuses on gross power output rather than electricity exported to the grid means that it fails to quantify the impact of reduced waste throughput, or reduced calorific value of the feedstock, on electricity going to the grid.</p>	<p>For the reasons stated above, the Applicant disagrees with the IP on this point.</p>
31	<p>It is clear that the electricity exported to the grid would significantly reduce because the gross power output would reduce, but looking at just the drop in gross power generation understates the impact on reductions in power going to the grid.</p>	<p>For the reasons stated above, the Applicant disagrees with the IP on this point.</p>



Topic/Para	UKWIN submission	Applicant Comment
32	Uncertainties regarding the amount of electricity that would be exported to the grid should reduce the weight given to this claimed benefit	For the reasons stated above, the Applicant disagrees with the IP on this point.
<b>Comments on Applicant's REP6-025 Appendix D – WDI Guide</b>		
33	The Applicant's REP6-025 Appendix D WDI (Waste Data Interrogator) Guide was created in response to ISH7 Action Point 3 [EV-082] which asked the Applicant to clarify: "...the sources used for the waste data information included in the last version of the WFAA".	Noted.
34	The Applicant's WDI Guide raises concerns that the HIC Waste Figures used by the Applicant in their D5 WFAA's local analysis appear to be overestimated due to double counting and that a notable quantity of the material relied upon by the Applicant for their local WFAA analysis would not be suitable for incineration or where there is a high degree of uncertainty regarding its suitability or availability for use as incinerator feedstock.	The Applicant disagrees with the IP on this point. See the Applicant's comments to paragraph 38 below.
35	In their D5 WFAA the Applicant states on REP5-020 Paragraph 4.1.7: "This data shows that within the spatial scope of this WFAA, a total of approximately (~) 9.7 million tonnes of local authority collected waste, industrial and commercial waste, which is suitable for processing at the Proposed Development was generated in 2021".	Noted and agreed.
36	This ~9.7Mt figure relates to the result of 9,706,427 in REP5-020 Table 4.2.	Noted and agreed.



Topic/Para	UKWIN submission	Applicant Comment																																										
37	<p>However, an assessment of the HIC listed in the D5 WFAA in Table 4.2 of REP5-020 using the WDI Guide to help understand the approach adopted by the Applicant indicates that a vast majority (at least around 75%) of this 9.7Mtpa does not in fact represent HIC waste within the spatial scope of the WFAA that would be "suitable for processing at the Proposed Development".</p>	<p>See the Applicant's comments to paragraph 38 below.</p>																																										
38	<p>While the detailed assessment is set out later in this submission (including in the Technical Annex at the end), the results are summarised below.</p> <div data-bbox="376 683 1057 1072" data-label="Table"> <p style="text-align: center; color: green;"><b>UNSUITABLE WASTE IN APPLICANT REP5-020 TABLE 4.2 HIC 2021 ARISING TABLE</b></p> <table border="1"> <thead> <tr> <th>Method</th> <th>East of England (Tonnes)</th> <th>East of England (% of Table 4.2)</th> <th>'In Scope' East Midlands (Tonnes)</th> <th>'In Scope' East Midlands (% of Table 4.2)</th> <th>Total 'In Scope' (Tonnes)</th> <th>Total 'In Scope' (% of Table 4.2)</th> </tr> </thead> <tbody> <tr> <td>Unsuitable due to double counting (transfer)</td> <td>2,586,837</td> <td>39%</td> <td>1,162,925</td> <td>38%</td> <td>3,749,762</td> <td>39%</td> </tr> <tr> <td>Unsuitable due to treatment option</td> <td>1,938,069</td> <td>29%</td> <td>1,095,976</td> <td>36%</td> <td>3,034,046</td> <td>31%</td> </tr> <tr> <td>Toivik 30% assumed non-combustible fraction of 19 12 12</td> <td>370,453</td> <td>6%</td> <td>122,503</td> <td>4%</td> <td>492,956</td> <td>5%</td> </tr> <tr> <td><b>TOTAL CLEARLY UNSUITABLE</b></td> <td><b>4,895,359</b></td> <td><b>74%</b></td> <td><b>2,381,404</b></td> <td><b>78%</b></td> <td><b>7,276,764</b></td> <td><b>75%</b></td> </tr> <tr> <td>Out of total listed in REP5-020 Table 4.2</td> <td>6,643,864</td> <td>100%</td> <td>3,062,562</td> <td>100%</td> <td>9,706,426</td> <td>100%</td> </tr> </tbody> </table> </div>	Method	East of England (Tonnes)	East of England (% of Table 4.2)	'In Scope' East Midlands (Tonnes)	'In Scope' East Midlands (% of Table 4.2)	Total 'In Scope' (Tonnes)	Total 'In Scope' (% of Table 4.2)	Unsuitable due to double counting (transfer)	2,586,837	39%	1,162,925	38%	3,749,762	39%	Unsuitable due to treatment option	1,938,069	29%	1,095,976	36%	3,034,046	31%	Toivik 30% assumed non-combustible fraction of 19 12 12	370,453	6%	122,503	4%	492,956	5%	<b>TOTAL CLEARLY UNSUITABLE</b>	<b>4,895,359</b>	<b>74%</b>	<b>2,381,404</b>	<b>78%</b>	<b>7,276,764</b>	<b>75%</b>	Out of total listed in REP5-020 Table 4.2	6,643,864	100%	3,062,562	100%	9,706,426	100%	<p>The purpose of Table 4.2 in the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> is to establish how much potentially suitable waste arises in the Study Area. It is not to ascertain the detail of how that waste is managed. To assist the Examination in how the data set out in Table 4.2 has been extrapolated from the Environment Agency's Waste Data Interrogator data set, a WDI Guide was produced at Deadline 6 as <b>Appendix D to Volume 15.3 the Written Summary of the Applicant's Oral Submissions at ISH7 [REP6-025]</b>.</p> <p>The IP asserts that the Applicant has double counted HIC waste arisings for the Study Area. This is simply not the case. The footnotes to Table 4.2 clearly state that treatment sites with fate landfill, incineration or recovery have removed to avoid double counting. As such, waste that is transferred to such facilities within the Study Area has only been counted once i.e., it has been counted as part of the waste stream managed at transfer stations within the Study Area and <b>not</b> at specific treatment facilities.</p> <p>Notwithstanding this point, as the Applicant has highlighted throughout the Examination – most notably in respect of UK44 in the <b>Applicant's comments on the Deadline 3 Submissions: Part 2 Other Interested Parties: Volume 12.3b [REP4-023]</b> - the focus of the fuel availability assessment 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. In this regard, whilst the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> has, at Table</p>
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<b>TOTAL CLEARLY UNSUITABLE</b>	<b>4,895,359</b>	<b>74%</b>	<b>2,381,404</b>	<b>78%</b>	<b>7,276,764</b>	<b>75%</b>																																						
Out of total listed in REP5-020 Table 4.2	6,643,864	100%	3,062,562	100%	9,706,426	100%																																						



Topic/Para	UKWIN submission	Applicant Comment
		4.2, sought to 'set the scene' and identified ~9.7 million tonnes of potentially suitable waste arising in the Study Area, Table 4.4 clearly illustrates that almost <b>2.4 million tonnes</b> of suitable waste is presently sent to landfill in the Study Area. It is this 2.4 million tonnes that is the focus of the fuel availability assessment as the Proposed Development provides a much needed means of managing the large quantities of suitable HIC waste in the Study Area that are presently sent to landfill.
39	This indicates that at least around 75% of the Applicant's 9.7Mt HIC waste figure identified by the Applicant in REP5-020 Table 4.2 is waste that is clearly unsuitable for inclusion as potential incinerator feedstock.	See the Applicant's comments to paragraph 38 above.
40	That of course does not mean that it would be appropriate to send all of the remaining c.25% of waste to incineration or that all of this material would necessarily be available for such a purpose in any case, now or in the future.	See the Applicant's comments to paragraph 38 above.
41	As previously noted, much of the remaining combustible waste could be reduced, reused, recycled and/or composted, and some of it could be expected to be treated through other means such as co-incineration at cement kilns.	See the Applicant's comments to paragraph 38 above. In addition to this, as outlined in in respect of UK05 in the <b>Applicant's comments on the Deadline 3 Submissions: Part 2 Other Interested Parties: Volume 12.3b [REP4-023], the Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> the Applicant does not consider that co-incineration represents a credible alternative to the Proposed Development. This is because there are no significant co-incineration opportunities proximate to the Study Area. Furthermore, the fuel requirements for co-incineration facilities need to be of a specific type/processed before it can be used, thereby not representing a like-for-like alternative to the Proposed Development (which does not require waste to be pre-processed).



Topic/Para	UKWIN submission	Applicant Comment
42	And indeed, as noted by others, much of it is waste that arises in Essex, and it can be expected that much of the suitable combustible waste arising there would go to the Rivenhall incinerator in the future.	See the Applicant's comments to paragraph 38 above. In addition to this, as outlined in PND2.5 <b>Applicant's response to the ExA's Written Questions (ExQ2) [REP5-032]</b> , the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> has already taken account of the development of the Rivenhall EfW facility and concludes that even with the capacity offered by Rivenhall, there remains a clear shortfall in non-landfill residual waste treatment capacity in the Study Area.
43	A second conclusion from the Applicant is also undermined by a consideration of the approach set out in the Applicant's WDI Guide; specifically the statement in REP5-020 Paragraph 4.1.16 that: "The data in Table 4.4 HIC waste disposed to non-hazardous landfill (tonnes) demonstrates that of the ~9.7 million tonnes of HIC arisings (as set out in Table 4.2 HIC arisings for the defined LoW codes 2021 (tonnes), 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..."	Noted.
44	As set out later in this submission, one of the waste codes that is used by the Applicant for Table 4.4 and that contributes a significant proportion of the 2.4Mt figure cited by the Applicant is landfilled 19 12 12.	Noted. As set out in paragraph 3.2.29 of the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> , the Applicant has consistently considered that waste code 19 12 12 – defined as ' <i>other wastes (including mixtures of materials) from mechanical treatment of wastes</i> ' comprises material suitable for treatment at the Proposed Development. Indeed, it is a waste code that the Applicant routinely receives waste from at its existing operations.  The Applicant's definition of the List of Waste categories that form the basis of the fuel availability assessment have been consistent throughout the Examination process and it is unclear as to why the IP is disputing their appropriateness at this late stage.



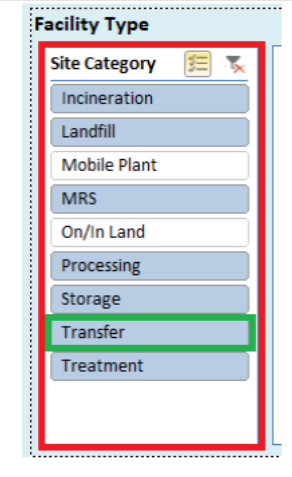


Topic/Para	UKWIN submission	Applicant Comment
45	As this landfilled 19 12 12 is comprised of sorting residues, as set out below, it stands to reason that a vast majority of it would be waste deliberately not sent to incineration due to low combustibility or to the waste being otherwise unsuitable, for example due to being too fine to go through a moving grate.	See the Applicant's comments to paragraph 44 above.
46	For the analysis above we use Tolvik's estimate that around 30% of landfilled 19 12 12 is non-combustible, and this can be considered likely to understate the level of non-combustible waste in the Applicant's ~2.4Mt figure.	See the Applicant's comments to paragraph 44 above. In addition to this, it is unclear from the IP as to where their Tolvik reference estimate has been derived.
47	Furthermore, as noted above, just because some of the remainder might be combustible does not mean it is not material that could in the future be reduced, re-used, recycled or composted instead and/or material that might end up going to a different combustion route such as cement kilns.	As the Applicant has highlighted throughout the Examination – most notably in respect of UK44 in the <b>Applicant's comments on the Deadline 3 Submissions: Part 2 Other Interested Parties: Volume 12.3b [REP4-023]</b> - the focus of the fuel availability assessment 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. In this regard, whilst the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> has, at Table 4.2, sought to 'set the scene' and identified ~9.7 million tonnes of potentially suitable waste arising in the Study Area, Table 4.4 clearly illustrates that almost 2.4 million tonnes of suitable waste is presently sent to landfill in the Study Area. It is these 2.4 million tonnes that is the focus of the fuel availability assessment as the Proposed Development provides a much needed means of managing the large quantities of suitable HIC waste in the Study Area that are presently sent to landfill.
		Furthermore, in terms of co-incineration – see the Applicant's response to paragraph 41 above.



Topic/Para	UKWIN submission	Applicant Comment
48	More detailed analysis set out later in this submission expands upon the issue with respect to the non-combustibility of landfilled 19 12 12.	Noted. However, see response to paragraph 44 above.
<i>Double Counting, e.g. at transfer stations</i>		
49	The Applicant does not appear to have followed any methodology to address the issue of double counting associated with the WDI in instances where waste goes through multiple waste management sites (e.g. where the waste is moved through one or more waste transfer or bulking stations en route to a next destination) and is therefore received at multiple sites and thus would be counted multiple times under the Applicant's methodology.	The Applicant has taken care to avoid double counting. See the response to paragraph 38 above.
50	The Applicant's REP6-025 WDI guide shows the Facility Types that the Applicant excludes, and those that are included	Please see the response to paragraph 38 above.



Topic/Para	UKWIN submission	Applicant Comment
51	 <p>The issue of double counting is most clearly egregious in the Applicant's decision to include 'Transfer' (which we have highlighted in green above) within their D5 WFAA [REP5-020] Table 4.2 HIC figures.</p>	<p>The Applicant has taken care to avoid double counting. Please see the response to paragraph 38 above.</p>
52	<p>Including transfer stations within the Applicant's WDI analysis means that every time waste goes through a transfer station it is counted again within the WDI's figures, and as a result the amount of waste counted is likely to far exceed the actual amount of waste arising.</p>	<p>The Applicant has taken care to avoid double counting. Please see the response to paragraph 38 above.</p>
53	<p>For example, if one looks at the East of England results for the waste codes used by the Applicant (19 12 10, 19 12 12, 20 03 01, and 20 03 07) the results are as follows:</p> <ul style="list-style-type: none"> <li>• Waste received at transfer stations in 2021 was 2,405,313 tonnes</li> </ul>	<p>The Applicant has taken care to avoid double counting. Please see the response to paragraph 38 above.</p>



Topic/Para	UKWIN submission	Applicant Comment
	<ul style="list-style-type: none"> <li>Waste received at landfill or incineration in 2021 was 2,343,559 tonnes.</li> </ul>	
54	Counting both 'waste received at transfer stations' and 'waste received at landfill or incineration' results in a figure of 4,748,872 tonnes of waste, which indicates a high degree of double counting that could more than double the HIC figure.	The Applicant has taken care to avoid double counting. Please see the response to paragraph 38 above.
55	The impact of including waste at transfer stations can result in a significant degree of double counting, and this is why established Defra methodology is to exclude waste from transfer stations.	The Applicant has taken care to avoid double counting. Please see the response to paragraph 38 above.
56	The 'Reconcile' methodology established by Jacobs for Defra in 2014 notes how: "Data sources and methods were chosen to minimise double-counting and exclude out of scope waste streams. Specific measures included: excluding transfer stations from EA Waste [Data] Interrogator records [used for the analysis]..." <sup>1</sup>	Noted. However, as set out in the Applicant's response to paragraph 38, the data in the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> does not include any double counting.
57	This advice is widely followed by those using the Waste Data Interrogator tool to conduct waste needs assessments.	Noted. However, as set out in the Applicant's response to paragraph 38, the data in the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> does not include any double counting.
58	The West Yorkshire Combined Authority's Waste Needs Assessment (WNA) Gap Methodology from 2017 noted that: "In accordance with the DEFRA methodology, waste passing through a waste transfer station was removed from the estimate in order not to double count such arisings, which would be eventually managed at other treatment or disposal facilities".	Noted. However, as set out in the Applicant's response to paragraph 38, the data in the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> does not include any double counting.

<sup>1</sup> New Methodology to Estimate Waste Generation by the Commercial and Industrial Sector in England (Defra, August 2014)



Topic/Para	UKWIN submission	Applicant Comment
59	Similarly, Nottinghamshire and Nottingham's September 2021 WNA explains that: "C&I waste arisings have been calculated by adapting the Defra 'Reconcile' methodology...The following wastes are excluded: ...Waste received by transfer station facilities (in order to avoid the double counting of waste)" <sup>2</sup> .	Noted. However, as set out in the Applicant's response to paragraph 38, the data in the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> does not include any double counting.
60	The Appendix to this Nottinghamshire WNA notes: "To avoid double counting the waste arising at transfer stations and the waste arising at end treatment/disposal destinations, the waste received by transfer stations has been excluded by filtering the data to exclude Site Category: Transfer".	Noted. However, as set out in the Applicant's response to paragraph 38, the data in the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> does not include any double counting.
61	Explaining this, the Nottinghamshire WNA states: "The main role of a transfer station is to temporarily store waste, bulking it into more efficient loads before it is moved on to a final destination. Waste received by transfer stations has been excluded to avoid double counting as the waste will be reported twice (once when it is received by the transfer station and once when it arrives at its final destination)".	Noted. However, as set out in the Applicant's response to paragraph 38, the data in the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> does not include any double counting.
62	The Medworth Applicant's only attempt to avoid double counting appears to be with respect to the Treatment category, with internal page 42 of their D5 WFAA stating: "19 12 10, 19 12 11 & 19 12 12 removed from included Treatment sites, with fate 'Landfill', 'Incineration' or 'Recovery' to avoid double counting" – but this approach does not eliminate the double counting associated with the inclusion of transfer stations.	The Applicant has taken care to avoid double counting. Please see the response to paragraph 38 above.
<p><i>Applicant's Failure To Adequately Account For How Some Waste Processing Facility Types Indicate That The Waste They Process Is Unlikely To Be Suitable For Incineration</i></p>		

<sup>2</sup> Nottinghamshire and Nottingham Waste Needs Assessment (Nottinghamshire County Council and Nottingham City Council, September 2021)



Topic/Para	UKWIN submission	Applicant Comment
63	Whilst the Applicant excludes Mobile Plants and On/In Land sites from their D5 WFAA [REP5-020] Table 4.2 HIC figures, the fact that they include all other facility types means that their HIC figures include significant quantities of residual waste whose unsuitability for incineration is made clear by how that waste is currently being processed.	Please see the responses to paragraphs 38 and 44 above.
64	To assess this and its potential impact we look at how much waste from the Applicant's aforementioned 'In scope' waste codes are treated in the East of England under the facility types that are the focus of our concerns.	As set out in the Applicant's response to paragraph 38, the data in the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> does not include any double counting. Furthermore, as outlined in the Applicant's response to paragraph 44, the fuel availability assessment considers all suitable waste types.
65	The facility types relied upon by the Applicant indicate that for a significant proportion of the Applicant's HIC waste in the East of England region the waste appears to either already have an appropriate treatment route or it appears not to be material suitable for incineration.	The Applicant disagrees with the IP's submission. As set out in the Applicant's response to paragraph 38, the data in the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> does not include any double counting. Furthermore, as outlined in the Applicant's response to paragraph 44, the fuel availability assessment considers all suitable waste types.
66	Similar issues arise when one expands the scope of exploration into other areas within the Applicant's WFAA study area.	The Applicant disagrees with the IP's submission. As set out in the Applicant's response to paragraph 38, the data in the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> does not include any double counting. Furthermore, as outlined in the Applicant's response to paragraph 44, the fuel availability assessment considers all suitable waste types.
67	It is unclear the extent to which material in the Treatment category was removed as part of the Applicant's aforementioned approach to avoiding double counting from that category.	As set out in the Applicant's response to paragraph 38, the data in the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> does not include any double counting.



Topic/Para	UKWIN submission	Applicant Comment
	<i>Failure To Account For How The 19 12 12 Waste Type Includes Significant Quantities Of Waste Going To Landfill Because That Waste Is Unsuitable For Incineration</i>	
68	The Applicant's WFAA targets all 19 12 12 currently going to landfill as if all of this material could be suitable for use as incinerator feedstock	See the response to paragraph 44 above.
69	However, as has been previously stated, the waste code 19 12 12 is used for "other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11" and the portion of this which goes to landfill is often sent to landfill because it has specifically been assessed as being unsuitable for waste incineration.	See the response to paragraph 44 above.
70	This was set out by UKWIN in our comments on the Applicant's D5 WFAA (i.e. from paragraphs 49-55 of REP6-042 and in the REP6-042 Technical Annex from paragraphs 194-207) where we cite evidence from Defra, Tolvik and the Scottish Incineration Review to conclude that: "...a large quantity of 19 12 12, which is generally categorised as part of the municipal waste stream, is material that is deemed unsuitable for incineration either due to its low calorific value or to it being so fine as to not being compatible with use at a moving grate incinerator"	See the response to paragraph 44 above. Also, it is noted that the Proposed Development does not comprise 'moving grate' technology (as referenced in the IP's comments at paragraph 70).
71	The November 2017 Tolvik analysis, used by the Applicant to assess future arisings at a national level (but not for their local analysis), assumes that only 70% of the waste landfilled under the code 19 12 12 is combustible.	See the response to paragraph 44 above.  In addition to this, it is noted that the 2017 Tolvik Report cited by the IP ( <i>UK Residual Waste: 2030 Market Review</i> , November 2017) seeks to question the suitability, at that time, of waste categorised as 19 12 12 as being appropriate for treatment in an energy recovery facility. The report went on, at paragraph 7.6 to recommend that guidance on the



Topic/Para	UKWIN submission	Applicant Comment
		<p>classification of wastes under 19 12 12 should be issued (ensuring more clarity around the waste types included in category 19 12 12).</p> <p>Further guidance on waste classification has since been issued by the Government and the Environment Agency (<i>Guidance on the Classification and Assessment of Waste</i> – last updated in October 2021). This has provided further clarity on how waste operators / handlers should categorise waste and as such the Applicant considers that to draw conclusions from an analysis of waste returns that are now some 7+ years old is outdated and unreliable. Furthermore (and importantly), regardless of the fact that waste code 19 12 12 comprises the largest potential source of fuel for the Proposed Development, it is the Applicant's experience, from accepting waste of this category at their existing EfWs, that this waste stream is fully combustible.</p>
72	More recent analysis, e.g. that undertaken for the Kent WNA, indicates that an even lower proportion of the 19 12 12 waste currently going to landfill is combustible.	See the responses to paragraph 44 and 71 above.
73	Despite this evidence, the Applicant's D5 WFAA Table 4.2 ('HIC arisings for the defined LoW codes [list of wastes, i.e. European Waste Codes (EWC)] 2021 (tonnes)'), and Table 4.4 ('HIC waste from Study Area disposed to non-hazardous waste (tonnes)') assume 100% of 19 12 12 is combustible.	See the response to paragraph 44 above.
74	The Applicant's D5 WFAA Table 4.4 provides a total 'in scope' HIC waste figure for the study area of 2,374,212 tonnes (2.37Mt) sent to nonhazardous landfill in 2021.	Noted.
75	Using WDI it can be ascertained that the Applicant's 2.37Mt figure breaks down into the following waste types:	See the responses to paragraph 44 and 71 above.





Topic/Para	UKWIN submission	Applicant Comment																		
	<p><b>APPLICANT'S IN-SCOPE 2021 LANDFILLED WASTE FROM STUDY AREA FIGURE BROKEN DOWN BY EWC/LOW CODE USING WASTE DATA INTERREGATOR</b></p> <table border="1"> <thead> <tr> <th>EWC/LoW code</th> <th>Tonnes</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>19 12 10</td> <td>1,119</td> <td>0.05%</td> </tr> <tr> <td>19 12 12</td> <td>1,643,187</td> <td>69.21%</td> </tr> <tr> <td>20 03 01</td> <td>687,079</td> <td>28.94%</td> </tr> <tr> <td>20 03 07</td> <td>42,827</td> <td>1.80%</td> </tr> <tr> <td><b>Total</b></td> <td><b>2,374,212</b></td> <td><b>100%</b></td> </tr> </tbody> </table>	EWC/LoW code	Tonnes	Percentage	19 12 10	1,119	0.05%	19 12 12	1,643,187	69.21%	20 03 01	687,079	28.94%	20 03 07	42,827	1.80%	<b>Total</b>	<b>2,374,212</b>	<b>100%</b>	
EWC/LoW code	Tonnes	Percentage																		
19 12 10	1,119	0.05%																		
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<b>Total</b>	<b>2,374,212</b>	<b>100%</b>																		
76	This means that the vast majority of the Applicant's 'in-scope' waste sent to landfill in 2021 comprised 19 12 12.	As outlined in paragraph 3.2.8 of the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> , the scope/ focus of the assessment comprises x4 waste codes 19 12 10 (combustible waste); 19 12 12 (other waste); 20 03 01 (mixed municipal waste); and 20 03 07 (bulky waste).																		
77	If 70% of this 19 12 12 were considered combustible, rather than 100%, then this would reduce the 1,643,187 tonne figure by 30%, i.e. by 492,956 tonnes, which in turn would reduce the total figure to around 1.88Mt.	See the responses to paragraphs 44, 71 and 76 above.																		
78	This means that, if it is found that Tolvik were right that only 70% of 19 12 12 was combustible, then this would imply that the Applicant's approach of assuming that 100% of landfilled 19 12 12 is combustible inflates the overall 'in scope' waste figure for the D5 WFAA Study Area by more than 26.2% because their methodology produced a result of 2.37Mt when the actual value would have been around 1.88Mt.	The Applicant disagrees with the IP's submission. See the responses to paragraphs 44, 71 and 76 above.																		
79	As noted above, while Tolvik estimated that 70% of 19 12 12 landfilled in 2016 was combustible, some more recent estimates show how a lower proportion than 70% of landfilled 19 12 12 is combustible.	See the responses to paragraphs 44 and 71 above.																		



Topic/Para	UKWIN submission	Applicant Comment
80	If lower figures of combustibility are assumed this would result in lower 'In Scope' waste being identified.	The Applicant disagrees with the IP's submission. See the responses to paragraphs 44, 71 and 76 above.
<b>REP6-029: 15.6B APPLICANT'S COMMENTS ON THE DEADLINE 5 SUBMISSIONS: PART 2 OTHER INTERESTED PARTIES</b>		
<b>Application of correction value to scope-in stages omitted by the Applicant</b>		
81	UKWIN appreciates the Applicant's acknowledgement, in their REP6-029 comments at UK06-UK09 (starting on electronic page 6), that the benefits of their proposal were overstated in the Applicant's APP-088 Table 14C.2 due to the narrowness of their focus on operational emissions rather than total emissions.	The Applicant disagrees with this statement and does not consider that it accurately reflects the comments made by the Applicant in REP6-029. The Proposed Development will deliver emission savings over the landfill alternative. In its response to UK06-09 it stated:  <i>The additional sensitivity analysis submitted at Deadline 6 (Applicant's Response to ISH4 Action Point 7, Volume 15.7) in response to ISH 4, Action Point No.7 [EV-059] makes it clear that there are number of factors that affect model outputs. However, the majority of scenarios considered show that the EfW CHP Facility would be expected to deliver a reduction in GHG emissions compared to landfill over the lifetime of the Proposed Development.</i>
82	The Applicant does not dispute UKWIN's estimate of this overstatement as amounting to around 9,683 tonnes of CO <sub>2</sub> e per annum.	As per the Applicant's response when this same point was raised in <b>REP6-026</b> , please see its response to UK06.
<b>Electricity generation emission factors</b>		
83	UKWIN does not agree with the Applicant's assertion, made at REP6-029 UK13, starting on electronic page 8, that "Existing guidance from DEFRA considers that electricity generated by gas-fired power stations (CCGT) is a reasonable substitute for energy generated by EfW plants".	Noted. The Applicant's position remains the same as that provided in response to the same point at REP6-029 UK13.



Topic/Para	UKWIN submission	Applicant Comment
84	UKWIN's reading of Defra's 2014 to 'Energy from waste. A guide to the debate' ('Defra's EfW Guide') document is that whilst CCGT was considered a reasonable comparator in 2014 for non-detailed analysis, due to the progressive decarbonisation of the electricity grid in the intervening years CCGT is no longer a suitable counterfactual for use in any form of analysis.	The <b>Applicant's Response to ISH4 Action Point 7 Technical Note: Climate Additional Sensitivity Assessment (Volume 15.7) [REP6-030]</b> considered 31 scenarios, representing a wide range of possible future circumstances, including CCGT and grid decarbonisation. The range of scenarios and the assumptions underlying them were discussed and agreed with CCC. The modelled scenarios showed that the majority would deliver a reduction in GHG emissions compared with landfill over the lifetime of the Proposed Development. In particular, the scenarios considering the sensitivity of the ES Case with respect to sources of electricity generation replaced by the EfW CHP Facility (CCGT and UK grid decarbonisation) both indicated that net emissions would be less for the EfW CHP Facility compared with landfill. This conclusion is supported by Government Policy that states that 'energy recovery from residual waste has a lower GHG impact than landfill (Draft NPS EN-1 paragraph 3.3.41).
85	As UKWIN has already pointed out (e.g. in REP1-096 electronic pages 138- 149; REP2-066 paragraphs 44-57; and REP4-037 paragraphs 78-83), Footnote 29 of Defra's EfW Guide reads as follows: "...When conducting more detailed assessments the energy offset should be calculated in line with DECC guidance using the appropriate marginal energy factor".	The full quote at footnote 29 (Energy from waste a guide to the debate) referred to by the IP states (Applicant's underlining)  <i><u>"A gas fired power station (Combined Cycle Gas Turbine - CCGT) is a reasonable comparator as this is the most likely technology if you wanted to build a new power station today. When conducting more detailed assessments the energy offset should be calculated in line with DECC guidance using the appropriate marginal energy factor.</u></i>  <a href="https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal">https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal</a>  Please also see response to 84 above.
86	As noted in UKWIN's REP2-066 and REP4-037 submissions it was pointed out that even if CCGT is used as a comparator, it	Please see the Applicant's response at 84 above. Of the scenarios considered, in addition to unabated CCGT (which provides a present-



Topic/Para	UKWIN submission	Applicant Comment
	should be abated CCGT and not unabated CCGT that should be used as the Electricity generation counterfactual.	day comparator), the Applicant did include scenarios for the future decarbonisation of the UK grid.
<b>Waste Composition Cases</b>		
87	In REP6-029 UK15, starting on electronic page 9, the Applicant offers a critique of UKWIN's decision to consider a 40% Biogenic content sensitivity.	In response to the comments made by UKWIN (IDs 87 – 102), the Applicant stands by its conclusions presented in the <b>Applicant's D6 submission Applicant's Response to ISH4 Action Point 7 Technical Note: Climate Additional Sensitivity Assessment (Volume 15.6) [REP6-030] and ES Chapter 14: Climate (Volume 6.2) [APP-041]</b> .
88	The Applicant's critique of UKWIN's decision is based on an assumption that the Applicant's current waste composition accurately reflects the current composition of the relevant waste arising, e.g. the residual waste arising within the Applicant's WFAA Study Area.	The Sensitivity Analysis considers 31 scenarios, including variations in biogenic content. The Applicant remains confident that the range of biogenic content percentages that was agreed with CCC and assessed is robust and reasonable. The Applicant's rationale for the percentages chosen are set out within Appendix B of the Assessment, whilst the likelihood of the scenarios themselves materialising is established in Table 4.2.
89	However, as noted at ISH7 and in UKWIN's post Hearing submission [REP6-043] at paragraphs 54-64, the Applicant's assumed 'current' waste composition appears to overestimate the proportion of food waste currently in the residual waste stream.	The Sensitivity Analysis recognises that whilst a reduction in organics would improve the performance of landfill relative to EfW, such a reduction is unlikely to happen in isolation with policies seeking to reduce plastic material in residual waste.
90	UKWIN's analysis of the impact of 40.2% biogenic carbon content is intended to look at the potential impact of the uncertainty in the Applicant's 'current waste' waste composition and not just potential future changes in waste composition.	The purpose of the sensitivity assessment is to consider a wide range of differing assumptions which when combined in various combinations provide (31) different assessment scenarios.
91	The Applicant's Climate Appendices [APP-088] state that their 'Current (Core Case)' waste stream has a biogenic carbon content of 57.2%, and their APP-088 14C assessment looks at the impact of increasing biogenic carbon content to either 58.85% or to 74.58%.	All scenarios are considered valid for the purposes of the Sensitivity Analysis, including the eight additional scenarios that consider the



Topic/Para	UKWIN submission	Applicant Comment
92	As noted by UKWIN, a rationale for looking at lower biogenic carbon percentages was to mirror the impact of the Applicant's assumed 17% increase in biogenic content.	<p>adoption of CCS alongside future decarbonisation of the UK grid. Of the 31 scenarios included, 25 of them indicate a reduction in lifetime net emissions would be achieved with the Proposed Development compared to landfill. This is consistent with Government policy which states that 'energy recovery from residual waste has a lower GHG impact than landfill (Draft NPS EN-1 paragraph 3.3.41)</p> <p>The results of the sensitivity analysis can be summarised as follows:</p> <ol style="list-style-type: none"> <li>1. The effect of grid decarbonisation is to diminish the net benefit of the Project compared to landfill.</li> <li>2. The effect of reducing plastics in the waste by 50% is to enhance the net benefit of the Project compared to landfill. This effect is less than the effect of grid decarbonisation.</li> <li>3. The effect of reducing food in the waste by 50% is to diminish the net benefit of the Project compared to landfill. This effect is greater than the effect of grid decarbonisation.</li> <li>4. The effect of reducing both food and plastic in the waste by 90% is to enhance the net benefit of the Project compared to landfill. This effect is greater than the effect of grid decarbonisation.</li> </ol> <p>It is important to remember that EfW represents a move up the waste hierarchy from landfill and, in accordance with government policy, is preferable to landfill. Furthermore, whilst the consideration of GHG emissions is a necessary part of the environmental assessment, the extent to which the Secretary of State should give consideration to the performance of an individual project against Government carbon</p>
93	According to a report published by the UK Government in October 2021: "Approximately 40-60% of the CO2 generated from current EfW plants in the UK is of biogenic origin..." <sup>3</sup>	
94	This means that in terms of current waste composition, the Applicant's 57.2% assumption is towards upper end of the Government's range and while UKWIN's 40.2% sensitivity would be towards the lower end of the range, the Applicant's 74.58% sensitivity is well outside the range	
95	In terms of the Applicant's D6 Additional Climate Sensitivity Assessment [REP6-030] the lowest additional sensitivity that the Applicant considers assumes 50.26% biogenic content, which represents the midpoint of the Government's range.	
96	In REP6-030 Table 3.1 the Applicant acknowledges that at 50.26% biogenic content (i.e. the Applicant's Scenario 6) the lifetime net GHG emissions of the Medworth EfW plant would be higher than the emissions associated with the landfill baseline.	
97	While the Applicant, in REP6-030 Table 4.2, attempts to downplay the likelihood of this eventuality, given that 50.26% biogenic content is roughly the midpoint in the Government's range, it is not reasonable to dismiss the prospect of biogenic content being around 40-50%.	

<sup>3</sup> 3 Greenhouse gas removal methods and their potential UK deployment



Topic/Para	UKWIN submission	Applicant Comment
98	<p>This means that, by only considering biogenic content as low as 50.26%, the Applicant's analysis falls well short of fully considering the sensitivity of their climate assessment to the biogenic content of the feedstock being towards the lower end of the Government's current range during the facility's operational lifetime.</p>	<p>budgets is explained within the <b>Applicant's Closing Position Statement on Climate</b> submitted for Deadline 8.</p>
99	<p>If – as the Applicant argues – reductions in plastic balance reductions in food waste then the range would remain as 40-60% even in the future, meaning that the biogenic content of the feedstock could end up towards the lower end of that range, e.g. around 40%.</p>	
100	<p>An unbalanced change in waste composition could push incinerator feedstock above 60% biogenic content, but it could also push it below 40% biogenic content.</p>	
101	<p>UKWIN's analysis shows that at 40% biogenic content the Medworth facility would perform even worse than the acknowledged adverse impact at 50.26% biogenic content and, given that 40% is within the range provided in the Government report for current EfW feedstock, the potential impact of 40% biogenic content should not be discounted from the Medworth Examination's considerations of potential GHG impacts of the facility.</p>	
102	<p>It is these sorts of inherent uncertainties that resulted in the diminished weight afforded to claimed GHG benefits of incineration in the Wheelabrator Kemsley North refusal.</p>	



Topic/Para	UKWIN submission	Applicant Comment
<b>Analysis of biogenic carbon sequestration</b>		
103	In their REP6-029 UK24, starting on electronic page 13, the Applicant fails to demonstrate that it would be inappropriate to consider the climate benefits associated with the sequestration of biogenic carbon in landfill within either the central analysis or in the context of sensitivity analysis.	The Applicant maintains its position set out within the response to UK24 in the <b>Applicant's comments on the Deadline 5 Submissions Part 2 other Interested Parties Volume 15.6b [REP6-029]</b> and UK26 to UK27 in the <b>Applicant's comments on the Deadline 3 Submissions Part 2 other Interested Parties Volume 12.3b [REP4-023]</b> .
104	At Deadline 5 [REP5-053] UKWIN provided detailed evidence accompanied by a clear rationale justifying consideration of this benefit within the context of making comparisons between the relative net climate impacts of incineration and landfill.	The approach used by the Applicant in <b>ES Chapter 14 Climate Change (Volume 6.2) [APP-041]</b> is consistent with IPCC guidelines <sup>4</sup> and the latest UK Greenhouse Gas Inventory Waste Sector <sup>5</sup> reporting of emissions for solid waste disposal sites (SWDS), where the proportion of biogenic carbon that does not decompose in landfill is excluded from emissions reporting.
105	The Applicant cites IPCC guidelines that were produced for the purpose of National Greenhouse Gas Inventory reporting and not for comparative analysis of residual waste treatment options.	Please also refer to the Applicant's response at IDs 87 to 102 for further comments on the <b>Applicant's D6 submission Applicant's Response to ISH4 Action Point 7 Technical Note: Climate Additional Sensitivity Assessment (Volume 15.6) [REP6-030]</b> .
106	There are many considerations that feed into decisions about how to approach National Greenhouse Gas Inventory reporting that are not relevant to comparative analysis of residual waste treatment options, such as the need to avoid double counting between different sectors and the desirability of reducing the administrative burden on the reporting nation.	Concerning the IPs representation <b>REP2-066</b> , the Applicant provided a detailed response at "Conformity with guidance", page 93 to 101 of the <b>Applicant's comments on Written Representations: Part 2 – Other Interested Parties (Volume 11.3) [REP3-040]</b> . The Applicant considered and commented on the IP suggestions. The approach to quantifying GHG emissions <sup>6</sup> from the construction, operation and decommissioning of the Proposed Development has been undertaken in line with the latest IEMA guidance for assessing GHG emissions and the infrastructure life-cycle modules set out in PAS 2080: Carbon
107	As set out in UKWIN's Good Practice Guidance for Assessing the GHG Impacts of Waste Incineration (July 2021) – which was included as part of REP1-096 (see, in particular, electronic pages 119-127) – many climate professionals have identified the	

<sup>4</sup> IPCC (2006). IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories. Chapter 5 Waste.

<sup>5</sup> Department for Energy Security and Net Zero (DESNZ, 2023). UK Greenhouse Gas Inventory, 1990 to 2021. Annual Report for Submission under the Framework Convention on Climate Change.

<sup>6</sup> IEMA (2022). Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance – 2nd Edition.



Topic/Para	UKWIN submission	Applicant Comment
108	<p>importance, when carrying out comparative analysis between incineration and landfill, of considering the sequestration of biogenic carbon in landfill, also known as 'carbon sink', and these experts would have been well aware of the IPCC guidance.</p> <p>When the Defra 'Carbon-based modelling approach' document (referred to in REP1-096, on electronic pages 106, 113 and 120) identified giving credit for the climate benefits of the sequestration of biogenic carbon in landfill the document did not rule out such an approach but instead modelled the impact of applying such an approach, which is in line with the approach adopted by UKWIN for the purpose of sensitivity analysis.</p>	<p>Management Infrastructure<sup>7</sup>. Assumptions remain in line with published material and the guidance documents.</p>
109	<p>Various other assessments of the relative impacts of incineration and landfill have similarly taken account of the benefits of biogenic carbon sequestration in landfill as part of either their central or their sensitivity analysis.</p>	
110	<p>As set out in REP1-096 from electronic page 111, examples include reports, assessments, and models produced by or for the following:</p> <ul style="list-style-type: none"> <li>• <u>Environmental Groups</u>: Evaluation of the climate change impacts of waste incineration in the UK (UKWIN, October 2018); The Potential Contribution of Waste Management to a Low Carbon Economy (Zero Waste Europe, October 2015); Greenhouse Gas and Air Quality Impacts of Incineration and Landfill (ClientEarth, March 2021)</li> </ul>	

<sup>7</sup> The Green Construction Board, Construction Leadership Council (2016). PAS 2080:2016 Carbon Management in Infrastructure.





Topic/Para	UKWIN submission	Applicant Comment
	<ul style="list-style-type: none"> <li>• <u>Governments</u>: Development of a Modelling Tool on Waste Generation and Management (European Commission, February 2014); EPS Ready Reckoner Guidance (Greater London Authority, May 2019); Landfill Carbon Storage in US EPA's Waste Reduction Model (US Environmental Protection Agency, November 2020)</li> <li>• <u>Incineration Companies</u>: East Midlands Energy ReGeneration (EMERGE) Centre Environmental Statement Appendix 8-4: Carbon Assessment and Sustainability (Uniper, June 2020); North Lincolnshire Green Energy Park (Solar 21, June 2021); Proof of Evidence on Energy, Renewable Energy, Combined Heat and Power and Effects on Climate Change for planning inquiry ref 3195373 (Veolia Environmental Services, May 2018)</li> <li>• <u>Academics</u>: Technical University of Denmark's Environmental Assessment of Solid Waste Systems and Technologies (EASEWASTE) Model</li> </ul>	
111	<p>Information regarding the importance of considering the climate benefits of biogenic carbon sequestration in landfill and the significance of the Medworth Applicant's failure to take this into account is set out by UKWIN in REP2-066 paragraphs 79-106, REP3-050 paragraphs 61-66, and REP4- 037 paragraphs 85-90.</p>	
112	<p>By way of illustration of the sorts of arguments advanced to support the consideration of biogenic carbon sequestration in landfill – arguments with which the Applicant has failed to grapple – we note the August 2020 Air Quality Consultants (AQC) study, produced for consideration as part of the planning process that resulted in the Waste Planning Authority's unappealed decision to refuse Veolia's Alton EfW application.</p>	



Topic/Para	UKWIN submission	Applicant Comment
113	As recorded on electronic page 119 of REP1-096, AQC noted: "The [Alton applicant's] assessment has also scoped out the potential benefit from sequestering biogenic carbon that is likely to be associated with waste treatment by landfill. Independent research by Defra indicates that this 'benefit' is not insignificant and would warrant further consideration"	
114	AQC went on to recommended that the Alton applicant's "Landfill CO2e assessment" should be required "to consider impact of sequestering biogenic carbon".	
115	UKWIN's GHG Assessment Guidance document goes on to note how the 'Alton AAERF Atkins Review Report' produced by Atkins for Hampshire County Council in October 2020, agreed with Air Quality Consultants' recommendation, observing that following the recommendation: "...would provide a more complete picture of the baseline scenario against which the development is being compared. Currently, this element is missing, which potentially misrepresents the impact of landfill as being higher than would be the case were this mechanism addressed".	
116	As noted in UKWIN's Good Practice Guidance [REP1-096], in addition to Air Quality Consultants and Atkins, other consultants such as Eunomia, ERM and Uniper have similarly provided assessments that credit landfill for its biogenic carbon sequestration when comparing residual waste management options that result in differing levels of biogenic CO2 being released.	
117	Or to put it another way, unlike the Applicant, many others have been prepared to follow industry good practice in line with the IEMA guidance which UKWIN set out in REP2-066 paragraphs	



Topic/Para	UKWIN submission	Applicant Comment
	79-88. This includes the IEMA guidance that: "The ultimate goal of establishing a baseline is being able to assess and report the net GHG impact of the proposed project" and their highlighting of the importance of considering "sequestered GHG emissions".	
118	For the reasons outlined above, UKWIN maintains our position that credit for biogenic carbon sequestration should be considered, and that the Applicant's approach goes against good practice including IEMA guidance, and that concerns raised by Steve Barclay MP in REP1-094 electronic pages 6-7 that the "comparative assessment between landfill and incineration was flawed" and was "methodologically unsound" due to the Applicant's improper "treatment of non-fossil CO2 emissions" remain valid.	
<b>Analysis of improved landfill performance</b>		
<i>LANDFILL GAS RECOVERY RATES</i>		
119	In their REP6-029 response to UK35, the Applicant refers to the 80% landfill gas capture rate as 'aspirational', but the Climate Change Committee set out an 80% landfill gas capture rate within their central Balanced Net Zero Pathway for waste to Net Zero for the UK within the Sixth Carbon Budget.	With regard to the landfill gas capture rates, the Applicant's scenarios 18 and 19 [REP6-030] include for 85% capture (above the Climate Change Committee's target of 80%) and for grid decarbonisation. As explained above, due to future uncertainties the Applicant has undertaken 31 sensitivity scenarios. The range of scenarios and the assumptions underlying them were discussed and agreed with CCC prior to undertaking the additional modelling. The Applicant considers that the scenarios represent a wide range of possible future circumstances.
120	The fact that the UK Government did not rely on improvements in methane capture rates in one of its pathway modelling assessments does not mean efforts will not be made over the next several decades to improve methane capture and it does not mean that those efforts would be ineffective.	



Topic/Para	UKWIN submission	Applicant Comment
121	It is perfectly valid to consider higher greenhouse gas capture rates as a possibility when considering the potential impact of the Medworth incinerator compared to a theoretical future landfill alternative.	Concerning a 'tipping point', due to the uncertainties and range of assumptions, this could be an endless task, therefore, the Applicant considers the 31 scenarios, that were agreed with CCC, represent a reasonable and proportionate response to enable the ExA to review a range of potential outcomes, some more likely than others, see the Applicant's response to 87 to 101, above and for further detail the <b>Applicant's D6 submission Applicant's Response to ISH4 Action Point 7 Technical Note: Climate Additional Sensitivity Assessment (Volume 15.6) [REP6-030]</b>  The Applicant remains of the opinion that the majority of scenarios considered show that the EfW CHP Facility would be expected to deliver a reduction in GHG emissions compared to landfill over the lifetime of the Proposed Development. This conclusion is supported by Government Policy that states that 'energy recovery from residual waste has a lower GHG impact than landfill' (Draft NPS EN-1 paragraph 3.3.41).
122	The point of the sensitivity analysis is to consider uncertainties regarding future changes in circumstances where there are known unknowns.	
123	In their 2023 Progress Report to Parliament the Climate Change Committee noted that "EfW emissions are already higher than the Government's Carbon Budget Delivery Plan (CBDP) anticipates and EfW capacity is set to increase in the coming years".	
124	It is plausible that one response to this situation that will be made by the current or by a future Government would be to redouble or expand efforts to improve methane capture to help bring the waste sector back on track.	
125	Another possibility is that the industry might unilaterally invest more in improving capture rates for environmental reasons, as part of their own contributions to net zero, or for commercial reasons to maximise energy outputs and thus profits.	
126	Indeed, the landfill industry has already made commitments to improve landfill gas capture rates to 85% by 2030, which goes even further than 80%.	
127	The Environmental Services Association (ESA) represents the waste industry, including landfill operators. In June 2021 the ESA announced that "ESA's members will: ...Invest £10bn of new	



Topic/Para	UKWIN submission	Applicant Comment
	money in recycling infrastructure to drive up recycling rates and cut down waste; and increasing capture of methane emissions...by 85% from landfill by 2030".	
128	Even if landfill gas capture rates do not reach 80% or 85%, they could still be higher than the rates relied upon by the Applicant in their climate analysis.	
129	In the Applicant's REP6-030 scenarios 18 and 19 the Applicant's analysis shows that at 85% landfill gas capture the Medworth plant would be between 3,611 and 5,642 tonnes of CO2e per year worse than landfill.	
130	Unfortunately, the Applicant does not provide 'tipping point analysis' to show the rate below 85% that would result in the Medworth plant having higher net GHG emissions than the assumed landfill baseline.	
131	However, given the high level of adverse impact at 85% landfill gas capture it would be reasonable to expect the Medworth impacts to be adverse at lower than 85% landfill gas capture rates, especially when account is taken of grid decarbonisation.	
132	It is noted that, as per REP5-053 electronic page 8, UKWIN showed how the Medworth plant would perform worse than landfill using a 75% landfill gas capture rate (which is less than halfway between the Applicant's central 68% and the Applicant's modelled 85% sensitivity) across a range of electricity generation factors and waste composition cases.	
<i>RATIO OF METHANE TO CARBON DIOXIDE</i>		



Topic/Para	UKWIN submission	Applicant Comment
133	In REP6-029 UK37 the Applicant cites a Defra study of historic emissions from landfill sites in a UK context to support the Applicant's decision to adopt a 57:43% ratio of methane to CO2 instead of using the conventional IPCC value of 50:50%.	Over the lifetime of a landfill, CO2 emissions will typically increase initially before declining as available O2 becomes exhausted. Methane emissions typically start to increase after O2 becomes exhausted. This is illustrated below.
134	However, even if this 57:43 ratio was correct for historic emissions that only tells us about the past, and not the future.	The Applicant considers that using data from the Defra study is appropriate and robust in that it represents an average of actual values recorded across the UK.
135	Over the lifetime of the proposed Medwath incinerator the UK Context for newly landfilled material could end up looking less like historic landfills and more like the IPCC defaults, e.g. due to changes in waste composition and/or landfill management.	

from: <https://www.epa.gov/lmop/basic-information-about-landfill-gas>



Topic/Para	UKWIN submission	Applicant Comment
<i>IVC TO BIOSTABILISE WASTE PRIOR TO LANDFILL</i>		
136	Whilst the Applicant's REP6-029 comment on UK40 does no more than refer the reader to their UK34 and UK37 responses which themselves refer to the Applicant's existing sensitivity analysis, it should be noted that none of the sensitivity analysis carried out by the Applicant considers the potential for in-vessel composting (IVC).	The <b>Applicant's Response to ISH4 Action Point 7 Technical Note: Climate Additional Sensitivity Assessment (Volume 15.7) [REP6-030]</b> is robust and reasonable with the range of scenarios discussed and agreed with CCC. IVC would reduce biogenic content. However, the majority of waste authorities in the Study Area already separately collect food waste and green waste, both wastes being suitable for IVC. It is unlikely that municipal waste that is currently landfilled would be suitable for IVC given that it is not a 'pure feedstock' comprising a number of different waste sub-categories that together combine to form 'municipal' waste.
137	IVC could reduce the amount of methane produced at landfill and this would affect the comparative analysis of incineration and landfill by reducing the landfill GHG emissions and therefore increasing the relative net adverse GHG impacts from the Medworth plant compared to a landfill baseline.	The issue at hand, a reduction in biogenic waste, has been considered across a range of percentages within the scenarios, see response at IDs 87 to 102. The relevant scenarios are consistent with those used by CCC and presented within its Deadline 4 submission <b>Deadline 4 Submission - Deadline 4 Submission - Cover letter and Appendices [REP4-028]</b> .
138	UKWIN has provided evidence on the impact of biostabilisation prior to landfill, e.g. in REP1-096 electronic pages 150-164.	
<b>Analysis of reduction in power generation</b>		
139	In REP6-029 UK41 the Applicant refers to an example of a facility which they claim is operating to plan, but that does nothing to show the impact of a facility that does not operate to plan.	The Applicant has "real world" experience of successfully operating EfW CHP Facilities in the UK and Germany. Consequently, the Applicant stands by its response at UK41 <b>[REP6-029]</b> .
140	As noted above, if the Medworth plant were to operate at reduced capacity, e.g. due to changes in the calorific value and/or shortfalls in the quantity of waste feedstock available, the overall impact on export to the grid could be far greater than the impact on gross electricity generation per tonne due to the parasitic load still largely needing to be serviced.	The Applicant considers that the risk of the facility running at reduced load due to lower waste tonnages or lower calorific value is extremely low; even if it were to occur the impact on net energy production would also be low, and not at all close to the 15% suggested by UKWIN in REP6-029 UK41.



Topic/Para	UKWIN submission	Applicant Comment
141	Furthermore, merely looking at a few years of operation of one EfW plant does not reflect the precedent established whereby some EfW plants have operated without a fully functioning generator turbine for extended periods.	Extended turbine outages are also rare, with average turbine <u>reliability</u> (nb, this is not the same as availability) being in the order of at least 97%.
142	UKWIN has provided real world operational data that addresses this point in REP1-096 electronic pages 133-137.	
<b>Further rationale for sensitivity analysis of the assumed proportion of methane in landfill gas</b>		
143	REP6-029 UK71 records how UKWIN noted that according to the official peer review at the start of the WR1908 document: "The peer review opinion was divided on the recommendation to amend the proportion of methane produced from IPCC default value of 50% (IPCC 2006) to 57% for modelling. The underlying question is whether the methane to carbon dioxide ratio observed during monitoring i.e. at point of release is reflective of the molar concentration rates assumed during landfill gas generation, and or whether there are any secondary processes that significantly change the ratio prior to landfill gas emissions monitoring".	The actual ratio of methane and CO <sub>2</sub> emissions from a working landfill will vary as a function of several variables including: waste composition; age of waste; depth; and atmospheric conditions. Secondary processes may also occur over the lifetime of the landfill and the ratio of methane to CO <sub>2</sub> is expected to increase (see answer to 133 – 135). Although the peer review was divided, the reality is that no one fixed ratio will be wholly representative. Further research and analysis of field sampling of landfill gas at working landfills is required. However, the Applicant acknowledges that this would be an appropriate focus for sensitivity analysis, noting that of the 31 scenarios included in the <b>Technical Note: Climate Additional Sensitivity Assessment (Volume 15.7) [REP6-030]</b> 25 of them indicate a reduction in lifetime net emissions would be achieved with the Proposed Development compared to landfill. This is consistent with Government policy which states that 'energy recovery from residual waste has a lower GHG impact than landfill' (Draft NPS EN-1 paragraph 3.3.41).
144	REP6-029 UK72 notes UKWIN's argument was therefore that: "This implies that there was some uncertainty from experts in the field as to whether or not to deviate from the 'generally assumed' IPCC default value of 50:50%, making this an appropriate focus for sensitivity analysis".	
145	In response to these points, in REP6-029 UK71 and UK72 the Applicant merely refers back to UK34, but UK34 cites the WR1908 document (about which was the focus of UKWIN's comment)	





Topic/Para	UKWIN submission	Applicant Comment
	without the Applicant adding any discussion about the element of that document that UKWIN is drawing upon to make their point.	
146	As such, the Applicant's responses neither address nor dispute the point that is being made by UKWIN.	
<b>REP6-030: 15.7 TECHNICAL NOTE: CLIMATE ADDITIONAL SENSITIVITY ASSESSMENT</b>		
147	The Applicant's additional sensitivity analysis [REP6-030] shows that even if there are climate change benefits from the development compared to landfill those benefits could be very marginal, and it is possible that there would be adverse impacts across a range of potential scenarios.	In response to the comments made by UKWIN (IDs 147 to 156) to the Applicant's D6 submission Applicant's Response to ISH4 Action Point 7 Technical Note: Climate Additional Sensitivity Assessment (Volume 15.6) [REP6-030] the Applicant stands by its conclusions.
148	We do not agree with the Applicant's conclusion that it is unlikely that scenarios where there would be adverse impacts could come about.	The purpose of the sensitivity assessment is to consider a wide range of differing assumptions which when combined in various combinations provide 31 different assessment scenarios, which have been agreed with CCC.
149	Not only are some of the sensitivity scenarios which show adverse impacts reasonably possible on their own, but there are a number of sensitivity parameters that could occur to some extent in combination with one another to produce relative net adverse impacts.	All scenarios are considered valid for the purposes of the Sensitivity Analysis, including the eight additional scenarios that consider the adoption of CCS alongside future decarbonisation of the UK grid. Of the 31 scenarios included, 25 of them indicate a reduction in lifetime net emissions would be achieved with the Proposed Development compared to landfill. This is consistent with Government policy which states that 'energy recovery from residual waste has a lower GHG impact than landfill' (Draft NPS EN-1 paragraph 3.3.41).
150	For example, as noted above, the Applicant considers 52% and 85% LFG capture rates and prefers 52% as more likely but the Applicant does not consider what potentially higher LFG rate (below 85%) would be needed to result in a tipping in the balance across a range of waste composition cases.	The results of the sensitivity analysis can be summarised as follows:



Topic/Para	UKWIN submission	Applicant Comment
151	We also note that the Applicant's additional sensitivity analysis only goes as low as 50.26% biogenic carbon which is only the midpoint of the range provided by the UK Government.	1. The effect of grid decarbonisation is to diminish the net benefit of the Proposed Development compared to landfill.
152	This means the REP6-030 reduced organics scenario (Scenario 6) which results in adverse impacts should not be dismissed as unlikely because, even if organics do not halve in isolation, the associated results in terms of a 50% biogenic carbon content could reasonably occur even if plastics and food waste reductions balance one another to some extent in the event current waste composition is towards the lower end of the 40-60% range.	2. The effect of reducing plastics in the waste by 50% is to enhance the net benefit of the Project compared to landfill. This effect is less than the effect of grid decarbonisation. 3. The effect of reducing food in the waste by 50% is to diminish the net benefit of the Project compared to landfill. This effect is greater than the effect of grid decarbonisation.
153	Furthermore, for the reasons set out in UKWIN's D6 sensitivity analysis [REP6-042], it appears that all of the Applicant's sensitivities overstate landfill emissions by not giving any additional credit for biogenic carbon sequestration.	4. The effect of reducing both food and plastic in the waste by 90% is to enhance the net benefit of the Project compared to landfill. This effect is greater than the effect of grid decarbonisation.
154	Finally, the Applicant's further sensitivity analysis is entirely based on the premise that the plant would divert waste from being sent directly to landfill.	The effect of utilising CCS in 2030 or 2040 is to enhance the benefit of the Proposed Development to landfill. This effect is greater than the effect of grid decarbonisation. The Draft DCO submitted at Deadline 8 contains requirements 22 and 23 which require the provision and retention of a carbon capture and export space and for the Applicant to ensure that the feasibility of carbon capture and export is kept under review, biannually.
155	However, if even a small fraction of the waste is diverted from waste minimisation, recycling, or a more efficient EfW plant then this could be enough to flip the results across many of the cases considered.	The Applicant has demonstrated within the WFAA (Volume 7.3) [REP5-020] that there is a need for the Proposed Development because a substantial amount of waste continues to be landfilled both locally (within the Study Area) and nationally. It is therefore entirely consistent that the sensitivity analysis would focus upon the diversion of waste from landfill. Waste supplied to the Proposed development would be residual waste, that is waste that has not been recycled or minimised, the proposed development would not 'divert' waste from these sources. As a new facility it would be highly efficient.
156	As such, rather than showing that the development is likely to result in a relative net GHG benefit the Applicant's latest assessment merely serves to highlight the inherent uncertainty that ought to reduce the weight given to their claimed GHG benefits.	



Topic/Para	UKWIN submission	Applicant Comment																																								
		<p>The fact of the matter remains that EfW represents a move up the waste hierarchy from landfill and as such for the IP to be effectively arguing that landfill is preferable is contrary to government policy. Furthermore, whilst the consideration of GHG emissions is a necessary part of the environmental assessment, the extent to which the Secretary of State should give consideration to the performance of an individual project against Government carbon budgets is explained within the <b>Applicant's Closing Position Statement on Climate (Volume 18.6)</b> submitted for Deadline 8.</p>																																								
<b>TECHNIAL ANNEX: WDI GUIDE</b>																																										
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### 3. Comments on Deadline 7 submissions from Jenny Perryman

Table 3.1 Comments on Deadline 7 submissions from Jenny Perryman [REP7-047]

Topic/Para	Jenny Perryman submission	Applicant Comment
<b>Volume 15.2 - Written Summary of the Applicant's Oral Submissions at ISH6 [REP6-024]</b>		
<b>5n Hazardous loads and APC residues  Question 1</b>	<p>The Applicant has failed to answer my question: I asked why the Applicant scoped out the movement of APC residues from further assessment. The Applicant's response at ISH 6 made it clear they fully understood what I was asking:</p> <p><i>"we're going to need to go back through our documentation to confirm the reasons why those those particular vehicle movements weren't considered to be a dangerous or hazardous load receptor for the purposes of the assessment in accordance with the guidance"</i> .</p> <p><i>"we don't have the answer to hand, but will be in our written summary of our of the submissions made in this hearing."</i></p> <p>By failing to accurately describe my question in their written summary, the irrelevance of the response given is concealed. Having first made this point in my written submission after OFH 1, it appears the Applicant is reluctant to answer why the APCr were scoped out from further assessment.</p>	<p>The scope of the major accidents and disasters to be considered within the Environmental Statement were confirmed during the EIA Scoping exercise, see Appendix 1D, the EIA Scoping Opinion <b>(Volume 6.4) [APP-068]</b>. The vehicles referred to by the IP were not included nor does the Applicant consider they should for the reasons highlighted in their response at agenda item 5n of <b>REP6-024</b>.</p>



Topic/Para	Jenny Perryman submission	Applicant Comment
<p><b>5n</b> <b>Hazardous loads and APC residues</b></p> <p><b>Question 2</b></p>	<p>In response to a question regarding the availability of HGVs for road transport in the future once petrol and diesel vehicles are banned, Mr Carey commented that technologies will have developed by 2040 but that it's impossible to know now which technology will be developed to allow longer distance transport for HGVs. Nevertheless, one of the options would be hydrogen fuelled vehicles and technology may adapt to allow electric vehicles to travel longer distances.</p> <p>Ms Brodrick indicated that some of the issues raised were outside of the scope of the DCO Application. The Applicant has set out the reasons for the location of the Proposed Development and produced a waste fuel availability assessment (Volume 7.3) (Rev 3) [REP5-019 (tracked); REP5-020 (clean)] which sets out why the Applicant considers there will be sufficient residual waste for the Proposed Development. Such waste will need to be collected regardless of the means of transport being used at the time. The Applicant has assessed the worst-case scenario from an emissions perspective which is the continued use of HGVs fuelled by fossil fuels.</p> <p>Ms Brodrick's response is irrelevant. It's obvious the waste will need to be collected.</p> <p>My question was asked because of "the Applicant's need to source the vast majority of their waste from much greater distances from the</p>	<p>Vehicle movements, including carbon emissions have been considered by the Applicant, see <b>ES Chapter 6: Traffic and Transport (Volume 6.4) [APP-033]</b> and <b>ES Chapter 14: Climate (Volume 6.4) [APP-041]</b>. As stated by the Applicant at agenda item 5n [REP6-024] and acknowledged by the IP in their Deadline 7 submission [REP7-047], the Applicant has assessed the worst-case scenario from an emissions perspective which is the continued use of HGVs fuelled by fossil fuels. This assessment fulfils the requirements for the Environmental Impact Assessment; it is not deemed necessary to assess hypothetical scenarios around the availability or non-availability of vehicles capable of transporting waste over two hours.</p>



Topic/Para	Jenny Perryman submission	Applicant Comment
	<p>PD than other existing EfW facilities who are contracted to Local Authorities, or from waste arisings.”</p> <p>Clearly the Applicant has not considered the implications, but due to the PD’s size, scale and remote location the impact is likely to be significant and needs serious scrutiny as part of this DCO.</p>	
<b>Volume 15.3 - Written Summary of the Applicant's Oral Submissions at ISH7 [REP6-025]</b>		
<b>Table 1.2 ISH7 Action Point 3: Meaning of the word ‘source’ in relation to waste</b>	<p>The Applicant has failed to answer my question: I did not ask for “the sources used for the waste data information.” It is unfortunate that the ExA’s Action Point was worded incorrectly. However, had the Applicant carried out their own due dilligence and checked either the transcript or the replay, they would have realised the error and provided the correct answer:</p> <p>I made it very clear I was not asking for sources of data. “I asked the Applicant for a simple clarification on the meaning of ‘source’ in relation to waste? Whether the word source refers to where waste arises? The meaning as applied to the waste itself, not as in the source of waste data.”</p>	<p>Noted. The Applicant can confirm that in terms of any reference to the ‘source’ of waste, this means either the point of its arising or the point from which waste is transferred to its final point of disposal/management.</p>
<b>Source of Waste</b>	<p>The Applicant relies heavily on referencing the WFAA upon which their entire ‘need’ case rests but there is a significant disconnect between the</p>	<p>The Applicant has looked in detail at how much local authority collected waste (LACW) arising in the Waste Planning Authorities of the Study Area is landfilled within the Study Area. This has</p>



Topic/Para	Jenny Perryman submission	Applicant Comment
	<p>Planning Application for the PD, which is theory, and how they would make it work in practice.</p> <p>The Applicant has consistently failed to demonstrate how they would or could specifically target the waste they have relied on in the WFAA that is currently being landfilled.</p> <p>The Applicant's WFAA dismisses where the waste arises and focuses solely where waste is landfilled. This fails to take into account that in 2020 authorities' facilities in the East of England took just over 5 million tonnes of London's HIC waste – around: 3.1m tonnes to Thurrock, 1.2m to Hertfordshire, 452,000 to Essex &amp; Southend, 222,000 to Cambs &amp; P/boro, 152,000 to Norfolk, 80,000 to Bedfordshire, 10,000 to Suffolk.</p>	<p>demonstrated conclusively that for the East of England region, there is a much greater reliance on landfill to manage this waste stream than in other parts of England. As graphic 5 and paragraphs 4.1.12 – 4.1.13 of the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> demonstrate, the Eastern region landfills almost three times more of its LACW than the national (English) average. In the context of LACW and the quantities of waste that are presently sent to landfill, the fuel availability assessment focuses on the amount of waste generated by those Waste Planning Authorities in the Study Area. Notwithstanding this, it is acknowledged that waste does cross boundaries, and that as a result, London does place pressures on the East of England. In this regard, it is likely that the need for the Proposed Development is greater than assessed.</p> <p>If development consent for the Proposed Development is granted, the Applicant will be able to accept waste from the companies collecting waste under existing contracts that is currently being sent to landfill. Local Authorities, in complying with the waste hierarchy, will also be under a policy imperative to use Energy from Waste facilities in preference to landfill.</p>
<p><b>Requirement 29 and the proximity principle</b></p>	<p>However, Requirement 29 of the dDCO stipulates that waste from Waste Area 1 and waste from Waste Area 2 must originate in those areas.</p> <p>Therefore, around 5 million tonnes of waste has potentially been identified in the WFAA which arises outside of both Waste Area 1 and 2.</p> <p>Without pointlessly referring to the WFAA or NPSs, how can the Applicant realistically and workably ensure compliance with these requirements without total and utter reliance on</p>	<p>The potential fuel identified in the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> relates to waste that is currently landfilled in the Study Area and which would be moved up the waste management hierarchy if it were diverted to the Proposed Development. The <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> has concluded that that based upon the current pattern of waste arising and management across the Study Area, there is potential for around 2.6 million tonnes of material to be managed further up the waste hierarchy (i.e., diverted from landfill).</p> <p>Furthermore, the Applicant has agreed a Waste Catchment Requirement 19 with Cambridgeshire County Council, which commits</p>



Topic/Para	Jenny Perryman submission	Applicant Comment
	<p>the compliance and integrity of others, which would come under pressure due to the PD competing for waste on price?</p> <p>Requirement 29 of the dDCO also stipulates that at least 17.5% of the waste for the PD must originate from within 75km of the EfW CHP Facility Site. (I note this figure appears to be based on the maximum throughput of the PD – 625,000, rather than the 523,500 (approx) the Applicant states it would be designed to handle.)</p> <p>Whilst the Waste Collection Authorities are the District/Borough Councils, the Waste Disposal Authorities are the County Councils (in two-tier administrations).</p> <p>Waste Area 1 does not cover any county entirely, even some District Councils are split by the 75km boundary.</p> <p>Waste Disposal Authorities sited in Waste Area 1 are: Cambridgeshire, Peterborough City, Bedfordshire and North Northamptonshire Unitary Authority.</p> <p>Of those four, Peterborough City has its own EfW facility, and both Bedfordshire and North Northamptonshire UA are both in closer proximity to the Rookery Farm EfW facility at Stewartby, which they are both currently using. The west/northwestern edge is in closer proximity to EfW facilities near Lincoln, Nottingham,</p>	<p>the applicant to sourcing at least 80% of its waste from within the Study Area identified in the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b>. This will be enforced through reporting based upon the Applicant's records of where the facility's fuel has been sourced from. As the Environmental Permit under which the site will need to operate requires the origin of all waste to be documented, it is through that that the Waste Catchment requirement will be reported and enforced. Adherence to Waste Planning Authority boundaries in this regard is not necessary.</p> <p>The compliance of the Proposed Development with the proximity principle is not limited to the proposed commitment as regards Waste Area 1. That is only one element of the compliance strategy, and compliance with the proximity principle does not necessitate that waste be sourced only from within Waste Area 1. As noted above, Requirement 29 of the draft DCO (Rev 6 provided at Deadline 7) also requires a minimum of 80% of the waste processed at the Proposed Development to originate from Waste Area 2.</p> <p>Waste Area 2 is defined by reference to the Waste Area Plan. Waste Area 2 is the Study Area referred to in the WFAA. Waste Area 2 comprises all of the waste planning authority areas that constitute the local area, i.e., those waste planning areas for which disposal at the Proposed Development will be in compliance with the proximity principle.</p> <p>Waste Area 1 is defined as a 75km radius from the EfW CHP Facility site and is therefore a smaller area than the local Study Area (which corresponds to Waste Area 2 as set out above). A minimum of 17.5% of the waste accepted at the Proposed Development must originate from Waste Area 1. This is an additional obligation that has been agreed with Cambridgeshire County Council. The obligation serves to strengthen the credentials of the Proposed Development as regards compliance with the proximity principle, however it would be wholly</p>





Topic/Para	Jenny Perryman submission	Applicant Comment
	<p>Loughborough (Newhurst), Atherstone (Baddersley).</p> <p>It has not been adequately demonstrated how Waste Area 1 complies to the proximity principle, or any evidence that the PD would not have a significant adverse impact on other existing EfW facilities, even before looking further afield to Waste Area 2.</p> <p>Whilst the Applicant says the PD is not dependent on Norfolk's waste they have not demonstrated how they would conform to the requirement to source a minimum 17.5% from within Waste Area 1, whilst conforming to the proximity principle, if the PD is not dependent on Norfolk's waste</p>	<p>inappropriate to regard only that waste sourced from within Waste Area 1 as having been sourced in accordance with the proximity principle.</p> <p>A maximum of 20% of the waste may be processed at the Proposed Development that originates from outside of Waste Area 2. This flexibility is considered to be reasonable and proportionate and enables the Proposed Development to deal with fluctuations in the waste industry that could arise from unforeseeable future events (e.g., those caused by COVID-19 and the war in Ukraine). However, it is important to recognise that treatment of this waste at the Proposed Development may nevertheless comply with the proximity principle where there is no capacity at energy recovery facilities closer to the point of origin of the waste.</p> <p>Notwithstanding the above, the requirement to source 17.5% of waste from Waste Area 1 has been agreed with CCC and is a minimum. It does not prevent the Applicant from sourcing a greater percentage of waste from closer proximity. As the cost of disposing of waste is heavily influenced by the cost of transport, the Applicant is confident that economics will encourage waste producers and processors located within Waste Area 1 to use the Proposed Development.</p>
<b>Waste Areas - Norfolk</b>	<p>Given that Norfolk is not wholly within Waste Area 1, and waste must originate from within that area, the Applicant has failed to demonstrate how they would or could only take part of any county's waste?</p> <p>Particularly in light of what Carey told the ExA at ISH3 (pt1):</p>	<p>See above response to Requirement 29 above.</p>



Topic/Para	Jenny Perryman submission	Applicant Comment
	<p><i>“we would not deal directly with waste authorities. We would simply act as a subcontractor to private sector companies that would then tender for that waste.</i></p> <p><i>We have not had direct discussions with any waste local authority, but it's likely that that tender would require the private sector companies that tender for that waste to take all of the authority's waste ...”</i></p> <p>The Applicant has consistently failed to robustly demonstrate how they could or would specifically target the waste they have relied on in the WFAA, solely originating from Waste Area 1 and 2, and currently being landfilled.</p>	
<p><b>Impact on other waste facilities</b></p>	<p>The Applicant has also repeatedly failed to robustly demonstrate that in practice the PD will not have a significant adverse impact on other facilities or burn waste that could not be treated further up the waste hierarchy with better recycling.</p> <p>I reiterate a comment made in a previous submission: This was taken from MVV's website:</p> <p><i>“The power plant at Ridham Dock incinerates around 172,000 tonnes of waste and nonrecyclable timber a year ...</i></p> <p><i>The plant will be fuelled by waste timber and non-recyclable timber, as well as by processed and</i></p>	<p>As the Applicant has highlighted throughout the Examination, the focus of the waste fuel availability assessment 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. Furthermore, no reliance is placed on diverting waste from other, existing EfWs.</p> <p>In this regard, the <b>Waste Fuel Availability Assessment (WFAA) (Rev 3) [REP5-020]</b> has at Table 4.4 clearly illustrated that almost 2.4 million tonnes of suitable waste is presently sent to landfill in the Study Area. It is these 2.4 million tonnes that is the focus of the fuel availability assessment as the Proposed Development provides a much needed means of managing the large quantities of suitable HIC waste in the Study Area that are presently sent to landfill.</p>



Topic/Para	Jenny Perryman submission	Applicant Comment
	<p><i>contaminated timber, such as plywood, chipboard, old furniture and construction site timber. This material from within the region in south-east of England was previously incinerated elsewhere ..."</i></p> <p>By their own admission MVA are not moving waste up the waste hierarchy, their plant has not been used for a capacity shortfall, neither are they generating new electricity at their Ridham Dock facility. They are simply removing another incinerator's feedstock and energy generation for their own profitable gains and this planning application has repeatedly shown itself to have the same intent.</p>	



## 4. Comments on Deadline 7 submissions from RSPB England

**Table 4.1 Comments on Deadline 7 submissions from RSPB England – Comments on any additional information/submissions received by Deadline 6 [REP7-050]**

Topic/Para	RSPB England submission	Applicant Comment
<b>General</b>		
<b>Turtle Doves</b>	<p>We have become aware of breeding Turtle Doves within the area of the proposed development. We therefore wish to make comments regarding the Proposed Development's Biodiversity Net Gain (BNG) calculations and habitat loss, specifically in relation to Turtle Doves.</p> <p>The Turtle Dove is a globally vulnerable species (International Union for Conservation of Nature (IUCN)) and a red-listed Bird of Conservation Concern (BoCC). Since the 1970s the species has suffered a 96% decline in UK breeding territories (2021 National Turtle Dove Survey). This has been driven by two main pressures: unsustainable levels of hunting on their migration route, but most importantly, a lack of suitable breeding habitat (seed food, nesting habitat and accessible water) on their breeding grounds in the UK.</p> <p>Turtle doves require three key habitats:</p> <p><b>Food</b> – A seed rich habitat with 30-60% bare ground and low vegetation (&lt;15cm) to be able to</p>	<p>Please refer to the <b>Applicant's Comments on Deadline 6 submissions: Part 2 Other Interested Parties (Volume 16.4b) submitted at Deadline 7</b> (see the response to ID29 [REP6-044] provided at the top of page 41).</p> <p>In summary, the Proposed Development has been the subject of extensive environmental assessment, the results of which are reported within the <b>Environmental Statement (Volumes 6.2 – 6.4). ES Chapter 11 Biodiversity (Volume 6.2) [APP-036]</b> does acknowledge that there are records of turtle doves within the Study Area, although none were found during the site surveys. Chapter 11 of the ES (section 11.9) considers the potential to affect this species, together with all of the other Red List breeding birds recorded either in the desk study or through survey. The conclusion reached is that the effects would not be significant. Full details of the results of the bird surveys carried out in 2021, are provided in the <b>ES Chapter 11 Biodiversity Appendix 11J Breeding Bird Appraisal Surveys 2021 [APP-083]</b>.</p> <p>In a <b>Statement of Common Ground between Medworth CHP Limited and Natural England (Volume 9.9 [REP4-011]</b>, Natural England has agreed that all ecological and ornithological surveys carried out were appropriate and in accordance with current good practice and that the Applicant's evaluation of effects was robust (see</p>



Topic/Para	RSPB England submission	Applicant Comment
	<p>access it. They only eat seed and unlike many farmland birds don't switch to eating insects in the breeding season. Turtle Doves feed on a wide variety of seeds of arable plants like chickweed and fumitory and brassicas like oilseed rape.</p> <p><b>Nesting habitat</b> – Comprised of native species, such as Hawthorn, Blackthorn and Bramble, with climbing plants, like Dog Rose, can provide the dense and thorny nesting habitat (e.g., hedges and scrub) required by Turtle Doves for protection from the weather and predators. Alternative suitable nesting habitat can also be found in places like woodland-scrub edges or Conifers.</p> <p><b>Accessible water</b> – Their seed-based diet is low in water content, and they need accessible water to be able to make crop milk for their chicks. This is usually recommended in the form of a pond with one shallow sloping side, but a range of water sources can be used as long as access is provided.</p>	<p>Table 3.3). Similarly, Cambridgeshire County Council, Fenland District Council, the Borough Council of King's Lynn and West Norfolk have all agreed with the Applicant's assessment approach (see the respective SoCGs [REP7-017] and [REP7-016].</p> <p>Whilst no Turtle Doves were recorded in any of the surveys carried out in 2021, the Applicant recognises the potential for the situation to change over time. <b>The Outline Construction Environmental Management Plan (Outline CEMP)</b> (see section 4.4 of Appendix D Outline Ecological Mitigation Strategy on page D11) [REP6-012] therefore commits the Applicant to carrying out nesting bird checks prior to any clearance of vegetation and to carrying out monthly bird walkovers during the main breeding season to minimise the risk of work disturbing breeding activity by Schedule 1 birds.</p> <p>The <b>Outline CEMP</b> provides for an emergency procedure that will be implemented if breeding birds or a nest is encountered. All work within 50m will cease until an Ecological Clerk of Works assesses and determines mitigation requirements. In the event of an active nest being found, a protection zone will be set out, within which no works will be carried out whilst birds are using the nest or until the chicks have fledged.</p> <p>Natural England has agreed in the SoCG [REP4-011], that the Outline CEMP provides an appropriate mechanism for securing final pre-construction surveys and for mitigation the Proposed Development's effects during construction (see items 3.3.9 and 3.3.11). Similarly, Cambridgeshire County Council, Fenland District Council, the Borough Council of King's Lynn and West Norfolk have all agreed with the measures and approach proposed in the <b>Outline CEMP</b> (see the respective SoCGs [REP7-017] and [REP7-016].</p> <p>The Applicant would be pleased to receive any information that the RSPB has acquired regarding the presence of breeding Turtle Doves,</p>



Topic/Para	RSPB England submission	Applicant Comment
		<p>so that this can be notified to the relevant site personnel and included in the final Construction Environmental Management Plan, which must be approved under Requirement 10 of the DCO before construction of any part of the development may commence.</p>
<p><b>Environmental Statement Chapter 11 Biodiversity Appendix 11M Biodiversity Net Gain Assessment – July 2023, Revision 5</b></p>		
<p><b>BNG provision off-site</b></p>	<p>The 2021 Environment Act introduced a requirement for all new developments to deliver a 10% net gain for biodiversity, which will be made mandatory in November 2023. We welcome that the Applicant is committed to delivering a minimum of 10% BNG for the Proposed Development, but are aware this will largely be delivered by off-site measures, which are identified in Appendix 10.2C (unavailable on the National Infrastructure Planning portal).</p> <p>When considering the habitat requirements for Turtle Doves, it is a concern that the BNG result indicates that the Proposed Development will result in an overall net loss of -9.98% in area-based units (e.g., scrub); a loss of -21.56% in linear units (e.g., hedgerow); and a loss of -11.85% in river units. In addition to this, the BNG result also fails ‘trading rates for Medium distinctiveness habitats especially for scrub. We recognise that the assessment expects BNG for the Proposed Development to be delivered off-site, but at this stage, it is stated that the “mechanism for delivering this is yet to be defined”.</p>	<p>The Applicant has made a voluntary commitment to delivering a minimum of 10% BNG, as the statutory requirement does not come into effect until 2025. Requirement 6 of the Draft Development Consent Order [REP7-033] prevents any part of the Proposed Development from commencing until a biodiversity net gain strategy to secure minimum of 10% BNG has been approved and the Proposed Development must be implemented in accordance with the approved strategy. Natural England and the relevant local host authorities are satisfied with the wording of Requirement 6 as a means of securing BNG, as confirmed in the relevant statements of common ground with the Applicant (see [REP4-011], [REP7-016] and [REP7-017]).</p> <p><b>ES Volume 6.4 Chapter 11 – Biodiversity Appendix 11m Biodiversity Net Gain Assessment [REP6-007]</b> sets out the Applicant’s BNG assessment. It acknowledges that the Proposed Development would result in the loss of habitat and fail ‘trading rules’ for the Medium distinctiveness habitats especially for scrub. Hence, it identifies the need for additional off-site habitat intervention to compensate for these losses and that scrub enhancement or creation would be a priority BNG measure. The methodology and approach for delivering BNG, the examples of habitat types and quantities to be provided and the resulting net gain assessments have also been agreed with Natural England and the local host authorities, as confirmed in the respective SoCGs [REP4-011], [REP7-016] and [REP7-017]. Specifically, Natural England agrees that enhancing</p>



Topic/Para	RSPB England submission	Applicant Comment
<b>BNG provision for Turtle Doves</b>	<p>Given that hedges and scrub can take around 15 years to mature and provide suitable nesting habitat for Turtle Doves, it is important to retain as much of this habitat on the Proposed Development site as possible. This would then also align with the emerging Fenland Local Plan's aim that all "opportunities to achieve net gain on-site must be fully explored to ensure that loss of biodiversity is avoided or minimised before options for off-site compensation are considered" (20.29). However, if this is unachievable, the below comments should be considered when developing off-site compensation habitat:</p> <ul style="list-style-type: none"> <li>• Provide suitable nesting habitat, foraging habitat and accessible water within 300m of each other in areas where Turtle Doves are present. This will not only support Turtle Doves to have more breeding attempts per season, but benefit the fledglings, as they only travel up to 300m from the nest within the first three weeks after fledging. If</li> </ul>	<p>1.5ha of mixed scrub from poor to good condition would result in 13.1% net gain or creating 1.2ha of mixed scrub from modified grassland would generate an 11.13% net gain.</p> <p>In the light of the above, the Applicant considers that the Proposed Development will adequately protect nesting birds, including Turtle Doves should any be present, and both compensate fully for the loss of scrub habitat and provide additional habitat. New and enhanced habitats to be secured through the BNG strategy will ensure that new scrub habitat will provide potential nesting opportunities for Turtle Dove.</p> <p>Comments noted and the Applicant refers to its responses above.</p> <p>These matters will be addressed at the detailed design stage for the Proposed Development and incorporated within the relevant landscape and ecology strategy and biodiversity net gain strategy that must be approved under the Draft DCO requirements 4 and 6, prior to the commencement of the development (see the Draft DCO [REP7-033]).</p> <p>In addition, the Applicant confirms that the <b>Biodiversity Net Gain Assessment Appendix 11M (Volume 6.4) [REP6-007]</b> takes into account the timeframes for maturity and between the point of impact and the delivery of enhancement or creation measures. For example, if there is a delay between on-site habitat clearance and commencement of the off-site BNG measure, this would necessitate further compensatory provision to achieve BNG. This is confirmed at paragraph 3.3.4 of the BNG assessment</p>



Topic/Para	RSPB England submission	Applicant Comment
	<p>additional habitat for Turtle Doves was considered, this will also support additional provision of BNG and align with the emerging Fenland Local Plan to “encourage all qualifying development to provide a higher amount of BNG that the minimum 20% including in off-site locations where practical”.</p> <ul style="list-style-type: none"> <li>• Consider sites within 10km of the Proposed Development, ideally with existing suitable habitat that could be enhanced for Turtle Doves. Adults have been known to travel up to 10 km to feeding areas. Therefore, if you can enhance current suitable habitat for Turtle Doves, all within 300m of each other, it will benefit both adults and fledglings and support biodiversity gains.</li> </ul>	



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