

Response to SoS invitation for IPs to comment on representations received

**UKWIN'S COMMENTS ON THE APPLICANT'S RESPONSE
TO SOS 24 APRIL 2023 REQUEST FOR COMMENTS
(APPLICANT DOCUMENT REFERENCE 9.114)**

Proposed Development:

Boston Alternative Energy Facility (BAEF)

Proposed Location:

Nursery Road, Boston, Lincolnshire

Applicant:

Alternative Use Boston Projects Limited

Planning Inspectorate Ref:

EN010095

Registration Identification Ref:

20028052

JUNE 2023



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INTRODUCTION

1. The Applicant's comments made in response to UKWIN's representations of 2nd March 2023 and 11th April 2023 contained a number of materially inaccurate statements that warrant a response to help ensure that the Secretary of State is in a position to make an informed decision.
2. As such, we are grateful for the invitation from the Secretary of State dated 25th May 2023 for Interested Parties to comment on the representations received.
3. We also submit a number of accompanying documents to support the statements made within this submission.

INCINERATION CAPACITY

4. On page 30 of Document 9.114 the Applicant states:

“5.2.2 UKWIN provides its operational update on extant consented and operational Energy from Waste (EfW) plants. The Applicant notes that some further EfW projects may have entered the construction phase since submission of the Application although these have not increased the overall current EfW processing capacity and will not divert material from landfill until operational.”

“5.2.3 Although additional EfW capacity will become fully operational in the coming years following commissioning, the Applicant recognises and the Secretary of State will also note that existing ageing plant will cease operating as they are challenged to meet current regulatory standards and upgrading becomes uneconomical.”

“6. The Applicant has previously provided detailed information to the Examination (Fuel Availability and Waste Hierarchy Assessment (document reference 5.8, APP-037) and Addendum (document reference 9.5, REP1-018)) which demonstrates that there would not be an overcapacity of waste treatment through EfW due to the consenting of the proposed development...”

5. The Applicant failed to address the increase of capacity at existing plants, which would not require construction (as these plants are already operational).
6. The Applicant does not set out the timescales involved, with new capacity coming online long before any significant number of EfW plants that might close if they not refurbished/replaced.

7. The Applicant also fails to provide evidence on the quantum of plants which might have to close, given that refurbishment is cheaper than constructing a new plant.
8. The Applicant has also not adequately considered the extent to which new plants that have secured planning consent but which have not yet entered construction could significantly outstrip the capacity at plants that might shut down.
9. As these matters are not adequately addressed in the Applicant's historic Fuel Availability and Waste Hierarchy Assessment, the Applicant has not provided sufficient evidence to support their proposed conclusions.
10. The Applicant's Fuel Availability and Waste Hierarchy Assessment Addendum assessment included 'Table 3-1 Operational and Consented EfW Facilities in the UK'.
11. This Table set out that across the UK there was 16,131ktpa of operational capacity and 4,255ktpa in the construction and commissioning phase, resulting in a total of 20,386ktpa of capacity.
12. According to the Table, these figures were adapted from Tolvik 2021, i.e. Tolvik's UK Energy from Waste Statistics 2020 published in May 2021.
13. Tolvik has now released their statistics for 2022, published in May 2023.
14. We set out below a comparison of the two versions of the UK EfW capacity figures as set out in these two Tolvik documents:

	2020 Capacity (000 tonnes/annum)	2022 Capacity (000 tonnes/annum)
Operational facilities	16,131	17,522
Construction & commissioning phase	4,255	5,716
Total	20,386	23,238

15. This means that total UK EfW capacity listed by Tolvik increased by 2.852 million tonnes from the figures used in the Applicant's Addendum Table.
16. Applying the Applicant's utilisation rate of 90% set out in REP1-018 this would represent an increase in EfW capacity of around 2,566,800 tonnes per annum.
17. Tolvik's UK Energy from Waste Statistics for 2022 also reported that: "As at December 2022 the capacity-weighted average age of the 60 UK EfWs which accepted waste in 2022 was 11.1 years (2021: 10.7 years)".

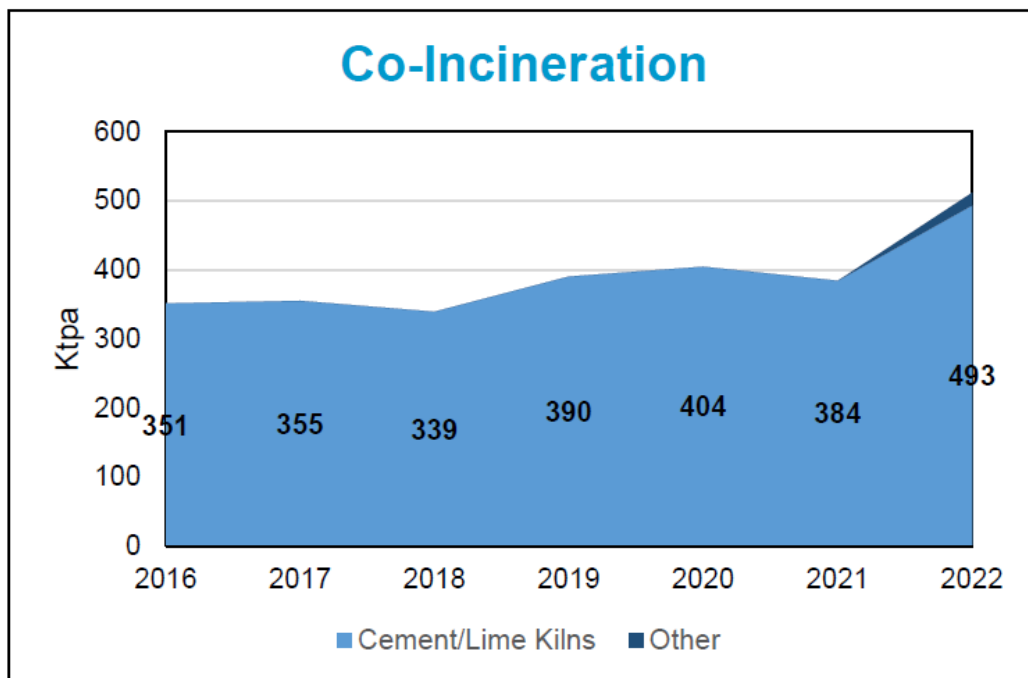
18. This demonstrates the relative youth of the UK's EfW fleet, with EfW facilities capable of operating for in excess of 50 years (as demonstrated by the Edmonton incinerator in North London that became operational in 1971 and is still operating today).

Cement Kiln capacity

19. Tolvik's May 2023 report on 2022 EfW Statistics shows the upwards trend of residual waste (in the form of SRF) being accepted at UK cement and lime kilns, alongside the variation of existing biomass permits to allow them to burn RDF, which rose by 109ktpa (from 284ktpa to 493ktpa) in 2022 compared to 2021.

GRAPHIC FROM TOLVIK'S MAY 2023 REPORT ON 2022 EFW STATISTICS

Residual Waste Co-Incinerated in the UK



20. If cement kiln use continued to increase at this rate of just over 100ktpa per annum until 2027 then the amount of residual waste co-incinerated would double to around 1 million tonnes per annum.

21. It would be reasonable to expect that this upwards trend of the use of residual waste at cement and lime kilns will continue as these sectors seek to decarbonise by moving away from the conventional use of fossil fuels.

22. To illustrate this intention, we note that in November 2022 waste production and supply specialist N+P published an article on their website entitled 'Why alternative fuel use in the cement industry is working so well'.

23. The article included the following passage:

“Harnessing waste instead of using fossil fuels always promised monetary savings for kilns, but that is particularly so in the current geopolitical and economic environments where energy prices are at record highs.

Purchasing domestically sourced alternative fuels allows kilns to avoid wholesale fossil fuel prices, eliminate currency fluctuations, and dodge geopolitical disruption. The current economic reality means that some kilns may not be viable if they continue to rely on fossil fuels.

Fortunately, many of the beliefs preventing cement kilns from accessing the financial benefits of alternative fuels have been dispelled. In the past, it was often assumed that alternative fuels could only be used in newer kilns, would require major modifications to production processes, and would lead to process instability. In fact, alternative fuels can be adopted even by older kilns with many examples in operation today.”

24. As the production of 1 tonne of SRF requires more than 1 tonne of ‘raw’ waste (e.g. due to dewatering as waste dries), the figure of 493ktpa of SRF being co-incinerated in 2022, and the 1Mtpa figure reflecting a continuation of this trend to 2027, understate the impact of such increases on the level of waste available for conventional incineration.
25. As such, the assumption that demand for residual waste for use in powering cement kilns could double from around 500ktpa in 2022 to around 1,000ktpa by 2027 is considered conservative, especially as it is assumed to remain stable rather than to continue increasing.
26. UKWIN has carried out modelling of anticipated waste arisings and residual waste treatment capacity, including cement kilns, below.
27. This shows that even without increases in cement kiln capacity there will be incineration overcapacity, and if it is assumed that trends in cement kiln usage of RDF/SRF will increase to 1Mt by 2027 then the level of overcapacity would be worse.

RESIDUAL WASTE FEEDSTOCK FOR THE JET ZERO STRATEGY AND SAF

28. On page 31 of Document 9.114 the Applicant states:

“6.1.3 Existing UK operational plants producing SAF divert waste cooking oil and other waste derived oils to produce this fuel. These waste streams are not targeted by EfW plant as bulk fuel. Other waste streams may form part of the potential feedstock for future plants, although it is likely that they will not rely fully on combustible wastes that will be processed in the Proposed Facility. consider UKWIN’s estimates of the potentially required solid waste element to be over-simplified, and where this does in the future make up part of the feedstock mix it is likely to be a much smaller proportion.”

“6.1.4 The Applicant supports moves to develop SAF but is of the view that the SAF projects generally are very much at an early stage in their development and unproven at scale and there is no guarantee that this new technology and associated development will come forwards with the certainty suggested. SAF facilities will have to make their own case and be justified in planning terms. Additionally, UKWIN’s calculations are untested with respect to assumptions and methodology and should not be afforded any weight.”

29. As is clear from the quotations provided below, the three facilities that UKWIN lists are all being proposed to treat mixed waste rather than oils, and all state that they expect to be diverting waste that would otherwise go to incineration (or waste that would be landfilled, i.e. the waste which the Boston incinerator is supposedly targeting).

30. When announcing the project in December 2022, the UK Government’s press release (provided alongside this submission) stated: “The successful projects include SAF plants in Teesside, Immingham and Ellesmere Port which will convert **everyday household and commercial waste, such as black bin bags**, into sustainable jet fuel...” (**emphasis added**).

31. We note that the Applicant does not quantify the impact of this Waste-to-SAF capacity on their Waste Fuel Availability Assessment.

32. UKWIN sets out evidence below regarding the plants’ anticipated feedstock composition, feedstock quantity requirement and commercial progress to show that the Applicant is underestimating the potential for SAF to compete for feedstock with EfW and therefore further undermine the Applicant’s need case and their arguments that the plant proposed for Boston would divert waste from landfill and not result in overcapacity. All highlighting is added for emphasis.

Teesside - Alfanar Energy Ltd (Lighthouse Green Fuels)

33. An article in Hydrocarbon Processing entitled 'Worley wins contract for Alfanar's Lighthouse Green Fuels project in North East of England' dated 1st June 2022 states: "The project, known as Lighthouse Green Fuels, will convert residual solid waste into SAF and green naphtha. The project will process approximately **1 M tons of residual solid waste every year – such as municipal solid waste, refuse-derived fuel or solid recovered fuel** – into approximately 3,200 bbl/day of SAF and green naphtha".
34. An article entitled 'N+P 'actively seeking' waste for aviation fuel deal' published on 15th May 2023 by letsrecycle opens as follows: "The N+P Group has unveiled a partnership with the Saudi company Alfanar to source and process **1 million tonnes of waste per year** to be used to produce sustainable aviation fuel (SAF)" and that goes on to explain how: "For the SAF plant with Alfanar, N+P says **everyday non-recyclable household and business rubbish, contaminated recycling loads and MRF residues can all be sorted by N+P for use in the process, instead of 'being sent to landfill, burnt in incinerators or exported'**".
35. Commenting on the commercial viability of the project, the letsrecycle article notes that: "Thanks to the strategic positioning of the plant, SAF is expected to be delivered directly to Manchester Airport using the existing jet fuel pipework infrastructure".

Immingham - Velocys (Altalto) 'Waste-to-Jet Fuel Facility'

36. Altalto's webpage for the project lists one of the benefits of the plant as avoiding **500,000 tonnes of waste** going to landfill or incineration:



37. The website also states that: "Our proposed plant will take hundreds of thousands of tonnes per year of **household and office waste (including hard-to-recycle plastics)**, left over after recycling, and convert them into cleaner burning, sustainable fuels for aviation and road use. Otherwise this waste would end up in landfill, or be **incinerated**".

38. The Non-Technical Summary of the approved planning application for Immingham (DM/0664/19/FUL) states that the waste-to-SAF plant would: "treat approximately 600,000 tonnes per year of non-recyclable / difficult to recycle waste (including some plastics)".
39. The UK Government's announcement for the award states "Velocys plc (Altalto)" was awarded £27,000,000. According to the Government announcement: "Based in Immingham, Lincolnshire, the project is developing a commercial scale plant that uses gasification and Fischer-Tropsch technology to convert **black bin bag waste** into sustainable aviation fuel (SAF). The plant is expected to be operational in 2028 and produce 37.4kt/y of SAF when at full operational capacity".
40. On the 10th of May 2023 Velocys published an 'Altalto Immingham Project Update'. The announcement states that: "...further to the award of the grant from the UK Government's Department for Transport ("DfT") Advanced Fuel Funds of up to £27 million for the Altalto Immingham Sustainable Aviation Fuel ("SAF") Project, announced on 12 December 2022, Altalto Ltd...has completed the work necessary to claim the first tranche (£7 million) of the grant up to 31 March 2023. In addition, as planned, the project has obtained the first tranche of private funding for the period from 1 April 2023 from its existing private sector participants".

Ellesmere Port - Fulcrum BioEnergy Ltd (NorthPoint)

41. The website for this project states "Waste Delivered Per Year: 600,000 tonnes":

WASTE DELIVERED PER YEAR

600,000 metric tonnes

42. An article published by The Engineer on 5th May 2023, entitled "Jet2 announces Sustainable Aviation Fuel investment", refers explicitly to diverting waste from EfW as follows: "Production of SAF is expected to commence at the plant in 2027. When at full capacity, **600,000 tonnes of non-recyclable household waste – which would otherwise have been destined for incineration or landfill** – will be converted into around 100 million litres of SAF annually".
43. This investment adds weight to the notion that Waste-to-SAF can be expected to compete with conventional EfW for the same waste feedstock.

RESIDUAL WASTE REDUCTION

44. On pages 31-32 of Document 9.114 the Applicant states:

“6.1.5 UKWIN have highlighted future Government targets to reduce residual waste in 2042, highlighting that the UK would exceed EfW capacity in that year (19 years from now) if targets were met. This assumes all existing EfW facilities remain fully operational. The Applicant considers that a proportion of existing plant is likely to cease operations in the medium term as EfW facilities come to the end of their planned operating lives.”

“6.1.6 The Applicant has put forward data in the Addendum to Fuel Availability and Waste Hierarchy Assessment (document reference 9.5, REP1-018) that includes meeting all current recycling targets and has allowed for such quantities in presenting the amount of residual waste considered available to the Proposed Facility throughout the UK.”

45. A distinction needs to be drawn between meeting recycling targets and meeting waste reduction targets.

46. The highest recycling target considered by the Applicant in their REP1-018 assessment was 65% by 2035, and the Applicant's assessment considers only meeting the target for English household waste and not for commercial and industrial (C&I) waste, despite C&I being covered by the Government's 2035 target within the context of municipal solid waste (which includes C&I waste of similar composition to household waste).

47. As set out by the Applicant in their REP4-020, e.g. at paragraph 2.3.2, and as summarised on internal pages 7-8 of UKWIN's REP7-036 submission, the Applicant's position is that because detailed data on recycling rates for C&I are not available they are justified in ignoring any potential post-2019 improvements in C&I recycling, e.g. to account for progressing towards achieving the Government's 65% municipal solid waste (MSW) recycling target (which include commercial and industrial waste).

48. Even if the Applicant's position was considered acceptable when it was first adopted (and UKWIN has provided the Examination with detailed evidence to dispute this), given Defra's updated estimates for residual waste (and MSW) arisings in 2019 (set out in Defra's Environmental improvement Plan) and Defra's waste reduction targets for 2027 and 2042, it is clear that the Applicant's approach of considering only household waste arisings cannot now be considered acceptable.

49. As the Applicant's REP1-018 assessment was completed in September / October 2021 the Applicant's historic assessment did not consider either the recycling rate of 70%-75% by 2042 nor the target to halve residual waste arisings by 2042, nor the interim waste reduction targets for 2027 set out in the Environmental improvement Plan (EIP).
50. Reference to the target recycling rate of 70%-75% by 2042 is evidenced on page 31 of the Government's Environment Targets Public Consultation document (published on 6th May 2022) where we read how: "Meeting the target [to halve residual waste per person] will require progress beyond the current commitment to achieve a 65% municipal recycling rate by 2035, and would represent a municipal recycling rate of around 70-75% by 2042".
51. Despite UKWIN having brought this to the Boston Applicant's attention, e.g. on internal pages 4-5 of UKWIN's REP10-049 submission (made in March 2022), the Applicant has not addressed these concerns in their most recent submission, relying instead on historic assessments that have been overtaken by events.
52. In their May 2023 Response to the SoS (Document 9.114) the Applicant refers to UKWIN having assumed that "all existing EfW facilities remain fully operational" through to 2042, adding that "The Applicant considers that a proportion of existing plant is likely to cease operations in the medium term as EfW facilities come to the end of their planned operating lives".
53. UKWIN's latest modelling, set out below, considers the reductions in waste arisings that are necessary on the pathway towards achieving the Government's waste reduction targets by 2042, as it would be wholly unrealistic to imagine that waste would increase or remain constant up to 2041 and then suddenly halve in 2042. In any case, such an unrealistic scenario would fail to meet the Government's interim targets for waste reductions by 2027, as set out in the EIP.
54. Additionally, UKWIN's modelling is conservative in that even if some currently operational EfW facilities are decommissioned in advance of 2042 UKWIN's modelling does not account for new capacity that is currently in development coming forward, which could reasonably be expected to far exceed any capacity that may be decommissioned.
55. As noted above, the UK's EfW fleet is relatively young. Older plants tend to be more likely to be relied upon to service district heating schemes, making them far less likely to be decommissioned than is implied by the Applicant.
56. Furthermore, as the calorific value (CV) of residual waste can be expected to fall, e.g. with the removal of plastics from the residual waste stream, operational EfW facilities can be expected to increase their feedstock input volumes in order to maintain their current levels of electricity export.

DRAFT ENERGY NPSs AND THE WASTE HIERARCHY

57. On pages 33 of Document 9.114 the Applicant states:

“6.2.6 The proposal is both an energy generation and waste treatment facility. There is no extant policy requirement within NPS EN-1 or EN-3 to demonstrate a need for the waste treatment element of the proposal. However, the Applicant has provided significant analysis and detailed information to unambiguously demonstrate that the Facility will not result in over-capacity of EfW waste treatment at a national or local level and that the proposal accords with the waste hierarchy (draft DCO requirement 18 which requires the submission, approval and implementation of a waste hierarchy scheme provides additional security on this issue), which aligns with emerging policy set out within the current revised draft NPS EN-3 which is now the subject of further consultation.”

Requirement to demonstrate waste need

58. The Applicant’s statement that “There is no extant policy requirement within NPS EN-1 or EN-3 to demonstrate a need for the waste treatment element of the proposal” repeats an old contention from the Applicant that UKWIN has already rebutted in detail.
59. For any given EfW development there can clearly be a requirement that an applicant could be expected to have to demonstrate a waste need for the development to show compliance with a range of national policies and to assist the ultimate balancing exercise between benefits and disbenefits to comply with Section 122(3) of the Planning Act 2008.
60. Or, to put it another way, an Applicant’s failure to either justify waste need or to rule out potential harm to the Waste Hierarchy from the development (or indeed UKWIN’s evidence that the proposed capacity is not needed and would cause such harm) can provide standalone grounds for refusal and/or support refusal when considering wider benefits and disbenefits.
61. This issue of needing to demonstrate need is especially relevant to the Boston proposal given the large capacity of the development, the need to demonstrate that there is a “compelling case in the public interest” to justify the use of compulsory purchase powers, and the potential need to show “Imperative Reasons of Overriding Public Interest (IROPI)” to justify building at this location.
62. In UKWIN’s Written Representation for the Boston NSIP we noted the Wheelabrator Kemsley North (WKN) refusal of planning permission, which was founded on 2011 policy rather than future policy.

63. At Paragraph 14 of our Written Representation [REP1-068], we showed how in the WKN case the Secretary of State's decision highlighted the requirement under EN-3 (2011) paragraph 2.5.70 which states:

"IPC decision making

2.5.70. The IPC should be satisfied, with reference to the relevant waste strategies and plans, that the proposed waste combustion generating station is in accordance with the waste hierarchy and of **an appropriate type and scale so as not to prejudice the achievement of local or national waste management targets in England** and local, regional or national waste management targets in Wales. Where there are concerns in terms of a possible conflict, evidence should be provided to the IPC 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." (**emphasis added**)

64. At Paragraph 133 of UKWIN's Written Representation we noted that the underlying ExA's report for WKN made reference to EN-1 (2011) paragraph 3.4.3 and its statement that: "...Only waste that cannot be re-used or recycled with less environmental impact and would otherwise go to landfill should be used for energy recovery..."

65. As such, current Government policy is that the benefit of energy generation does not justify allowing capacity that could undermine the waste hierarchy.

66. Furthermore, as UKWIN noted in REP7-036, paragraph 2.5.66 of EN-3 (2011) is also relevant:

"Applicant's assessment

2.5.66 An assessment of the proposed waste combustion generating station should be undertaken that examines the conformity of the scheme with the waste hierarchy and the effect of the scheme on the relevant waste plan or plans where a proposal is likely to involve more than one local authority."

67. All of this points to a requirement for the Applicant to demonstrate the waste need for their proposed capacity, and indicates how if waste need is not demonstrated then the energy need benefit in effect falls away due to the Government's extant position that meeting our energy needs should not come at the expense of recycling and waste minimisation efforts.

68. This conclusion is bolstered by consideration of the latest draft policies in the emerging versions EN-1 and EN-3, which UKWIN set out in our email of 11 April 2023 and which are stronger in terms of the policy language used than the 2021 draft which UKWIN already showed was very strong in terms of the need to avoid EfW overcapacity.
69. UKWIN's previous and latest evidence on anticipated arisings versus capacity shows that the proposed Boston facility would result in just the sort of "EfW over-capacity" that emerging EN-1 and EN-3 are explicitly concerned about.
70. While that is proposed policy, as set out above there is also a strong basis for refusal based on extant EN-3 policy. The revised policy wording increases the weight to be given to the Boston proposal's conflict with extant policies that already make it clear that incineration proposals should not be granted planning permission where they would undermine recycling and reuse efforts.
71. Furthermore, it is set out in Defra's statement from 11th of July 2022, referred to in UKWIN's submission of 12 July 2022, that: "...Proposed new plants must not result in an over-capacity of EfW waste treatment provision at a local or national level..." and this is a statement of current Government and not future policy.

Draft DCO Requirement 18 (Waste Hierarchy Scheme)

72. The Applicant relies on Draft DCO Requirement 18 [REP9-004] as part of their case that "the proposal accords with the waste hierarchy".
73. While a similar requirement was imposed in the smaller Riverside NSIP proposal in April 2020, the evidence showing how that condition was actually implemented bolsters UKWIN's case that such a requirement would not be effective in protecting the waste hierarchy.
74. Additionally, there have been significant changes in circumstances since April 2020 that similarly indicate that such a requirement should be not relied upon for the Boston proposal.
75. To support this case, UKWIN notes the North Lincolnshire Examining Authority's (ExA's) recent criticisms of a similarly worded draft Requirement proposed for the North Lincolnshire Green Energy Park (NLGEP) as part of the recently concluded NSIP Examination (Planning Inspectorate Ref: EN010116) currently awaiting determination by the Secretary of State.

76. The NLGEP ExA's Schedule of Recommended Amendments to the Applicant's draft DCO Revision 5 [NLGEP REP6-004], published on 6th April 2023, recommends the removal of a corresponding requirement (which had been NLGEP dDCO Requirement 15) on the basis that: "Requirement 15 as drafted does not meet the tests of precision, necessity, or enforceability in the ExA's view".¹
77. To provide context for the NLGEP ExA's recommendation we set out below a number of comments from North Lincolnshire Council (NLC) and UKWIN, made as part of the NLGEP Examination, regarding the proposed NLGEP Waste Hierarchy Scheme.
78. While the evidence presented was for the NLGEP examination, the situation with respect to the Boston proposal is sufficiently similar to lead to the conclusion that requirements such as Boston's draft DCO Requirement 18 cannot be relied upon to ensure waste hierarchy compliance.
79. Based on these extracts, set out below, it should be clear that not only is the proposed Waste Hierarchy Scheme requirement unlikely to protect the waste hierarchy, but that any such Scheme is unlikely to be able to do so.
80. UKWIN's analysis, set out in more detail below, concluded that: "...any requirement strong enough to have a significant impact on the reusability and recyclability of the feedstock would not be considered 'practicable' or 'possible' given the commercial realities of waste treatment. As such, the only way to ensure that incineration capacity does not adversely impact upon Government ambitions in terms of recycling, reuse, and residual waste reduction is to heed the Government's warnings about the need to avoid incineration overcapacity by refusing to grant new planning permissions for new incineration capacity that threatens such Government ambitions".
81. As such, the North Lincolnshire ExA's recommendation was made in light of not only of the Riverside decision but was also based on information not available at the time of the Riverside decision.
82. This leads to the conclusion that, based on current circumstances, protecting the waste hierarchy requires not allowing excess EfW capacity being consented, and that this is an important role expected of the planning system.

¹ Available on the Planning Inspectorate website at <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010116/EN010116-001126-North%20Lincolnshire%20Green%20Energy%20Park%20ExAs%20Scheduled%20Changes%20DCO%20.pdf>

83. Changes in circumstances since the Riverside DCO was approved in April 2020 (some of which also took place after the formal closure of the Boston Examination in April 2020) include:

- the increase in incineration capacity (operational and under construction) since April 2020, and the expansion of existing capacity;
- the publication of Defra's first Resources and Waste Strategy Monitoring Progress report, which found that a significant proportion of the residual waste stream comprised material that could have been recycled or composted (August 2020);
- the publication of the Waste Management Plan for England (January 2021);
- the dischargement of Condition 16 of the Riverside Energy Park Order 2020 (as amended) through adoption of a relatively ineffectual Waste Hierarchy Scheme (April 2022);
- the proposed changes to EN-1 and EN-3 (September 2021 and March 2023);
- Government statements about the importance of avoiding EfW overcapacity (e.g. as made in July 2022);
- the publication of the UK Government's Jet Zero Strategy and announcement of funding for waste-to-SAF capacity (July 2022 and December 2022);
- the publication of the Environmental Improvement Plan (EIP), including the interim waste reduction targets for 2027 (January 2023);
- the adoption of a legally binding target to halve residual waste by 2042 as part of the Environmental Targets (Residual Waste) (England) Regulations (January 2023); and
- new evidence about the increased use of residual waste for cement kilns (May 2023).

84. All of these changes post-date the Riverside decision and can therefore justify arriving at a different conclusion due to these changes in circumstances since April 2020 when the Riverside DCO was granted.

Submission from North Lincolnshire Council (NLC) to the NLGEP Examination regarding the NLGEP Waste Hierarchy Scheme

85. The following quotes are taken from the North Lincolnshire Council's (NLC's) responses to the NLGEP ExA's second written questions (ExQ2) Issued 2nd March 2023²:

Q2.17.0.3 Draft Requirement 15 the waste hierarchy scheme (WHS)

1. Does the use of the terms 'reasonably possible' or 'encourage' provide precision that allow the LPA to enforce the terms of Requirement 15 if necessary?

NLC do not consider that these terms are precise or would allow for enforcement of the requirement. We are currently discussing the Articles and Requirements presented in the dDCO in order to provide an updated position on these matters as part of the SoCG.

2. The effectiveness of the WHS would appear to rely on recyclable or re-usable waste being removed by persons upstream of the proposed development as it has no separation facilities. Does it follow that this relies upon contractual agreements between the waste transferor and the undertaker as indicated at R15 b) and d)?

NLC would agree that the effectiveness of the WHS [Waste Hierarchy Scheme] would appear to rely on recyclable or re-usable waste being removed by persons upstream of the proposed development.

This is not something that would be enforceable by the LPA and would rely upon the contractual agreements between the waste transferor and the undertaker.

Extracts from UKWIN's ISH3 Post-hearing submissions to the NLGEP Examination regarding the NLGEP Waste Hierarchy Scheme

SECURING CONSISTENCY WITH THE WASTE HIERARCHY THROUGH THE USE OF A DRAFT REQUIREMENT

86. UKWIN noted that when concerns are raised about the impact of new incineration capacity on recycling rates as part of the permitting process the Environment Agency (EA) responds within their permit decision documents by stating that this is a matter that falls outside of the scope of Environmental Permitting because it is a planning matter.³

² Available on the Planning Inspectorate website at <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010116/EN010116-001074-North%20Lincolnshire%20Council%20-%20Responses%20to%20the%20ExA%E2%80%99s%20ExQ2.pdf>

³ Available on the Planning Inspectorate website at <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010116/EN010116-000910-c.pdf>

87. An incinerator proposed for Horsham was granted planning permission on appeal in February 2020 (PINS Ref APP/P3800/W/18/3218965), and that facility is designed to process 180,000 tonnes of feedstock per annum. Permit EPR/CB3308TD/V002 was determined on 16th November 2022, and provided responses to a number of concerns regarding recycling and incineration overcapacity.
88. On page 109 of the Horsham permit decision document we read how: “The consultation responses received were wide ranging and a number of the issues raised were outside the Environment Agency’s remit in reaching its permitting decisions. Specifically, questions were raised which fall within the jurisdiction of the planning system, both on the development of planning policy and the grant of planning permission. Guidance on the interaction between planning and pollution control is given in the National Planning Policy Framework. It says that the planning and pollution control systems are separate but complementary. We are only able to take into account those issues, which fall within the scope of the Environmental Permitting Regulations” [EPR].
89. This principle was then invoked on the following page of the decision document (page 110) in the section on representations from North Horsham Parish Council, where the “request for evidence to be provided that the National Planning Policy Framework is being adhered to” was met with the response from the Environment Agency that: “Wider issues of policy are outside our remit. We have to assess the environmental impacts of what is proposed which is an activity that can be authorised under EPR”.
90. As can be seen from the submitted extracts...further comments from the public included “Concern over whether Incineration is the best way to deal with the waste”, “Concern that incineration reduces recycling”, “Concern that incineration is a barrier to the circular economy”, and “Concern that the UK already faces incineration overcapacity”.
91. These concerns about recycling, incineration overcapacity and barriers to the circular economy were all met with similar responses from the Environment Agency, setting out how the EA did not have the power to refuse to issue environmental permits on such grounds because their role was limited to enforcing the Environmental Permitting Regulations (EPR), and this meant that “Wider issues of waste policy are outside our remit”.
92. Based on our experience of Cory’s Riverside Energy Park Waste Hierarchy Scheme, we can expect the draft DCO requirement for North Lincolnshire would amount to merely relying on the existing legal duties such as Regulation 12 of the Waste Regulations 2011, and on the goodwill of suppliers, but with extra steps.

93. The draft Requirement for North Lincolnshire (proposed Requirement 15) does not, and cannot, obviate the harm caused to the waste hierarchy and the Government's recycling and residual waste reduction ambitions by the introduction of incineration capacity that would result in English incineration capacity exceeding the level of genuinely residual waste available to burn.
94. What can obviate that harm is to refuse planning consent for the capacity proposed for North Lincolnshire.

DETAILED ANALYSIS OF THE RIVERSIDE WASTE HIERARCHY SCHEME

95. Accompanying this submission is London Borough of Bexley Council's letter confirming that Requirement 16 [of the Riverside Energy Park DCO] had been discharged. This decision was made based on a scheme and a determination that that scheme satisfied the requirements for Requirement 16.
96. This means that, when considering the implications of imposing a similar condition for a different DCO (i.e. for the NLGEP), those considering the North Lincolnshire proposal can benefit from something that those determining the Riverside Energy Park consent did not, which is a copy of a scheme that complied with a Waste Hierarchy Scheme condition.
97. The approved Riverside Waste Hierarchy Scheme appears to provide very little additionality in practice. To assess, this, we consider a key element of the scheme which begins at electronic page 17 of the document.
98. Requirement 16(2)(b) requires that: "The arrangements that must be put in place for ensuring that as much reusable and recyclable waste as is reasonably possible is removed from waste to be received at the authorised development, including contractual measures to encourage as much reusable and recyclable waste being removed as far as possible".
99. While this may appear reassuring, in practice the Scheme amounts to very little. The Scheme's response to this requirement includes paragraph 3.3.9 on electronic page 18 which requires waste type restrictions in the permit are adhered to and the Waste Regulations 2011 is adhered to. This offers no meaningful additionality, as legal requirements would need to be met in any case, and as set out below these legal requirements would not prevent the incinerator from adversely impacting on recycling rates.
100. Paragraph 3.3.9 includes a mechanism asking suppliers to set their own targets for improving the percentage of reusable and recyclable waste removed from the supplier's waste stream. This implies that there will be both reusable and recyclable material that would not be removed, and the mechanism does not require any specific level of recyclate removal.

101. Furthermore, Paragraph 3.3.9 makes clear that it is for the supplier to self-report any breaches of the target, even though it is not in their interests to be thorough in this regard. The Scheme goes on to explain how the consequences of the supplier missing their self-set targets are minimal, with a mechanism for agreeing more time to meet with the self-set targets, and with the prospect that no specific timescales might be set – so, suppliers may be given unlimited time to meet their previously missed self-set targets.
102. It is difficult to see how any local authority tasked with enforcing such a requirement would be able to do so effectively. There is no mechanism, for example, for the local authority to be involved in the process of setting the targets or monitoring their degree compliance, or the process of extending any deadlines for compliance.
103. It is hard to see how either the operator or the local authority would be able to determine whether or not a supplier was breaching the Environmental Management System if they failed to self-report their non-compliance.
104. As such, even if the Scheme did include specific targets for removing recyclable and reusable material from the waste stream, it is difficult to see how this would be enforced.
105. And even if there were suspicions regarding possible unreported non-compliance due to the nature of the material being received by the operator, there seems to be no obvious mechanism for the operator to require their supplier to demonstrate compliance.
106. And even if there were such a mechanism, there is also no clear way for a local authority to require the operator to act on any such suspicions.
107. Suffice it to say, it appears that the Scheme's attempt to respond to the requirement for "ensuring that **as much** reusable and recyclable waste **as is reasonably possible** is removed from waste to be received at the authorised development, including contractual measures to encourage **as much** reusable and recyclable waste being removed **as far as possible**" appears to be an admission that once one builds an incinerator, not much is actually possible because the operator is reliant on the goodwill and co-operation of suppliers who would be able to send their waste elsewhere if they could not conveniently send it to the proposed incinerator, and therefore there is little leverage that the operator can have over their suppliers in terms of requiring best practice.
108. This means that any requirement strong enough to have a significant impact on the reusability and recyclability of the feedstock would not be considered 'practicable' or 'possible' given the commercial realities of waste treatment.

109. As such, the only way to ensure that incineration capacity does not adversely impact upon Government ambitions in terms of recycling, reuse, and residual waste reduction is to heed the Government's warnings about the need to avoid incineration overcapacity by refusing to grant new planning permissions for new incineration capacity that threatens such Government ambitions.

REGULATION 12 OF THE WASTE REGULATIONS 2011

110. ...The Waste Regulations applies only 'on the transfer of waste', and so cannot be relied upon to guarantee waste is collected and processed to prevent reusable and/or recyclable material being used as incinerator feedstock.

RESTRICTIONS FROM THE ENVIRONMENTAL PERMIT

111. Permits restrict waste to certain waste types or waste codes, but these codes include mixed waste and processed waste, meaning such restrictions cannot prevent residual waste streams that contain material that is either recyclable or that could alternatively have been collected for re-use or recycling from being part of the incinerator feedstock.

112. The permitting system's inability to prevent material that could have been collected for recycling, or residual waste that includes recyclable material, from being incinerated explains why (as noted above) the Environment Agency responds to concerns about recycling in permit decision documents by stating that this is a matter that falls outside the remit of the permitting system and that therefore such concerns fall within the planning system.

WASTE AVAILABILITY ANALYSIS BASED ON LATEST INFORMATION

113. In UKWIN's March 2022 Deadline 10 (D10) submission [REP10-049, internal pages 1-4] commenting on Document 9.99, UKWIN attempted to 'correct' the Applicant's various waste calculation errors and omissions by introducing methods to account for increased C&I recycling and so on which were premised on 65% recycling and which pre-dated the Government's residual waste reduction targets.
114. In light of the evidence above, it is clear that if UKWIN's attempts to do this were updated in light of the further increases in EfW capacity, and other residual waste treatment capacity, and the latest information on residual waste reduction then the updated analysis would show an even greater level of overcapacity than set out in our D10 submission.
115. However, given the passage of time and the introduction of a variety of new factors, we believe it would be much clearer to simply reassess the situation from an English perspective based on the current information on (a) waste available as a fuel, and (b) existing and anticipated capacity to treat that waste, to assess the balance between these two factors in light of the UK Government's warnings against EfW Overcapacity and the requirement for the Applicant to justify their development in light of its locational constraints.
116. UKWIN limits our focus to England in order to more readily assess the impact of the English residual waste reduction targets and English EfW overcapacity.
117. In line with the principle of 'net self-sufficiency' and the proximity principle, it is assumed that the imports and exports between England and the rest of the UK would even out, meaning that for the purpose of the assessment both the capacity and the arisings outside of England can be excluded.
118. It is clear that the Government's proposed residual waste reduction targets were specifically intended to reduce EfW waste incineration, and so UKWIN's analysis that indicates that as residual waste arisings are reduced in line with meeting the target current levels of incineration capacity will be more than enough is wholly in line with Government statements on the topic.
119. In this regard, we would like to draw the Secretary of State's attention to the statement made on behalf of the Government by the Parliamentary Under-Secretary of State for Environment, Food and Rural Affairs (Rebecca Pow) on the 25th of May 2023 that: "We [the Government] want to see less waste being sent to incinerators, which is why we set a statutory target to halve the 2019 level of residual waste by 2042..."

120. The Statement from Defra's Under-Secretary of State went on to refer to incineration plants as "energy from waste plants", making it clear that EfW plants, such as the EfW plant proposed for Boston, are within the scope of her statement.
121. The Government's explanation that sending less waste to incinerators is a reason for their introduction of the target to halve residual waste supports UKWIN's interpretation of how to assess the impact of that target on the Boston Applicant's need case and the weight to be given to current and proposed (emerging) Government policies.
122. Such policies include measures to protect the top tiers of the Waste Hierarchy, prevent EfW overcapacity, fulfil the duties under the Environment Act 2021 in relation to environmental targets, and to have regard to policies set out in the Government's Environmental Improvement Plan (EIP).
123. As noted in UKWIN's 11th April 2023 submission, EN-1 (2023 Draft), paragraph 5.16.13 states: "The SoS must also consider duties under other legislation including duties under the Environment Act 2021 in relation to environmental targets and have regard to the policies set out in the Government's Environmental Improvement Plan".

Waste Fuel Availability assessment

124. UKWIN has compared Waste as Fuel Arisings in England with English EfW capacity, cement kiln capacity and Waste-to-SAF capacity.

Assessment of EfW incineration capacity balance in England

	Waste as Fuel Arisings	Existing EfW Capacity Available	Cement kilns	Waste-to-SAF	Remaining Waste as Fuel
2027	17,401	-17,778	-1,000	-540	-1,917
2028	17,107	-17,778	-1,000	-1,890	-3,560
2029	16,809	-17,778	-1,000	-1,890	-3,859
2030	16,507	-17,778	-1,000	-1,890	-4,161
2031	16,200	-17,778	-1,000	-1,890	-4,468
2032	15,890	-17,778	-1,000	-1,890	-4,778
2033	15,576	-17,778	-1,000	-1,890	-5,091
2034	15,260	-17,778	-1,000	-1,890	-5,408
2035	14,941	-17,778	-1,000	-1,890	-5,727
2036	14,619	-17,778	-1,000	-1,890	-6,049
2037	14,296	-17,778	-1,000	-1,890	-6,372
2038	13,972	-17,778	-1,000	-1,890	-6,696
2039	13,646	-17,778	-1,000	-1,890	-7,021
2040	13,320	-17,778	-1,000	-1,890	-7,348
2041	12,992	-17,778	-1,000	-1,890	-7,676
2042	12,662	-17,778	-1,000	-1,890	-8,005

125. This assessment shows that, even without any RDF export whatsoever, there would not be enough waste to supply feedstock for the proposed Boston plant throughout its anticipated operational lifetime.
126. Indeed, even if one just compared arisings and EfW capacity (ignoring cement kilns and Waste-to-SAF) there would be no waste available for the Boston plant from the time that it would become operational (in around 2027) onwards.
127. This also indicates that there is already a high level of EfW overcapacity in England, and that the 1.2 million tonnes of additional capacity proposed for the Boston plant would clearly exacerbate this overcapacity.
128. Whilst there are a number of EfW operators who intend to refurbish or replace existing EfW capacity, UKWIN is not aware of any operators of EfW plants in the UK who have announced their intention to decommission any of the current EfW fleet without a replacement.
129. UKWIN is mindful of the trend towards converting existing biomass capacity to treat refuse derived fuel (RDF) and solid recovered fuel (SRF).
130. Some recent examples of such conversions include Aviva's Boston and Hull facilities (with a combined capacity of around 173,000 tonnes per annum) and the Port Clarence plant (where the operator has applied to the Environment Agency for a permit variation to enable the facility to incinerate up to 330,000 tonnes of RDF per annum).
131. Adopting a conservative approach, UKWIN has not factored in either the more than half a million tonnes of capacity associated with these three examples of conversions from biomass to EfW, nor has UKWIN anticipated the potential conversion to EfW of some or all of the existing biomass capacity (in excess of 6.5 million tonnes per annum, as reported by Tolvik in their 'UK Dedicated Biomass Statistics – 2019').
132. This approach more than offsets the potential closure of existing EfW facilities.
133. Column explanation for the 'Assessment of EfW incineration capacity balance in England' table set out above:
- **Arisings** – This is based on 90% of the total municipal residual waste arisings for England. Assumes 333kg of total municipal residual waste per person in 2027, with the 2042 figure for total municipal residual waste per person being 234.5kg which is half the 2019 figure of 469kg per capita.

- **EfW Capacity** – This is based on 90% of the permitted capacity for EfW facilities that are currently operational and under construction in England, based on the 90% utilisation rate adopted by the Applicant in Document 9.5 [REP1-018]. Does not include the Edmonton capacity that is currently being replaced or the capacity of the 3rd line at the existing Eastcroft incinerator which has yet to genuinely enter construction. Also does not include recent biomass-to-RDF conversions. Does not include the 1.2 million tonne of capacity proposed for Boston.
- **Cement Kilns** – As above, it is assumed that cement kiln usage would reach 1Mtpa by 2027 if current trends continue. It is assumed that it would then stay at this rate throughout the period, although in reality it could be higher.
- **Waste-to-SAF** – Based on capacity for the Teesside, Immingham and Ellesmere Port Waste-to-SAF (Sustainable Aviation Fuel) capacities set out above. The Ellesmere Port SAF facility is due to be operational in 2027 and the others from 2028.
- **Remaining Waste as Fuel** – This is arisings minus capacity. Not all of this fuel would necessarily be available to the Boston plant.

Model sensitivity and robustness

134. UKWIN's latest modelling is more likely to underestimate rather than overestimate the level of EfW overcapacity, and the conclusions that the proposed 1.2 million tonnes of capacity at the Boston plant would cause or exacerbate EfW overcapacity and that there is no need for the Boston plant to treat residual waste is considered to be robust, for the following reasons:

- **Decommissioning of older capacity** – The model assumed that existing EfW plants would continue to operate to 2042. If the older plants at Coventry, Eastcroft and Stoke were to close down (and there is no evidence that they intend to be decommissioned by 2042) then this would reduce operational capacity by around 652.5ktpa, which would not affect the conclusions of the assessment.
- **Utilisation rates of existing EfW capacity** – It is assumed that only 90% of the existing EfW capacity would be utilised, but in reality plants could be expected to increase their capacity as plastic waste is increasingly diverted from the residual waste stream, which means that in the future the quantity of waste processed at existing EfW plants could exceed 100% of their current permitted levels. If the utilisation rate applied was 10 percentage points higher than the permitted capacity (rather than 10 percentage points lower) then the 17,778kpa capacity figure would increase to 21,728ktpa.

- **Waste arisings** – Waste arisings figures are based on 90% of the available municipal residual waste. If 100% of municipal residual waste were assumed to be available as a fuel then this would result in significant overcapacity from 2028 onwards, meaning that there is no space for the 1.2Mtpa capacity proposed for Boston.
- **RDF Export** – The modelling does not assume any RDF Export. However, in the Applicant's calculations they assume that 2,450ktpa of waste per year is exported (see electronic page 26 of REP1-018). If it were assumed that waste would continue to be exported as RDF then the level of assumed domestic EfW overcapacity would be higher.
- **Biomass capacity** – As above, there is a significant quantity of biomass capacity at present. This could take some of the residual waste which is waste wood and/or be converted to treat mixed waste in the form of RDF or SRF. Either way, there is the potential for existing biomass capacity to treat residual waste. UKWIN's analysis does not include any of this capacity, including the half a million tonnes of capacity which has recently been converted into SRF/RDF or where operators have applied to change the permit to allow for the plant to treat residual waste.
- **Consented capacity 'in development'** – There are around 27 incinerators with planning permission that are considered under active development, but which have yet to enter construction. These plants have a combined permitted capacity of 8,858ktpa. If 90% of this capacity is utilised, this would amount to an additional 7,726ktpa of capacity. Even if only a small proportion of these plants come forward it could significantly increase the level of English EfW overcapacity.

FURTHER DATA AND METHODOLOGY FOR CAPACITY BALANCE

Anticipated available waste as fuel methodology

135. In line of the approach UKWIN set out in our 2nd March 2023 email message (subject: 'Material changes in circumstances since 7th April 2022'), one can easily determine the municipal residual waste arisings for 2027 based on the Government's 333kg target and the 2020-based ONS forecast population for England for 2027.
136. One can then assume that 90% of this would be available for use as a fuel, although not all of this fuel would be available for EfW as some would be used for cement kilns and some for Sustainable Aviation Fuel (SAF).
137. As noted in the Government's Environmental Improvement Plan 2023, the municipal residual waste target is not just for household waste, it is for: "waste from households plus waste similar in composition to household waste, such as commercial waste".
138. Incinerators and other residual waste treatment capacity typically take waste from primarily household and commercial sources, and so it would be reasonable to use municipal waste as the basis for assessing residual waste arisings relevant to incinerator feedstock.
139. Even if a small fraction of non-municipal waste were incinerated, this can be expected to be significantly less than the amount of municipal waste which would be unavailable to the residual waste treatment options considered, as UKWIN has not included potential treatment options for municipal waste such as treating the waste wood fraction at dedicated biomass plants.
140. There is also municipal waste which due to its nature or size would not be technically suitable for incineration, e.g. because it would be so fine that it would fall through the grates or too big (bulky) to be fed in.
141. The Government's Environmental Improvement Plan equated the 333 kg municipal residual waste arisings figure for 2027 with a 29% drop on the 2019 base year. This implies that the Government estimated that total municipal residual waste in England was around 469kg per capita in 2019.
142. If one assumes that this is halved in line with the broader residual waste reduction target, then this means that municipal residual waste in England would fall to 234.5kg per capita by 2042.
143. If the consent is implemented then the Boston plant could be expected to come online around 2027, which means that the assessment only needs to focus on arisings for 2027-2042. This is modelled through a linear year-on-year fall in arisings between the two periods.

Data tables and calculations

WASTE ARISING FIGURES

Year	Thousand people in England (ONS)	Kg total municipal residual waste per person (based on EIP Targets)	Kt total municipal residual waste (Population multiplied by waste per person)	Kt waste as fuel (90% of total)
2027	58,061	333	19,334	17,401
2028	58,230	326	19,008	17,107
2029	58,389	320	19,060	16,809
2030	58,541	313	18,341	16,507
2031	58,684	307	18,000	16,200
2032	58,819	300	17,656	15,890
2033	58,948	294	17,307	15,576
2034	59,071	287	16,955	15,260
2035	59,189	280	16,601	14,941
2036	59,304	274	16,243	14,619
2037	59,419	267	15,885	14,296
2038	59,533	261	15,524	13,972
2039	59,648	254	15,162	13,646
2040	59,764	248	14,799	13,320
2041	59,880	241	14,435	12,992
2042	58,061	235	14,069	12,662

Note: Displayed values are rounded to the nearest whole number

EFW PLANTS OPERATIONAL AND UNDER CONSTRUCTION IN ENGLAND

EfW Plants	Region	Permitted capacity	90% of permitted capacity	110% of permitted capacity
Runcorn EfW plant	North West	1,100	990	1,210
Cory Riverside Energy	London	850	765	935
Tees Valley EfW Facility (Billingham)	North East	756	680	832
Ferrybridge Multifuel 1 (FM1)	Yorks. & Humber	725	653	798
Ferrybridge Multifuel 2 (FM2)	Yorks. & Humber	725	653	798
Edmonton EcoPark	London	700	630	770
Wheelabrator Kemsley (K3)	South East	657	591	723
Lostock Sustainable Energy Plant	North West	600	540	660
Wren Power & Pulp (Rivenhall)	Eastern	595	536	655
Rookery Pit	Eastern	585	527	644
Allington EfW Plant	South East	560	504	616
Wilton 11 EfW Plant	North East	500	450	550
Protos EfW plant	North West	500	450	550
Slough Multifuel	South East	480	432	528
Severnside Energy Recovery Centre	South West	467	420	514

SELCHP Energy Recovery Facility	London	464	418	510
Lakeside Energy from Waste facility	South East	450	405	495
Tyseley Energy Recovery Facility	West Midlands	441	397	485
Skelton Grange EfW Plant	Yorks. & Humber	410	369	451
Wheelabrator West Bromwich	West Midlands	400	360	440
Avonmouth Resource Recovery Centre	South West	377	339	415
Newhurst Quarry EfW plant	East Midlands	350	315	385
Beddington Energy Recovery Facility	London	347	312	382
Greatmoor	South East	345	311	380
W2R Staffordshire ERF	West Midlands	340	306	374
Ardley Energy Recovery Facility	South East	326	293	359
Allerton Waste Recovery Facility	Yorks. & Humber	320	288	352
Coventry EfW Plant	West Midlands	315	284	347
Great Blakenham EfW plant	Eastern	295	266	325
Hooton Bio Power	North West	266	239	293
Devonport EfW CHP Facility	South West	265	239	292
Sheffield Energy Recovery Facility	Yorks. & Humber	245	221	270
Newhaven Energy Recovery Facility	South East	242	218	266
Cornwall Energy Recovery Centre	South West	240	216	264
Energy Works Hull	Yorks. & Humber	240	216	264
EnviRecover	West Midlands	230	207	253
Integra South West (Marchwood)	South East	220	198	242
Portsmouth Energy Recovery Facility	South East	220	198	242
Stoke EfW Plant	West Midlands	210	189	231
Eastcroft EfW plant	East Midlands	200	180	220
Gloucestershire (EfW) plant (Javelin)	South West	190	171	209
Leeds Recycling & ERF	Yorks. & Humber	190	171	209
Lincolnshire EfW Plant	East Midlands	190	171	209
Drakelow Renewable Energy Centre	East Midlands	169	152	186
Kirklees EfW plant	Yorks. & Humber	150	135	165
Milton Keynes Waste Recovery Park	South East	132	119	145
Baddesley EfW plant	West Midlands	130	117	143
Bridgwater Resource Recovery	South West	123	111	135
Bolton WtE plant	North West	120	108	132
Wolverhampton EfW Plant	West Midlands	118	106	130
Integra North (Chineham)	South East	110	99	121
Dudley EfW plant	West Midlands	105	95	116
Battlefield ERF	West Midlands	102	92	112

Peterborough Energy Recovery Facility	Eastern	85	77	94
Enviropower Lancing	South East	75	68	83
Exeter Energy Recovery Facility	South West	60	54	66
Surrey ECO Park	South East	60	54	66
Newlincs EfW plant	Yorks. & Humber	56	50	62
Isle of Wight	South East	30	27	33
TOTAL		19,753	17,778	21,728

CONSENTED EFW PLANTS CONSIDERED 'IN DEVELOPMENT' IN ENGLAND

EfW Plant	Region	Permitted capacity	90% of permitted capacity
South Humber Bank Energy Centre	Yorks. & Humber	753	678
Cory Riverside Energy Park (REP)	London	665	599
East Midlands Energy Re-Generation (EMERGE) Centre	East Midlands	525	472
Darwen EfW Plant	North West	500	450
Graythorp Energy Centre (Hartlepool)	North East	500	450
North Beck Energy EfW plant	Yorks. & Humber	500	450
Walsall EfW Plant	West Midlands	478	430
Redcar Energy Centre	North East	450	405
Red Scar Industrial Estate - EfW (Preston EfW)	North West	395	356
Heysham EfW Plant (Lancaster West Business Park)	North West	330	297
Tilbury Docks - Phase 2 (EfW)	Eastern	300	270
Doncaster EfW Plant	Yorks. & Humber	300	270
Hay Hall Bio Power	West Midlands	277	249
Corby Energy Recovery Centre (Shelton Road EfW)	East Midlands	260	234
Kingmoor Park	North West	250	225
Solar 21 EfW plant (Melton EfW)	Yorks. & Humber	250	225
Northacre RRC	South West	243	219
3Rs EfW Plant (Britannia Crest) (Horsham)	South East	230	207
Billingham EfW Haverton Hill extension (Suez)	North East	200	180
Haverton Hill (Billingham) EfW Plant (EQTec)	North East	200	180
Bloomfield Recycling Depot	West Midlands	180	162
Moody Lane (Former Acordis site)	Yorks. & Humber	169	152
Reading EfW plant	South East	150	135
Hams Hall Energy Centre	West Midlands	145	131
Eastcroft EfW (3rd Line) (resubmission)	East Midlands	140	126
Greengate EfW Plant	North West	130	117
Land to the South of Knapton Quarry Landfill Site	Yorks. & Humber	65	59
TOTAL		8,585	7,726

WASTE-TO-SAF CAPACITY

Plant	Anticipated year operational	Capacity	90% of capacity
Teesside - Alfanar Energy Ltd (Lighthouse Green Fuels)	2028	1,000	900
Immingham - Velocys (Altalto) 'Waste-to-Jet Fuel Facility'	2028	500	450
Ellesmere Port - Fulcrum BioEnergy Ltd (NorthPoint)	2027	600	540
TOTAL		2,100	1,890