

Response to Document 9.99 / REP9-033

UKWIN'S D10 COMMENTS ON APPLICANT'S FIFTH REPORT ON OUTSTANDING SUBMISSIONS

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

MARCH 2022



COMMENTS ON TABLE 2-9 OF THE APPLCIANT'S FIFTH REPORT ON OUTSTANDING SUBMISSIONS (DOCUMENT 9.99 / REP9-033)

UKWIN Comments on the Applicant's REP9-033 Response to UKWIN's Deadline 8 Comments on Applicant's Deadline 7 Response to UKWIN's Deadline 6 Submission

No.	UKWIN's Initial Comment	Applicant's Comments	UKWIN response
2 Waste (outstanding points within Comments on the Applicant's Table 1-2 Response to REP2-058)			
2.1.2	UKWIN notes that while the Applicant has acknowledged deficiencies in their report they have not yet rectified these shortcomings.	The Applicant's submission was not deficient as it was based on the best available data at the time of writing, including utilising Government sources of waste data.	<p>If a submission was correct at the time but was subsequently overtaken by events, then that submission becomes deficient with respect to its adequacy to support the planning decision.</p> <p>The Applicant has acknowledged that new incinerators have entered construction subsequent to the Applicant's need assessments and yet the Applicant has opted not to update their calculations to account for these material changes in circumstances.</p> <p>UKWIN is the only party to this Examination to have provided evidence on the impacts of correcting various deficiencies in the Applicant's need assessment, and as such our position remains that our evidence – which concludes that this facility would result in incineration overcapacity – should be preferred over (carry more weight than) the outdated and uncorrected evidence of the Applicant on this topic.</p> <p>In relation to this matter, UKWIN's view remains that the planning decision should be based on the most current available information wherever possible, and with respect to existing incineration capacity it is possible, and therefore desirable, to use the latest available data to support the planning decision.</p>
	The methodology used by UKWIN is set out on page 7 of REP6-042, with further detail clearly set out within REP2-058 (see paragraphs 21-31). UKWIN's calculations are based on a scenario whereby C&I recycling	The Applicant based the changes in recycling rate for household waste presented in the Addendum to Fuel Availability and Waste Hierarchy Assessment (document reference 9.5, REP1-018) on Defra published data, for	<p>As previously noted by UKWIN, we set out the basis for assessing the increases in recycling, which was that it used the Applicant's assumption of improvement in HH recycling (from 45.5% in England in 2019 rising to 65%) and then applied a fraction of this level of increase to C&I. As such, our assessment had the same baseline year as that adopted by the Applicant.</p> <p>In UKWIN's Deadline 9 submission we also set out the impact of using the Applicant's 50-55% recycling baseline and found that it did not change the conclusion that the incineration capacity proposed for Boston would result in overcapacity.</p>

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	<p>improvements mirror the being using the Applicant's assumed level of increase in the quantity of household waste recycled.</p>	<p>England this was 45.5% in 2019.</p> <p>Following the Applicant's request for the starting point for the C&I recycling rate, UKWIN has not provided any referenced data source confirming C&I waste recycling rates for specific years to act as a baseline to support their methodology. Without a baseline year, UKWIN's methodology does not mirror that of the Applicant's for household waste.</p>	<p>Having revisited that assessment, it appears that we underestimated the impact of moving from 50-55% to 65% C&I recycling because we looked only at the impact on the improvement in recycling of material previously sent to landfill. The impact should also take account of waste that was incinerated and that could in the future be expected to be diverted from incineration (and towards recycling). Taking this into account would provide a higher estimate for the impact of increasing C&I recycling.</p> <p>UKWIN's updated analysis, set out below, shows how the impact of increasing C&I recycling from 50% to 65% would be to reduce the waste available within the catchment by around 2,790ktpa, and how the impact of increasing C&I recycling from 55% to 65% would be to reduce the waste available within the catchment by around 2,067ktpa.</p> <p>The amount incinerated (including in the updated analysis below) is based on the figure for total waste incinerated in 2019, i.e. 12.63mtpa, of which 18.5% was C&I based on operator returns¹ assuming half of the RDF exported from England in 2019 was C&I.</p> <p>Assuming that only half of exported RDF is C&I is considered conservative as it has been noted in an RDF industry report that: "Typically, it is C&I waste rather than LAC [Local Authority Collected] waste which is exported as RDF".² The resulting figure of 3,561ktpa does not include waste treated at cement kilns/ cement works which would result in an even higher figure.</p> <p style="text-align: center;">Estimate of total HIC waste incinerated in 2019</p> <table border="1" data-bbox="987 1002 2161 1153"> <thead> <tr> <th></th> <th>Incinerated in 2019 (ktpa)</th> <th>C&I Fraction (percentage)</th> <th>C&I Fraction (ktpa)</th> <th>Sources</th> </tr> </thead> <tbody> <tr> <td>Waste incinerated in the UK in 2019</td> <td>12,626</td> <td>18.50%</td> <td>2,336</td> <td>Tolvik / Operator Returns</td> </tr> <tr> <td>English RDF Exported for Incineration in 2019</td> <td>2,450</td> <td>50%</td> <td>1,225</td> <td>REP1-018 / Eunomia</td> </tr> <tr> <td>Total incinerated in 2019</td> <td></td> <td></td> <td>3,561</td> <td>Sum of the above</td> </tr> </tbody> </table> <p>Taking this 3,561ktpa figure into account brings UKWIN's estimates for increasing waste from 50-55% to 65% in line with our previous estimates, which were based on the 1:3 C&I:HH ratio.</p>		Incinerated in 2019 (ktpa)	C&I Fraction (percentage)	C&I Fraction (ktpa)	Sources	Waste incinerated in the UK in 2019	12,626	18.50%	2,336	Tolvik / Operator Returns	English RDF Exported for Incineration in 2019	2,450	50%	1,225	REP1-018 / Eunomia	Total incinerated in 2019			3,561	Sum of the above
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¹ Energy from Waste Statistics – 2019. Tolvik, May 2020.

² Report for RDF Export Industry Group Prepared by Eunomia. RDF Export Analysis of the Legal, Economic and Environmental Rationales. Eunomia, November 2015.

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			<p>Updated estimate of impact of increasing C&I recycling to 65% from a 2019 baseline of 50/55%</p> <p>Impact of C&I recycling increasing from 50% to 65% (ktpa)</p> <table border="1"> <thead> <tr> <th>Ref</th> <th>Description</th> <th>UK</th> <th>In Catchment</th> <th>Source / Calculation</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Landfilled combustible wastes (ktpa)</td> <td>12,502</td> <td>10,437</td> <td>Table 4-1 of Applicant's Doc 9.5 (REP1-018)</td> </tr> <tr> <td>B</td> <td>C&I Fraction Landfilled (ktpa)</td> <td>6,876</td> <td>5,740</td> <td>A × 55% (i.e. 0.55) as per para 21 of REP2-058</td> </tr> <tr> <td>C</td> <td>C&I Fraction Incinerated (ktpa)</td> <td>3,561</td> <td>3,561</td> <td>See UKWIN Commentary</td> </tr> <tr> <td>D</td> <td>Total Residual C&I Fraction</td> <td>10,437</td> <td>9,301</td> <td>B + C</td> </tr> <tr> <td>E</td> <td>Derived total C&I waste (assuming 50% recycling)</td> <td>20,874</td> <td>18,603</td> <td>D ÷ 50% (i.e. 0.5 as 100%–50% = 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		<p>however the quantity will be significantly less than calculated by UKWIN as their methodology does not factor in existing rates.</p> <p>The Applicant recognises that increased recycling of materials from C&I waste may reduce the overall quantity of residual C&I waste going to landfill to meet the CEP targets, however the quantity will be significantly less than calculated by UKWIN as their methodology does not factor in existing rates.</p>	<p>for Boston would result in overcapacity. Indeed, as set out above adopting a 50% baseline for 2019 could result in a higher level of assumed overcapacity than UKWIN's earlier analysis based on a 1:3 C&I:HH ratio (i.e. assuming that improvements in C&I recycling are only one third the level of improvement anticipated for household waste recycling) would suggest.</p> <p>Actually, in light of recent events, the reality could be that there is significantly more overcapacity than estimated by UKWIN.</p> <p>As noted by UKWIN in our Deadline 9 submission (REP9-067), on the 16th of March 2022 (i.e. prior to the Applicant's Deadline 9 submission, which is dated the 24th of March 2022) the Government proposed a target of halving English residual waste per capita by 2042 based on 2019 levels. 2042 is well within the anticipated operational lifetime of the proposed Boston facility.</p> <p>According to the annex to the Government consultation document referred to by UKWIN³: <i>"The proposed target level is based on modelling the collective impacts of the planned Collection and Packaging Reforms (CPR) on residual waste, as well as considering potential future pathways... Meeting the target 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..."</i></p> <p>As such, it could be envisaged that within the operational lifetime of the plant proposed for Boston, municipal recycling rates could be expected to be significantly higher than 65%, reaching 70-75% by 2042.</p> <p>It is therefore notable that the Applicant did not provide any sensitivity analysis alongside their Deadline 9 submission to show the impact of 70-75% recycling on their fuel availability assessment.</p> <p>This casts further doubt on the weight to be given to the Applicant's assessment, and the prospect for 70-75% recycling supports UKWIN's case that this incinerator is not only unnecessary but it contradicts existing and</p>

³ 'Consultation on Environmental Targets', Defra, 16th March 2022

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			emerging Government policy which seeks to protect recycling against incineration overcapacity.
	As such, the methodology used by UKWIN does not require knowledge of current or future C&I recycling rates. The 50% and 33% figures are not the assumed C&I recycling rates, but instead constitute a calculation of the impact of assuming that the relative level of improvement for C&I recycling was either a 50% improvement or a 33% improvement relative to the level of improvement for household waste recycling provided by the Applicant (after correction for the different in the size of the two streams)	The Applicant notes that if the C&I recycling rate mirrored those of household waste in 2019 as suggested by UKWIN, a 50% increase in the recycling rate would give a rate of 95.5% for England.	<p>UKWIN's methodological reference to '50%' is not a proposal to assume an increase in C&I recycling of 50% (let alone an increase of 50 percentage points), but rather to consider an increase in C&I recycling that would equate to just half (i.e. 50%) of the increase expected by the Applicant with respect to household recycling based on a 2019 base year.</p> <p>This means that our methodology would not result in a 95.5% C&I recycling rate as wrongly suggested by the Applicant. A cursory look at the actual numbers we propose would put paid to this misunderstanding. Given that the full calculations used were clearly set out by UKWIN, it is unclear why the Applicant is speculating about what we might be proposing rather than engaging with our actual calculations.</p> <p>UKWIN's simple point, which the Applicant has continued to evade, is that the modelling should account for at least some improvement in C&I recycling.</p> <p>It is not safe to simply assume that there will be no improvements in C&I recycling just because the precise level of C&I recycling cannot be determined. Indeed, the whole purpose of sensitivity analysis is to allow for a range of reasonable scenarios to be considered in circumstances where the precise value is either unknown or unknowable. The Applicant's failure to apply this approach to C&I recycling within their own estimates continues to be indefensible.</p>
4.3 Responses to Specific UKWIN points (Comments on Table 1-3 Response to REP3-037)			
4.3.3	The potential impact of taking into account the various sensitivities highlighted by UKWIN above and within REP6-042 would greatly exceed 80,000 tpa of CO ₂ , and so the Applicant's failure to take this into account does not excuse the	The Applicant's analysis considers the annual position in the assumed year 1 of operation of the facility and also considers the offset emissions from a CCGT generation plant. This is considered to be the most likely offset plant, as it seems dubious that	<p>While the Applicant states that "<i>it seems dubious that an EfW plant would substitute for a renewable source of energy generation</i>", UKWIN has provided un rebutted evidence of UK Government guidelines and experts that support the approach proposed by UKWIN, which is to take into account how the electricity supply is expected to continue to decarbonise going forwards.</p> <p>However, even if the Boston plant were not to displace renewables there remains an alternative prospect previously set out by UKWIN which has not been addressed by the Applicant, namely that the Boston plant could displace 'low carbon' nuclear capacity.</p>

No.	UKWIN's Initial Comment	Applicant's Comments	UKWIN response
	<p>shortcomings in the applicant's main analysis or their sensitivity analysis...</p> <p>...As noted on page 56 of UKWIN's Good Practice Guidance: "...adopting CCGT as the counterfactual for new incinerators should be considered unacceptable because this is likely to significantly overstate the carbon intensity of the energy that would be displaced by new waste incineration capacity."</p> <p>Moving to a different focus for sensitivity analysis, as requested by UKWIN but not provided by the Applicant, the impact of accounting for the additional benefit of biogenic carbon sequestration in landfill can be estimated based on the Applicant's assumed level of decomposition.</p> <p>As noted previously by UKWIN (including within the summary document REP7-036), the actual level of decomposition is expected to be lower for an RDF waste stream than has been assumed by the</p>	<p>an EfW plant would substitute for a renewable source of energy generation, such as, for example, an offshore wind farm...</p> <p>...the Applicant stands by its original and updated GHG analyses, adopting the CCGT-generated electricity GHG intensity factor as the baseline comparator...</p>	<p>As set out in REP1-068 submitted by UKWIN in October 2021, the Head of the Centre for Energy and the Environment at the University of Exeter countered a very similar 'comparative technology' point in October 2020 when they advised in their assessment that: <i>"CCGTs are flexible generators which can respond to peaks in demand and short term market price signals; electricity production can be ramped up and down in minutes to make way for low carbon alternatives such as offshore wind as it becomes available to the grid. In contrast the Assessment states that the Northacre [incineration] plant is designed to run at capacity for 7,884 hours per year, or 90% of the time. This operating characteristic makes the plant more appropriate for meeting baseload demand, much of which is currently met by nuclear power stations which have very low emissions factors. The 'comparative technology' argument should therefore lead to adopting emissions factors for nuclear power stations rather than [for] CCGT..."</i></p> <p>As also noted in REP1-068, a similar point about nuclear was made by Ark Environmental in June 2021, where they noted how: <i>"Looking at individual plants rather than the whole market also shows that EFW is not comparable with CCGT, as it is providing a higher load factor than any other type of generation other than nuclear.</i></p> <p><i>The high load factors of EFW plants can be explained because they can generate electricity cheaper than any other electricity source. This is because EFW unlike any other electricity source gets paid for their fuel (through gate fees, approximately 75% of an EFW plant's revenue according to Credit Suisse), so, electricity generation is simply a nice addition to their core income stream...It therefore seems unlikely that the applicant's statement that CCGT is an appropriate comparator is reasonable today, let alone in the future.</i></p> <p><i>If the applicant would like to be compared to CCGT, they should reduce the forecast load factors for electricity generation to those comparable to CCGT.</i></p> <p><i>In summary, EFW plants are bidding against the whole electricity balancing market (and normally winning, hence the high load factors for EFW plants) and therefore the marginal grid displacement factor would seem to be a more appropriate measure of carbon intensity than that claimed by the applicant in their application".</i></p>

No.	UKWIN's Initial Comment	Applicant's Comments	UKWIN response
	<p>Applicant, so in reality the impact would be greater than estimated below...</p>		<p>In conclusion, while UKWIN has provided abundant evidence that using the BEIS marginal grid displacement factor in line with BEIS guidelines is an appropriate approach, the Applicant's alternative insistence that the displacement factor should be based on a 'comparative technology' does not actually help their case, not least because it has been shown that CCGT is not itself a comparative technology.</p> <p>As set out by UKWIN in REP1-068 and summarised above, the most similar technology to incineration in terms of load factors (i.e. the amount of time that electricity is being exported) is currently nuclear rather than CCGT. Given that the Applicant has assessed their plant against CCGT rather than nuclear their latest argument hardly helps their case.</p> <p>Having been given ample time to provide a substantive response to UKWIN's critique of the Applicant's adoption of CCGT as an electricity generation counterfactual and challenge UKWIN's suggestion to use the BEIS marginal emissions factors instead, it should not be lost on those assessing this application that the Applicant has elected to wait until the end of the process to make an evidence-light 'comparative technology' argument which had already been rebutted in October 2021, more than five months ago.</p>