

**PLANNING OBJECTION ADDRESSING
CLIMATE CHANGE AND NEED CASES
AND THE ROLE OF THE PERMIT**

Proposed Development:

The proposed construction and operation of the Swadlincote Resource Recovery Park (SRRP) comprising an Energy Recovery Facility (ERF) and Aggregate Recovery Facility (ARF)

Proposed Location:

Land adjacent to Willshee's Waste And Recycling Limited, Keith Willshee Way, Swadlincote, DE11 9EN

Applicant:

A Hinds / R&P Clean Power Limited

Planning Reference:

CW9/1022/22

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COMMENTS ON GHG ASSESSMENT

Overarching comments on weighting of claimed climate benefits

1. Given the inherent uncertainties regarding the relative net GHG impacts of the proposal, the claimed climate benefits cannot be ascertained with any degree of certainty. As such, no significant weight should be given to these claimed benefits. If anything, negative weight should be attributed to the adverse climate impacts of the proposed facility.
2. The argument to attribute negative weight to the proposal with respect to climate change impacts is strengthened by the Scoping Report having explicitly stated that: "...with regard to the principle of the development being considered acceptable, the applicant must clearly demonstrate...that any emissions from the plant would be within acceptable levels through the EIA in consideration of climate change impacts".
3. Despite having been given every opportunity to do this, the Applicant produced a climate change assessment that, through reliance on questionable key assumptions and a lack of sensitivity analysis, falls well short of demonstrating that the ERF proposed for Swadlincote would have acceptable climate change impacts.
4. As the importance of such an assessment was drawn to the Applicant's attention at the earliest stage, the Applicant's failure to provide a suitable assessment of climate impacts should give rise to an adverse inference that the climate impacts are unacceptable meaning that, in line with the recent Medworth planning decision (discussed below), the proposal's adverse climate impacts should weight against this application in the planning balance.
5. Our focus in this regard is on the Applicant's Environmental Statement (ES) – Chapter 12 Climate Change from September 2022 and associated WRATE EfW Assumptions Report (revised 3 August 2022) which underpins the Applicant's general climate conclusions and claims made, and which is relied upon elsewhere in the Applicant's submission, e.g. in their Planning Statement.

Statements from the Environment Agency on planning remit

6. It should also be noted that it cannot simply be assumed, for the purpose of planning decisions, that energy recovery via incineration is significantly better than landfill, so it is therefore open to planning decision-makers to ascribe limited, neutral, or indeed negative weight to the overall GHG impacts of the proposed Energy Recovery (waste incineration) scheme.

7. In a letter dated 7th July 2017 sent by the Environment Agency (EA) to Swindon Borough Council (EA Reference: WA/2016/122998/03-L02) the EA explained how: “Under IED [Industrial Emissions Directive] we [the EA] are not required to consider the relative CO₂ emissions compared with other disposal methods, for example a landfill where the carbon may be ‘stored in the ground’ as these are matters for the waste planning authority”.
8. The reference to carbon being stored in the ground relates to the fact that the carbon in plastic, and around half of the biogenic carbon in the feedstock, is ‘sequestered’ (stored) in landfill, but released as direct CO₂ emissions into the atmosphere when that material is incinerated.
9. This means that when comparing incineration and landfill one is not simply looking at the methane emissions from the landfill, but at the difference in overall GHG impact that might make incineration and landfill equivalent, especially as grid energy is progressively decarbonised and food waste is increasingly collected separately (and therefore diverted from both landfill and incineration).
10. The EA set out their position that climate assessments considering the net GHG impacts of a waste treatment option should be made as part of the planning system rather than the permitting system.

Precedent from national planning decisions for giving limited, neutral or negative weight to climate impacts of an Energy Recovery Facility

11. Making determinations that no weight should be given to climate benefit claims made by incinerator applicants (including applicants for facilities where energy would be generated through the incineration of waste), or indeed arriving at a determinations that an incinerator proposal might have net adverse GHG impacts that should weigh against that proposal in the planning balance, are matters that fall squarely within the domain of the planning system and outside the EA’s permitting process.
12. In the decision to refuse planning permission for an incinerator proposed for Consett (PINS Reference 3294182), the Secretary of State agreed with the Planning Inspector “that the climate change benefits should only be afforded limited weight in the overall planning balance” on the basis that “...there are inherent uncertainties, particularly regarding the biogenic carbon content of the waste and hence the extent of emissions savings, the extent to which the available heat and power would be taken up by existing and new businesses / residential developments and whether CCS may be installed; therefore while there would be some savings on CO₂ emissions over landfill, the extent of this cannot be determined with any degree of precision”.

13. As noted in the Inspector's Report for the Consett proposal: "...there are inherent uncertainties particularly regarding the biogenic carbon content of the waste and hence the extent of emissions savings, the extent to which the available heat and power would be taken up by existing and new businesses/residential developments and whether CCS may be installed. Whilst I accept that there would be some savings on CO₂ emissions over landfill, the extent of this cannot be determined with any degree of precision. These uncertainties lead me to conclude that the climate change benefits should only be afforded limited weight in the overall planning balance".
14. The decision to refuse to grant planning permission for Wheelebrator's proposed Kemsley North incinerator (PINS Reference EN010083), where the Secretary of State agreed with the Examining Authority (ExA) in this respect, gave no weight to the applicant's claimed GHG benefits for the proposal on the basis that "the available evidence casts considerable doubt on whether the 'net [climate] benefit' can be ascertained with any great certainty, given it is highly sensitive to the assumptions applied" and that as such "the matter should carry little weight in the assessment".
15. The reference to the sensitivity of assumptions made covers a host of factors, including but not limited to the characteristics of the feedstock (in the short, medium, and longer-term) such as carbon content, moisture levels, combustibility, origin (including travel distances and modes of transportation), etc., alongside other factors such as the counterfactual(s) used as comparators, the marginal emissions factors (MEFs) applied as part of the assessment, the degree of pre-treatment prior to incineration or landfill, the level of biogenic carbon sequestration, the likelihood or otherwise of connection to a district heating scheme and/or to carbon capture and storage, and so forth.
16. In the Medworth decision (PINS Reference EN010110) the Secretary of State reached a different conclusion to the Examining Authority (ExA) who gave the climate impacts neutral weight, and instead decided to give the climate impacts "minor negative weight".
17. The basis for this decision was explained as follows: "The Secretary of State, based on the available evidence and taking into consideration the unavoidable uncertainty as to whether there will be an overall net benefit in terms of GHG emissions when comparing the Proposed Development to landfilling, and noting the inevitable net and gross emissions from the Proposed Development, ascribes climate matters minor negative weight overall in the planning balance".
18. The cases set out above indicate that decision-makers are generally concerned about the impact of a number of inherent uncertainties that can

undermine the weight given to claimed GHG benefits made by applicants for waste incineration facilities such as that proposed for Swadlincote, including but not limited to:

- Alternative fate of the material that would be used as feedstock;
- Assumed feedstock composition;
- Assumed marginal fuel mix / emissions factors; and
- Overall net GHG emissions compared to landfill.

19. The Swadlincote Applicant's failure to adequately consider such matters within their main assessment, and their failure to consider these factors as part of any sensitivity analysis, raises questions about the validity of the conclusions reached by the Applicant and the consistency of their proposal with relevant guidance and standards.

20. We consider these key uncertainties below within the context of the relevant guidance and standards.

Consistency with relevant guidance and standards

21. Paragraph 3 of the Applicant's ES on Climate Change states: "This assessment follows the guidance set out by the Institute of Environmental Management and Assessment (IEMA) for assessing GHG emissions and significance for environmental impact assessment (EIA) (IEMA, 2022)".

22. Paragraph 16 of the Applicant's ES on Climate Change states that: "The standards and guidance documents that have been used to inform the assessment methodology and potential mitigation measures are as follows:

- Environmental Impact Assessment (EIA) Guidance on assessing GHG emissions and significance (IEMA, 2022).
- Publicly Available Standard (PAS) 2080:2016 Carbon management in Infrastructure (British Standards Institute (BSI), 2016).
- World Business Council for Sustainable Development (WBCSD) and World Resources Institute (WRI) Greenhouse Gas Protocol guidance (WBCSD and WRI, 2004)."

23. In our view there are a number of key respects where the planning application and accompanying supporting documents fail to follow the 2022 IEMA guidance, 2080:2016 PAS standards and 2004 GHG Protocol cited by the Applicant.

24. PAS 2080:2016 Carbon Management in Infrastructure (internal page 9) lists the general principles of relevance, completeness, consistency, accuracy and transparency.

25. According to the context for the general principles, PAS 2080 notes that: "The principles set out in 4.2 to 4.6 are fundamental principles underpinning the carbon management process presented in PAS 2080". As such, it would not be reasonable to claim that the life-cycle modules set out in PAS 2080 were followed if the general principles of PAS 2080 were not followed.
26. PAS 2080's general principles of 'relevance' and 'completeness' are adapted from PAS 2050:2011 and its principles of 'consistency' and 'accuracy' are adapted from GHG Protocol 2009. As such, a finding that the GHG assessment goes against those principles is also indicative that it goes against the associated principles set out in the respective standards / protocols from which they were adapted.
27. In many cases these areas of Applicant non-conformity with the IEMA guidance, PAS 2080 general principles and the GHG Protocol also overlap with their inconsistency with guidance set out in UKWIN's Good Practice Guidance for Assessing the GHG Impacts of Waste Incineration.
28. UKWIN's guidance sets out ten recommendations and provides supporting evidence for these recommendations, in many cases drawing on good practice shown in GHG assessments made for other incinerator proposals and on guidance provided by climate change professionals including the IEMA. This guide is available from <https://ukwin.org.uk/climate/>
29. The comments below, regarding various uncertainties that undermine the Applicant's conclusions, refer to the aforementioned guidance as appropriate.

Alternative fate of the material that would be used as feedstock

30. As set out in the planning decisions cited above, uncertainty about the alternative fate of incinerator feedstock is a common concern cited by decision makers regarding proposals for Energy Recovery Facilities (incinerators) and these inherent uncertainties reduce the weight given to claimed GHG benefits with regard to applicant assumptions about how the waste would otherwise be sent to landfill and/or exported to other countries.
31. Paragraph 12 of the Applicant's ES on Climate change states: "It is assumed that without the construction of the SRRP Proposed Development, waste would be sent to landfill".
32. This is not a safe assumption. The waste could otherwise be reduced, reused or recycled, or it could be treated at an alternative Energy from Waste incineration facility with better climate performance (e.g. due to being connected to a combined heat and power (CHP) scheme with a large year-round heat demand and/or being connected to a functioning carbon capture and storage (CCS) scheme).

33. Indeed, the Applicant notes at Paragraph 54 of their ES on Climate Change that: "...treating the RDF/SRF in the proposed facility will prevent it being exported overseas or transported larger distances for combustion".
34. This appears to imply that the proposal is acknowledged by the Applicant's submissions to not just be competing with landfill, but also with other Energy Recovery Facilities (ERFs). Those other ERF incineration plants could have lower GHG emissions than the ERF proposed for Swadlincote due to these other ERFs being connected to CCS schemes and/or to district heating schemes, and/or due to serving a substantial year-round heat demand.
35. It should be noted that many of the incinerators in continental Europe are active CHP facilities that are connected to established district heating networks which, due to the colder weather, have high heat demand throughout the year.
36. Preventing the waste being treated at those other plants could result in higher GHG emissions overall.
37. Furthermore, if those ERF plants had to source their waste feedstock from even further afield to make up for feedstock shortfalls then it could result in transport emissions being higher overall as well.
38. The Applicant's failure to consider other waste treatment counterfactuals with lower climate impacts also goes against good practice.
39. Regarding the feedstock used in Table 1 of the Applicant's ES, Appendix 12.1 states that the Applicant has assumed a feedstock in line with WRAP's 2020 report 'Compositional analysis of Local Authority collected and non-local Authority collected non-household municipal waste'.
40. The WRAP reported cited is available from:
<https://www.wrap.ngo/sites/default/files/2020-11/WRAP-Compositional%20analysis%20of%20LA%20collected%20and%20non-LA%20collected%20non-household%20municipal%20waste%20%28England%29.pdf>
41. According to page 4 of this report: "Further analysis shows that 25% (7,545,000 tonnes) was dry recycling material that is widely recycled, 24% (1,810,000 tonnes) was food waste..."
42. Given that food waste can be separately collected for composting or anaerobic digestion, this indicates that almost half of the material assumed by the Applicant as their feedstock is material that is either compostable or "widely recycled".
43. There is also waste historically used as incinerator feedstock that is recyclable but not yet widely recycled.

44. When this is factored in, it indicates that the majority of the material assumed by the Applicant as representative of their intended feedstock is either recyclable or compostable.
45. Such findings are in line with what the Defra's Resources and Waste Strategy has to say about household waste which was based on the same WRAP study.
46. Defra's August 2020 Resources and Waste Strategy Monitoring Report revealed that most of what is currently burnt in incinerators is recyclable, stating: "Of total residual waste from household sources in England in 2017, an estimated 53% could be categorised as readily recyclable, 27% as potentially recyclable, 12% as potentially substitutable and 8% as difficult to either recycle or substitute".
47. The report from Defra observed that: "The message from this assessment is that a substantial quantity of material appears to be going into the residual waste stream, where it could have at least been recycled or dealt with higher up the waste hierarchy".
48. Defra's Guidance on Applying the Waste Hierarchy, produced under Regulation 15(1) of the Waste (England and Wales) Regulations 2011, acknowledges that technical feasibility and economic viability can influence decisions about waste generation and management
49. As such, the availability of incineration capacity, such as the capacity proposed for Swadlincote, can be expected to have a detrimental impact on what is economic to recycle.
50. This proposal could result in feedstock being locked into the bottom tiers of the waste hierarchy when it might otherwise be reduced, reused or recycled.

IEMA Guidance on alternative feedstock fate

51. The Applicant's approach fails to conform to the IEMA Guidance on mitigation and the associated practitioners' guidance on the GHG Mitigation Hierarchy in the aforementioned IEMA Guidance cited in the Applicant's submissions.
52. The IEMA Guidance notes that: "Mitigation has taken a much more prominent role within the EIA. It is no longer an element to be considered towards the later stages of the EIA process (after scoping, emissions assessment and significance determination). Instead, mitigation should be considered from the outset and throughout the project's lifetime, whilst also helping to deliver proportionate EIAs. Mitigation is addressed first in the guidance (Section II) but also as part of the GHG Assessment Methodology (Section V)".

53. Section 2.1 of the IEMA Guidance provides examples of 'GHG mitigation interventions' such as "Technology or process improvements" and "Waste minimisation".
54. Figure 2 of the IEMA Guidance links consideration of mitigation to consideration of the IEMA's GHG Mitigation Hierarchy.
55. The advice on the GHG Mitigation Hierarchy on internal page 9 of the IEMA Guidance document states that the first step to consider when identifying opportunities that direct GHG mitigation action for a project is 'Do not Build', which is to "evaluate the basic need for the proposed project and explore alternative approaches to achieve the desired outcome/s".
56. Similarly, the IEMA Greenhouse Gas Management Hierarchy in Figure 3 of the IEMA Guidance puts 'eliminate' as the top tier, noting the need to consider "...alternative operation or new product/service".
57. Alternative approaches that have not been adequately considered by the Applicant could result in more of the material that the Applicant is relying on as feedstock being reduced, re-used, or recycled rather than being incinerated (domestically or abroad) or sent to landfill.

UKWIN Good practice guidance on alternative feedstock fate

58. As per pages 65-79 of UKWIN's Good Practice Guidance, a body of evidence and associated arguments have been provided to support UKWIN Guidance recommendation #9 which states: "When considering how waste would be treated if it were not sent to an incinerator, account should be taken of the prospect that it might otherwise have been reduced, reused, recycled or composted. Account should also be made of how landfilled waste could be bio-stabilised to reduce methane emissions".
59. UKWIN's recommendation draws on the earlier 2017 version of the IEMA Hierarchy, and UKWIN's supporting text explains how: "Given the drive to support the top tiers of the waste hierarchy (reduction, preparation for re-use and recycling) and to minimise the adverse climate change impacts of waste management, it is not appropriate to simply assume that waste that is proposed to be incinerated would otherwise be sent untreated to landfill".
60. UKWIN's guidance also provides a substantial body of evidence to support the conclusion that much of the material this is currently found in the residual waste stream could be recycled or composted in the future, and that new waste incineration capacity could be expected to come at the expense of managing this material at the top tiers of the waste hierarchy.

Assumed feedstock composition

61. As set out in the planning decisions cited above, uncertainty about feedstock composition is a common concern cited by decision makers regarding proposals for ERF incinerators and this uncertainty can be seen to reduce the weight given to claimed GHG benefits.
62. Appendix 12.1 of the Applicant's ES states: "The waste composition is not known as it is a proposed commercial facility but the design basis is a generic refuse derived fuel (RDF) feedstock with a calorific value of 10.5MJ/kg".
63. Given the acknowledged uncertainty regarding feedstock composition and given the importance of feedstock composition to the results of GHG assessments, the Applicant could reasonably have been expected to have assessed the impact of a range of different waste compositions being used.
64. For example, the Applicant assumes that 25.6% of their feedstock would be putrescible waste (Table 1 of ES 12.1), but it is likely that increased separate collection of food waste is on course to substantially reduce this figure.
65. Reducing the proportion of waste that is putrescible would significantly reduce the impact associated with landfill because putrescible waste is one of the key sources of methane in landfill. It would also increase the proportion of material that was fossil rather than biogenic.
66. Furthermore, the Applicant assumes that their waste feedstock would include 3.0% ferrous and 1.1% non-ferrous metals. However, metals are often removed as part of the RDF production process and so are unlikely to be part of the proposed Swadlincote ERF's feedstock in any significant quantity.
67. It should be noted that the feedstock adopted by the Applicant for use in their assessments is not 'actually generic RDF', it is instead a WRAP figure for "WMC [Waste management company] collected commercial residual waste" in 2017 (see Table 1 of ES 12.1).
68. One significant impact arising from this assumption is that it fails to account for the metals removal that is typical of the RDF production process.
69. This can be seen for example in the feedstock of the RDF-burning incinerators at Ferrybridge known as FM1 and FM2.
70. Enfinium's 2020 and 2021 Annual Performance Reports for their RDF-burning Ferrybridge incineration complex (summarised in the table below), shows how, in relation to metals recovered as a proportion of the total waste combusted, in 2020 Enfinium's Ferrybridge Multifuel 1 (FM1) incinerator recovered only 0.63% and Ferrybridge Multifuel 2 (FM2) recovered only 0.32%, and in 2021 FM1 recovered 0.72% while FM2 recovered 0.76%.

71. The average of these two facilities over these two years was a mere 0.61%, i.e. less than 1% metal recovery.
72. As shown below, nearly all of the metal recovered from the incinerator bottom ash (IBA) at the Ferrybridge complex was ferrous metal, i.e. the type of metal typically attributed significantly less by way of climate benefit.

TABLE 1: METALS RECOVERED AT ENFINIUM'S FERRYBRIDGE COMPLEX IN 2020 & 2021

Year	Facility	Metal extracted (tonnes)	Waste combusted (tonnes)	Ferrous recovered (tonnes)	Metal extracted as % of waste combusted	Ferrous as % of total metals recovered
2020	FM1	3,777	599,367	3,777	0.63%	100%
	FM2	1,938	614,578	1,819	0.32%	93.84%
2021	FM1	4,728	656,414	4,728	0.72%	100%
	FM2	5,063	668,941	5,063	0.76%	100%
Average (inc. FM2 2020)					0.61%	99.23%

73. Given the significant level of claimed benefit from recovering metals in the Applicant's modelling, the Applicant's failure to account for metal removal as part of the RDF production process seriously undermines the Applicant's conclusions.
74. The use of a generic C&I feedstock also raises concerns that the Applicant has not taken account of how processed RDF could have lower methane generation potential in landfill relative to unprocessed residual C&I waste.

PAS 2080

75. The Applicant's choice of inaccurate feedstock composition and their total lack of sensitivity analysis goes against general principles of PAS 2080, set out as follows:

"4.2 Relevance: Data and assessment methods relevant to the defined boundary of carbon management and assessment are to be selected, documented and used" and

"4.5 Accuracy: The quantification of carbon emissions is to neither over nor under estimate actual emissions, as far as can be judged, and uncertainties are to be reduced as far as reasonably practicable. A sufficient level of accuracy is to be achieved to enable users to make decisions with reasonable assurance as to the integrity of the reported information".

IEMA Guidance

76. The Applicant's choice of inaccurate feedstock composition and their lack of sensitivity analysis also goes against general principles of the 2022 IEMA guidance.

77. The IEMA Guidance states that:

- "The methodology should result in a relevant, complete, consistent, transparent and accurate assessment of the reasonable worst case".
- "Any exclusions, limitations, assumptions and uncertainties should be justified and reported where appropriate".
- "Alternative baselines can be used to supplement the analysis and address uncertainty".
- "To calculate GHG emissions of a proposed project it is necessary to gather data on the activities occurring and associated GHG emissions factors. It is important that data for both these aspects, and particularly the activity data, is specific to the proposed project".
- "Uncertainty can arise from quality of data, study boundaries and period of assessment, and can never be eliminated from a study. Uncertainty should be considered and if it significantly affects the outcome of the study, additional steps should be taken to reduce it and provide confidence in results. As a reminder, a relevant, complete, consistent, transparent and accurate assessment of the reasonable worst case must be undertaken despite uncertainties. Uncertainty can be considered by: Testing upper and lower limits; Testing for different inclusions and exclusions...If the scale of uncertainty provides findings that are likely to change any decision based on the data, then it should be appropriately reduced".

Assumed marginal fuel mix / emissions factors

78. As set out in the planning decisions cited above, uncertainty regarding the marginal emissions counterfactual for electricity generation is a common concern cited by decision makers regarding proposals for ERF incinerators and is seen to reduce the weight given to claimed GHG benefits premised on assuming the waste would otherwise go to landfill.

79. One of the claimed benefits for Swadlincote of the proposal is that the electricity produced by the plant would displace other electricity generation that would have a carbon cost.

80. As set out in Tables 4 and 5 of ES Appendix 12.1, the Applicant assumes that 100% of the displaced electricity would come from unabated Gas CCGT, with the only two years considered being 2027 and 2030.

81. Despite the potential either that CCGT would be abated (i.e. connected to CCS) or that the Swadlincote ERF plant could be displacing lower carbon electricity, the Applicant has not provided any sensitivity analysis to account for the potential that they have overestimated the claimed benefit of power export.
82. As noted above, examples of uncertainty regarding the marginal emissions factor to use to calculate power benefit has been cited in planning decisions to reduce the weight given to applicant-claimed GHG benefits.

IEMA Guidance

83. The IEMA guidance explicitly recognises the importance of considering “UK grid decarbonisation” within the context of future baseline (e.g. on page 18 of the aforementioned guidance document).

PAS 2080

84. The choice of an incorrect grid electricity offset goes against the general principles of PAS 2080 for the same reasons as set out above.
85. For the avoidance of doubt it should be noted that PAS 2080 recommends the use of “BEIS Electricity emissions to 2100 factor projections” within the context of “Potential sources of information on GHG and energy projections”.
86. The Applicant uses unabated CCGT as the energy counterfactual, and not the BEIS Electricity emissions to 2100 factor projections. This means that the Applicant’s claimed benefits are significantly overstated compared to adopting values in line with PAS 2080 guidance.

UKWIN Good Practice Guidance

87. UKWIN’s Recommendation #8 is that: “When considering the carbon intensity of displaced energy it is necessary to take account of the progressive decarbonisation of the energy supply rather than simply assuming that a new energy source would displace fossil fuels. The carbon intensity of electricity displaced by a new incinerator can be estimated using the average BEIS Long-Run Marginal Emissions Factor (MEF) over the lifetime of the plant”.

Overall net GHG emissions compared to landfill

88. Much of the Applicant’s claimed benefit for their proposal comes with claims regarding a counterfactual of waste going to landfill.
89. As set out above, these claimed benefits are undermined by a range of uncertainties, e.g. as to the alternative feedstock fate and composition.

90. In addition to this, there are numerous inadequacies in relation to the Applicant's assessment of the climate impacts of landfill.
91. One of the key uncertainties is the Applicant's failure to give any credit for the biogenic sequestration of carbon in landfill.
92. Section 6.3 of the Defra carbon-based modelling approach report makes clear that: "Landfill...acts as a partial carbon sink for [storing] the biogenic carbon. This is a potential additional benefit for landfill over energy from waste".
93. The Defra report sets out two methods of accounting for the way that landfill acts as a partial carbon sink for the biogenic carbon:
- Method 1 - Account for fossil CO₂ and sequestered biogenic carbon - "Estimate the amount of biogenic carbon sequestered and include the CO₂ produced from the same amount of carbon in the EfW side of the model (or subtract it from the landfill side)"; and
- Method 2 - Account for all carbon - "Include all carbon emissions, both biogenic and fossil on both sides of the model".
94. The Defra report notes that "both approaches would address the issue of sequestered biogenic carbon".
95. However, despite the claim that their climate assessment is somehow in line with the methodology proposed in the DEFRA report, the Applicant does not apply either of these two methods of accounting for the way that landfill acts as a partial carbon sink for the biogenic carbon.
96. The impact of this failure could be sufficient on its own to flip the results of the Applicant's assessment from finding a benefit to identifying a disbenefit regarding the adverse climate impacts of their proposed ERF.

IEMA Guidance

97. Section 5.2 The IEMA Guidance states that: "The assessment should seek to quantify the difference in GHG emissions between the proposed project and the baseline scenario (the alternative project/solution in place of the proposed project). Assessment results should reflect the difference in whole life net GHG emissions between the two options" and that "The assessment must include all material emissions".
98. However, the Applicant does not quantify the carbon impact of the difference in biogenic CO₂ emissions between the baseline and the proposed development or, to put it another way, the Applicant's GHG assessment does not quantify how in the landfill option there would be a biogenic carbon

sequestration benefit which would not exist for the ERF development proposal.

99. This failure to consider biogenic carbon sequestration adds to the uncertainty of the project and could significantly affect the outcome of the Applicant's climate assessment conclusions.
100. According to page 21 of the IEMA Guidance: "Uncertainty can arise from quality of data, study boundaries and period of assessment, and can never be eliminated from a study. Uncertainty should be considered and if it significantly affects the outcome of the study, additional steps should be taken to reduce it and provide confidence in results. As a reminder, a relevant, complete, consistent, transparent and accurate assessment of the reasonable worst case must be undertaken despite uncertainties. Uncertainty can be considered by: ...Testing for different inclusions and exclusions..."
101. Despite this IEMA guidance, the Applicant has not provided any sensitivity analysis to show the impact of either providing a credit for biogenic carbon sequestration in landfill or including all CO₂ emissions on both sides of the assessment and instead adopts an approach which results in internal inconsistency and harms the accuracy of their assessment.

UKWIN Good Practice Guidance

102. The failure to give credit for biogenic carbon sequestration in landfill means that the Applicant's approach goes against UKWIN Guidance Recommendation #5: "To produce a valid comparison when comparing waste treatment options such as landfill and incineration that release different quantities of biogenic CO₂ it is necessary to account for these differences, especially the impact of the biogenic carbon sink in landfill".
103. As per pages 19-42, evidence and arguments have been provided to UKWIN Guidance Recommendation #5 that: "To produce a valid comparison when comparing waste treatment options such as landfill and incineration that release different quantities of biogenic CO₂ it is necessary to account for these differences, especially the impact of the biogenic carbon sink in landfill".

COMMENTS ON NEED AND ALTERNATIVES

104. Given the impacts on the Local Wildlife Site, the Applicant's consideration of need and alternative sites are especially significant.
105. Unfortunately, the Applicant's assessments are far from satisfactory.

Carbon capture

Applicant's references to carbon capture

106. Paragraph 73 of the ES Chapter on Climate Change comments on the inclusion of incineration in the UK Emissions Trading Scheme (UK ETS), stating that: "If adopted this could strengthen long term investment incentives for the development and implementation of decarbonisation practices or technologies to reduce emissions".
107. One of the potential technologies relevant to ERFs is carbon capture, and the introduction of carbon capture is currently supported by a variety of Government schemes and policies.
108. The potential for the use of carbon capture nationally is noted within the context of the 2020 Energy White Paper at paragraph 283 of the Applicant's Planning Statement; and at paragraph 72 of the ES Chapter 5; and again on page 3 of ES Appendix 12.2.

Land footprint of carbon capture technology

109. The Applicant does not appear to account for the land footprint (or 'landtake') requirements for the implementation of carbon capture at this or alternative sites.
110. Table 1 of the Stage 3 site section criteria in Appendix 3.1 states: "The development of the SRRP requires a site area of at least 3ha in a configuration, ideally rectangular, allowing for an optimized straight line processing layout".
111. However, no land is set aside for carbon capture technologies to be deployed for the facility.
112. According to the report entitled 'Decarbonisation Readiness - Technical Studies' produced by AECOM for BEIS: "Reference data for capture projects in biomass and waste applications is limited" (page 22).
113. The AECOM report is available from: https://assets.publishing.service.gov.uk/media/640ae525e90e076cd4b67f57/carbon_capture_readiness_report.pdf
114. The only example provided by AECOM for waste was a plant in Norway which had a Carbon Capture Plant footprint of 6,000 m² (0.6 ha) (pg. 23).

115. If applied to Swadlincote, this setting aside of an additional 0.6 ha to accommodate a carbon capture facility would increase the land footprint of the proposal by 20% (i.e. from 3 hectares to around 3.6 hectares).
116. This is relevant for the proposed site, where increased land footprint would increase the adverse impacts of the proposed development site on the Local Wildlife Site.
117. Alternatively, if the additional ~0.6 hectares is not available at this site (or if the use of carbon capture is disallowed at this location, e.g. due to the potential adverse impacts of amines on the Local Wildlife site) then it is possible that the proposed Swadlincote ERF would not be capable of accommodating a carbon capture facility, while another potential location would be able to accommodate carbon capture due to either being a large enough site in its own right or because there are fewer constraints on the use of adjoining land.

Potential for connection to a carbon capture cluster

118. The proposed application site is not near to any proposed carbon capture clusters.
119. The alternative site assessment does not consider whether other potential locations might be preferable due to being in relative proximity to a potential carbon capture cluster.
120. Given that RDF waste is waste that has been processed to be able to travel longer distances, the best environmental outcome could be for the RDF to travel further to be closer to a location that can be readily connected to a carbon capture pipeline.
121. Lack of access to a carbon capture pipeline could result in the Swadlincote ERF plant not having carbon capture or could result in increased traffic movements arising from non-pipeline (e.g. road) transport.

Consideration of 'Need' at a National Level

122. The Applicant's national need assessment is from September 2022, with its most recent waste data is based on waste management activity from 2018. Drawing conclusions by comparing 2018 data with 2016 data to determine a historic 'trend' tells us nothing about the current waste context for England, which has seen subsequent increases in incineration capacity and falls in the quantities of waste sent to landfill.
123. The Applicant's national need assessment does not take account of the increase in incineration capacity since 2018, nor does the Applicant account for the incineration capacity that is currently under construction (and therefore not yet reflected in treatment capacity data).

124. The Applicant's consideration of waste policy is also outdated as it is from September 2022, and so does not take into account of the legally binding commitment to halve the quantity of England's residual waste sent to incineration or to landfill by 2042 (relative to a 2019 base year) which came into force on 30th January 2023 under the Environmental Targets (Residual Waste) (England) Regulations.
125. The residual waste reduction target contained within the regulations is accompanied by interim targets set out in the UK Government's Environmental Improvement Plan (EIP) 2023, and this includes the target to reduce household and business ('municipal') waste by 29% by 2027 (against a base year of 2019).
126. When assessed using the most recent data and policies, the Applicant's claimed 'capacity gap' turns instead into an anticipated overprovision of incineration capacity that would be exacerbated by this proposal.
127. Creating or exacerbating incinerator overcapacity would be in direct conflict with not only the Environmental Targets (Residual Waste) (England) Regulations and the EIP but also the refreshed EN-1 and EN-3 Policy Statements.
128. Both these Government policy statements are acknowledged as material planning considerations by the Applicant, e.g. at paragraph 244 of their Planning Statement.

EN-1 and EN-3

129. Paragraphs 3.3.39 and 3.3.40 of the extant version of EN-1, which came into force on 17th January 2024, state: "As the primary function of EfW plants, or similar processes, is to treat waste, applicants must demonstrate that proposed facilities are in line with the government's policy position on the role of energy from waste in treating residual waste. The proposed plant must not compete with greater waste prevention, re-use, or recycling, or result in over-capacity of EfW waste treatment at a national or local level".
130. At paragraphs 5.15.6 and 5.15.7 EN-1 goes on to say that ERF "Applicants must demonstrate that development proposals are in line with Defra's policy position on the role of energy from waste in treating residual waste. The proposed plant must not compete with greater waste prevention, re-use, or recycling, or result in over-capacity of EfW or similar processes for the treatment of residual waste at a national or local level".
131. And along similar lines, paragraph 2.7.29 of EN-3 makes clear that: "Applicants must ensure EfW plants are fit for the future, do not compete with greater waste prevention, re-use, or recycling and do not result in an over-capacity of EfW waste treatment provision at a local or national level".

132. The reference to ERFs needing to be “fit for the future” relates, at least in part, to the need for space to be available to introduce carbon capture technology, a matter that is discussed above.
133. Paragraphs 2.7.44 of EN-3 go on to spell out how: “Applicants should set out the extent to which the generating station and capacity proposed is compatible with, and supports long-term recycling targets, taking into account existing residual waste treatment capacity and that already in development...”.
134. Additionally, at EN-3 paragraphs 2.7.54 we read how: “...Applicants must ensure proposals do not result in an overcapacity of EfW waste treatment provision at a local or national level”.
135. And finally, paragraphs 2.7.102 - 2.7.104, EN-3 makes clear how decision-makers "...should be satisfied, with reference to the relevant waste strategies and plans, that the proposed [ERF] waste combustion generating station is in accordance with the waste hierarchy and of an appropriate type and scale so as not to prejudice the achievement of local or national waste management targets in England...Where there are concerns in terms of a possible conflict, evidence should be provided ...by the applicant as to why this is not the case or why a deviation from the relevant waste strategy or plan is nonetheless appropriate and in accordance with the waste hierarchy”.
136. In addition to the national policies themselves, indicating significant qualifications to the Government's support for ERFs as a waste management option, these policies are also revelatory in that they reveal the Government's thinking as follows:
- ERFs have the potential to compete with greater waste prevention, reuse, and recycling.
 - New ERF capacity is capable of resulting in overcapacity of waste incineration treatment provision at a local or national level.
 - ERF capacity may be incompatible with long term recycling targets.
 - ERF capacity may be of an inappropriate type or scale that could prejudice the achievement of local or national waste management targets.
137. The Applicant's proposal does not accord with EN-1 and EN-3 policies designed to protect recycling and prevent incineration overcapacity. Furthermore, the Applicant's proposal does not accord with policies designed to ensure that ERF plants are located so that they are capable of hosting carbon capture technology in the future.

UKWIN assessment of overcapacity

138. If residual household and business waste in England reduces in line with the Government's legally binding targets, it would fall from the 469 kg per person baseline in 2019 to 333 kg by 2027 and then to 234.5 kg per capita by 2042. This can be combined with forecasts of population growth to estimate future arisings.
139. However, as set out in the Technical Annex accompanying UKWIN's assessment of national waste need from September 2023, not all of this residual waste would be combustible and some of the combustible residual waste would not be available for use as incinerator feedstock, e.g. because that waste would be used for other purposes such as to heat cement kilns and/or to produce Sustainable Aviation Fuel (SAF) in line with the Government's Jet Zero Strategy.
140. Taking these factors into account, UKWIN estimates that the level of potential incinerator feedstock will fall across the whole of England from around 23 million tonnes per annum (Mtpa) in 2019 to 16.4 Mtpa by 2027 and to just 11.7 Mtpa by 2042.
141. UKWIN's assessment showed that as of September 2023, there were 51 operational English incinerators with a combined capacity of 14.8 Mtpa, with 12 additional incinerator sites under construction adding a further 4.2 Mtpa of capacity. Taken together there is estimated to be around 19 million tonnes of existing incineration capacity.
142. As such, incineration capacity currently operational or under construction exceeds the waste that we can expect will be available in England even without the prospect of RDF export (due to continental incinerators undercutting the prices charged for the UK's domestic incinerator gate fees).
143. This is set out further in UKWIN's briefing on incineration overcapacity and associated technical annex, which accompany this planning objection

Consideration of 'Need' at a local level

144. The aforementioned assessment from UKWIN considered waste need at a local level within the context of the 'North Eastern Cluster' (which includes Derby and Derbyshire) and finds sub-national incineration overcapacity across this cluster.

THE ROLE OF THE PERMIT

145. UKWIN notes that the Applicant's Planning Statement's conclusion includes the following misleading assertion regarding the extent of the protections afforded by an environmental permit at paragraph 471: "...The operation of the Site under an Environmental Permit should consent be forthcoming should ensure and provide comfort that any risk of harmful environmental effects would be successfully managed".
146. Firstly, regarding the 'comfort' that an environmental permits is capable of giving, it should be noted that the planning refusal for the incinerator proposed for the former Rufford Colliery in Nottinghamshire (PINS Reference 2102006) was made on the basis that the proposal had the "potential for harm to the integrity of habitat used by woodlark and nightjar" despite the issuance of an environmental permit, thus demonstrating that the Environment Agency is capable of issuing environmental permits even where environmental harm has not been ruled out.
147. Or, to put it another way, the Rufford precedent shows that planning permission can be refused on environmental grounds, with the Secretary of State having rejected the Swadlincote Applicant's proposed notion that "any risk of harmful environmental effects would be successfully managed" by the permitting regime.
148. With regard to the role of the environmental permitting regime and its relationship with the planning regime, it should be further noted that the Environment Agency's permitting process does not take into account factors such as: direct and indirect climate impacts, climate and other impacts of a proposal relative to other ways that the waste could be managed, the impacts, including adverse climate and amenity impacts, arising from traffic travelling to and from the installation and any other impacts from off-site vehicle movements (e.g. nitrogen deposition that could have an adverse impact on nearby habitats), operating hours, visual impact, whether or not the chosen site is an appropriate location for the proposed activity, and a host of amenity issues such as noise, dust, odour, pest control, alongside any cumulative effects of pollution on health, living conditions and the natural environment, and the potential sensitivity of the site or the wider area to adverse impacts that could arise from the development, as these are the local authority's responsibility to regulate.
149. Evidence to support this can be found in the following examples where the EA has explained their role, as follows:
- As per the Portland Powerfuel Briefing 12 from the Environment Agency, which states: "Please note that our permitting process does not take into account factors such as off-site vehicle movements,

operating hours, visual impact and whether this is an appropriate location for the activity, as these are the local authority's responsibility to regulate".

- As per the EA's letter to Dorset Council dated 2 November 2020, which states: "Planning has a role to play in managing amenity issues such as noise, dust, odour, pest control issues, etc., and your Environmental Health Department can advise you on this. Please note that an environmental permit cannot always prevent, eliminate or eradicate all such issues".
- As per the EA briefing on 'The role of Environment Agency and the Scottish Environmental Protection Agency in waste incinerators', which states: "In the majority of cases we are unlikely to object at planning application stage, subject to the inclusion of conditions on any permission granted, to secure mitigation measures to protect people and the environment. The National Planning Policy Framework (NPPF) is clear that the planning system should not duplicate the controls of other regulatory regimes, so we will only recommend the inclusion of planning conditions for things we can't control through the permit. That does not mean to say that the residual impacts of matters controlled through the permit cannot be material planning considerations. Such impacts are relevant to whether the proposal represents an acceptable use of the land and they can legitimately have a bearing on any planning decision".

150. Furthermore, we cite the following from sources other than the EA:

- The NPPF explains that: "Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development..."
- As explained in *Harrison v SSCLG* [2009] EWHC 3382 (Admin): "The thrust of the decision in *Hopkins* ... is that the planning decision maker was entitled to reach his own conclusions as to the impact of the proposed development on amenity and whether the site under consideration was the appropriate location for the proposed development. The fact that the impact might be capable of being regulated under a pollution control regime did not necessarily mean that the only possible option available to an Inspector was to leave everything to that regime. If the planning decision maker considered that there might be adverse consequences because of the effects of

the proposed development on amenity and/or issues as to the appropriateness of locating the development on the site in question, he was entitled to have regard to such matters as material considerations in making his decision on the planning merits of the proposed development”.

151. Finally, the Environment Agency's planning consultation submission of 27th January 2023 for the Swadlincote planning application makes clear the important role played by the planning system in preventing development that is not appropriate for the proposed location.
152. For example, the EA's response specifically notes that: "The National Planning Policy Framework (paragraph 175) states that if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused..."
153. If the EA's permitting regime could “provide comfort that any risk of harmful environmental effects would be successfully managed” then such a statement from the EA would have been unnecessary.
154. As such, the planning decision's focus on “whether [a] proposed development is an acceptable use of land” noted on paragraph 56 of the Applicant's Planning Statement should be made on the basis that the adverse environment impacts of their proposed scheme that derives from their poor choice of location, and/or from the wider adverse impacts of the development, cannot be mitigated by the permitting regime.