

CARBON CALCULATION UPDATE

On behalf of Britaniacrest Recycling Limited

In relation to an appeal against the decision of West Sussex County Council to refuse planning permission for a proposed Recycling, Recovery and Renewable Energy Facility and Ancillary Infrastructure at Wealden Brickworks, Horsham

Planning Appeal Ref: APP/P3800/W/18/3218965

Application No: WSCC/015/18/NH

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Carbon Calculation Update
1.0
9 August 2019

Quality Management

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1 INTRODUCTION

Revised Carbon Calculation

- 1.1 The Environmental Statement (ES) that accompanied the 2018 planning application attached the Carbon Assessment prepared to accompany the 2016 application at Appendix 2.3, which was also summarised in Section 2.20 of Chapter 2 of the ES. The results were presented in Table 3 of the Carbon Assessment. There was an error in the units adopted for emissions from transport in Table 3, which were in kgCO₂ not tCO₂ equivalent per annum and were therefore overstated. In addition since that time there has been a progressive reduction in the carbon intensity of electricity generation and it is now also less relevant to compare carbon emissions from waste treatment with landfill than it was in the past. It is also difficult to calculate landfill emissions associated with methane leakage accurately, as these are dependent on waste composition and landfill gas capture rates, which can only be estimated.
- 1.2 An update to Table 3 of the Carbon Assessment is provided below, which firstly corrects the transport emission factor and then updates the displaced electricity generation factor. The displaced electricity generation factor is changing as electricity generation is being progressively decarbonised so this comparison is of more limited relevance for future years.
- 1.3 It should be noted that there are no established and reliable alternative methods of treating residual waste to recover energy, other than that proposed, and the amount of carbon in waste is a function of waste composition. Based on the currently best available technology, the CO₂ emissions from waste to energy facilities are unavoidable as carbon capture technology is not considered economic at this (small) scale. The best comparator for the treatment of residual waste of the type proposed is therefore treatment of the same waste in another energy from waste facility, which is able to operate at the same theoretical efficiency.
- 1.4 No other changes have been made to the calculations.
- 1.5 The conclusion reached at section 2.20.6 of the ES: *'In summary, the proposed facility is anticipated to have a significant positive effect in terms of greenhouse gas emissions within West Sussex compared to the existing commercial and industrial waste management arrangements'* is not altered by the update to this calculation.

Table 3a: Summary of estimated emissions (tCO₂e per annum) - update to transport emission factor

Emissions Source	Proposed Facility Electricity only	Proposed Facility with CHP
Process	+50,955	+50,955
Transport	-110	-110
Avoided CO ₂		
<i>Displaced Electricity Generation¹</i>	-69,224	-42,521
<i>Displaced Heat Generation</i>	0	-94,791
<i>Materials Recovery</i>	-37,684	-37,684
<i>Landfill Diversion</i>	-76,505	-76,505
Total	-132,568	-200,656

Table 3b: Summary of estimated emissions (tCO₂e per annum) - update to transport emission factor and electricity generation factor

Emissions Source	Proposed Facility Electricity only	Proposed Facility with CHP
Process	+50,955	+50,955
Transport	-110	-110
Avoided CO ₂		
<i>Displaced Electricity Generation²</i>	-42,940	-26,376
<i>Displaced Heat Generation</i>	0	-94,791
<i>Materials Recovery</i>	-37,684	-37,684
<i>Landfill Diversion</i>	-76,505	-76,505
Total	-106,284	-184,511

¹ Using GHG factor of 0.41205 kgCO₂e/kWh from Greenhouse Gas Reporting – Conversion Factors 2016² Using GHG factor of 0.2556 kgCO₂e/kWh from Greenhouse Gas Reporting – Conversion Factors 2019