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The Planning Inspectorate

COMMENTS ON CASE (Online Version)

Please note that comments about this case need to be made within the timetable. This can be found in the notification letter sent by the local planning authority or the start date letter. Comments submitted after the deadline may be considered invalid and returned to sender.

Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR ALAN PETTITT
Address	72 Broomfield Drive BILLINGSHURST RH14 9TW

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence
- ☐ Other

YOUR COMMENTS ON THE CASE

I object to this application. The location is totally inappropriate being set in the middle of a heavily populated region with new houses being added directly adjacent to the new site. The facility will add to levels of pollution in the district which are already at a dangerous level from the excessive and congested traffic. Air pollution is one of the largest contributors to premature deaths already. The site is also likely to produce pollution products which may be directly toxic or carcinogenic; claims that these facilities are safe are unsubstantiated; as with any major industry, there is a non-zero risk that such substances will released into the environment and there will be no way of protecting from such eventualities.

The site will also be importing waste products from London and surrounding areas. I find it unacceptable that we should be treated as the trash dump for others. It will also mean large numbers of heavy vehicle movements carrying waste into the area. Previous experience has shown that these vehicles frequently spill significant waste en route as well as damaging road surfaces and adding to congestion in rural areas, which itself adds to pollution levels, especially from diesel exhausts.

Jane Moseley

From: Neil Pitcairn [redacted]
Sent: 04 March 2019 21:10
To: helen.skinner@pins.gsi.gov.uk
Subject: Appeal Ref: APP/P3800/W/18/3218965
Attachments: NP Submission 4 March 2019 Horsham incinerator.docx; NP objection to Horsham incinerator May 2018.docx; NP additional comments 16 June 2018.doc; UKWIN April 2018 Objection WSCC-015-18-NH.pdf; UKWIN Climate Change Impact Report - Release Candidate.pdf

Dear Ms Skinner,

Please find attached my Interested Party submission in connection with the above Appeal, together with three supporting documents.

I hope these will all open in a readable form, but if any become unreadable because of formatting problems, please do let me know and I will try to resend with corrected formatting, or as simple emails.

Yours sincerely,

Neil Pitcairn
Bindura, The Avenue, South Nutfield, Redhill, Surrey RH1 5RY
Tel 07516 043622

From: Neil Pitcairn
Bindura, The Avenue, South Nutfield, Redhill, Surrey RH1 5RY
Email: [redacted]
Tel. [redacted]

To: Helen Skinner, The Planning Inspectorate,
Room 3/J Temple Quay House, 2 The Square, Bristol BS1 6PN
Email: helen.skinner@pins.gsi.gov.uk

Date: 4 March 2019

Re: Interested Party Submission

Appeal Ref: APP/P3800/W/18/3218965
Applicant: Britaniacrest Recycling Ltd
Location: Former Wealden Brickworks (Site HB), Langhurstwood Road, Horsham, West Sussex, RH12 4QD
Proposal: Recycling, Recovery and Renewable Energy Facility and Ancillary Infrastructure

I should like this Interested Party Submission to be considered alongside my previous objection to the Application, dated 3 May 2018, with additional comments dated 16 June 2018, all of which I attach to this emailed submission. I should also like to associate myself with, and draw evidence from, UKWIN's objection to the original Application, dated April 2018, also attached, and with further submissions to yourself by UKWIN at the present time.

I consider myself to be an Interested Party as someone living within the catchment area served by the Applicant, as one of the directors of UKWIN, and as someone who is concerned by the potential harmful climate change impacts of the Application.

I offer the following comments:

West Sussex Waste Local Plan April 2014: Policy W1: Need for Waste Management Facilities

I note that at Para. 6.2.8 in the Waste Local Plan it is stated:

There will be no requirement for applicants to demonstrate a quantitative or market need for a proposal on a site allocated in Policy W10; this is because they have been allocated to meet identified shortfalls in waste management capacity to deliver the objective of net self-sufficiency (see Section 2.10).

I note also in the Plan's Executive Summary for Chapter 2 on Page 1 the following:

It should be noted that private sector businesses (and, therefore, commercial considerations) will determine whether facilities will actually be built and what types of technology will be used.

I do not take these statements to mean that an Applicant can propose any and every type of technology regardless of other policies in the Plan, nor that any application must necessarily take up the full capacity of a site allocated in Policy W10 when a more gradual and flexible approach to capacity fits better with other Policies in the Plan.

West Sussex Waste Local Plan April 2014: Policy W12: High Quality Developments

The purpose of Policy W12 is to implement, amongst others, Strategic Objective 14, which reads: *To minimise carbon emissions and to adapt to, and to mitigate the potential adverse impacts of, climate change.*

Britaniacrest's proposed incinerator conflicts directly with Policy W12. According to Paragraph 8.3.4 of the Waste Local Plan "poor quality development which does not accord with Policy W12 should not be permitted."

My own and UKWIN's previous objections of April, May and June 2018 provided unambiguous evidence that the proposed incinerator will increase carbon emissions. To the best of my knowledge the applicant has still failed to provide evidence to the contrary.

UKWIN has previously suggested that any planning consent should include R1 status certification as a condition at the design stage, in order to distinguish the incinerator as a recovery operation rather than simply disposal. However, R1 status is not in fact a very high bar to pass over and does not automatically indicate that the incinerator is a low carbon recovery operation. In other words R1 status should not be taken to mean that the development meets the requirements of Policy W12.

In my objection of 3 May 2018 I explained how the carbon intensity per kWh of electricity generated by the proposed incinerator would exceed by a significant margin the carbon intensity desired by the UK government for new capacity being added to the National Grid, and how this would undermine UK government policy to decarbonise the National Grid totally by 2050. Every year that passes between now and 2050, that margin will increase; damage to national policy and mitigation costs would rise incrementally year on year if the incinerator is built and connected to the Grid. As a generator of electricity the incinerator would therefore be redundant from Day One, except as a source of high carbon electricity.

Although CO2 emissions from waste incinerators are not yet required to be part of any Emissions Trading Scheme and are not currently subject to any regime requiring them to be progressively reduced, it is possible to estimate the cost to society of those CO2 emissions using UK government figures. This is explained in more detail in UKWIN's publication "Evaluation of the climate change impacts of waste incineration in the United Kingdom", published October 2018 and attached to this submission email.

In the case of Britaniacrest's proposed incinerator, with annual throughput of 180,000 tonnes of waste per annum, and assuming that each tonne of waste generates 0.458 tonnes of fossil derived CO2 in line with national averages, we can estimate 82,440 tonnes per annum of fossil derived CO2 being emitted. Using the central non-traded carbon price issued by the Department for Business, Energy & Industrial Strategy, it is possible to calculate the annual cost to society of the incinerator's CO2 emissions at £ 5,799,654.00 in 2022 (£70.35 x 82,440 tpa), rising incrementally to £18,101,350.00 in 2049 (£219.57 x 82,440 tpa). These costs may or may not be a material consideration for the planning inquiry; they do however give some indication of how the UK government views the burden imposed by CO2 emissions and I suggest the Planning Inspectorate should give due consideration to them.

The applicant has failed to explain why such a facility with high CO2 emissions should be developed when alternatives are available which would be better suited to the stated waste stream content and which would generate lower CO2 emissions. These alternatives are also generally cheaper, more flexible and involve less long-term lock-in. The West Sussex Waste Local Plan April 2014 allows some flexibility, by for instance permitting exports to continue to make best use of

existing waste infrastructure (Paragraph 4.6.11). Although zero waste to landfill by 2031 is the stated policy, this also has some flexibility allowing 3% of waste to be landfilled. Given that it seems plastics will generate fewer CO2 emissions if landfilled rather than incinerated, it would be sensible to keep that flexibility in mind.

At paragraph 8.3.9 of the Waste Local Plan, the following is written: "proposals for facilities such as thermal treatment plants and for anaerobic digestion that come forward, should do so as part of an integrated approach to the generation and distribution of heat and power, for example, district heating schemes."

The applicant has failed to provide any evidence of an integrated approach which could involve the capture and beneficial use of surplus heat; and in a document accompanying the application doubt was expressed as to whether such use could ever be achieved.

Therefore in line with Paragraph 8.3.4 and Policy W12, the incinerator is a "poor quality development" which should not be permitted.

Paragraph 8.3.6 reads: "New development should also protect and, where possible, reinforce the character of the surrounding area (see Policy W11). It should work with rather than against the characteristics of the site and of the surrounding area. It should protect existing views and create new views, and use materials and building styles which are appropriate in the local context."

Whereas the existing site is set back from the road and thus somewhat screened, an incinerator with its tall emissions stack would be much more visible and could not be construed to "reinforce the character of the surrounding area". I question therefore whether this would be high quality development meeting the requirements of Policy W12.

West Sussex Waste Local Plan April 2014: Policy W19: Public Health & Amenity

While I note that no objections to the original planning application were made by Public Health England and the Health & Safety Executive, I suggest that a cautious approach is still reasonable.

For instance it is possible to calculate very approximately the probable NOx emissions from the Britaniacrest incinerator by comparing its waste tonnage with others in the UK and using the data from those UK incinerators which reported Nox emissions. This method was used by UKWIN in July 2018 with an emissions factor created with an Environment Agency advised method. It is likely NOx emissions for a waste tonnage of 180,000 tonnes per annum will be in the region of 200 tonnes per annum. Per HM Treasury's Green Book, the annual cost to society would be £9,049.00 per tonne, thus for the Britaniacrest incinerator something in the region of £1,809,800.00 .

Such emissions may fall within the permitted levels but the fact that the UK government perceives there to be a cost to society is worthy of note, especially if there is an opportunity to mitigate that cost by not building an incinerator on the site.

In a Memorandum available at https://publications.parliament.uk/pa/cm199900/cmselect/cmenvtra/903/903m50.htm, Alan Watson of Public Interest Consultants reports on the impact of NOx emissions from incinerators, specifically on the work done by COMEAP as published by the then DETR in June 1999. Though now somewhat dated, this extract from the Memorandum may have value:

" The DETR published, in June 1999, the "Regulatory and Environmental Impact

Assessment of the Proposed Waste Incineration Directive". In the REIA the work on health effects of air pollutants by the Committee on Medical Effects of Air Pollution (COMEAP) was developed into impacts related to mass release rates of oxides of nitrogen (NOx), oxides of sulphur (SOx) and fine particulates (PM10) in order to quantify the benefits of the proposed Directive. By far the most significant impact was for NOx (0.02 deaths not brought forward and 0.04 respiratory emissions not brought forward or avoided per tonne of NOx emission).

The DETR assessment looked only at the marginal change and did not quantify the residual impact of the operating incinerators. Whilst not reviewed in the report the impacts of increasing emissions (ie introducing new plant) would be of the same quantum as the reductions but they would obviously increase rather than reduce the deaths/hospitalisations brought forward. As the main impact is through secondary ozone production it is not strongly related to ambient concentrations around any particular incinerator.

The REIA data thus shows that each tonne of emissions from incinerators would have the following impacts:

Pollutant	*Quantified Impacts Number of deaths brought forwardNumber of respirators hospital admissions caused or brought forward*	
Ozone (from NO2)	0.02/t	0.04/t
SO2	0.005/t	0.006/t
Particulates	0.002/t	0.003/t

A simple calculation would show that for each 1,000,000 tonnes of waste burned at the proposed Waste Incineration Directive standards of 200 mg/m3 the total authorised[13] NOx emissions would be approximately:

1,000,000 tonnes x 5,200 m3/flue gas/tonne x 200 mg/m3 flue gas = 1,040 tonnes NOx.

Meaning that burning 1,000,000 tonnes of waste would:

— Bring forward 0.02 x 1,040 = 20.8 deaths/year.

— Bring forward or cause 0.04 x 1,040 = 41.6 hospitalisations/year.

This would represent more than 500 deaths amongst some of the most vulnerable people in society brought forward over the operating life of the incineration plant. A national strategy which envisages, at least in some scenarios, that many millions tonnes of waste would be incinerated should therefore be evaluated not only on the increased external environmental costs but also in the number of lives that would be taken.

If the data in this Memorandum are correct, there could over time be an appreciable impact on public health, albeit indirect because of secondary ozone creation over a wider area rather than direct impacts from NOx in the immediate vicinity of the incinerator.

I should like it also to be noted that recently built incinerators at Runcorn in Cheshire and Plymouth in Devon have been the subject of complaints from local residents concerning odours, noise and light. I do not have to hand an evidence base for these but if more information becomes available

between now the inquiry date I will seek to make it available to the inquiry. It is enough perhaps at this stage to mention there is a risk of breaching Policy W19.

I offer these comments to the Planning Inspectorate in the hope they will be useful, and will of course be happy to provide supplementary information if asked and if I am able to do so.

Neil Pitcairn
4 March 2019

From Neil Pitcairn, Bindura, The Avenue, South Nutfield, Surrey RH1 5RY
[redacted]

16 June 2018

Planning application WSCC/015/18/NH : Former Wealden Brickworks
Additional comments

1. Britaniacrest's "Britania Bulletin" dated January 2018, submitted as part of the documentation supporting the above application, includes claims relating to a reduction of NO2 pollution if the incinerator is built and operated. These claims also appear in the mobile exhibition panels used for public consultation. These claims are unsupported by any evidence in the application documents. In fact examination of the application documents suggests the exact opposite: that there will be a significant increase in NO2 pollution.

2. In the applicant's Carbon Assessment (Volume 3 Appendix 2.3 Para 9.6) the applicant claims vehicle kilometres will be reduced by 157,140km per year. Although the applicant has advanced no evidence for NO2 reductions, we can give the applicant the benefit of applying this reduction of HGV movements to total NO2 emissions. Assuming that Britaniacrest intend to operate HGVs fitted with NO2 abatement conforming to Euro X1 standard, as they should, NO2 emissions are limited to 0.4g per Kwh. Website https://www.rix.co.uk/blog/2016/7/adblue-what-diesel-vehicle-owners-need-to-know/ suggests that this equates to approximately 0.4g per km. Though there may be some margin of error, this seems a reasonable figure to work from. Applying the figure of 0.4g per km to the figure of 157,140 km provides a saving in NO2 emissions of 62,856 grams, or approximately 63 kgs.

3. Let us now look at the NO2 emissions which will be emitted by Britaniacrest's proposed incinerator, using their own figures.

4. In the applicant's Air Quality and Odour Assessment (Volume 1 Chapter 7, Table 7.8 Mass Emissions), NOx emissions are forecast to be 9.7 grams per second, equivalent to 34.92 kgs per hour. The applicant suggests the incinerator will be operational 8760 hours per year, providing total NOx emissions of around 305 tonnes per year. Applying the applicant's suggestion that 70% of the NOx will be converted to NO2 (Para 7.3.37) as it descends to ground level, we can assume that roughly 213 tonnes of NO2 will be added to current ambient levels.

5. These emissions do seem to fit within the limits set by the Environment Agency (the daily mean emission limit of 200g per cubic metre of stack emissions). Applying that limit figure to the predicted volumetric flow from the stack (Table 7.7) provides a limit level of 47.80kgs per hour of NOx emissions.

6. However, the fact that the NO2 emissions are within permitted levels does not mean that they are necessary or justified. It has been shown in other objections to this application that, when the applicant's calculations are corrected, the CO2 impacts of the proposed incinerator will be worse than current practice. In my own previous objection it has been shown that electricity generated and exported by the incinerator will not conform to the benchmark for new generating capacity and will undermine government policy to decarbonise the electricity grid. From an energy generation standpoint there is therefore no need for the incinerator, and indeed the application contravenes Policy 24 of the Horsham District Planning Framework. The incinerator will have no

value as a waste recovery system.

7. As a waste disposal option, the applicant has also failed to demontrate need. While there will be for some considerable time ahead waste incinerators in the UK and mainland Europe with CHP systems attached and a proven shortage of feedstock, it is unjustifiable to build and operate an inefficient incinerator (with no guarantee of heat use) in a location where additional NO2 emissions may negatively affect the environment; especially given the applicant has demonstrated no intention to improve the sorting of incoming waste to drive up recycling and drive down residual waste levels. The applicant has failed to provide any analysis comparing the relative CO2 impacts of processing and exporting RDF to CHP incinerators in mainland Europe with this application. It is the planning authority's responsibility to take a view on the need and relative climate change impact of such planning applications.

8. To summarise: the applicant appears to have sought to mislead the public and the council by suggesting a nett reduction in NO2 emissions, when in fact the incinerator will generate a very significant increase in NO2 levels without any justification.

From: Neil Pitcairn

Bindura, The Avenue, South Nutfield, Surrey RH1 5RY

[redacted]

Tel. 07516 043622

To: West Sussex County Council Planning Dept.

planning.applications@westsussex.gov.uk

Date: 3 May 2018

re: **Planning application WSCC/015/18/NH : Former Wealden Brickworks**

Objection and comments

1.1 I am resident within the catchment area served by Britaniacrest Recycling Ltd, and consider myself to be

potentially affected by the operations proposed at the site.

1.2 I am also a director of UKWIN (United Kingdom Without Incineration Network) whose National Coordinator

Shlomo Dowen has submitted a separate 15 page objection by email. I wish to support Mr Dowen's

submission and add some complementary comments.

2.0 Carbon Assessment (Volume 3, Appendix 2.3)

2.1 I believe it is useful to compare an estimate of net CO2 emissions per kWh for the proposed incinerator

with UK targets for new electricity generating capacity being attached to the national grid. This will establish

whether electricity supplied by the incinerator will have any real value.

2.2 UKWIN quotes the Environment Agency as saying ″Between 0.7 and 1.7 tonnes of CO2 is generated per tonne

of MSW [Municipal Solid Waste] combusted″. This broad range depends on the carbon content of the waste

being burnt, and the applicant has given no indication of the expected carbon content of the waste to be burnt

at Warnham. However, usefully, Cory Brothers provided a figure in 2017 for their quite recently built

Riverside incinerator at Belvedere in SE London; that figure was 27% carbon content, and for the sake of

this submission I will use that as a reasonable example.

2.3 The desired throughput at Warnham is 180,000 tonnes per annum. 27% of that figure amounts to 48,600

tonnes of carbon. When waste is incinerated the carbon (C) in the waste is combined with oxygen (O) to make

carbon dioxide (CO2) which is then released into the atmosphere. As we know the differences in mass between

carbon (12g/mol) and carbon dioxide (42g/mol) we can calculate how much CO2 will be released. By writing

the calculation 48,600 x 42/12, we arrive at 170,100 tonnes of CO2 per annum, which is remarkably close to

the Environment Agency's upper estimate.

2.4 The applicant estimates that 18MW of electricity will be available to be exported, and I will be generous and

assume that it could be exported 365 days per year, 24 hours per day, in other words 8760 hours per annum.

18MW x 8760 gives us 157,680 MW hours per annum.

2.5 Dividing the tonnes of CO2 per annum by the MW hours per annum will indicate the amount of

CO2 per

kWh; thus 170,100 / 157,680 = 1.078; which can be interpreted as 1,078 grammes per kWh.

2.6 To abide by current conventions, the non-fossil proportion of the waste can be regarded as carbon neutral.

The applicant has indicated that 44.75% is "putrescibles", 9.77% is paper, and 4.19% is cardboard, giving

an estimated total 58.71% non-fossil content. Using these proportions I calculate as follows:

1,078 g x 58.71% = 632 grammes of non-fossil carbon per kWh.

1,078 g x 41,29% = 446 grammes of fossil carbon per kWh.

2.7 Unfortunately for the applicant, 446 grammes is way above the UK government's desired level of carbon

intensity for new electricity generating capacity. Now that coal is being phased out (and in recent weeks

it has been reported that no coal at all has been used to generate electricity in the UK), the benchmark for

the maximum desired carbon intensity is combined cycle gas turbine. In 2018 the benchmark figure is

280 grammes per kWh, reducing to 270 grammes in 2020, and progressively thereafter. The projected

grid average for grid generation in 2030 is 104 grammes per kWh (Updated Energy & Emissions Projections

2017, published by BEIS January 2018, Page 35, figure 5.2).

2.8 I have to suggest therefore the applicant's proposal to connect the incinerator to the national grid has no

value whatsoever. Indeed it could undermine national government policy to decarbonise the electricity

supply and could risk supplanting genuinely lower carbon generating capacity.

3.0 Use of CHP (combined heat and power)

3.1 The applicant has no ready client for waste heat from the incinerator and admits that the incinerator may have to operate in electricity-only mode for years. Experience elsewhere in the UK shows that building district heating infrastructure is expensive and usually requires investment from other parties such as local authorities. It does not remove the need for additional local heating systems to provide for times when the main system is down. Hence very few district heating systems have been attached to incinerators in the UK, and where they are, they do not necessarily work at full efficiency, ie 365 days per year, due to warm weather in the UK summer.

3.2 The use of heat from an incinerator does improve its overall efficiency, but drawing heat from the system does diminish the efficiency with which electricity is generated, as the applicant acknowledges. A report produced by Eunomia for Friends of the Earth in 2006 includes an estimate that total direct biogenic and fossil CO2 emissions are 1,645g CO2e/KWh for electricity-only incinerators and 1,086g CO2e/KWh for CHP incinerators.

3.3 At page 9 of the Carbon Assessment (Vol.3 Appendix 2.3) the applicant writes: “In the CHP scenario, potential heat demand an overall emissions factor of 0.22963 kgCO2e/kWh heat displaced is used, taken from the boiler displaced data stated in 2016 Government GHG Conversion Factors for Company Reporting (September 2016).” I would suggest the applicant is asked to describe in more detail the carbon intensity of heat generated and used, and how this will fit with emerging government policy for CHP efficiency ten and fifteen

years hence.

4.0 Need and Alternatives Considered

4.1 Given that electricity generated by the incinerator would have no value in the national context, as explained above, and could even delay decarbonisation of the national grid, the alternative reasons for proposing an incinerator at Warnham acquire more importance, including in this context the match of feedstock to the method of treatment.

4.2 The only breakdown of the proposed feedstock in the application documents appears in the Carbon Assessment (Volume 3, Appendix 2.3) at Page 7 Table 1. Given that Britaniacrest is a C&I waste collection and sorting company of many years standing, the lack of detail in the feedstock list is surprising and disappointing. The applicant seems to have done little preparation, having provided no assessment of calorific values, carbon content, nor of the single biggest item in the list: “putrescibles”. What exactly are these putrescibles? Garden waste? Food waste? Waste wood from DIY and construction projects? Britaniacrest has been ideally positioned to obtain and present this information, and yet has not bothered to do so.

4.3 If “putrescibles” are really garden waste and food waste as most of us would assume, then incineration is hardly the most appropriate treatment option given the generally low calorific value and the need sometimes to dry such waste before incineration. Windrow composting and anaerobic digestion are respectively the most

appropriate treatments, and the best performing in CO2 performance.

4.4 In Volume 3 Appendix 3.1, Alternative Technology Assessment, at paragraph 3.4.3, the applicant dismisses

the use of anaerobic digestion on the grounds that the content in the waste stream of suitable waste will be

too small to make it effective. This suggests that a more detailed assessment of the waste stream has been

compiled but has not been made available as part of this application. This is not helpful to consultees or

planning officers, and should be rectified as soon as possible to enable full consultation and an informed

decision.

4.5 We therefore have to guess that the biggest item in the waste stream, perhaps as much as 40%, is garden waste

and/or waste wood, all of which if not contaminated with hazardous chemicals are suitable for composting.

At paragraph 3.4.1 of Volume 3 Appendix 3.1, Alternative Technology Assessment, the applicant states that

“Composting is not considered to be an appropriate technology for the applicant site.” No reasons are given

for this statement, even though composting is clearly the most appropriate treatment. Is it the size or location

of the site? Is it that the applicant cannot be bothered to find a more appropriate site, or reroute these materials

to another site and waste operator with the right skill set for composting. Is the applicant unwilling to develop

on site the required skills for composting? The applicant should be asked to provide a fuller explanation.

4.6 Given that the other materials in the feedstock list are all generally recyclable provided they are separately

collected and presented for treatment, it is hard to avoid the impression that Britaniacrest are making little

or no effort to move collected materials up the waste hierarchy, and are adopting a passive, unimaginative and

retrogressive approach, merely accepting mixed and contaminated waste streams without attempting

improvement. This hands-off approach is confirmed by the statement at paragraph 3.3.6 of Volume 1 Chapter 3

Need and Alternatives Considered which reads: "Furthermore, since the facility would be the receiver of the

wastes and would not be engaged directly with the waste producer, nor with the method of collection of the

wastes, alternative options for the collection methodologies and logistics were not considered."

4.7 At a time when national government and local authorities are all wishing to drive up reuse, recycling and

composting, when national recycling targets are likely to rise and match or exceed EU targets, such a passive

approach by a waste operator is disappointing and is unlikely to help us move towards a more circular

economy. No environmental NGOs regard incineration as playing any part in a circular economy despite

attempts by some waste operators to persuade to the contrary.

4.8 Commercial & Industrial (C&I) waste, which is Britaniacrest's speciality along with C&D waste, is generally

regarded as easier to recycle than municipal waste, being usually more homogeneous, predictable, and regular,

and often separated by the client at point of collection. Britaniacrest is therefore in a better position than

municipal waste collectors to find long term markets for clean recyclates. It is also in a better position to

improve the source separation of what is delivered to its site. If the applicant wished to encourage

better source

separation by its own clients or by intermediary waste collectors, it could try imposing stricter terms of business

or introducing incentives. Such moves are within its power. Before approving the building of an incinerator

(which is essentially an admission of failure), I would expect planners to ask what alternative business models

the applicant has considered or trialed to drive up the quality and volume of source separated recyclates, and

what initiatives the applicant is planning to encourage and facilitate reuse and local circular economy solutions.

4.9 If Britaniacrest fail to engage with circular economy initiatives, actively working to promote reuse and

facilitating much higher rates of recycling, they have to be regarded as part of the problem and not part of

the solution.

4.10 At paragraph 3.2.3 and 3.2.4, Volume 1 Chapter 3, Need and Alternatives Considered, the applicant argues

that there is a looming capacity gap in UK residual waste treatment, using reports by BIFFA, Suez and the ESA.

This is still disputed, and a response to the ESA was made by consultants Eunomia. I attach a briefing note

prepared by UKWIN in November 2017 for the London Assembly which includes detail of the response by

Eunomia. UKWIN and Eunomia continue to believe that there is sufficient waste disposal capacity in the UK

and that there is risk of a surfeit. This has already been apparent in the north of England where Veolia has

struggled to find enough waste to feed its incinerator-driven district heating system in Sheffield and has been

forced to get permission to import waste from a wider catchment area. In Hampshire Project

Integra was rolled

out as the first integrated waste collection, recycling and disposal scheme in England, with three incinerators

built at Basingstoke, Portsmouth and Southampton. It was not long however before Hampshire recycling

rates began to flatline and lag behind other parts of the UK. This experience has been replicated in Denmark

where government policy is now to roll back incineration capacity to allow recycling rates to rise. Where

there is surplus capacity operators are minded to offer discounted gate fees to attract new customers and this

can negatively impact investment in reuse and recycling.

4.11 I have noted that Britaniacrest hold a 5 year contract to ship RDF produced by BIFFA to incinerators in

mainland Europe from the Warnham site.

4.11 At paragraph 3.2.7, Volume 1 Chapter 3, Need and Alternatives Considered, the applicant suggests that:

"If constructed, and subject to public procurement regulations, the proposed 3Rs Facility would provide a

potential treatment point for the RDF, significantly reducing the carbon footprint compared to the current export

arrangements and maintaining the resource within the UK economy."

4.12 The applicant provides no evidence to support the suggestion that the carbon footprint would be reduced, and it

should therefore be disregarded. There are several CHP schemes in mainland Europe which depend on exports of RDF from the UK to keep the district heating systems in operation - the result of incinerator over-capacity in

northern Europe. Typically these are CHP systems built in a planned and integrated way, and very probably

more efficient than ad hoc CHP systems added as afterthoughts in the UK. Until the applicant can provide

detailed life-cycle and carbon footprint analyses of the particular CHP destinations to which the RDF is now being shipped, and compare these with an incinerator operating very probably in electricity-only mode at

Warnham, there is no justification in considering this suggestion. Although environmental NGOs in mainland

Europe regard these incineration based CHP systems as contributing to climate change through their CO2

emissions and wish them to be phased out over time, it is arguably better in the short to medium term to ship

RDF from the UK to these plants rather than burn it in less efficient plants in the UK, or worse still open new

incinerators to burn it.

4.13 The applicant argues that the RDF is a resource which should be maintained within the UK economy. However

burning the RDF in a UK incinerator only contributes to the UK economy if helps decarbonise the UK's

electricity generating capacity in line with government targets; it otherwise incurs a calculable carbon cost. As

I have demonstrated at 2.7 above, there is little chance of it being an asset rather than a cost.

4.14 The applicant also suggests that a new incinerator may contribute to the UK's energy security. This security

is dependent on there being adequate feedstock. As indicated above, shortages of feedstock have been

occurring in the UK as in mainland Europe, and incinerators may only be able to secure feedstock by

offering discounted gate fees, putting at risk the financial viability of the enterprise. The energy security

argument should be disregarded.

4.15 We have all been made aware in the last year of the global plastic pollution crisis, and we are now aware of

government and industry responses to this. The UK government is acting to reduce the amount of single-use

hard-to-recycle plastic in circulation. The retail sector is under pressure and is committing in some places to

reduce or phase out single use plastic packaging. Bio-plastic manufacturers in Scandinavia are investing

heavily in new factories to produce compostable packaging suitable for food stuffs. Academic institutions

which have isolated enzymes capable of breaking down plastics to reusable molecules are now racing to

commercialise them and make them available for industrial use. Whereas a short while ago the fossil fuel

plastics industry was forecast to double in size, there is now speculation that it will shrink as demand slackens

and alternatives appear. Fossil fuel plastics are an important part of incinerator feedstock. Britaniacrest

cannot assume their long term availability. The applicant should therefore be asked to review the "Needs"

assessment taking into account UK and global trends over a 10 year perspective, or even 25 years as that

is the average life-span an incinerator requires to recoup the investment.

4.16 The applicant's Britania Bulletin (January 2018) indicates that up to 35 new jobs would be created if the

incinerator is built. Studies for WRAP and others usually indicate that more jobs are created and more

energy saved when materials are reused, recycled and composted.

5.0 I therefore request that the planning application be refused or that the applicant be required to provide

fuller information on the points I have raised.

UNITED KINGDOM WITHOUT INCINERATION NETWORK

Britaniacrest Recycling Ltd Application for Former Wealden Brickworks (Site HB), Langhurstwood Road, Horsham West Sussex RH12 4QD

Application Reference: WSCC/015/18/NH

UKWIN Objection and Request for R1 Planning Condition

"Recycling, Recovery and Renewable Energy Facility and Ancillary Infrastructure"

April 2018

Introduction

1. The United Kingdom Without Incineration Network (UKWIN) was founded in March 2007 to promote sustainable waste management. Since its inception, UKWIN has worked with more than 120 member groups.

2. As part of fulfilling our aims and objects, UKWIN works to help facilitate access to environmental information, public participation in environmental decision-making, and access to justice in environmental matters. Where relevant we also make representations to consultation exercises to help ensure that relevant matters are considered.

3. In addition to **objecting** to the proposal, this submission also asks that further information be requested of the applicant by the Waste Planning Authority (WPA) and that, if planning permission is granted, a Design Stage R1 Planning Condition is attached in line with the condition previously imposed by the Secretary of State.

Relevant Government Statements in Relation to Climate Change

4. Incineration is known to exacerbate climate change by releasing CO2 when waste is burned. According to the Environment Agency: *"Between 0.7 and 1.7 tonnes of CO2 is generated per tonne of MSW [Municipal Solid Waste] combusted"*.[1]

5. The importance of understanding the specific technology being proposed as well as the net carbon impacts of the proposed facility compared to alternatives and the importance of understanding the assumptions regarding feedstock volume and composition, and how these are expected to change over time, is underscored by the Government's 2011 Review of Waste Policy.

6. We note, for example, that Paragraph 209 of the 2011 Waste Review states that: "...*while energy from waste has the potential to deliver carbon and other environmental benefits over sending waste to landfill, energy recovery also produces some greenhouse gas emissions. It is important to consider the relative net carbon impact of these processes, and this will depend on the composition of feedstocks and technologies used*".

[1] According to page 5 of the Environment Agency's "Pollution inventory reporting – incineration activities guidance note Environmental Permitting (England and Wales) Regulations 2010 Regulation 60(1)", Version 4 December 2012 available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296988/LIT_7757_9e97eb.pdf "Between 0.7 and 1.7 tonnes of CO2 is generated per tonne of MSW [Municipal Solid Waste] combusted".

7. Similarly, Paragraph 230 of the 2011 Waste Review states: "*Waste infrastructure has a long lifetime and therefore changes in the composition and potential volumes of waste in the future cannot be ignored in the development and selection of technologies now*".

8. The adverse environmental implications of waste incineration include the exacerbation of climate change through the release of greenhouse gas (GHG) emissions.

9. For the facility proposed for Horsham, with its 180,000 tonne per annum capacity, this equates to between about 126,000 tonnes and nearly 306,000 tonnes of CO2 released for each year of operation, or potentially more than around **9 million tonnes of CO2** over the anticipated 30 year operational period.

10. This should weigh heavily against the proposal.

11. UKWIN notes the explanation in the Government's EfW Guide that: "*Fossil based residual wastes, e.g. plastics that cannot be recycled, do not decompose in the same way as biogenic material in landfill. For these waste streams conventional energy from waste will almost always deliver a negative carbon balance compared to landfill*…"[2]

12. The applicant appears to have compared the proposed incinerator with sending the waste directly to landfill, without first being bio-stabilised, e.g. via an appropriate Mechanical Biological Treatment (MBT) process.

13. Highlighting the relative impacts of incineration and of sending waste to MBT prior to landfill, DEFRA's Waste Economics Team noted that: "*MBT-landfill provides the best emissions performance in terms of the treatment/disposal of residual waste. It essentially involves landfilling somewhat stabilised wastes with some material recovery. The magnitude of the environmental impact depends on the extent to which the waste is stabilised*".[3]

14. Even when waste is sent directly to landfill (without appropriate pre-treatment), there are various factors that are sometimes overlooked in modelling exercises in terms of the carbon sequestration effects of landfilling waste.

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[2] DEFRA's "Energy from waste: A guide to the debate", February 2014 (revised edition), available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/284612/pb14130-energy-waste-201402.pdf

[3] DEFRA's " The Economics of Waste and Waste Policy", June 2011, available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69500/pb13548-economic-principles-wr110613.pdf

15. As noted in the Government's aforementioned EfW Guide: "…*considering the landfill route, all the fossil carbon stays in the ground and doesn't break down. The fossil carbon is sequestered, as is potentially up to half of the biogenic carbon depending on the exact conditions in the landfill"*.

16. The impacts of biogenic carbon releases being avoided, sequestered or delayed in landfill compared to being immediately released as the result of incineration is erroneously omitted from some assessments of relative net emissions, and these omissions improperly favour incineration in such assessments.

17. On 3rd August 2015 Planning Inspector Mel Middleton decided to dismiss an appeal for a circa 140,000 tonne per annum incinerator proposed for the Former Ravenhead Glass Warehouse and other land at Lock Street, St. Helens, Merseyside WA9 1HS (Appeal Ref: 2224529, 'the Lock Street decision'). One of the issues material to the refusal was the poor "*carbon credentials*" of the plant - this was deemed to conflict with relevant local and national policies.

18. Paragraph 30 of the Lock Street decision states: "*In certain circumstances generating electrical energy from waste can contribute to carbon emissions to a greater extent than depositing the same material as landfill. It is therefore not a simple exercise to demonstrate that an EfW will have a positive effect on overall carbon emissions...*" *(emphasis added)*

19. Paragraph 19 of the Government's EfW Guide clearly states that*: "…residual waste also contains wastes from 'fossil' sources (oil etc.) such as plastic. Therefore when energy is recovered from mixed residual waste it is considered to be only a partially renewable energy source"*. (emphasis in original)

20. In January 2018 Resource Minister Dr Thérèse Coffey, responding on behalf of the Department for Environment, Food and Rural Affairs (DEFRA) to a Parliamentary Question made clear that: *"A comparison of the CO_2 impact of waste going to energy from waste and landfill is included in the analysis of the 2014 report 'Energy recovery for residual waste: A carbon modelling based approach'. No formal analysis has been undertaken since this report was published"*.[4]

[4] https://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2018-01-22/124194/

Climate Change Impacts of the Proposal

21. It is noteworthy that the applicant has not followed the methodology set out in 'Energy recovery for residual waste: A carbon based modelling approach' and does not justify their choice to deviate from the central assumptions of the Government-based approach.

22. UKWIN notes Paragraph 2.20.1 of Volume 1 Chapter 2 of the applicant's Environmental Statement (ES) explains that: *"A greenhouse gas assessment of the proposed thermal treatment facility, based on an estimate of its operational carbon footprint has been undertaken and is included at Appendix 2.3"*. UKWIN also notes that the Appendix 2.3: Carbon Assessment is in fact a report that was *"prepared to accompany the 2016 application"*.

23. The analysis contained within Appendix 2.3 fails to adequately set out all of the assumptions and methodologies applied and all of the underlying data and associated justifications for using those assumptions and methodologies.

24. Furthermore, some of the statements made within Appendix 2.3 appear to be contradictory, confused, and/or simply out-of-date.

25. If some of the omissions in the assessment are corrected then it appears that the development would have a significant adverse GHG impact, and therefore either additional information should be sought from the applicant or the application should be determined on the basis that climate change benefits have not been demonstrated and significant adverse change impacts have not been ruled out.

26. In relation to errors, it appears that the applicant and their consultants made a simple 'unit of measurement error' that results in an overstatement of emissions avoided through reduced transport by a factor of one thousand, i.e. the applicant's figure of 110,315 kilograms per annum was erroneously treated as if it were 110,315 tonnes per annum.

27. At Paragraph 9.6 of the applicant's 2016 Carbon Assessment the applicant adopts a '0.70' conversion factor, stating: *"Therefore the impact of the 3R Facility is to reduce vehicle-Kilometers by 157,140 Km per year, and from the Department of Energy & Climate Change standard set of GHG conversion factors 2016 for all HGVs (diesel), the CO2 conversion factor is 0.702022 per Km".*

28. The unit of the 0.70 CO2 is not stated by the applicant, but if one goes back to the DECC source document it is noted to be 0.70 kilograms of CO2e per kilometre.

29. To quote the DECC spreadsheet: *"All conversion factors presented here are in units of 'kilograms of carbon dioxide equivalent of Y per X' (kg CO2e of Y per X), where Y is the gas emitted and X is the unit activity. CO2e is the universal unit of measurement to indicate the global warming potential (GWP) of GHGs, expressed in terms of the GWP of one unit of carbon dioxide".*

30. As per DECC's source spreadsheet, the standard set conversion factor cited is 0.70kgCO2e/km (equating to only 0.0007tCO2e/km), but the applicant appears to be working on the basis that the factor is expressed in tonnes (0.70tCO2e/km), which is one thousand times higher than DEC's actual figure.

31. This means that the result of applicant's calculation of 157,140km x 0.70 is actually 110,315 kilograms of CO2 avoided per annum, i.e. only 110 tonnes of CO2 per annum. However, Table 3 of the 2016 Carbon Assessment uses the 110,315 kilogram figure as it if were 110,315 tonnes rather than 110 tonnes.

32. Over the expected lifetime of the plant this mistake with transport emissions adds up to overstating avoided emissions by more than **2.75 million tonnes of CO2** ((110,135 - 110) x 25).

33. In relation to inconsistencies, Paragraph 5.3.6 of the applicant's 2016 Carbon Assessment (Appendix 2.3) talks about "*21 MW recovered as electricity and exported to the grid at a net efficiency of **28.4%**".* This is clearly not consistent with Paragraph 8.4 of the Planning Supporting Statement, which states that "*18 MW would be available for export to the national grid*". (emphasis added)

34. Another inconsistency is that the Executive Summary of the Planning Statement says that the proposal involves: *"Generating 21Mw of renewable energy to be transported to the local distribution network"* which, based on statements that the gross generation capacity is 21MW, implies that 100% of the feedstock (and therefore 100% of the energy) would be renewable, whereas the composition in Table 1 of the 2016 Carbon Assessment states that the feedstock would include non-renewable fossil-based material such as plastic.

35. The applicant has not explained how they get from the energy content of their proposed feedstock composition to their claimed level of electricity export.

36. Their claimed composition in Table 1 of the 2016 Carbon Assessment includes a high proportion (44.75%) of putrescibles which tend to contain less energy than high-calorific value (CV) feedstocks such as plastic.

37. As Footnote 31 of the Governments' EfW Guide notes: *"Some wet* [i.e. putrescible] *wastes e.g. food are not particularly suitable for energy from waste"*.

38. The following assumptions have been adopted in order to attempt to reconcile these inconsistencies for the purpose of producing an indicative, partially corrected, version of the applicant's Table 3 'Summary of estimated emissions (tCO2 equivalent per annum)':

    a. The properties of the feedstock (e.g. calorific value, proportion of biogenic carbon, etc.) are assumed to be those set out in the Government's 'Energy recovery for residual waste: A carbon based modelling approach', using the input waste composition data given by the applicant in Table 1 of their 2016 Carbon Assessment; and

    b. The applicant's 28.4% efficiency figure (based on generation of 21 MW) is for gross efficiency, and their 18MW export figure implies a net efficiency of 24.3%; and

    c. The applicant's assumed 44.75% of putrescibles in the feedstock would be comprised of garden waste; and

    d. As the assessment is intended to examine the impact of incineration versus landfill, the model below assumes that material recovery would occur irrespective of the final treatment option (and therefore the -37,684 figure for 'Materials Recovery' has been excluded from the calculations).

39. If one were to consider the impact of Materials Recovery then the correct approach would be to use a counterfactual of MBT-Landfill, which would not only recover recyclables prior to landfill but which would also bio-stabilise the waste sent for landfill and therefore reduce the emissions of methane from landfill and increase the 'biogenic carbon sink' benefit of landfill.

40. This would result in the proposal performing even worse than landfill than is shown in the partially corrected modelling below.

41. Indeed, given the high quantity of putrescible waste it would also be appropriate to include separately collecting this feedstock for composting and anaerobic digestion (AD) as part of an alternative treatment scenario.

42. The proposed facility's performance against a composting/AD counterfactual would be even worse than comparison with MBT-Landfill.

43. In addition to the errors set out above, and in addition to inconsistencies in relation to both efficiency and uncertainties regarding composition highlighted above, we would like to draw attention to two further significant problems with the applicant's 2016 carbon assessment, as follows:

    a. The incorrect marginal emissions factor (MEF) is used; and

    b. The biogenic carbon sequestration benefits of landfill are not accounted for.

44. Paragraph 6.2 of the 2016 Carbon Assessment states that the modelling assumes a 2016 conversion factor of 0.41205 kgCO2e/kW, which in Table 3 is multiplied by 168,000 kWh to provide displaced electricity generation of -69,224.

45. Applying the 2016 conversion factor is not consistent with the most recent Government guidance from December 2017.

46. As explained in DEFRA's 'Energy recovery for residual waste: A carbon based modelling approach' (February 2014): *"…we should use the marginal energy mix which represents the carbon intensity of generating an additional kW of electricity…"* (emphasis added)

47. Footnote 29 of the Government's 2014 EfW Guide states that: *"When conducting more detailed assessments the energy offset should be calculated in line with DECC guidance using the appropriate marginal energy factor"*. (emphasis added)

48. The DECC guidance has now been taken up by BEIS, DECC's successor. The appropriate marginal energy factor (MEF), i.e. the generation-based long-run MEF, is provided in BEIS' Green Book supporting data tables.

49. According to Table 1 of the Green Book's supporting data tables (Department for Business, Energy & Industrial Strategy (BEIS), December 2017), the generation-based long-run marginal emissions factor for new energy generation facilities entering commissioning in 2020 is 0.270 kg CO2e/kWh and the 2020 generation-based grid average is 0.181kg CO2e/kWh.

50. When the Government's 0.270 kg CO2e/kWh MEF for 2020 is applied, with an assumed net efficiency of 24.3% alongside using an energy input (of around 2.58 MWh/t) based on the applicant's Carbon Assessment Table 1, then the applicant's -69,224 figures becomes **-30,474 tCO2 equivalent per annum** (i.e. 180,000 tonnes x 2.580427 x 0.243 x 0.270).

51. In addition to using the correct MEF, the comparison should also properly account for biogenic sequestration in landfill.

52. Whilst the applicant assumes that half of the biogenic carbon is sequestered in landfill, and whilst the applicant uses this assumption to reduce the assumed quantity of methane released from landfill, the applicant fails to follow best practice by neither crediting landfill with 'negative emissions' for this sequestered biogenic material nor including the additional release of this biogenic carbon on the incineration side of the equation.

53. As noted in the evidence-based recommendations of Eunomia's 2015 report entitled 'The Potential Contribution of Waste Management to a Low Carbon Economy': *"All lifecycle studies engaged in comparative assessments of waste treatments should incorporate CO2 emissions from non-fossil sources in their comparative assessment".*[5]

54. Eunomia's report also explains that: *"In comparative assessments between waste management processes, it cannot be considered valid to ignore biogenic CO2 emissions if the different processes deal with biogenic CO2 in different ways…"*

55. As stated at Paragraph 18 of DEFRA's 'Energy recovery for residual waste A carbon based modelling approach' (February 2014): *"…some biogenic carbon that would be released in energy recovery is sequestered in landfill".*

56. DEFRA's document goes on to explain, at Paragraphs 171-173, how: *"…the model assumes that not all of the biogenic material decomposes in landfill but it is all converted to CO2 in energy from waste. Landfill therefore acts as a partial carbon sink for the biogenic carbon. This is a potential additional benefit for landfill over energy from waste. There are two ways to account for this additional effect:*

    - *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)*
    - *Include all carbon emissions, both biogenic and fossil on both sides of the model*

    While both approaches would address the issue of sequestered biogenic carbon the first would potentially be the better solution as it would avoid double counting carbon with other inventories." (emphasis added)

57. When the biogenic sequestration in landfill is taken into account, using the same waste composition data as above and the same MEF of 0.270 as above, the

[5] https://zerowasteeurope.eu/downloads/the-potential-contribution-of-waste-management-to-a-low-carbon-economy/

applicant's -76,505 figure for Landfill Diversion becomes **-3,892 tCO2 equivalent per annum**.

58. It should be noted that the -3,892 tCO2e/annum figure is derived using the central assumptions from DEFRA's Carbon Based Modelling Approach, e.g. in relation to landfill gas engine efficiency.

59. Correcting these issues has a material impact on the conclusions of the carbon modelling that should weigh heavily against the proposal in the planning balance.

60. These adjustment are summarised in the Partially Corrected Table 3 below:

Partially Corrected Table 3

Emissions Source	**Proposed Facility Electricity only (uncorrected)**	**Proposed Facility Electricity only based on 24.3% net efficiency (partially corrected)**
Process	+50,955	+50,955
Transport	-110,315	-110 [i]
Avoided CO_2		
Displaced Electricity Generation	-69,224	-30,474 [ii]
Materials Recovery	-37,684	Not applicable [iii]
Landfill Diversion	-76,505	-3,892 [iv]
Total	-242,773	+16,479

[i] Corrected to account for the applicant's 'unit of measurement error', as explained in Paragraphs 26 - 32 above.

[ii] Corrected to apply an assumed net efficiency of 24.3% while applying the correct MEF of 0.270 (rather than the applicant's 0.412 conversion factor)

alongside using an energy input based on the applicant's Carbon Assessment Table 1, as explained in Paragraphs 33 - 50 above.

[iii] As per Paragraph 38 (d) above.

[iv] Corrected to account for biogenic sequestration in landfill (applying assumption's from DEFRA's Carbon Based Modelling Approach), as explained in Paragraphs 51 - 58 above.

61. Therefore, based on a partially corrected version of the applicant's own estimated emissions scenario, sending the waste to the proposed incineration facility would be **16,479 tcO2e per annum worse** than sending that same waste directly to landfill.

62. Other problems that we have observed in relation to the applicant's 2016 carbon assessment include:

    a. the transport assumptions (which appear to overstate the benefits of incineration, and which do not take account of diesel vehicles being replaced with electric vehicles during the lifetime of the proposed facility); and

    b. the landfill gas engine efficiency (which appear to overstate the benefits of incineration).

63. As should be clear from the issues raised above, the conclusions of the applicant's 2016 carbon assessment cannot be relied upon to provide an accurate description of the likely environmental impacts of the proposal.

64. Problems inevitably arise from the applicant's fundamental failure to correctly follow an accepted methodology applying a set of justified assumptions. We hope that these problems will be resolved as part of any revised climate change assessment required of the applicant by the WPA.

65. Alternatively, we would expect the WPA to determine the application on the basis that the proposal would contravene the strategic objective to minimise carbon emissions, and would therefore go against Waste Local Plan SO 14 as well as other local and national plans and policies in relation to carbon emissions and climate change.

R1 Planning Condition

66. ES Volume 1, Chapter 2 states: *"2.4.18 The efficiency of the facility determines the remaining energy available for export. It is not possible at this stage to state what the exact efficiency would be, but it would be more than sufficient to meet the energy efficiency requirement for a recovery facility of 0.65 set out in the Waste Framework Directive (2008/98/EC). In consequence the facility would qualify as "recovery" under Article 3 of the Directive."*

67. The facility proposed for Horsham should, if granted planning consent, be given a Design Stage R1 Planning Condition in line with previous decisions by the Secretary of State and other local authorities to promote movement of waste management up the Waste Hierarchy, in line with local and national policies.

68. Appendix A of the National Planning Policy for Waste sets out a five-step waste hierarchy, with the bottom tiers being 'Other Recovery' followed by 'Disposal'.

69. The accompanying footnote states that: *"The full definition of each level of the waste hierarchy is set out in Article 3 of the revised Waste Framework Directive (2008/98/EC)"*.

70. As set out in the Government's EfW Guide and as elaborated upon in further detail in the European Commission's *'Guidance on the interpretation of key provisions of Directive 2008/98/EC on waste*', inefficient Energy from Waste (EfW) plants are classified as 'Disposal' at the bottom of the Waste Hierarchy rather than as 'Other Recovery', even in cases where some energy is generated.

71. UKWIN draws the WPA's attention to the Secretary of State imposed Condition 16 for the Bilsthorpe Energy Centre (PINS Ref. 3001886).

72. That condition states: *"Prior to the development hereby permitted being brought into use, the operator shall submit to the Waste Planning Authority for approval in writing, verification that the facility has achieved [Design] Stage R1 Status through Design Stage Certification from the Environment Agency. The facility shall thereafter be configured in accordance with these approved details. Once operational, alterations to the processing plant may be undertaken to satisfy Best Available Technique or continued compliance with R1"*.

73. Indeed, it is currently a matter of course to impose Design Stage R1 Planning Conditions. For example:

    a. **Birmingham City Council** - Rolton Kilbride's 105ktpa gasification plant at Castle Bromwich. Condition 32 of 2015/09679/PA.

    b. **West Sussex County Council -** Grundon's Circular Technology Park. Condition 24 of WSCC/096/13/F.

    c. **Warwickshire County Council -** Rolton Kilbride's Hams Hall gasification plant - Condition 21 of NWB/16CM011

    d. **Bradford City Council -** Endless Energy Ltd's 90ktpa RDF plant in Keighley. Condition 45 of 16/06857/FUL.

    e. **Selby District Council -** Kingspan's 132tktpa RDF plant in Sherburn in Elmet. Condition 23 of 2016/1456/EIA

    f. **Nottingham City Council** - Chinook Sciences' 160ktp plant in Bulwell. Condition 20 of 13/03051/PMFUL3

Previous UKWIN Comments on Planning Committee Report

74. UKWIN draws the WPA's attention to UKWIN's comments made in relation to Application Reference: WSCC/062/16/NH in general, and in particular the comments from UKWIN's Technical Adviser Tim Hill C Eng made on 30th January 2017 and 8th June 2017 as follows:

    a. *Referring to the Planning Statement Appendix G Carbon Assessment, the Applicant has (a) failed to make available supporting calculations setting out the carbon effects of start up fuel and imported electricity / electricity generated within the plant, and (b) assumed that electricity generation emission avoided by production of electricity at the proposed ERF is 0.41205 kgCO2e/kWh electricity generated. This is incorrect...*

    b. *The applicant's analysis presents a misleading picture and until the aspects above have been taken account of and included, it cannot be assumed that the proposed facility represents an improvement over landfill.*

    c. *The applicant has failed to clarify the basis on which their net overall energy efficiency figure. The applicant should be asked to make available (i)an Energy flow Sankey diagram and (ii) a heat flow diagram.*

    d. *…I note that, in relation to Paragraph 4.20 of the Planning Officer's report, the statement that: "The Environment Agency would control the efficiency of*

the facility to ensure that the process qualifies as 'recovery' (in accordance with the R1 formula, referred to in representations) and to optimise the amount of electricity available for export outside of the facility." is fundamentally flawed. The Environment Agency (EA) does not control the efficiency of a waste incineration facility. Based on the relevant design data that should have been submitted by the applicant as part of the planning application, and any further information that would be required by the EA as part of a bespoke R1 application, the EA will indicate if the proposed incinerator can be expected to achieve an R1 value of 0.65 (recovery status) or (if less than 0.65) it retains its disposal status. The planning committee should, prior to the Tuesday 18 July 2017 meeting, be made aware that, if minded, notwithstanding the planning officers recommendation to refuse, to consent, then a condition should be set to the effect that consent is dependent on the EA deciding that, based on the design data, an R1 value of 0.65 or greater can be expected.

UKWIN Comments on the Applicant's Air Quality Assessment

75. UKWIN notes that Table 7.8: Mass Emissions from the applicant's Environmental Statement (ES) Volume 1, Chapter 7 on Air Quality and Odour appears to omit figures for total organic carbon (TOC) despite the fact that emissions are limited by the Industrial Emissions Directive (IED) and despite the fact that the applicant themselves include benzene as a main air pollutant (e.g. at Paragraph 7.2.18).

76. UKWIN urges the WPA to ask the applicant to provide TOC data, expressed as benzene (i.e. assuming all TOC is benzene), in accordance with standard practice and with IED requirements and with the relevant requirements of Environmental Impact Assessment legislation.

77. In relation to the applicant's attempt to assess emissions associated with a 'worst case scenario' UKWIN draws attention to Paragraphs 7.2.4 and 7.3.39 of the applicant's ES Volume 1, Chapter 7.

78. Paragraph 7.2.4 states: "For the purposes of this assessment for those pollutants having only one emission limit (for a single averaging period), the facility has been assumed to operate at that limit".

79. Paragraph 7.3.39 states: "As there are 8,760 hours in a non-leap year, the hourly-mean concentration would need to be below 200 µg.m-3 in 8,742 hours, i.e. 99.79% of the time".

80. It should be noted that the limits set out in 'Table 7.1: Relevant Industrial Emission Directive Limit Values' can be exceeded not only during start-up and shut down but also during normal operation.

81. The standard way that the Environment Agency (EA) would assess monitored emissions against the Emissions Limit Values (ELVs) is to subtract the uncertainty of the measurement from the value and to compare this lower figure against the ELV.

82. This means that the greater the level of uncertainty the lower the assumed emissions when compared to the ELV. Subtracting uncertainty in this way would imply that actual emissions could exceed the ELV by a greater margin than is allowed for by the applicant in their 'worst case scenario' assessment, e.g. by twice the 'uncertainty budget' allowed for under the ELV.

83. As such, the applicant's proposed 'worst case' scenarios could be significantly underestimating the potential permitted emissions from the plant.

UNITED KINGDOM WITHOUT INCINERATION NETWORK

Evaluation of the climate change impacts of waste incineration in the United Kingdom

October 2018

KEY FINDINGS

- Waste incinerators currently release an average of around 1 tonne of CO_2 for every tonne of waste incinerated.
- The release of CO_2 from incinerators makes climate change worse and comes with a cost to society that is not paid by those incinerating waste.
- In 2017 the UK's 42 incinerators released a combined total of nearly 11 million tonnes of CO_2, around 5 million tonnes of which were from fossil sources such as plastic.
- The 5 million tonnes of fossil CO_2 released by UK incinerators in 2017 resulted in an unpaid cost to society of around £325 million.
- Over the next 30 years the total cost to society of fossil CO_2 released by UK's current incinerators would equate to more than £25 billion pounds of harm arising from the release of around 205 million tonnes of fossil CO_2.
- Electricity generated by waste incineration has significantly higher adverse climate change impacts than electricity generated through the conventional use of fossil fuels such as gas.
- The 'carbon intensity' of energy produced through waste incineration is more than 23 times greater than that for low carbon sources such as wind and solar; as such, incineration is clearly not a low carbon technology.
- When waste is landfilled a large proportion of the carbon is stored underground, whereas when waste is burned at an incinerator the carbon is converted into CO_2 and immediately released into the atmosphere.
- Over its lifetime, a typical waste incinerator built in 2020 would release the equivalent of around 1.6 million tonnes of CO_2 more than sending the same waste to landfill.
- Composition analysis indicates that much of what is currently used as incinerator feedstock could be recycled or composted, and this would result in carbon savings and other environmental benefits. Thus, incinerating waste comes with a significant 'opportunity cost'.

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Principal author: Josh Dowen

Contributors: Robert Ayres, Shlomo Dowen, Ian Hammond, Tim Hill, Neil Pitcairn and John Webb

Website: http://ukwin.org.uk/

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THE IMPORTANCE OF GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

The UK Government explains the issue as follows:

Rising levels of carbon dioxide and other greenhouse gases, such as methane, in the atmosphere create a 'greenhouse effect', trapping the Sun's energy and causing the Earth, and in particular the oceans, to warm. Heating of the oceans accounts for over nine-tenths of the trapped energy. Scientists have known about this greenhouse effect since the 19th Century.

The higher the amounts of greenhouse gases in the atmosphere, the warmer the Earth becomes. Recent climate change is happening largely as a result of this warming, with smaller contributions from natural influences like variations in the Sun's output. Carbon dioxide levels have increased by about 45% since before the industrial revolution. Other greenhouse gases have increased by similarly large amounts. All the evidence shows that this increase in greenhouse gases is almost entirely due to human activity. The increase is mainly caused by: burning of fossil fuels for energy; agriculture and deforestation; and the manufacture of cement, chemicals and metals.[1]

In October 2018 the Intergovernmental Panel on Climate Change (IPCC) stated:

Human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C. Global warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate…Climate-related risks to health, livelihoods, food security, water supply, human security, and economic growth are projected to increase with global warming of 1.5°C and increase further with 2°C.[2]

According to the World Wildlife Fund (WWF):

Global warming is likely to be the greatest cause of species extinctions this century. The Intergovernmental Panel on Climate Change says a 1.5°C average rise may put 20-30% of species at risk of extinction. If the planet warms by more than 3°C, most ecosystems will struggle.

Many of the world's threatened species live in areas that will be severely affected by climate change. And climate change is happening too quickly for many species to adapt.[3]

[1] Climate change explained (BEIS, July 2018), available from: https://www.gov.uk/guidance/climate-change-explained
[2] Intergovernmental Panel on Climate Change (IPCC) SR15 Headline Statements, available from: http://report.ipcc.ch/sr15/pdf/sr15_headline_statements.pdf
[3] Climate change and wildlife, available from: https://www.wwf.org.uk/effectsofclimatechange

INTRODUCTION

This report evaluates the climate change impacts of waste incineration[4] and is intended to inform policy makers, decision-takers, and the public. The need for this study arises in response to the increasing quantities and proportions of UK waste that are incinerated and the necessity to consider the outcomes arising from this increasing level of incineration alongside the various conflicting claims that are made about the climate change impacts of waste incineration.

There are those in the waste industry who are marketing incineration as a solution to climate change even though evidence suggests that incineration is, in fact, part of the climate problem. This study sets out the available data in an accessible way to help decision makers and the public to make evidence-based choices that are better for our environment.

Plastics make up a significant proportion of the material burned by waste incinerators in the UK. Because conventional plastic is derived from petroleum it is a fossil fuel which is recognised as a source of harmful climate change emissions. For conventional power stations that burn fossil fuels such as coal and gas the issue of greenhouse gasses released as a by-product of generating energy is addressed through the 'Emissions Trading Scheme' (ETS). However, municipal solid waste incinerators are not part of the ETS and are not subject to any other similar scheme to progressively reduce carbon emissions or to 'price in' the carbon cost of burning fossil fuel.

This means that, for decades, waste incinerators have been releasing harmful greenhouse gas emissions without compensating society for the associated harm that this has caused. Defra noted in 2011 that incinerators were "*creating GHG [greenhouse gas] emissions without paying the relevant price*".[5] UKWIN's report includes an assessment that estimates the unpaid carbon cost of waste incineration.

Furthermore, as explained in UKWIN's report, incinerating plastics is an inefficient way to generate electricity, meaning incinerators release more greenhouse gasses to produce the energy than would be emitted to generate the same quantity of energy through the conventional use of fossil fuels.

[4] In accordance with the Industrial Emissions Directive, a 'waste incineration plant' covers a range of technologies including conventional incineration, as well as gasification and pyrolysis. Some describe gasification and pyrolysis technologies by other names, including 'Advanced Thermal Treatment' or 'Advanced Conversion Technologies'. Incineration is sometimes referred to as 'Energy from Waste', however anaerobic digestion and landfill gas capture also generate energy from waste.
[5] The Economics of Waste and Waste Policy (June 2011), available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69500/pb13548-economic-principles-wr110613.pdf

CO_2 RELEASED BY WASTE INCINERATION

Background

Government guidance explains that: *"CO_2 emissions may be a significant adverse impact of biomass/waste combustion [incineration] plant".*[6] According to Environment Agency (EA) guidance: *"Between 0.7 and 1.7 tonnes of CO_2 is generated per tonne of MSW [Municipal Solid Waste] combusted".*[7] This implies that a typical incinerator burning 265,000 tonnes of waste a year would be responsible for releasing somewhere between 185,500 tonnes and 450,500 tonnes of CO_2 each year of operation. Over the course of 30 years of operation this would amount to the release of between around 5.6 million and 13.5 million tonnes of CO_2.

HOW CARBON IN WASTE IS CONVERTED INTO CO_2 IN THE ATMOSPHERE

Burning one tonne of carbon produces 3.667 tonnes of CO_2. This is because when waste is incinerated the carbon (C) in the waste combines with the oxygen (O) in the air to make carbon dioxide (CO_2). The CO_2 created by the combustion process is then released into the atmosphere, exacerbating climate change.

The quantity of CO_2 released by incineration depends on the amount of carbon that is burned, also known as the feedstock's carbon content (i.e. the 'total carbon percentage' of the feedstock). The atomic weight of carbon is 12 and the atomic weight of oxygen is 16. As CO_2 is made up of one carbon atom bonded to two atoms of oxygen, CO_2 has an atomic weight of 44 (as 12 + (16×2) = 12 + 32 = 44). From this we know that the weight of CO_2 is 3.667 times the weight of the carbon used to create it (44 ÷ 12 = 3.667). As such, the amount of CO_2 that is released from incineration can be calculated based on the carbon content of the feedstock by multiplying the quantity of carbon by 44 and then dividing the result by 12 (or by multiplying the amount of carbon by 3.667).

For example, plastic typically consists of 52% carbon by weight[8] and therefore burning one tonne of plastic results in burning 0.52 tonnes of carbon. This 0.52 tonnes of carbon combines with the oxygen in the air resulting in the release of more than 1.9 tonnes of CO_2 into the atmosphere (0.52 tonnes of plastic × 3.667 = 1.907 tonnes of CO_2).

[6] National Policy Statement for Renewable Energy Infrastructure (EN-3), available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/37048/1940-nps-renewable-energy-en3.pdf

[7] Pollution inventory reporting – incineration activities guidance note, available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/296988/LIT_7757_9e97eb.pdf

[8] Energy recovery for residual waste – A carbon based modelling approach, available from: http://sciencesearch.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=19019

CO_2 released by UK incinerators in 2017

In 2017 approximately 10.89 million tonnes of waste was incinerated.[9] Based on the range provided by the EA in their guidance[10], this equates to between 7.6 million and 18.5 million tonnes of CO_2 released by UK incinerators in 2017.

Based on a review of available waste composition data, as set out in Annex A (Table 6: Tonnes of CO2 per tonne based on published UK sources), it appears that **around 27.42% of the material used as incinerator feedstock in 2017 was carbon, suggesting that in 2017 the UK's 42 incinerators released a combined total of nearly 11 million tonnes of CO_2** (10.89 million tonnes of waste incinerated × 0.2742 × 3.667 = 10.95 million tonnes of CO_2 released).

This 11 million tonne CO_2 figure relates only to direct emission of CO_2 from incinerators and does not take account of either indirect emission (e.g. emissions arising from the transport of feedstock to the incinerator) or of other greenhouse gasses (GHGs) emitted by incinerators (e.g. methane and nitrous oxide).

Furthermore, in addition to the 12 million tonnes of incineration capacity that was operational in 2017[11] there was 3.635 million tonnes of incineration capacity under construction in the UK in 2017.[12] The more waste that is burned, the more CO_2 that is released into the atmosphere by incineration. The release of CO_2 from waste incinerators makes climate change worse and comes with a cost to society.

The carbon price of waste incineration

For decades incinerators have been releasing harmful climate change emissions without compensating for the associated harm that this caused. As previously mentioned, Defra noted in 2011 that incinerators were "*creating GHG [greenhouse gas] emissions without paying the relevant price*".[13]

[9] UK Energy from Waste Statistics – 2017, available from: http://www.tolvik.com/wp-content/uploads/Tolvik-UK-EfW-Statistics-2017.pdf
[10] Pollution inventory reporting – incineration activities guidance note, available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/296988/LIT_7757_9e97eb.pdf
[11] According to Tolvik, the headline incineration capacity for 2017 was 12.263 million tonnes. This is higher than the input tonnage of 10.89 million tonnes due to factors such as maintenance downtime and because two of the incinerators only came into operation part of the way into the year.
[12] UK Energy from Waste Statistics – 2017, available from: http://www.tolvik.com/wp-content/uploads/Tolvik-UK-EfW-Statistics-2017.pdf
[13] The Economics of Waste and Waste Policy (June 2011), available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69500/pb13548-economic-principles-wr110613.pdf

Because operators do not pay for the cost to society of the fossil CO_2 released by incineration this cost is described as an 'environmental externality', i.e. a burden to society where the cost is not reflected in the price paid by those incinerating the waste. Costs to society associated with incinerator climate change emissions can be calculated.

This section of the report is focused on estimating the 'carbon price' of the direct release of CO_2 that derives from the incineration of fossil-based feedstock such as plastic.

The carbon associated with wood, paper, card, kitchen and garden waste can be classified as 'biogenic carbon', whereas carbon derived from oil (including plastics), natural gas and coal is known as 'fossil carbon'.

This report's financial calculations focus on fossil carbon, but that does not mean that the immediate release of CO_2 derived from biogenic sources through incineration is not accompanied by a cost to society.

The financial calculations in this report also exclude the cost to society of other incinerator emissions such as those released from burning petroleum-based start-up fuels, and those emitted by vehicles transporting material to and from the site.

The level of fossil CO_2 released by an incinerator depends on what is being burned.

As set out in Table 6 of this report (see Annex A), figures from the waste industry indicate that some proposed waste incinerators are expected to release more than 0.5 tonnes of fossil CO_2 per tonne of waste burned. This report uses a lower figure than 0.5 tonnes of fossil CO_2 per tonne of waste burned.

As set out in Annexes A and B, it can reasonably be assumed that **incinerators in the UK currently release an average of around 0.458 tonnes of fossil CO_2 per tonne of waste incinerated**.

If the assumed average figure of 0.458 tonnes of fossil CO_2 per tonne is multiplied by the 10.89 million tonnes of waste understood to have been incinerated in 2017 this gives a figure of **around 5 million tonnes of fossil CO_2 released in 2017 by UK incinerators** (0.458 × 10.883 = 4.984 million tonnes).

This report uses Government guidance[14] to arrive at a financial figure that reflects the harm caused by the release of fossil CO_2 into the atmosphere. Specifically, this report use the relevant Department for Business, Energy and Industrial Strategy (BEIS) carbon price figures[15] which were produced *"to be used in policy appraisal and evaluation"* and which *"relate to the cost of mitigating emissions"* (i.e. the cost of reducing emissions to allow the UK's legally-binding climate change targets to be met).[16]

Unlike power stations, waste incinerators are not part of the Emissions Trading Scheme, and therefore the relevant BEIS carbon prices to use are those for non-traded carbon. For 2017, BEIS's central non-traded carbon price is £65.11 per tonne.

This means that **if UK incinerators released around 5 million tonnes of fossil CO_2 in 2017 then this would be associated with an unpaid cost to society of around £325 million**.

Table 1: Cost to society of fossil CO_2 released from UK incinerators in 2017

Tonnes of waste incinerated	Fossil CO2 per tonne	Tonnes of fossil CO2	Non-traded carbon price	Cost to society of fossil CO2 from incineration
10,883,000	0.458	4,984,414	£65.11	**£324,535,196**

BEIS's central non-traded carbon price rises year on year through to 2075. Assuming that the UK incinerates around 14.4 million tonnes[17] of waste each year for the 30 years from 2019 to 2049, using BEIS's central non-traded carbon prices and the assumed 0.458 tonnes of fossil CO_2 released per tonne burned, the total cost to society of just the fossil CO_2 released by UK incinerators would equate to **more than £25 billion pounds of harm arising from the release of around 205 million tonnes of fossil CO_2.**

The calculations used to arrive at these figures are provided as Table 8 in Annex A.

[14] Green Book supplementary guidance: valuation of energy use and greenhouse gas emissions for appraisal, available from: https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal

[15] Table 3: Carbon prices and sensitivities 2010-2100 for appraisal, 2017 £/tCO2e from Data tables 1 to 19: supporting the toolkit and the guidance, available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/696677/Data_tables_1-19_supporting_the_toolkit_and_the_guidance_2017__180403_.xlsx

[16] See: https://www.gov.uk/government/collections/carbon-valuation--2

[17] NOTE: According to Tolvik's UK Energy from Waste Statistics – 2017, input tonnage was 90.8% of the headline capacity in 2017. The 14,435,384 tonne figure is based on 90.8% of the 2017 headline incineration capacity figure of 12.263 million tonnes plus 90.8% of the 3.635 headline capacity figure for the incinerators that were under construction in 2017 (12,263,000 + 3,635,000 = 15,898,000 and 15,898,000 × .908 = 14,435,384).

CARBON INTENSITY OF ELECTRICITY GENERATED

Background

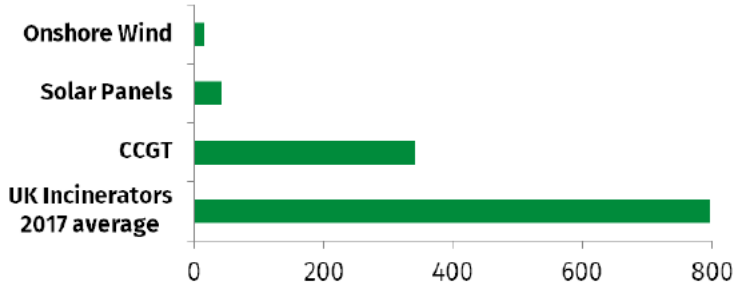
One approach to comparing the environmental impacts of different forms of energy generation is by comparing the 'emissions intensity' of the energy that is generated. In relation to greenhouse gas emissions this could mean, for example, examining how much fossil CO_2 is released per unit of electricity exported to the grid, i.e. the 'carbon intensity' of the electricity.

England's National Planning Policy Framework (NPPF) states that: *"Low carbon technologies are those that can help reduce emissions (compared to conventional use of fossil fuels)".*[18]

Comparing how much fossil CO_2 is released per unit of electricity exported to the grid for energy generated by burning waste in an incinerator, relative to the quantity of fossil CO_2 released per unit of electricity exported to the grid through the conventional use of fossil fuels, provides a means of assessing whether or not the energy generated through incineration meets the NPPF definition of a 'low carbon technology'.

One can also examine how energy generated through incineration compares with technologies such as wind and solar, as well as with evaluating incineration in relation to a 'marginal energy mix' (which can be expressed as a 'marginal energy factor' or 'MEF') that reflects the carbon intensity of the mix of energy sources that would be displaced by a new waste incinerator.

Figure 1: Carbon intensity of electricity (gCO_2/kWh)



A watt (W) is a unit of power and a kilowatt (kW) is 1,000 watts. Ten 100-watt light bulbs operating for one hour would consume one kilowatt hour (kWh) of electricity (10 bulbs × 100W × 1 hour = 1,000 watt hours or 1 kilowatt hour). The quantity of fossil CO_2 released per unit of electricity exported to the grid can be expressed as grams (g) of CO_2 per kilowatt hour (kWh), i.e. gCO_2/kWh.

[18] Pages 70 and 71 of the July 2018 version of the National Planning Policy Framework, available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/740441/National_Planning_Policy_Framework_web_accessible_version.pdf

In addition to CO_2, other greenhouse gases (GHGs) such as methane and nitrous oxide also have adverse climate impacts, with varying degrees of global warming potential. To provide a common unit of measurement for comparing the impacts of different GHGs these are converted into the number of tonnes of CO_2 required to have an equivalent climate change impact over a given time period. 'CO_2e' can be used to denote GHG emissions expressed as CO_2 equivalent. Due to inconsistencies across source data, UKWIN uses CO_2 and CO_2e interchangeably in this report in circumstances where it is not anticipated to have a significant impact on the calculations.

Carbon intensity of the electricity grid

BEIS estimates that, for 2017, the UK's generation-based grid average from all sources (including CCGT, solar, wind, etc.) was 213gCO_2e/kWh.[19] This means that, on average, the equivalent of 213 grams of CO_2 was released for every kilowatt hour of electricity generated.

213gCO_2e/kWh represents a significant reduction from the estimate for 2010 of 459gCO_2e/kWh. This reduction is the result of efforts to 'decarbonise' the electricity supply, including the move away from coal and the move towards low carbon technologies such as wind and solar.

Carbon intensity from non-incineration sources

Conventional use of fossil fuels

In relation to the conventional use of fossil fuel, BEIS states that a typical Combined Cycle Gas Turbine (CCGT) power plant produces electricity with a carbon intensity of around **340gCO_2e/kWh** (before transmission losses).[20]

Wind, solar and geothermal

An Intergovernmental Panel on Climate Change (IPCC) report from 2014 does not attribute any direct fossil or biogenic emissions to the operation of low carbon renewable sources such as wind, solar and geothermal.[21]

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[19] Table 1: Electricity emissions factors to 2100, kgCO2e/kWh, available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/696677/Data_tables_1-19_supporting_the_toolkit_and_the_guidance_2017__180403_.xlsx

[20] Page 5 of Valuation of Energy Use and Greenhouse Gas Emissions – Background documentation (January 2018), available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/671204/Background_documentation_for_guidance_on_valuation_of_energy_use_and_greenhouse_gas_emissions_2016.pdf

[21] Technical Annex III of Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPPC), available from: https://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_annex-iii.pdf

As such, based on the methodology used to assess the fossil carbon intensity from incinerators, the direct emissions arising from energy generated by low carbon sources such as wind and solar could be said to be **0gCO_2e/kWh**.

It should be noted that this report excludes both infrastructure (e.g. construction) and supply chain emissions in the figures for emissions released by waste incinerators. However, in order to provide context regarding the relative carbon intensity of electricity generated by waste incinerators compared to other forms of energy generation it is helpful to understand the full life-cycle analysis (LCA) impact of these non-incineration sources which consist of the 'Infrastructure & supply chain emissions'.

IPCC's Climate Change 2014: Synthesis Report provides the following estimated GHG emissions associated with the infrastructure and supply chain of low carbon technologies, based on life-cycle analysis:

Table 2: Emissions from low carbon sources, based on life-cycle analysis (LCA)

Technology	Infrastructure & supply chain emissions
Onshore Wind	**15** gCO_2e/kWh
Offshore Wind	**17** gCO_2e/kWh
Solar PV (rooftop)	**42** gCO_2e/kWh
Geothermal	**45** gCO_2e/kWh
Average of the above	***29.75*** *gCO_2e/kWh*

As can be seen from the figures for wind, solar and geothermal in Table 2 above, these low carbon sources of energy support the decarbonisation of the energy supply and emit significantly less carbon than the conventional use of fossil fuels, even when account is made of associated infrastructure and supply chain emissions.

Fossil carbon intensity of incineration

In 2006, a report produced for Friends of the Earth by environmental consultancy Eunomia estimated that future electricity-only incinerators would have a total carbon intensity of 1,405gCO_2e/kWh. Eunomia estimated a **fossil carbon intensity of 580gCO_2e/kWh** which implies a biogenic carbon intensity of 825gCO_2e/kWh.

The Eunomia report noted that: *"...typical UK incinerators, generating only electricity, are unlikely to be emitting a lower quantity of greenhouse gases, expressed in CO_2 equivalents, per kWh electricity generated than the average gas-fired power station in the UK".*[22]

In 2011 the Minister of State for Climate Change stated that, based on the data available at that time, direct fossil CO_2 emissions from electricity generated through waste incineration were estimated to have been **540gCO_2e/kWh** in 2008.[23]

As set out in Annex B, estimates for fossil carbon intensity (i.e. the fossil CO_2 released per kWh of energy) from the incineration of waste are summarised in the following table:

Table 3: Fossil carbon intensity of energy from UK incinerators based on direct emissions

Description	Fossil Carbon Intensity
Minister of State (2011), UK incinerators 2008	**540** gCO_2/kWh
Eunomia (2006), electricity-only UK incinerators	**580** gCO_2/kWh
Cory (2018), Riverside incinerator in 2015	**617** gCO_2/kWh
Average carbon intensity of electricity generated by UK incinerators in 2017	**797** gCO_2/kWh
Inquiry evidence (2015), Bilsthorpe Energy Centre	**937** gCO_2/kWh
Average of the above	**694.2** gCO_2/kWh

Based on Tables 2 and 3 above, the mean average fossil carbon intensity of the incineration sources is more than 23 times the mean average of the low carbon sources (694.2 ÷ 29.75 = 23.33) even though the low carbon sources include infrastructure and supply chain emissions whereas the incineration figures are limited only to direct emissions.

[22] A Changing Climate for Energy from Waste?, available from: https://friendsoftheearth.uk/sites/default/files/downloads/changing_climate.pdf
[23] Written Answers to Questions – Monday 17 January 2011, available from: https://publications.parliament.uk/pa/cm201011/cmhansrd/cm110117/text/110117w0001.htm#1101173000926

Conclusions on fossil carbon intensity

As can be seen from the evidence summarised in Table 3 above, electricity generated by waste incineration has a significantly higher fossil carbon intensity (of between 540gCO_2/kWh and 937gCO_2/kWh) than electricity generated through the conventional use of fossil fuels (as exemplified by CCGT's fossil carbon intensity of around 340gCO2e/kWh).

As such, **incineration is clearly not a 'low carbon' technology** when considered in light of the NPPF definition.

This conclusion is unsurprising when one considers that waste incinerators rely on burning plastic (a fossil fuel made from petroleum) and that waste incinerators generate electricity inefficiently. The greater the proportion of the incinerator feedstock which is plastics, the greater the proportion of the energy content of the waste that is derived from fossil fuels.

According to Cory's Riverside carbon report, 16% of their incinerator's feedstock in 2016 was made up of plastic and this provided 36% of the feedstock's calorific value (energy content).[24]

The 16% and 36% figures exclude the plastic content of the textiles that were incinerated. Cory's report claims half of the carbon and energy content of textiles incinerated at Riverside was biogenic, implying that half the textiles were comprised of plastic from synthetic fibres. If one includes plastics from textiles based on these assumptions then 18% of the feedstock was plastic and this proportion of the feedstock's energy content provided more than 38.5% of the energy generated by Cory's Riverside incinerator in 2016.

Given the quantity of fossil fuels being incinerated, the question of how much energy can be extracted in exchange for those fossil CO_2 emissions becomes relevant, and the relative inefficiency of electricity-only incinerators compared to other forms of power generation becomes significant.

In relation to the relative inefficiency of incineration compared to CCGT, footnote 80 of the Government's Energy from Waste Guide notes that: *"Typical conversion efficiency of waste fuel into usable electricity is 25% compared to >70% for natural gas to electricity in CCGT".*[25]

[24] Page 16 of Cory Riverside Energy: A Carbon Case, available from: https://www.coryenergy.com/wp-content/uploads/2018/01/Cory-Carbon-Report-v1.1.pdf

[25] Energy from waste: A guide to the debate February 2014 (revised edition), available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/284612/pb14130-energy-waste-201402.pdf

Commenting on this issue, Keith Freegard (Axion Polymers Director and Vice-chair of the British Plastics Federation Recycling Group) explained that: *"Even the most modern burner designs are relatively inefficient at energy recovery, generating lower amounts of electrical power per tonne of fuel burned when compared to high efficiency, combined cycle gas turbine systems (CCGT). Both power generating units are ultimately doing the same task: converting carbon-rich fuels into electricity…while sending atmospheric-polluting carbon emissions up the exhaust stack as a major environmental cost associated with the beneficial electrical power supplied into the local grid".*[26]

In addition to performing poorly compared to CCGT, incineration performs very poorly compared to low carbon energy sources. As set out in Tables 2 and 3 above, **even when account of non-direct emissions are included for low carbon sources while being excluded for incineration, the carbon intensity of energy produced through waste incineration is more than 23 times greater than that for low carbon sources such as wind and solar. As such, incineration is clearly not a 'low carbon' technology.**

A July 2018 report from ClientEarth noted that: "*even when energy is recovered in the [incineration] process, the net effect of incineration of plastic waste is to contribute to [i.e. exacerbate] climate change".*[27]

In June 2018, Material Economics published a report entitled 'The Circular Economy - a Powerful Force for Climate Mitigation'. The project, which was supported by the Ellen MacArthur Foundation, investigated the reductions in GHG emissions that could be achieved through a more circular economy on the pathway 2050. According to the study: *"…a continuation of the current shift towards burning plastics would result in substantial additional emissions in 2050…Clearly, the incineration of fossil-based plastics cannot continue in a low-carbon economy".*[28]

[26] Is 'storing' waste plastics better than burning? (2016), available from: http://www.recyclingwasteworld.co.uk/opinion/is-storing-waste-plastics-better-than-burning/149088/

[27] Risk unwrapped: plastic pollution as a material business risk, available from: https://www.documents.clientearth.org/wp-content/uploads/library/2018-07-24-risk-unwrapped-plastic-pollution-as-a-material-business-risk-ce-en.pdf

[28] The Circular Economy - a Powerful Force for Climate Mitigation, available from: http://materialeconomics.com/publications/publication/the-circular-economy-a-powerful-force-for-climate-mitigation

COMPARING INCINERATION WITH LANDFILL

The climate change impacts of waste incineration can also be compared with those associated with sending the same waste, untreated, directly to landfill.

The Government's 2011 Waste Review acknowledged that: *"...while energy from waste has the potential to deliver carbon and other environmental benefits over sending waste to landfill, energy recovery also produces some greenhouse gas emissions. It is important to consider the relative net carbon impact of these processes, and this will depend on the composition of feedstocks and technologies used"*.[29]

In August 2015 Planning Inspector Mel Middleton dismissed an appeal for a circa 140,000 tonnes per annum incinerator proposed for the Former Ravenhead Glass Warehouse at Lock Street, St. Helens, Merseyside. One of the issues material to that refusal was the poor 'carbon credentials' of the proposed waste incineration plant. The decision notes that: *"...generating electrical energy from waste can contribute to carbon emissions to a greater extent than depositing the same material as landfill. It is therefore not a simple exercise to demonstrate that an EfW [Energy from Waste plant, i.e. incinerattor] will have a positive effect on overall carbon emissions..."*.[30]

In January 2018 Resource Minister Dr Thérèse Coffey, responding on behalf of Defra to a Parliamentary Question, made clear that: *"A comparison of the CO_2 impact of waste going to energy from waste and landfill is included in the analysis of the 2014 report 'Energy recovery for residual waste: A carbon based [modelling] approach'. No formal analysis has been undertaken since this report was published"*.[31]

UKWIN's climate change report applies Defra's carbon based modelling approach to a range of prospective feedstock composition profiles for both landfilling 265,000 tonnes of waste and for burning that same tonnage in a hypothetical incinerator built in 2020. This analysis takes account of direct emissions, emissions displaced through electricity generation, and biogenic carbon 'sequestered' in landfill (i.e. stored underground rather than immediately released as CO_2 into the atmosphere as would be the case with incineration). The results are set out in Figure 2 and Table 5, below.

[29] Paragraph 209 of the Government review of waste policy in England (2011), available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69401/pb13540-waste-policy-review110614.pdf

[30] Appeal decision Ref: 2224529, available from: https://acp.planninginspectorate.gov.uk/ViewCase.aspx?Caseid=2224529&CoID=0

[31] Waste Disposal: Written question – 124194, available from: https://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2018-01-22/124194/

The following are the three feedstock composition profiles that are used to evaluate the relative net carbon impacts of incineration compared with landfill using Defra's Carbon based modelling approach:

- The **Defra Base Case** uses the default values from Tables 5 and 8 of Defra's carbon based modelling report;
- The **Reduced Plastic Case** is the same as the Base Case, but halves the quantity of plastics (and proportionally increases other materials); and
- The **Reduced Bio-waste Case** is the same as the Base Case, but halves the quantity of food, garden and soil waste (and proportionally increases other material).

Table 4: Feedstock composition profiles

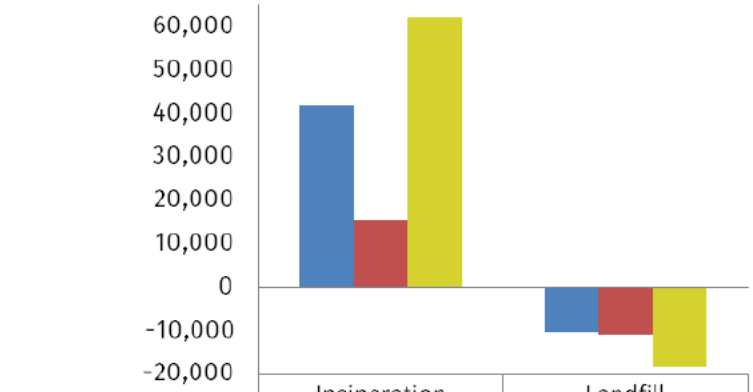
	Defra Base Case	Reduced Plastic	Reduced Bio-waste
Mixed Paper and Card	15.14%	16.32%	19.64%
Plastics	13.48%	6.74%	17.50%
Textiles (and footwear)	3.95%	4.26%	5.13%
Miscellaneous combustibles	5.90%	6.36%	7.66%
Miscellaneous non-combustibles	8.99%	9.69%	11.67%
Food	31.12%	33.55%	15.56%
Garden	3.11%	3.35%	1.55%
Soil and other organic waste	3.11%	3.35%	1.55%
Glass	5.37%	5.79%	6.97%
Metals, Other Non-biodegradable	2.25%	2.43%	2.93%
Non-organic fines	0.57%	0.61%	0.74%
Wood	3.11%	3.35%	4.03%
Sanitary / disposable nappies	3.90%	4.20%	5.07%

Technical Annex C provides details in relation to the:

- use of Defra's carbon based modelling approach (including the various formulas and calculations used and their results);
- choice of incinerator thermal efficiency (25% Gross CV efficiency, which is equivalent to 30% Net CV efficiency and is an 'optimistic' assumption based on a figure cited in Defra's carbon based modelling approach as reflecting a hypothetical *"high-performing electricity-only plant"*);
- choice of marginal emissions factor (2020 BEIS MEF of 0.270, based on Government guidance on evaluating displaced power generation);
- approach to accounting for biogenic carbon sequestration (subtracting biogenic carbon sequestered from the landfill side of the equation, i.e. following method 1(b) as set out in Paragraph 174 of Defra's carbon based modelling approach document); and
- choice of waste throughput (265,000 tonnes per annum).

The results of the comparison between incineration and landfill are summarised as follows:

Figure 2: Tonnes of CO_2e released by incineration and landfill of 265,000 tonnes of waste



	Incineration	Landfill
Base Case	41,817	-10,123
Reduced Plastic	15,529	-10,918
Reduced Bio-waste	62,196	-18,259

Table 5: Relative net GHG impacts from a typical incinerator compared to landfill

	Defra Base Case	Reduced Plastic	Reduced Bio-waste
Direct emissions	25,864 tCO_2e	-11,475 tCO_2e	56,816 tCO_2e
Electricity offset	-46,879 tCO_2e	-40,704 tCO_2e	-54,140 tCO_2e
Biogenic carbon sequestration	72,955 tCO_2e	78,626 tCO_2e	77,778 tCO_2e
Total per year	**51,940 tCO_2e**	**26,447 tCO_2e**	**80,454 tCO_2e**
Total over 30 years	**1,558,200 tCO_2e**	**793,410 tCO_2e**	**2,413,620 tCO_2e**

Based on the above analysis, a typical 265,000 tonnes per annum electricity-only incinerator built in 2020 would emit between 26,447 tonnes and 80,454 tonnes of CO_2e per year more than sending the same waste directly to landfill, meaning that **with respect to climate change emissions for 30 years of operation the incinerator would be between 793,410 tCO_2e and 2,413,620 tCO_2e worse than landfill.**

These results are consistent with work carried out previously. For example, in December 2017 UKWIN examined the GHG impact of the Cory incinerator in order to inform the London Assembly's investigation into Energy from Waste in London. This evidence used Cory's 'Carbon Case' report as a starting point, in which Cory used a slightly different methodology to that set out in Defra's Carbon based modelling approach.

UKWIN's 2017 report[32] set out two areas where applying a more refined methodology than the methodology adopted by Cory would: (a) allow the modelling to account for the difference in the quantity of biogenic CO_2 released through incineration relative to landfill; and (b) use the appropriate BEIS marginal emissions factor (MEF) to calculate the level of CO_2 displaced through energy generation.

When waste is burned at an incinerator the carbon is converted into carbon dioxide (CO_2) and immediately released into the atmosphere. However, when waste is landfilled a large proportion of the carbon is 'sequestered', i.e. permanently or semi-permanently stored underground in what is known as a 'carbon sink'.

Except for the fact that some of its feedstock is transported by barges, Cory's Riverside Resource Recovery Facility can be considered a typical modern large-scale electricity-only incinerator. As set out in UKWIN's 2017 report, when one applies the methodological improvements, Cory's own data shows that GHG emissions from the Riverside incinerator are significantly higher (between 6.7m and 10.5m tonnes higher over 30 years) than emissions from sending same waste directly to landfill. This supports the general conclusion reached above through use of Defra's carbon based modelling approach as a basis for comparing incineration and landfill.

Whilst this analysis focuses on electricity-only incinerators, incineration facilities can operate in 'combined heat and power' (CHP) mode, and indeed a small number of UK incinerators do export some heat within a few kilometres e.g. for district heating of housing, industrial parks, and/or large premises. CHP means that some electrical output will be sacrificed to provide heat output, and so the impact of CHP on climate change emissions can be slightly worse or slightly better than electricity-only incineration, depending at least in part on how much of the exported heat is meaningfully used. Locating a sufficiently large heat requirement and overcoming logistical issues in relation to delivering to those heat users is difficult, and very few of the UK's incinerators currently operate in CHP mode.

It is noted that in some cases, operating a CHP scheme can increase 'lock-in' to, and reliance on, an incinerator which has adverse climate change impacts. Whilst CHP might in some cases make a facility marginally less harmful in GHG terms than if it were operated in electricity-only mode, it does not alter the conclusions that waste incineration is accompanied by adverse climate change impacts.

[32] UKWIN's December 2017 critique of 'Cory Riverside Energy: A Carbon Case', available from: http://ukwin.org.uk/files/pdf/UKWIN_December_2017_Cory_Riverside_Carbon_Critiques.pdf

RECYCLABILITY OF INCINERATOR FEEDSTOCK

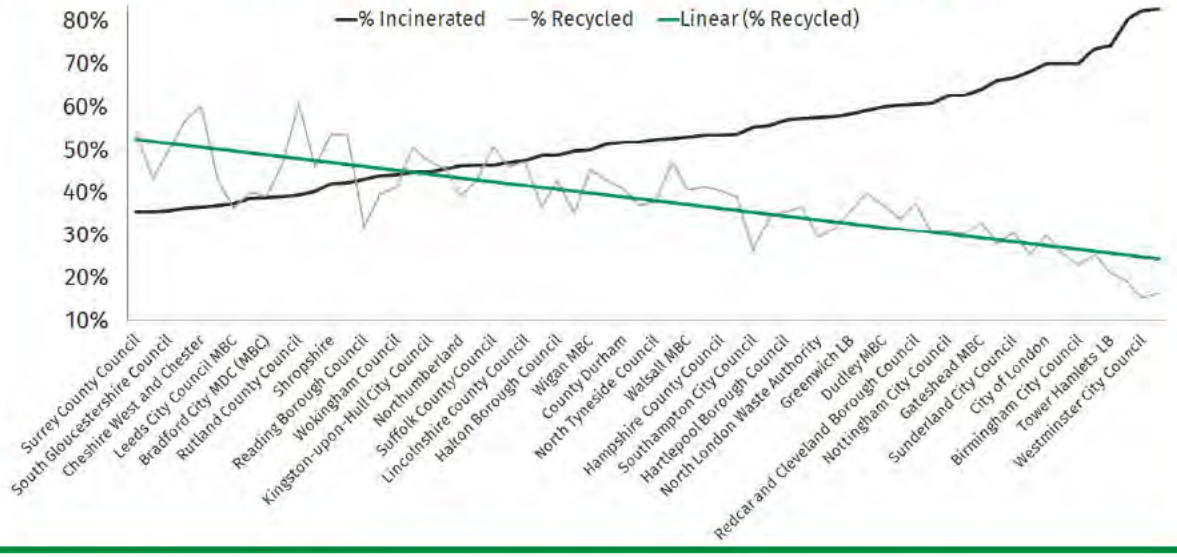
A number of surveys carried out around 2014/15 in different areas of England found that the kerbside recyclability of municipal waste put in residual waste bins, based on the kerbside recycling services available at the relevant local authorities, ranged from 52% to 57.9%, and one study[33] found that when recycling services available at Council bring sites are included an additional 10.1% can be added to this figure. Thus, **composition analysis indicates that a clear majority of 'residual waste' is readily recyclable**.

It is simply not the case that there is a binary choice between sending material for incineration or sending that same material untreated directly to landfill, for example:

- Unavoidable food waste can be redistributed, and where that is not possible it can be composted or sent for anaerobic digestion;
- Products can be reused or repaired;
- Dry recyclable material such as glass, plastics, paper, card and textiles can be recycled;
- Paper and card not suitable for recycling can be composted; and
- Residual biodegradable waste can be 'bio-stabilised' prior to landfill to reduce methane emissions.

Analysis of waste statistics shows that councils with above-average rates of incineration tend to have lower rates of recycling.[34]

Figure 3: Municipal waste treatment rates for councils with above-average incineration (2015/2016)



[33] Waste composition – kerbside, available from: http://edocs.southglos.gov.uk/wastestrategyevidence/pages/waste-composition-kerbside/

[34] UKWIN Bin the Burners Briefing about how incineration harms recycling, available from: http://ukwin.org.uk/btb/BtB_Incineration_Harms_Recycling.pdf

Figure 3 (above) displays the incineration and recycling rates of English Councils that had above-average rates of incineration in 2015/16 based on Defra statistics. The Councils are sorted by ascending rate of incineration, and the trend line highlights how those authorities with higher rates of incineration also tended to have lower rates of recycling. The graph in Figure 3 is an update of earlier UKWIN analysis which was based on 2012/13 waste data and which the House of Commons Environment, Food and Rural Affairs Committee (EFRACOM) described as "*showing an apparent correlation between high rates of incineration and low rates of recycling*".[35]

The observation that much of what is described as 'residual waste' is not genuinely residual, and that much of the feedstock used by incinerators could and should have been recycled or composted, is not new.

For example, Resource Futures Non-executive Chair Phillip Ward noted in September 2012 that: *"...black bag waste is not a single material. Resource Futures are the holders of comprehensive information about its composition and their study – published by Defra – shows that it is largely made up of regular recyclable materials..."*.[36]

More recently, Professor Ian Boyd, Chief Scientific Adviser at DEFRA, noted in January 2018 that: *"If there is one way of quickly extinguishing the value in a material, it is to stick it in an incinerator and burn it. It may give you energy out at the end of the day, but some of those materials, even if they are plastics, with a little ingenuity, can be given more positive value. One thing that worries me is that we are taking these materials, we are putting them in incinerators, we are losing them forever and we are creating carbon dioxide out of them, which is not a great thing...I think that incineration is not a good direction to go in".*[37]

As part of their July 2018 National Infrastructure Assessment the National Infrastructure Commission noted that: *"Reducing the waste sent to energy from waste plants (incinerators) by recycling more plastic and converting more food waste into biogas can also help reduce overall emissions...The successful delivery of a low cost, low carbon energy and waste system requires...encouraging more recycling, and less waste incineration".*[38]

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[35] Paragraph 77 of Waste management in England, Fourth Report of Session 2014–15, available from: https://publications.parliament.uk/pa/cm201415/cmselect/cmenvfru/241/241.pdf
[36] Reshuffling the waste hierarchy, available from: http://www.isonomia.co.uk/?p=1209
[37] Oral Evidence: The Work of Defra's Chief Scientific Adviser, HC 775, available from: http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environment-food-and-rural-affairs-committee/work-of-the-chief-scientific-adviser-defra/oral/78127.pdf
[38] National Infrastructure Assessment, available from: https://www.nic.org.uk/publications/national-infrastructure-assessment-2018/

Efforts to 'design out' waste and to promote the circular economy can be expected to significantly reduce the quantity of 'residual waste' that is available for treatment. Much of what is currently used for incinerator feedstock could be recycled or composted, which would result in carbon savings and other environmental benefits. Reduction and reuse could be expected to deliver even greater carbon and environmental benefits.

Quantifying the full 'opportunity cost' of incinerating recyclable materials falls outside the scope of this report, but it is worth noting that a significant proportion of what is currently in the 'residual waste' stream is already recyclable based on current council recycling services.

Summary of results from compositional analysis studies

South Gloucestershire Council commissioned analysis into their residual waste, which found*: "A total of 52 percent of the contents of the average black bin could have been recycled in 2014-15 through the existing kerbside recycling service…A further 10.1 percent could have been recycled through the Sort It recycling centres…In 2014-15 the council spent over £3m disposing of this recyclable material in the residual waste stream. The majority of this was processed into material used for energy production".*[39]

According to Section 4.3 of the **Hertfordshire** Waste Composition Analysis published in May 2015: *"The overall recyclability of the residual waste relates to all the items present [in the kerbside residual waste stream] that could have been accepted into the kerbside recycling schemes currently operating in each of the Hertfordshire authorities that were sampled…Across Hertfordshire it is expected that 51.2% of all residual waste being disposed of is recyclable at the kerbside".*[40]

A similar study in **Barnet Borough Council**, based on surveys carried out in November 2014 and April 2015, found that the overall recyclability of the household residual stream (i.e. all the items present that could have been accepted into the kerbside recycling containers that are available) ranged from 54.9% to 56.8%.[41]

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[39] Waste composition – kerbside, available from: http://edocs.southglos.gov.uk/wastestrategyevidence/pages/waste-composition-kerbside/

[40] Hertfordshire Kerbside Waste Composition Analysis (March - May 2015) Final Report, available from: http://bailey.persona-pi.com/Public-Inquiries/Rattys%20Lane%20-%20Hoddesdon/C%20-%20During%20PI%20dox/doc-54.pdf

[41] Kerbside Waste and Recycling Composition Analysis, Barnet Borough Council (November 2014 - April 2015), available from: https://files.datapress.com/barnet/dataset/waste-composition-analysis---houses/2015-10-12T14:06:11/BARNET%20WASTE%20ANALYSIS%202014_2015%20houses%202%20season%20final%20report%209%20July%202015.pdf

Similarly, according to surveys in **Warwickshire**: *"A waste composition analysis carried out in Feb/March 2014 showed that overall 57.9% of collected residual waste could have been recycled at the kerbside".*[42]

In terms of Commercial and Industrial (C&I) waste, the **North West of England C&I Waste Survey** carried out for the Environment Agency in 2009 found that: *"...the recorded data suggests that up to 97.5% of the C&I waste landfilled in the [North West] region could be recycled if the correct facilities and services were available".*[43]

In **Wales**, a WRAP study published in 2016 found that: *"In the kerbside collected residual waste stream, 48.9% of the material was widely recyclable and 59.4% was biodegradable".*[44]

[42] Warwickshire Waste Partnership 17 September 2014 Wheeled Bin Review, available from: https://democratic.warwickshire.gov.uk/Cmis5/Document.ashx?czJKcaeAi5tUFL1DTL2UE4zNRBcoShgo=4q0E1ezo4bT3scKUwLoCx%2Bm4qhGP20mLkwvRjMEie6G7cgZnjOwmqg%3D%3D&rUzwRPf%2BZ3zd4E7Ikn8Lyw%3D%3D=pwRE6AGJFLDNlh225F5QMaQWCtPHwdhUfCZ%2FLUQzgA2uL5jNRG4jdQ%3D%3D&mCTIbCubSFfXsDGW9IXnlg%3D%3D=hFflUdN3100%3D&kCx1AnS9%2FpWZQ40DXFvdEw%3D%3D=hFflUdN3100%3D&uJovDxwdjMPoYv%2BAJvYtyA%3D%3D=ctNJFf55vVA%3D&FgPlIEJYlotS%2BYGoBi5olA%3D%3D=NHdURQburHA%3D&d9Qjj0ag1Pd993jsyOJqFvmyB7X0CSQK=ctNJFf55vVA%3D&WGewmoAfeNR9xqBux0r1Q8Za60lavYmz=ctNJFf55vVA%3D&WGewmoAfeNQ16B2MHuCpMRKZMwaG1PaO=ctNJFf55vVA%3D

[43] North West of England Commercial and Industrial Waste Survey 2009 (for The Environment Agency, March 2010), available from: http://webarchive.nationalarchives.gov.uk/20140329075720/http://cdn.environment-agency.gov.uk/genw0410bsjm-e-e.pdf

[44] National municipal waste compositional analysis in Wales, available from: http://www.wrapcymru.org.uk/sites/files/wrap/Wales%20Municipal%20Waste%20Composition%202015-16%20FINAL.pdf

Technical Annexes

ANNEX A: CO_2 PER TONNE INCINERATED

Estimates for UK waste

Figures used for the UK's GHG Inventory Reporting

In response to a Parliamentary Question the Minister of State for Energy and Clean Growth stated in February 2018 that, for climate change reporting, the Government uses a figure of 0.3508 tonnes of CO_2 equivalent emitted for each tonne of municipal waste combusted in the UK's incinerators. This includes 0.3378 tonnes of CO_2 emitted by the incineration of waste that derives from fossil sources, e.g. plastics, with the remaining fraction derived from other GHG emissions (i.e. methane and nitrous oxide).[45]

According to the Minister's response, the source of these figures is the 2017 Energy Background Data spreadsheet, available from the National Atmospheric Emissions Inventory (NAEI) website.[46] This spreadsheet indicates, as part of the CEF worksheet (which sets out the Carbon emission factors (CEFs) used in the UK's GHG inventory), that the carbon figures for Municipal Solid Waste (MSW) - which include industrial/commercial combustion - derive from the Resource Futures report, published in 2012, entitled: 'Biodegradability of municipal solid waste'.[47]

The basis for the Government's figures therefore appears to be composition analysis of waste sent to landfill in 2010 and 2011 rather than compositional analysis of what is currently used as incinerator feedstock.

[45] See: https://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2018-02-01/126078/

[46] NAEI Energy Background Data spreadsheet, available from: http://uk-air.defra.gov.uk/reports/cat07/1705121416_Energy_background_data_uk_2017_Final.xlsx http://naei.beis.gov.uk/reports/reports?report_id=929

[47] Biodegradability of municipal solid waste (WR1003), available from: http://randd.defra.gov.uk/Document.aspx?Document=12266_WR1003BiodegradabilityofMSWReportfinal.pdf

Figures used by Defra for comparing incineration with landfill

A Defra report published in February 2014 entitled 'Energy recovery for residual waste – A carbon based modelling approach' was commissioned to assess the impact of changing feedstock and other factors on the relative emissions of incineration compared to landfill.[48]

The carbon intensity of the default waste composition assumption used for the Defra report can be determined using the total fossil and biogenic CO_2 figures in Table 5 of that report. It is stated that 0.34 tonnes of fossil CO_2 is released per tonne of waste, so 0.34 ÷ 3.667 = 0.0927 tonnes of fossil carbon per tonne of waste (i.e. a fossil carbon percentage of 9.27%).[49]

It is also stated that 0.52 tonnes of biogenic CO_2 is released, and 0.52 ÷ 3.667 = 0.1418 tonnes (i.e. 14.18%) of biogenic carbon per tonne of waste. Combined, this means a total of 0.2345 tonnes of C is in each tonne of waste (0.34 + 0.52 = 0.86, and 0.86 ÷ 3.667 = 0.2345), i.e. a total carbon percentage of 23.45%.

Defra's carbon based modelling approach report includes sensitivity analysis of other waste compositions, e.g. to investigate the impact of increased separate collection of food waste, however the default waste composition is what is used in Table 5 of the Defra report.

In December 2014 Isonomia published an article by Mike Brown (Managing Director of consultancy Eunomia) entitled 'Is waste a source of renewable energy?'.[50] In his attempt to improve upon the data contained within Table 5 of Defra's carbon based modelling approach Brown used Defra composition analysis published in June 2011 to estimate the composition of waste that might go to incineration.[51]

This resulted in a carbon content of 26.86%, of which 15.27% was fossil carbon and 11.59% was biogenic carbon. This equates to the release of 0.985 tonnes of CO_2 per tonne of waste incinerated, comprising 0.560 tonnes of fossil CO_2 and 0.425 tonnes of biogenic CO_2.[52]

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[48] Energy recovery for residual waste – A carbon based modelling approach (WR1910), available from: http://sciencesearch.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=19019

[49] Due to numerical rounding, this figure is slightly different from the carbon intensity implied by Defra's composition figures for each waste type. These variations do not impact upon the analysis.

[50] Is waste a source of renewable energy?, available from: http://www.isonomia.co.uk/?p=3501

[51] Detailed compositional assessment for municipal residual waste and recycling streams in England (WR1002), available from: http://sciencesearch.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=17303

[52] Composition Table 2: Results Using Resource Futures' 2011 Kerbside Collected Residual Waste Composition, available from: http://www.isonomia.co.uk/wp-content/uploads/2014/12/EfW-Composition-Tables.pdf

Waste industry estimates for specific incinerators

Analysis of actual incinerator feedstock

Incinerator operators do not tend to publish detailed information about the composition of the waste that they incinerate, but in March 2017 Cory published a carbon assessment based on analysis of a sample of the feedstock used by their Riverside incinerator in London.[53]

According to the operator's publication: *"In 2015, chemical analysis revealed 27% of the waste entering Riverside EfW contains carbon (C) by weight. This result is higher than the 23% used in the Defra carbon modelling study, but within the typical range of municipal solid waste in the UK (20-30%). Results highlight: 54.10% of the waste is biogenic in origin; 45.90% of waste is of fossil fuel origin".*

Based on Cory's statements that 45.9% of the carbon is fossil based (page 16 of the report) and that 0.454 tonnes of fossil CO_2 is released per tonne of waste burned (page 17 of the report) it is possible to calculate the total carbon percentage as being more precisely 26.98% (which is rounded to 27% on page 16 of the report). As such, Cory's report indicates that around 1 tonne of carbon dioxide is emitted for each tonne of waste burned (1 tonne of feedstock × 0.2698 × 44 ÷ 12 = 0.989 tonnes of CO_2).

Cory calculated that 0.454 tonnes of fossil CO_2 is released per tonne of waste burned at the Riverside incinerator, which implies that 0.535 tonnes of biogenic CO_2 is also released per tonne of waste incinerated.

It is noteworthy that analysis commissioned by an incinerator operator, based on actual waste composition of a real-world incinerator, indicates that the carbon content of the feedstock is considerably higher than assumed by Defra in their modelling and reporting.

Anticipated feedstock composition from incinerator proposals

In addition to the feedstock composition analysis carried out for the operational incinerator described above, anticipated feedstock profiles for proposed incinerators also indicate that it would be reasonable to assume a higher carbon content (and indeed a higher fossil carbon content) than the default values assumed by Defra in their carbon based modelling report.

[53] Cory Riverside Energy: A Carbon Case, available from: https://www.coryenergy.com/wp-content/uploads/2018/01/Cory-Carbon-Report-v1.1.pdf

As part of the 2015 planning inquiry for the Bilsthorpe Energy Centre (Nottinghamshire), the applicant's climate change witness estimated that the feedstock for the proposed Bilsthorpe gasification plant would have a fossil carbon content of 34.10%. This comprised 14.93% fossil carbon content and 19.17% biogenic carbon content, which equates to the release of 1.25 tonnes of CO_2 per tonne of waste burned, of which 0.547 tonnes was assumed to be fossil CO_2 and 0.703 tonnes was assumed to be biogenic CO_2.[54]

Interestingly, the Bilsthorpe proposal intended to use plasma arc gasification which involved adding coke and limestone as part of the process. According to the applicant's climate change witness, for each tonne of waste fed into the gasifier the facility was expected to use 0.546 tonnes of coke (50,241 tonnes of coke ÷ 91,957 tonnes of feedstock). This coke was stated to result in an additional 0.138 tonnes of fossil CO_2 being emitted per tonne of waste fed into the gasifier (12,679.33 tonnes of coke CO_2 ÷ 91,957 tonnes of feedstock).

The evidence provided by the applicant's climate change witness also included information about the greenhouse gas (GHG) emissions associated with the introduction of limestone as part of the proposed gasification process. For each tonne of waste fed into the gasifier the facility was expected to use 0.083 tonnes of limestone (7,600 tonnes of limestone ÷ 91,957 of feedstock). This limestone was stated to result in an additional 0.036 tonnes of fossil CO_2 being emitted per tonne of waste fed into the gasifier (3,342 tonnes of limestone CO_2 ÷ 91,957 tonnes of feedstock).

As coke and limestone are not part of the waste feedstock they are not included in this analysis, but the prospect of introducing quantities of coke and limestone as part of gasification processes highlights the importance of considering the climate impact of start-up and support fuels as well as reagent additives when evaluating the total climate impacts of incineration in general, and for gasification and pyrolysis proposals in particular.

A proposal for a conventional incinerator in Waterbeach (Cambridgeshire) estimated that the feedstock would have a carbon content of 25.59%.[55] The applicant stated that 58.65% of this carbon was expected to be biogenic, which implies that 15% of the total waste to be used as feedstock would be biogenic carbon and 10.59% of the total waste to be used as feedstock would be fossil carbon. This translates to 0.938 tonnes of CO_2 per tonne of waste incinerated, of which 0.388 would be fossil CO_2 and 0.550 biogenic CO_2.

[54] APP/SMO/6B – Carbon Calculations, available from: http://www.nottinghamshire.gov.uk/media/109964/app-smo-6b.pdf
[55] Waterbeach Energy from Waste Facility – Carbon Assessment (July 2018), available from: http://planning.cambridgeshire.gov.uk/swift/MediaTemp/43806-1950973524.pdf

Calculating CO_2 emissions per tonne of waste based on published UK sources

The following table sets out the CO_2 data derived from the sources outlined above and uses this to estimate the average CO_2 in the feedstock:

Table 6: Tonnes of CO_2 per tonne based on published UK sources

Source	Description	Total C %	Total CO_2 per tonne	Fossil Carbon %	Fossil CO_2 Per tonne	Biogenic Carbon %	Biogenic CO_2 per tonne
Defra Carbon based modelling approach (February 2014)	Table 5. Data set and calculations for the energy recovery half of the model	23.45%	0.860	9.27%	0.340	14.18%	0.520
'Is waste a source of renewable energy?', Mike Brown (December 2014)	Based on Resource Futures' 2011 Kerbside Collected Residual Waste Composition	26.86%	0.985	15.00%	0.560	12.00%	0.425
Cory Riverside Energy: A Carbon Case (January 2018, V1.1)	Riverside incinerator - 2015 feedstock composition analysis	26.98%	0.989	12.384%	0.454	14.596%	0.535
Bilsthorpe Energy Centre - Carbon Calculations (Average) (October 2015)	Evidence given by the applicant's climate change witness [APP/SMO/6B]	34.10%	1.250	14.93%	0.547	19.17%	0.703
Waterbeach - Carbon Assessment (July 2018)	Table 2 - Waste Throughput cases (Base Case)	25.59%	0.938	10.59%	0.388	15.00%	0.550
	Average	**27.42%**	1.005	12.43%	**0.458**	14.99%	0.547

Note: Figures are rounded to the number of decimal places shown.

Calculating CO_2 per tonne of waste based on Environment Agency data sets

CO_2 released per tonne of waste processed can be calculated by dividing the total tonnes of CO_2 released by the total tonnes of waste incinerated. The estimated carbon percentage of the feedstock can be calculated by dividing the CO_2 per tonne by 3.667 (i.e. 44 ÷ 12, which represents the difference between the atomic weight of CO_2 and that of C). This approach will attribute all CO_2 released to the feedstock, whereas in reality a small proportion might derive from support fuel, but this will not have a significant impact on the result and for the purposes of the use of the information would actually result in a slightly more accurate figure for the direct fossil CO_2 released per tonne of waste treated.

Two primary data sources were used:

- 'Incineration Input & Capacity' worksheet from the 'Waste management 2016 in England: data tables' (Environment Agency, LIT 10671).[56]
- '2016 substances' worksheet from 'Pollution Inventory 2016 - Emissions to air, land, controlled waters and wastewater' (Environment Agency, Version 2).[57]

To verify the tonnes incinerated the following additional data source was used:

- Operator Annual Performance Reports, as reported by Tolvik on page 17 of 'UK Energy from Waste Statistics – 2016'.[58]

The 22 facilities included are those where the data was available from the Environment Agency and there were no significant discrepancies between the data reported by the EA and with other data sources (e.g. the tonnage reported in the Operator Annual Performance Reports).

[56] Available from: https://www.gov.uk/government/publications/waste-management-for-england-2016
[57] Available from: https://data.gov.uk/dataset/cfd94301-a2f2-48a2-9915-e477ca6d8b7e/pollution-inventory
[58] Available from: http://www.tolvik.com/wp-content/uploads/UK-EfW-Statistics-2016-report-Tolvik-June-2017.pdf

Table 7: CO_2 per tonne based on extracts from Environment Agency 2016 data sets

Permit no	Operator	Site name	Tonnage incinerated in 2016	Tonnes of CO_2 released	CO_2 per tonne (calculated)	Feedstock carbon % (calculated)
NP3739PD	The Coventry & Solihull Waste Disposal Company Ltd	Coventry	282,849	216,611	0.766	20.89%
BS3042IM	Viridor Waste (Greater Manchester) Ltd	Bolton Thermal Recovery Facility	86,389	72,414	0.838	22.86%
WP3239SJ	Veolia ES Birmingham Ltd	Tyseley EFW Plant, Birmingham	351,208	316,087	0.900	24.55%
BM4082IY	Veolia ES Sheffield Limited	Sheffield Energy Recovery Facility, Sheffield	235,334	211,801	0.900	24.55%
XP3239GF	Veolia ES Shropshire Ltd	Battlefield EFW	94,421	84,979	0.900	24.55%
HP3431HK	Veolia ES Staffordshire Limited	Staffordshire Energy Recovery Facility	339,946	305,952	0.900	24.55%
BT7116IW	Lakeside Energy From Waste Limited	Slough	435,844	392,569	0.901	24.56%
BV8067IL	Veolia ES South Downs Ltd	Newhaven	233,013	210,304	0.903	24.61%
NP3738SY	South East London CHP Limited	Lewisham	448,235	407,966	0.910	24.82%
HP3538CR	Cyclerval (UK) Ltd	Exeter EFW	53,457	49,142	0.919	25.07%
JP3535CE	Avonmouth Bio Power Energy Ltd	Avonmouth Energy Facility	32428	31,149	0.961	26.20%
FP3134GU	Viridor Limited	Ardley EFW Plant	304,125	303,093	0.997	27.18%
BJ6178IX	SITA (Kirklees) Limited	Kirklees EFW, Huddersfield	127,510	127,510	1.000	27.27%
WP3438HZ	SITA Suffolk Ltd	SITA Suffolk EFW Plant	266,553	266,554	1.000	27.27%
YP3033BE	London Waste Ltd	Edmonton	547,721	581,019	1.061	28.93%
FP3739FS	FCC Linconshire Ltd	Lincolnshire EFW Facility	163,580	178,506	1.091	29.76%
AP3835SM	MES Environmental Limited	Wolverhampton	110,759	125,488	1.133	30.90%
BT4249IB	Newlincs Development Ltd	Grimsby	54,855	62,847	1.146	31.25%
QP3234SX	MES Environmental Limited	Stoke	182,969	215,633	1.179	32.14%
AP3435SD	MES Environmental Limited	Dudley, West Midlands	93,292	110,649	1.186	32.35%
RP3638CG	Viridor	Runcorn EFW Facility	867,715	1,074,092	1.238	33.76%
NP3638ZS	Viridor Peterborough Ltd	Viridor Peterborough Energy	82,702	103,999	1.258	34.30%
		Totals / Averages	5,394,905	5,448,364	1.010	**27.54%**

Note: Figures rounded to the number of decimal places shown. Contains Environment Agency information © Environment Agency and/or database right

Analysis of CO_2 per tonne incinerated

Based on the analysis above it is reasonable to assume that on average around 1 tonne of CO_2 is currently being released for each tonne of waste incinerated in the UK. It is also reasonable to assume that this tonne of CO_2 comprises around 0.458 tonnes of fossil CO_2 and around 0.542 tonnes of biogenic CO_2.

These figures are adopted to estimate the annual fossil CO_2 emitted in future years (2019 - 2049) because changes in feedstock composition are difficult to predict and because changes could go either way (i.e. the fossil CO_2 fraction could increase or decrease) depending on a number of market factors and legislative and policy drivers.

For example, it is understood that the Circular Economy Package requires that, by 31st December 2023, bio-waste is either collected separately or recycled at source. Increased separate collection of bio-waste could be expected to increase the proportion of waste that contains fossil carbon, whereas a reduction in the use of single-use plastics would increase the proportion of waste that is made up of biogenic carbon.

Furthermore, increased use of 'pre-treatment' processes, e.g. to turn waste into 'refuse derived fuels' ('RDF'), would result in a greater proportion of water being removed from the feedstock, which could be expected to increase the proportion of the feedstock which is carbon.

Sensitivity analysis of the impact on CO_2 emissions of different feedstock profiles is provided within this report (e.g. in Figure 2, and Table 5, and Annex C) for the default values of the Defra Carbon based modelling approach within the context of the evaluation of incineration relative to landfill.

As explained and discussed in the main body of the report, the estimate of 0.458 tonnes of fossil CO_2 per tonne of waste burned set out above and the estimate of 14,435,384 tonnes per annum of waste incineration capacity operational and under construction set out in the main body of the report are combined with Defra's prices for non-traded carbon to estimate the cost of fossil CO2 from incineration from this waste for a 30 year period (2019-2049). The calculations used to determine the cost to society of fossil CO2 from waste incineration for 2019-2049 are set out in Table 8 (overleaf).

Table 8: Cost to society of fossil CO_2 from waste incineration (2019-2049)

	Non-traded carbon price			Fossil CO_2 released by incineration			Cost to society of fossil CO_2 from incineration			Cost per tonne of waste		
	Low	Central	High	Tonnes of waste	Fossil CO_2 per tonne	Tonnes of fossil CO_2	Low	Central	High	Low	Central	High
2019	£33.54	£67.08	£100.62	14,435,384	0.458	6,611,406	£221,746,553	£443,493,106	£665,239,659	£15	£31	£46
2020	£34.04	£68.08	£102.12	14,435,384	0.458	6,611,406	£225,052,256	£450,104,512	£675,156,768	£16	£31	£47
2021	£34.61	£69.22	£103.83	14,435,384	0.458	6,611,406	£228,820,757	£457,641,514	£686,462,272	£16	£32	£48
2022	£35.18	£70.35	£105.53	14,435,384	0.458	6,611,406	£232,589,259	£465,112,403	£697,701,662	£16	£32	£48
2023	£35.74	£71.49	£107.23	14,435,384	0.458	6,611,406	£236,291,646	£472,649,406	£708,941,052	£16	£33	£49
2024	£36.31	£72.62	£108.93	14,435,384	0.458	6,611,406	£240,060,147	£480,120,294	£720,180,442	£17	£33	£50
2025	£36.88	£73.76	£110.64	14,435,384	0.458	6,611,406	£243,828,649	£487,657,297	£731,485,946	£17	£34	£51
2026	£37.45	£74.89	£112.34	14,435,384	0.458	6,611,406	£247,597,150	£495,128,186	£742,725,336	£17	£34	£51
2027	£38.01	£76.03	£114.04	14,435,384	0.458	6,611,406	£251,299,537	£502,665,188	£753,964,726	£17	£35	£52
2028	£38.58	£77.16	£115.74	14,435,384	0.458	6,611,406	£255,068,039	£510,136,077	£765,204,116	£18	£35	£53
2029	£39.15	£78.30	£117.44	14,435,384	0.458	6,611,406	£258,836,540	£517,673,080	£776,443,506	£18	£36	£54
2030	£39.72	£79.43	£119.15	14,435,384	0.458	6,611,406	£262,605,041	£525,143,968	£787,749,010	£18	£36	£55
2031	£43.40	£86.81	£130.21	14,435,384	0.458	6,611,406	£286,935,015	£573,936,144	£860,871,159	£20	£40	£60
2032	£47.09	£94.18	£141.27	14,435,384	0.458	6,611,406	£311,331,103	£622,662,205	£933,993,308	£22	£43	£65
2033	£50.78	£101.56	£152.34	14,435,384	0.458	6,611,406	£335,727,190	£671,454,380	£1,007,181,571	£23	£47	£70
2034	£54.47	£108.93	£163.40	14,435,384	0.458	6,611,406	£360,123,278	£720,180,442	£1,080,303,719	£25	£50	£75
2035	£58.15	£116.31	£174.46	14,435,384	0.458	6,611,406	£384,453,251	£768,972,617	£1,153,425,868	£27	£53	£80
2036	£61.84	£123.68	£185.53	14,435,384	0.458	6,611,406	£408,849,339	£817,698,678	£1,226,614,131	£28	£57	£85
2037	£65.53	£131.06	£196.59	14,435,384	0.458	6,611,406	£433,245,427	£866,490,854	£1,299,736,280	£30	£60	£90
2038	£69.22	£138.44	£207.65	14,435,384	0.458	6,611,406	£457,641,514	£915,283,029	£1,372,858,429	£32	£63	£95
2039	£72.91	£145.81	£218.72	14,435,384	0.458	6,611,406	£482,037,602	£964,009,090	£1,446,046,692	£33	£67	£100
2040	£76.59	£153.19	£229.78	14,435,384	0.458	6,611,406	£506,367,576	£1,012,801,266	£1,519,168,841	£35	£70	£105
2041	£80.28	£160.56	£240.84	14,435,384	0.458	6,611,406	£530,763,663	£1,061,527,327	£1,592,290,990	£37	£74	£110
2042	£83.97	£167.94	£251.91	14,435,384	0.458	6,611,406	£555,159,751	£1,110,319,502	£1,665,479,253	£38	£77	£115
2043	£87.66	£175.31	£262.97	14,435,384	0.458	6,611,406	£579,555,839	£1,159,045,563	£1,738,601,402	£40	£80	£120
2044	£91.34	£182.69	£274.03	14,435,384	0.458	6,611,406	£603,885,812	£1,207,837,739	£1,811,723,551	£42	£84	£126
2045	£95.03	£190.07	£285.10	14,435,384	0.458	6,611,406	£628,281,900	£1,256,629,914	£1,884,911,814	£44	£87	£131
2046	£98.72	£197.44	£296.16	14,435,384	0.458	6,611,406	£652,677,988	£1,305,355,975	£1,958,033,963	£45	£90	£136
2047	£102.41	£204.82	£307.23	14,435,384	0.458	6,611,406	£677,074,075	£1,354,148,151	£2,031,222,226	£47	£94	£141
2048	£106.10	£212.19	£318.29	14,435,384	0.458	6,611,406	£701,470,163	£1,402,874,212	£2,104,344,375	£49	£97	£146
2049	£109.78	£219.57	£329.35	14,435,384	0.458	6,611,406	£725,800,137	£1,451,666,387	£2,177,466,524	£50	£101	£151
			Total	447,496,904		**204,953,582**	£12,525,176,196	**£25,050,418,507**	£37,575,528,589			

ANNEX B: DATA USED TO CALCULATE INCINERATION CARBON INTENSITY

Minister of State (2008), UK incinerators

In answer to a Parliamentary Question from Stephen Gilbert MP, in January 2011 Greg Barker (then Minister of State for Climate Change) replied saying: *"Within the UK, incinerators which generate electricity from municipal solid waste (MSW) are commonly referred to as energy from waste (EfW) plant. In 2008, the latest year for which data are available, we estimate that EfW plant produce 0.54 kt carbon dioxide equivalent per GWh (equivalent to **0.54 kg per kWh**). This figure incorporates emissions of carbon dioxide, methane and nitrous oxide. It should be noted that there is a high level of uncertainty around this figure".*[59]

'0.54 kg [CO_2e] per kWh' can also be expressed as **540gCO_2e/kWh**.

Eunomia (2006), electricity-only UK incinerators

Table 1 of 'A Changing Climate for Energy from Waste?' provides a fossil carbon intensity figure of 510gCO2e/kWh for electricity-only incinerators in 2006 and an estimate of **580gCO2e/kWh** for future electricity-only incinerators.[60]

Cory (2018), Riverside incinerator in 2015

The report entitled: 'Cory Riverside Energy: A Carbon Case' (Version 1.1 of which was published in January 2018) includes information about Cory's Riverside incinerator, a facility which has been running since 2011.[61]

Page 17 of the report states that, based on compositional analysis of the feedstock from 2015, Cory estimated that incinerating 700,138 tonnes of feedstock gave rise to the release of **317,914 tonnes of fossil CO_2** in 2015.

Page 18 of Cory's Riverside incinerator report states that in 2015 the facility treated 700,138 tonnes of waste, generated 574,385 MWh of electricity, and **exported 515,166 MWh of electricity to the grid**.

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[59] Written Answers to Questions - Monday 17 January 2011, available from: https://publications.parliament.uk/pa/cm201011/cmhansrd/cm110117/text/110117w0001.htm#1101173000926

[60] A Changing Climate for Energy from Waste?, available from: https://friendsoftheearth.uk/sites/default/files/downloads/changing_climate.pdf

[61] Cory Riverside Energy: A Carbon Case, available from: https://www.coryenergy.com/wp-content/uploads/2018/01/Cory-Carbon-Report-v1.1.pdf

317,914 tonnes is equivalent to 317,914,000,000 grams and 515,166 MWh is equivalent to 515,166,000 kWh. Because 317,914,000,000 ÷ 515,166,000 = 617.1098248 it can be said that, according to the their report, in 2015 Cory's Riverside incinerator produced electricity with a fossil carbon intensity of **617gCO_2/kWh**.

Average carbon intensity of electricity generated by UK incinerators in 2017

One potential method of estimating the average fossil carbon intensity across all of the UK's incinerators is to divide the estimated average quantity of fossil CO_2 released per tonne of waste incinerated by the average quantity of electricity per tonne of waste incinerated. With the limitation that the two estimates might not be directly comparable, this report attempts to apply this approach.

The fossil CO_2 per tonne of waste can be said to be the 0.458 figure as set out in Annex A. This is equivalent to **458,000 grams (or 0.458 tonnes) of fossil CO_2** per tonne of waste.

For the average kWh per tonne of waste incinerated we turn to a Tolvik report which estimates this based on the Annual Performance Reports for 2017 provided to the Environment Agency (EA), the Scottish Environment Protection Agency (SEPA) and Natural Resources Wales (NRW).[62]

According to page 6 of the Tolvik report, the 'Average Net kWh/tonne input' is **575 kWh** for 2017.

458,000gCO_2 ÷ 575kWh = 796.5217gCO_2/kWh, meaning that it can be estimated that **in 2017 UK incinerators generated electricity with an average fossil carbon intensity of 797gCO2/kWh**.

Inquiry evidence (2015), Bilsthorpe Energy Centre

Evidence given by the applicant's climate change witness in October 2015 as part of the public inquiry into the planning application for the proposed Bilsthorpe Energy Centre provides information on estimated CO_2 and electricity output from a plasma arc gasification plant.[63]

[62] Tolvik UK EfW Statistics 2017 report – June 2018, available from: http://www.tolvik.com/wp-content/uploads/Tolvik-UK-EfW-Statistics-2017.pdf

[63] APP/SMO/6B – Carbon Calculations, available from: http://www.nottinghamshire.gov.uk/media/109964/app-smo-6b.pdf

According to the 'average' case provided by the witness, the facility proposed for Bilsthorpe was expected to give rise to 67,095 tonnes of direct fossil CO_2e emissions per year and to export of 71,607.37 MWh of electricity. The 67,095 tonne figure included the GHG impact of the use of coke and limestone as part of the waste gasification process.

67,095 tonnes of fossil CO_2 is equivalent to 67,095,000,000 grams and 71,607.37 MWh of electricity is equivalent to 71,607,370 kWh.

67,095,000,000gCO_2 ÷ 71,607,370kWh = 936.984559gCO_2/kWh, meaning that according to the Bilsthorpe applicant's climate change witness, the energy that was to have been generated by the Bilsthorpe Energy Centre was estimated to have had an **average fossil carbon intensity of 937gCO_2/kWh**.

ANNEX C: RELATIVE NET CARBON IMPACTS OF INCINERATION COMPARED WITH LANDFILL

Use of Defra's Carbon based modelling approach

In order to compare the climate change impacts of incineration with sending the same waste directly to landfill, the approach that has been followed in this report is to apply Defra's model as set out in 'Energy recovery for residual waste: A carbon based modelling approach' to a modern, electricity-only, incinerator build in 2020. The results of this analysis is summarised in Figure 2 and Table 5, above.

Defra's Carbon based modelling approach document explains that the model was developed to consider *"...the carbon emissions from a tonne of mixed residual waste depending on whether that waste were to go to energy recovery or landfill..."*.[64] Details of the methodology and terminology are explained within Defra's document, and unless otherwise stated the assumptions adopted are the central or default assumptions of that report.

Choice of incinerator thermal efficiency

The climate change impact of an incinerator is affected by the plant's thermal efficiency, which is to say the percentage of energy potential of the waste that is converted into electricity and exported to the grid.

'Gross Calorific Value (GCV) efficiency' is a term used in the Defra report to describe the measure of efficiency followed in their model, and represents the overall energy recovery efficiency based on the Gross CV of the waste. By way of explanation regarding why GCV efficiency was used by Defra, Paragraph 217 of the Defra document states that: *"...due to the data sources available we have used the gross calorific value (or higher heating value)".*

Paragraph 62 of Defra's document states that: *"All EfW efficiencies presented in the report have been calculated from the Gross CV (GCV) of the waste input. It is more usual to use net CV (NCV) to show efficiency, because this reflects the fact that the latent heat of condensation for water vapour is not utilised. For example, considering a high-performing electricity-only plant with a net CV efficiency of 30%. This equates to a gross CV efficiency of 25%".*

[64] Energy recovery for residual waste – A carbon based modelling approach (February 2014), available from: http://sciencesearch.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=19019

Following the example provided in Defra's report, **UKWIN's evaluation adopts a gross CV efficiency of 25%**, which according to the Carbon based modelling approach report represents a high-performing incinerator that equates to 30% net CV efficiency.

The 25% GCV efficiency adopted for this modelling by UKWIN is slightly higher than the efficiency claimed by Veolia for their current proposal for an incinerator in Hertfordshire, which according to Veolia's technical specification would have 24.6% GCV efficiency (which equates to a Net CV efficiency of 28.6%).[65] As such, 25% GCV efficiency could be said to represent an 'optimistic' assumption.

Choice of marginal emissions factor (MEF)

Proponents of waste incineration are prone to arguing that incineration can be relied upon to combat climate change because a portion of the energy generated from burning waste (the electricity that remains after use for the incineration process itself) can be fed into the electricity grid, thereby displacing other potential sources of electricity.

In order to examine these claims it is therefore important to compare the carbon intensity of the electricity exported to the grid by waste incineration with the carbon intensity of the electricity fed into the grid by the other sources that would be displaced by incineration.

The 2008 Climate Change Act *"established a legally binding target to reduce the UK's greenhouse gas emissions by at least 80% below base year levels by 2050, to be achieved through action at home and abroad*".[66] The Government noted in 2012 that: *"Analysis published in the December 2011 Carbon Plan suggests that the most cost effective paths to deliver the 2050 target require the electricity sector to be largely decarbonised during the 2030s*".[67]

[65] See Table 7-1 ('Technical specifications of the Proposed Development') of the February 2017Energy Management Plan from the applicant's Environmental Permit (EP) Application (EPR/SP3038DY/A001) which sets out the Power exported to grid, the Net and Gross CVs of the waste, and the tonnes of waste per annum, from which the Gross and Net CV efficiencies are derived, available from: https://consult.environment-agency.gov.uk/psc/en11-0rf-veolia-es-hertfordshire-limited/supporting_documents/Energy%20management%20plan.pdf

[66] The Carbon Plan: Delivering our low carbon future (December 2011), available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47613/3702-the-carbon-plan-delivering-our-low-carbon-future.pdf

[67] Electricity System: Assessment of Future Challenges - Annex (August 2012), available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/48550/6099-elec-system-assess-future-chall-full.pdf

For the purposes of policy analysis and appraisal BEIS produces estimates of anticipated CO_2 emissions arising from both the future average electricity mix and long run marginal emissions factors (MEFs). The 'long run marginal' means the energy that would be displaced by reductions in energy usage or new base load energy capacity, and is therefore the figure to be used when assessing climate change impacts associated with incineration proposal. In 2017 BEIS explained that: *"For estimating changes in emissions from changes in grid electricity use, analysts should use the (long run) marginal grid electricity emissions factors in data table 1".*[68] These 'marginal emissions factors'[69] set out in BEIS's Data Table 1 are listed as follows:

Table 9: Extract from BEIS Data Table 1: 'Electricity emissions factors to 2100'

Year	Generation-based Long-run Marginal Emissions Factor	Generation-based Grid average
2010	357 gCO_2/kWh	459 gCO_2/kWh
2011	350 gCO_2/kWh	443 gCO_2/kWh
2012	343 gCO_2/kWh	485 gCO_2/kWh
2013	336 gCO_2/kWh	452 gCO_2/kWh
2014	328 gCO_2/kWh	401 gCO_2/kWh
2015	320 gCO_2/kWh	336 gCO_2/kWh
2016	311 gCO_2/kWh	255 gCO_2/kWh
2017	301 gCO_2/kWh	213 gCO_2/kWh
2018	291 gCO_2/kWh	205 gCO_2/kWh
2019	281 gCO_2/kWh	195 gCO_2/kWh
2020	**270 gCO_2/kWh**	181 gCO_2/kWh
2021	258 gCO_2/kWh	171 gCO_2/kWh
2021	258 gCO_2/kWh	171 gCO_2/kWh
2022	246 gCO_2/kWh	148 gCO_2/kWh
2023	233 gCO_2/kWh	144 gCO_2/kWh
2024	219 gCO_2/kWh	150 gCO_2/kWh
2025	205 gCO_2/kWh	141 gCO_2/kWh
2026	189 gCO_2/kWh	114 gCO_2/kWh
2027	173 gCO_2/kWh	119 gCO_2/kWh
2028	156 gCO_2/kWh	108 gCO_2/kWh
2029	138 gCO_2/kWh	96 gCO_2/kWh

[68] Paragraphs 3.31 and 3.32 of Valuation of Energy Use and Greenhouse Gas, available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/671205/Valuation_of_energy_use_and_greenhouse_gas_emissions_for_appraisal_2017.pdf

[69] Table 1: Electricity emissions factors to 2100, available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/696677/Data_tables_1-19_supporting_the_toolkit_and_the_guidance_2017__180403_.xlsx

Defra's carbon based modelling, carried out in 2013, adopted a historic figure of 373gCO_2/kWh for the purpose of providing a default value for the carbon intensity of the marginal energy mix.

This was based on CCGT, which was at that time broadly equivalent to the relevant marginal emissions factor (MEF). As a result of the decarbonisation of the electricity supply **the MEF to be used for an incinerator built in 2020 is 270gCO_2/kWh**, and this is what UKWIN has adopted for its assessment.

Rationale for using BEIS's MEF rather than CCGT

As set out above, in their Supplementary guidance to the HM Treasury Green Book on appraisal and evaluation of energy use and GHG emissions, BEIS explains that: *"For estimating changes in emissions from changes in grid electricity use, analysts should use the (long run) marginal grid electricity emissions factors in data table 1".*[70]

The subsequent paragraph clarifies that a sustained 'change in grid electricity use' includes the displacement caused by new energy generation capacity (i.e. new incineration capacity), stating: "*There are complex mechanisms that determine the effects of sustained but marginal changes to the grid electricity supply (from either **displacement with other generation** or a demand reduction)...Modelling undertaken by BEIS has estimated these longer-term dynamics, and they are reflected in the marginal emissions factors*". (**emphasis added**)

Use of the MEF as the correct counterfactual, instead of CCGT, is confirmed by Paragraph 68 of Defra's Carbon based modelling approach, which states that: *"It is assumed that the source of energy being replaced would have been generated using a plant with the carbon intensity (emissions factor) of the marginal energy mix in line with HMT Green Book guidance on appraisal and evaluation...".*

The footnotes to Paragraph 68 make it clear that whilst CCGT was an appropriate counterfactual to use in 2013 it does not remain appropriate for future years. This is because of the progress being made to decarbonise the UK's electricity supply.

[70] Paragraphs 3.31 and 3.32 of Valuation of Energy Use and Greenhouse Gas, available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/671205/Valuation_of_energy_use_and_greenhouse_gas_emissions_for_appraisal_2017.pdf

For reasons of simplicity, the initial version of the Government's Energy from Waste (EfW) Guide only mentioned CCGT rather than the MEF as the counterfactual for displaced electricity. Unfortunately, this was then misinterpreted by some individuals as meaning that CCGT would always be the appropriate comparator.

In response to a query on the potential for this oversimplification to cause confusion, Defra stated in November 2013 that the only reason their guide referred to CCGT rather than the MEF was because: *"The detailed marginal energy mix is quite a complex concept to explain and was beyond the scope of the document. The current level of long run marginal mix is essentially equivalent to CCGT, as this dominates the current calculation".* Defra's November 2013 letter went on to explain that: *"For specific calculations the DECC guidance is correct, long run marginal emissions factors should be used".*[71]

Indeed, the point was subsequently further clarified in the 2014 revision to the EfW Guide, which states at footnote 29 to Paragraph 41 that: *"...When conducting more detailed assessments the energy offset should be calculated in line with DECC [now BEIS] guidance using the appropriate marginal energy factor https://www.gov.uk/government/publications/valuation-of-energy-use-andgreenhouse-gas-emissions-for-appraisal".*[72]

As noted above, CCGT is no longer approximately the same as the marginal emissions factor and as such it is no longer appropriate to use CCGT as a proxy for the MEF, especially for a facility built in 2020. As such, UKWIN has made use of the MEF as advised by both BEIS and by the revised version of the EfW Guide for the purpose of assessing the relative net GHG impacts of incineration and landfill.

Approach to accounting for biogenic carbon sequestration

When waste is burned at an incinerator the carbon is converted into carbon dioxide (CO_2) and immediately released into the atmosphere. However, when waste is landfilled a large proportion of the carbon is 'sequestered', i.e. permanently or semi-permanently stored underground in what is known as a 'carbon sink'.

[71] Page 7 of the Rebuttal Proof of Evidence by Alan Watson for the Javelin Park (Gloucestershire) incinerator inquiry (PINS Reference: APP/T1600/A/13/2200210), available from: http://www.programmeofficers.co.uk/posl/documents/Gloucester/Proofs/GV/GV1-REB-A.pdf

[72] Energy from waste: A guide to the debate February 2014 (revised edition), available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/284612/pb14130-energy-waste-201402.pdf

When comparing incineration with landfill, if one assumes that the release of biogenic carbon from an incinerator is 'carbon neutral' then it follows that avoiding the release of that biogenic carbon, through its sequestration in landfill, is a 'carbon benefit', and it is therefore necessary for the model to account for this benefit.

As such, for the purpose of UKWIN's comparative analysis of incineration and landfill, **all biogenic carbon which is assumed to be 'sequestered' (permanently stored) in landfill is attributed a 'carbon credit' to recognise the environmental benefit of removing carbon from the cycle**. This is represented in the calculations as a negative value emission.

Rationale for accounting for biogenic carbon sequestration in landfill

Comments in Defra's carbon based modelling approach document

Acknowledging the carbon benefit of biogenic carbon sequestration in landfill is consistent with the carbon based modelling approach report, which explains at Paragraphs 171-173 how:

> *"...not all of the biogenic material decomposes in landfill but it is all converted to CO2 in energy from waste. Landfill therefore acts as a partial carbon sink for the biogenic carbon. This is a potential additional benefit for landfill over energy from waste. There are two ways to account for this additional effect:*
>
> - *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)*
> - *Include all carbon emissions, both biogenic and fossil on both sides of the model*
>
> *"While both approaches would address the issue of sequestered biogenic carbon the first would potentially be the better solution as it would avoid double counting carbon with other inventories".*

Comments by the IPCC

The 2006 IPCC Guidelines for National Greenhouse Gas Inventories remain the current guidelines to be followed by the UK and other nations for GHG inventories. These guidelines acknowledge the GHG benefits of biogenic carbon sequestration in landfill.

Chapter 3 of Volume 5 of the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines state that: *"Some carbon will be stored over long time periods in SWDS [solid waste disposal sites, i.e. landfill]. Wood and paper decay very slowly and accumulate in the SWDS (long-term storage)".*[73]

Comments by Eunomia

Eunomia is an environmental consultancy that has: *"advised Defra, Scottish Government, Welsh Government, Government of Ireland, the Environment Agency, OECD, UNEP, European Investment Bank and the European Commission on a range of waste-related issues"* since their incorporation in 2001.[74] Eunomia's estimates of anticipated residual waste infrastructure capacity were included in the Government's EfW Guide.[75]

Eunomia's 2006 report for Friends of the Earth entitled 'A Changing Climate for Energy from Waste?' states that: *"In a comparative analysis of different waste treatment technologies, the assumption that emissions of CO2 related to biogenic carbon should be ignored cannot be valid where the technologies deal with biogenic carbon in different ways. The atmosphere does not distinguish between those CO_2 molecules which are from biogenic sources and those which are not. Consequently, if one type of technology 'sequesters' some carbon over time, then this function needs to be acknowledged (it effectively negates the basis for distinguishing between biogenic and fossil sources of carbon on the basis that the one is 'short-cycle' and the other is 'long-cycle' – after all, how long is 'short' and long is 'long', and when could one period said to become the other?)".*[76]

Eunomia's 2010 report for the European Commission states: *"...in comparative assessments between processes, it cannot be valid to ignore biogenic CO_2 if the different processes deal with biogenic CO_2 in different ways... ".*[77]

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[73] Chapter 3 of Volume 5 of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, available from: https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol5.html and https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/5_Volume5/V5_3_Ch3_SWDS.pdf

[74] Residual Waste Infrastructure Review (12th Issue, Eunomia 2017), available from: http://www.eunomia.co.uk/reports-tools/residual-waste-infrastructure-review-12th-issue/

[75] See Paragraph 28 of Energy from waste: A guide to the debate (February 2014), available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/284612/pb14130-energy-waste-201402.pdf

[76] A Changing Climate for Energy from Waste?, available from: https://friendsoftheearth.uk/sites/default/files/downloads/changing_climate.pdf

[77] Final Report - Assessment of the options to improve the management of bio-waste in the European Union, Annex F: Environmental assumptions, available from: http://ec.europa.eu/environment/waste/compost/pdf/ia_biowaste%20-%20ANNEX%20F%20-%20environmental%20assumptions.pdf

Eunomia's 2015 report for Zero Waste Europe states that: *"All lifecycle studies engaged in comparative assessments of waste treatments should incorporate CO_2 emissions from non-fossil sources in their comparative assessment".*[78]

Feedstock composition profiles

Three feedstock composition profiles are used for UKWIN's analysis. The Base Case uses Defra's default composition, and two variations on these figures are also assessed to evaluate the relative net GHG impacts of feedstocks containing smaller proportions of plastic and smaller proportions of bio-waste respectively. Details of these feedstock profiles are set out in the 'comparing incineration with landfill' section of the main report above, with the waste composition percentages set out in Table 4.

Waste throughput

It is assumed that **265,000 tonnes of waste will be treated per year at this typical incinerator.** The 265,000 tonnes per annum figure is derived from the input tonnage of the UK incineration plants that were operational for the whole of 2017. According to Tolvik, around 10,757,000 tonnes of waste was incinerated at the 40 plants that were operational throughout 2017.[79] This averages out to 268,925 tonnes (10,757,000 ÷ 40 = 268,925).

[78] Eunomia's 2015 report entitled 'The Potential Contribution of Waste Management to a Low Carbon Economy', available from: https://zerowasteeurope.eu/downloads/the-potential-contribution-of-waste-management-to-a-low-carbon-economy/

[79] Page 16 of http://www.tolvik.com/wp-content/uploads/Tolvik-UK-EfW-Statistics-2017.pdf ('total of 2017 Input (Ktpa)' minus the capacity in blue which represents facilities operational for only part of the year)

Table 10: Base Case - Data set and calculations for the incineration half of the model (for one tonne of waste)

Column	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
	Proportion of 1 tonne of waste	Calorific value MWh/t	Efficiency	Energy potential MWh	Prop. biogenic C	Mass of biogenic C	Mass of biogenic CO_2 released	Prop. fossil C	Mass of fossil C	Mass of fossil CO_2 released	Fossil CO_2 from electricity offset	Net fossil CO_2 from ERF
				=(1)×(2)×(3)		=(1)×(5)	=(6)×44÷12		=(1)×(8)	=(9)×44÷12	(4)×0.270	(10)-(11)
Mixed Paper and Card	0.1514	3.5000	0.25	0.1325	0.3200	0.0484	0.1776	0	0	0.0	0.0358	-0.0358
Plastics	0.1348	7.0500	0.25	0.2376	0	0	0	0.5200	0.0701	0.2570	0.0641	0.1929
Textiles (and footwear)	0.0395	4.4400	0.25	0.0438	0.2000	0.0079	0.0290	0.2000	0.0079	0.0290	0.0118	0.0171
Miscellaneous combustibles	0.0590	4.3300	0.25	0.0639	0.1900	0.0112	0.0411	0.1900	0.0112	0.0411	0.0172	0.0239
Miscellaneous non-combustibles	0.0899	0.7800	0.25	0.0175	0.0400	0.0036	0.0132	0.0400	0.0036	0.0132	0.0047	0.0085
Food	0.3112	1.4700	0.25	0.1144	0.1400	0.0436	0.1597	0	0	0	0.0309	-0.0309
Garden	0.0311	1.8100	0.25	0.0141	0.1700	0.0053	0.0194	0	0	0	0.0038	-0.0038
Soil and other organic waste	0.0311	1.3300	0.25	0.0103	0.0700	0.0022	0.0080	0	0	0	0.0028	-0.0028
Glass	0.0537	0.4200	0.25	0.0056	0	0	0	0	0	0	0.0015	-0.0015
Metals, Other Non-biodegradable	0.0225	0	0.25	0	0	0	0	0	0	0	0	0
Non-organic fines	0.0057	1.3300	0.25	0.0019	0	0	0	0.0700	0.0004	0.0015	0.0005	0.0010
Wood	0.0311	5.0800	0.25	0.0395	0.4400	0.0137	0.0502	0	0	0	0.0107	-0.0107
Sanitary / disposable nappies	0.0390	2.2200	0.25	0.0216	0.1500	0.0059	0.0215	0.0400	0.0016	0.0057	0.0058	-0.0001
TOTAL PER TONNE OF WASTE	1 Tonne			0.7028 MWh		0.1417 tC	0.5196 tCO_2		0.0948 tC	**0.3475 tCO_2**	**0.1897 tCO_2**	0.1577 tCO_2

Table 11: Base Case - Data set and calculations for the landfill half of the model (for one tonne of waste)

Column	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
	Proportion of 1 tonne of waste	Proportion of decom-posable C in 1 tonne of waste	Mass of decom-posable C in 1 tonne of waste	Mass of CH_4	Mass of CO_2	Mass of methane captured	CO_2 from methane burned	Energy from methane burned	CO_2 offset from energy generated	Mass of methane oxidised	CO_2 from oxida-tion	Methane released	CO_2e of methane released	Net CO_2e emitted
			=[1]×[2]	=[3]×0.5×16÷12	=[3]×0.5×44÷12	=[4]×0.75	=[6]×44÷16	=2.84×0.5×[6]	=0.270×[8]	=[4]×(1-0.75)×0.1	=[10]×44÷16	=[4]×(1-0.75-((1-0.75)×0.1))	=[12]×25	=[13]-[9]
Mixed Paper and Card	0.1514	0.1580	0.0239	0.0159	0.0439	0.0120	0.0329	0.0170	0.0046	0.0004	0.0011	0.0036	0.0897	0.0851
Plastics	0.1348	0	0	0	0	0	0	0	0	0	0	0	0	0
Textiles (and footwear)	0.0395	0.0670	0.0026	0.0018	0.0049	0.0013	0.0036	0.0019	0.0005	0	0.0001	0.0004	0.0099	0.0094
Miscellaneous combustibles	0.0590	0.0890	0.0053	0.0035	0.0096	0.0026	0.0072	0.0037	0.0010	0.0001	0.0002	0.0008	0.0197	0.0187
Miscellaneous non-combustibles	0.0899	0	0	0	0	0	0	0	0	0	0	0	0	0
Food	0.3112	0.0850	0.0265	0.0176	0.0485	0.0132	0.0364	0.0188	0.0051	0.0004	0.0012	0.0040	0.0992	0.0941
Garden	0.0311	0.0870	0.0027	0.0018	0.0050	0.0014	0.0037	0.0019	0.0005	0	0.0001	0.0004	0.0101	0.0096
Soil and other organic waste	0.0311	0.0030	0.0001	0.0001	0.0002	0	0.0001	0.0001	0	0	0	0	0.0003	0.0003
Glass	0.0537	0	0	0	0	0	0	0	0	0	0	0	0	0
Metals, Other Non-biodegradable	0.0225	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-organic fines	0.0057	0	0	0	0	0	0	0	0	0	0	0	0	0
Wood	0.0311	0.1250	0.0039	0.0026	0.0071	0.0019	0.0053	0.0028	0.0007	0.0001	0.0002	0.0006	0.0146	0.0138
Sanitary / disposable nappies	0.0390	0.0430	0.0017	0.0011	0.0031	0.0008	0.0023	0.0012	0.0003	0	0.0001	0.0003	0.0063	0.0060
TOTAL PER TONNE OF WASTE	**1 Tonne**		0.0666 tC	0.0444 tCH4	0.1222 tCO_2	0.0333 tCH4	0.0916 tCO_2	0.0473 MWh	**0.0128 tCO_2**	0.0011 tCO_2e	0.0031 tCO_2	0.0100 tCH4	**0.2499 tCO_2e**	0.2371 tCO_2e

Note: This does not account for the biogenic carbon sequestration benefit of landfill - see further calculations overleaf

Table 12: Base Case - Biogenic carbon sequestered in landfill

Column	[1]	[2]	[3]	[4]	[5]	[6]
	Proportion of 1 tonne of waste	**Proportion decomposable C in 1 tonne of waste**	**Proportion biogenic C**	**Proportion sequestered biogenic C**	**Mass of sequestered biogenic C**	**Mass of sequestered biogenic CO_2e**
	= [Landfill Table, Column 1]	= [Landfill Table Column 2]	= [Incineration Table, Column 5]	= [3] - [2]	= [1] x [4]	= [5] x 44÷12
Mixed Paper and Card	0.1514	0.1580	0.3200	0.1620	0.0245	0.0899
Plastics	0.1348	0.0000	0.0000	0.0000	0.0000	0.0000
Textiles	0.0395	0.0670	0.2000	0.1330	0.0053	0.0193
Miscellaneous combustibles	0.0590	0.0890	0.1900	0.1010	0.0060	0.0218
Misc non-combustibles	0.0899	0.0000	0.0400	0.0400	0.0036	0.0132
Food	0.3112	0.0850	0.1400	0.0550	0.0171	0.0628
Garden	0.0311	0.0870	0.1700	0.0830	0.0026	0.0095
Soil	0.0311	0.0030	0.0700	0.0670	0.0021	0.0076
Glass	0.0537	0.0000	0.0000	0.0000	0.0000	0.0000
Metals	0.0225	0.0000	0.0000	0.0000	0.0000	0.0000
Non-organic fines	0.0057	0.0000	0.0000	0.0000	0.0000	0.0000
Wood	0.0311	0.1250	0.4400	0.3150	0.0098	0.0359
Sanitary	0.0390	0.0430	0.1500	0.1070	0.0042	0.0153
TOTAL PER TONNE OF WASTE	1 Tonne				0.0751 tC	**0.2753 tCO2e**

Table 13: Base Case - Result formulas and calculations (Tonnes CO_2e)

		Incineration	Landfill	Relative net GHG impact of incineration
Direct emissions	Formula	[Incineration Table, Column 10] × Throughput	[Landfill Table, Column 13] × Throughput	[Incineration - Landfill]
	Calculation	0.3475 × 265,000 = **92,088**	0.2499 × 265,000 = **66,224**	92,088 - 66,224 = **25,864**
Electricity offset	Formula	[Incineration Table, Column 11] × Throughput × -1	[Landfill Table, Column 9] × Throughput × -1	[Incineration - Landfill]
	Calculation	0.1897 × 265,000 × -1 = **-50,271**	0.0128 × 265,000 × -1 = **-3,392**	-50,271 - (-3,392) = **-46,879**
Biogenic carbon sequestration	Formula		[Sequestration Table, Column 6] × Throughput × -1	[Incineration - Landfill]
	Calculation		0.2753 × 265,000 × -1 = **-72,955**	0 - (-72,955) = **72,955**
TOTAL	Formula	[Sum of above]	[Sum of above]	[Incineration - Landfill]
	Calculation	(92,088) + (-50,271) = **41,817**	(66,224) + (-3,392) + (-72,955) = **-10,123**	41,817 - (-10,123) = **51,940**

Table 14: Base Case - Results (Tonnes CO_2)

	Incineration	Landfill	Relative net
Direct emissions	92,088	66,224	25,864
Electricity offset	-50,271	-3,392	-46,879
Biogenic carbon sequestration		-72,955	72,955
TOTAL	41,817	-10,123	51,940

Table 15: Reduced Plastic - Data set and calculations for the incineration half of the model (for one tonne of waste)

Column	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
	Proportion of 1 tonne of waste	Calorific value MWh/t	Efficiency	Energy potential MWh	Prop. biogenic C	Mass of biogenic C	Mass of biogenic CO_2 released	Prop. fossil C	Mass of fossil C	Mass of fossil CO_2 released	Fossil CO_2 from electricity offset	Net fossil CO_2 from ERF
				=(1)×(2)×(3)		=(1)×(5)	=(6)×44÷12		=(1)×(8)	=(9)×44÷12	(4)×0.270	(10)-(11)
Mixed Paper and Card	0.1632	3.5000	0.25	0.1428	0.3200	0.0522	0.1915	0	0	0	0.0386	-0.0386
Plastics	0.0674	7.0500	0.25	0.1188	0	0	0	0.5200	0.0350	0.1285	0.0321	0.0964
Textiles (and footwear)	0.0426	4.4400	0.25	0.0473	0.2000	0.0085	0.0312	0.2000	0.0085	0.0312	0.0128	0.0185
Miscellaneous combustibles	0.0636	4.3300	0.25	0.0688	0.1900	0.0121	0.0443	0.1900	0.0121	0.0443	0.0186	0.0257
Miscellaneous non-combustibles	0.0969	0.7800	0.25	0.0189	0.0400	0.0039	0.0142	0.0400	0.0039	0.0142	0.0051	0.0091
Food	0.3355	1.4700	0.25	0.1233	0.1400	0.0470	0.1722	0	0	0	0.0333	-0.0333
Garden	0.0335	1.8100	0.25	0.0152	0.1700	0.0057	0.0209	0	0	0	0.0041	-0.0041
Soil and other organic waste	0.0335	1.3300	0.25	0.0111	0.0700	0.0023	0.0086	0	0	0	0.0030	-0.0030
Glass	0.0579	0.4200	0.25	0.0061	0	0	0	0	0	0	0.0016	-0.0016
Metals, Other Non-biodegradable	0.0243	0	0.25	0	0	0	0	0	0	0	0	0
Non-organic fines	0.0061	1.3300	0.25	0.0020	0	0	0	0.0700	0.0004	0.0016	0.0005	0.0010
Wood	0.0335	5.0800	0.25	0.0425	0.4400	0.0147	0.0540	0	0	0	0.0115	-0.0115
Sanitary / disposable nappies	0.0420	2.2200	0.25	0.0233	0.1500	0.0063	0.0231	0.0400	0.0017	0.0062	0.0063	-0.0001
TOTAL PER TONNE OF WASTE	1		0.25	0.6202		0.1528	0.5601		0.0616	0.2260	0.1674	0.0585

Table 16: Reduced Plastic - Data set and calculations for the landfill half of the model (for one tonne of waste)

Column	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
	Proportion of 1 tonne of waste	Proportion of decom-posable C in 1 tonne of waste	Mass of decom-posable C in 1 tonne of waste	Mass of CH_4	Mass of CO_2	Mass of methane captured	CO_2 from methane burned	Energy from methane burned	CO_2 offset from energy generated	Mass of methane oxidised	CO_2 from oxida-tion	Methane released	CO_2e of methane released	Net CO_2e emitted
			=[1]×[2]	=[3]×0.5×16÷12	=[3]×0.5×44÷12	=[4]×0.75	=[6]×44÷16	=2.84×0.5×[6]	=0.270×[8]	=[4]×(1-0.75)×0.1	=[10]×44÷16	=[4]×(1-0.75-((1-0.75)×0.1))	=[12]×25	=[13]-[9]
Mixed Paper and Card	0.1632	0.1580	0.0258	0.0172	0.0473	0.0129	0.0355	0.0183	0.0049	0.0004	0.0012	0.0039	0.0967	0.0918
Plastics	0.0674	0	0	0	0	0	0	0	0	0	0	0	0	0
Textiles (and footwear)	0.0426	0.0670	0.0029	0.0019	0.0052	0.0014	0.0039	0.0020	0.0005	0	0.0001	0.0004	0.0107	0.0102
Miscellaneous combustibles	0.0636	0.0890	0.0057	0.0038	0.0104	0.0028	0.0078	0.0040	0.0011	0.0001	0.0003	0.0008	0.0212	0.0201
Miscellaneous non-combustibles	0.0969	0	0	0	0	0	0	0	0	0	0	0	0	0
Food	0.3355	0.0850	0.0285	0.0190	0.0523	0.0143	0.0392	0.0202	0.0055	0.0005	0.0013	0.0043	0.1069	0.1015
Garden	0.0335	0.0870	0.0029	0.0019	0.0053	0.0015	0.0040	0.0021	0.0006	0	0.0001	0.0004	0.0109	0.0104
Soil and other organic waste	0.0335	0.0030	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0	0	0	0	0.0004	0.0004
Glass	0.0579	0	0	0	0	0	0	0	0	0	0	0	0	0
Metals, Other Non-biodegradable	0.0243	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-organic fines	0.0061	0	0	0	0	0	0	0	0	0	0	0	0	0
Wood	0.0335	0.1250	0.0042	0.0028	0.0077	0.0021	0.0058	0.0030	0.0008	0.0001	0.0002	0.0006	0.0157	0.0149
Sanitary / disposable nappies	0.0420	0.0430	0.0018	0.0012	0.0033	0.0009	0.0025	0.0013	0.0003	0	0.0001	0.0003	0.0068	0.0064
TOTAL PER TONNE OF WASTE	1		0.0718	0.0479	0.1317	0.0359	0.0988	0.0510	0.0138	0.0012	0.0033	0.0108	0.2693	0.2556

Note: This does not account for the biogenic carbon sequestration benefit of landfill - see further calculations overleaf

Table 17: Reduced Plastic - Biogenic carbon sequestered in landfill

Column	[1]	[2]	[3]	[4]	[5]	[6]
	Proportion of 1 tonne of waste	Proportion decomposable C in 1 tonne of waste	Proportion biogenic C	Proportion sequestered biogenic C	Mass of sequestered biogenic C	Mass of sequestered biogenic CO_2e
	= [Landfill Table, Column 1]	= [Landfill Table Column 2]	= [Incineration Table, Column 5]	= [3] - [2]	= [1] x [4]	= [5] x 44÷12
Mixed Paper and Card	0.1632	0.1580	0.3200	0.1620	0.0264	0.0969
Plastics	0.0674	0	0	0	0	0
Textiles	0.0426	0.0670	0.2000	0.1330	0.0057	0.0208
Miscellaneous combustibles	0.0636	0.0890	0.1900	0.1010	0.0064	0.0236
Misc non-combustibles	0.0969	0	0.0400	0.0400	0.0039	0.0142
Food	0.3355	0.0850	0.1400	0.0550	0.0185	0.0677
Garden	0.0335	0.0870	0.1700	0.0830	0.0028	0.0102
Soil	0.0335	0.0030	0.0700	0.0670	0.0022	0.0082
Glass	0.0579	0	0	0	0	0
Metals	0.0243	0	0	0	0	0
Non-organic fines	0.0061	0	0	0	0	0
Wood	0.0335	0.1250	0.4400	0.3150	0.0106	0.0387
Sanitary	0.0420	0.0430	0.1500	0.1070	0.0045	0.0165
TOTAL PER TONNE OF WASTE	1				**0.0809**	**0.2967**

Table 18: Reduced Plastic - Result formulas and calculations (Tonnes CO_2e)

		Incineration	Landfill	Relative net GHG impact of incineration
Direct emissions	Formula	[Incineration Table, Column 10] × Throughput	[Landfill Table, Column 13] × Throughput	[Incineration - Landfill]
	Calculation	0.226 × 265,000 = 59,890	0.2693 × 265,000 = 71,365	59,890 - 71,365 = -11,475
Electricity offset	Formula	[Incineration Table, Column 11] × Throughput × -1	[Landfill Table, Column 9] × Throughput × -1	[Incineration - Landfill]
	Calculation	0.1674 × 265,000 × -1 = -44,361	0.0138 × 265,000 × -1 = -3,657	-44,361 - (-3,657) = -40,704
Biogenic carbon sequestration	Formula		[Sequestration Table, Column 6] × Throughput × -1	[Incineration - Landfill]
	Calculation		0.2967 × 265,000 × -1 = -78,626	0 - (-78,626) = 78,626
TOTAL	Formula	[Sum of above]	[Sum of above]	[Incineration - Landfill]
	Calculation	(59,890) + (-44,361) = 15,529	(71,365) + (-3,657) + (-78,626) = -10,918	15,529 - (-10,918) = 26,447

Table 19: Reduced Plastic - Results (Tonnes CO_2)

	Incineration	Landfill	Relative net
Direct emissions	59,890	71,365	-11,475
Electricity offset	-44,361	-3,657	-40,704
Biogenic carbon sequestration		-78,626	78,626
TOTAL	15,529	-10,918	26,447

Table 20: Reduced Bio-waste - Data set and calculations for the incineration half of the model (for one tonne of waste)

Column	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
	Proportion of 1 tonne of waste	Calorific value MWh/t	Efficiency	Energy potential MWh	Prop. biogenic C	Mass of biogenic C	Mass of biogenic CO_2 released	Prop. fossil C	Mass of fossil C	Mass of fossil CO_2 released	Fossil CO_2 from electricity offset	Net fossil CO_2 from ERF
				=(1)×(2)×(3)		=(1)×(5)	=(6)×44÷12		=(1)×(8)	=(9)×44÷12	(4)×0.270	(10)-(11)
Mixed Paper and Card	0.1964	3.5000	0.25	0.1719	0.3200	0.0628	0.2304	0	0	0	0.0464	-0.0464
Plastics	0.1750	7.0500	0.25	0.3084	0	0	0	0.5200	0.0910	0.3337	0.0833	0.2504
Textiles (and footwear)	0.0513	4.4400	0.25	0.0569	0.2000	0.0103	0.0376	0.2000	0.0103	0.0376	0.0154	0.0222
Miscellaneous combustibles	0.0766	4.3300	0.25	0.0829	0.1900	0.0146	0.0534	0.1900	0.0146	0.0534	0.0224	0.0310
Miscellaneous non-combustibles	0.1167	0.7800	0.25	0.0228	0.0400	0.0047	0.0171	0.0400	0.0047	0.0171	0.0061	0.0110
Food	0.1556	1.4700	0.25	0.0572	0.1400	0.0218	0.0799	0	0	0	0.0154	-0.0154
Garden	0.0155	1.8100	0.25	0.0070	0.1700	0.0026	0.0097	0	0	0	0.0019	-0.0019
Soil and other organic waste	0.0155	1.3300	0.25	0.0052	0.0700	0.0011	0.0040	0	0	0	0.0014	-0.0014
Glass	0.0697	0.4200	0.25	0.0073	0	0	0	0	0	0	0.0020	-0.0020
Metals, Other Non-biodegradable	0.0293	0	0.25	0	0	0	0	0	0	0	0	0
Non-organic fines	0.0074	1.3300	0.25	0.0025	0	0	0	0.0700	0.0005	0.0019	0.0007	0.0012
Wood	0.0403	5.0800	0.25	0.0512	0.4400	0.0177	0.0650	0	0	0	0.0138	-0.0138
Sanitary / disp nappies	0.0507	2.2200	0.25	0.0281	0.1500	0.0076	0.0279	0.0400	0.0020	0.0074	0.0076	-0.0002
TOTAL PER TONNE OF WASTE	1		0.25	0.8014		0.1432	0.5250		0.1230	0.4511	0.2164	0.2347

Table 21: Reduced Bio-waste - Data set and calculations for the landfill half of the model (for one tonne of waste)

Column	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
	Proportion of 1 tonne of waste	Proportion of decom-posable C in 1 tonne of waste	Mass of decom-posable C in 1 tonne of waste	Mass of CH_4	Mass of CO_2	Mass of methane captured	CO_2 from methane burned	Energy from methane burned	CO_2 offset from energy generated	Mass of methane oxidised	CO_2 from oxida-tion	Methane released	CO_2e of methane released	Net CO_2e emitted
			=[1]×[2]	=[3]×0.5×16÷12	=[3]×0.5×44÷12	=[4]×0.75	=[6]×44÷16	=2.84×0.5×[6]	=0.270×[8]	=[4]×(1-0.75)×0.1	=[10]×44÷16	=[4]×(1-0.75-((1-0.75)×0.1))	=[12]×25	=[13]-[9]
Mixed Paper and Card	0.1964	0.1580	0.0310	0.0207	0.0569	0.0155	0.0427	0.0220	0.0059	0.0005	0.0014	0.0047	0.1164	0.1104
Plastics	0.1750	0	0	0	0	0	0	0	0	0	0	0	0	0
Textiles (and footwear)	0.0513	0.0670	0.0034	0.0023	0.0063	0.0017	0.0047	0.0024	0.0007	0.0001	0.0002	0.0005	0.0129	0.0122
Miscellaneous combustibles	0.0766	0.0890	0.0068	0.0045	0.0125	0.0034	0.0094	0.0048	0.0013	0.0001	0.0003	0.0010	0.0256	0.0243
Miscellaneous non-combustibles	0.1167	0	0	0	0	0	0	0	0	0	0	0	0	0
Food	0.1556	0.0850	0.0132	0.0088	0.0242	0.0066	0.0182	0.0094	0.0025	0.0002	0.0006	0.0020	0.0496	0.0471
Garden	0.0155	0.0870	0.0013	0.0009	0.0025	0.0007	0.0019	0.0010	0.0003	0	0.0001	0.0002	0.0051	0.0048
Soil and other organic waste	0.0155	0.0030	0	0	0.0001	0	0.0001	0	0	0	0	0	0.0002	0.0002
Glass	0.0697	0	0	0	0	0	0	0	0	0	0	0	0	0
Metals, Other Non-biodegradable	0.0293	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-organic fines	0.0074	0	0	0	0	0	0	0	0	0	0	0	0	0
Wood	0.0403	0.1250	0.0050	0.0034	0.0092	0.0025	0.0069	0.0036	0.0010	0.0001	0.0002	0.0008	0.0189	0.0179
Sanitary / disp nappies	0.0507	0.0430	0.0022	0.0015	0.0040	0.0011	0.0030	0.0015	0.0004	0	0.0001	0.0003	0.0082	0.0078
TOTAL PER TONNE OF WASTE	1		0.0631	0.0421	0.1157	0.0316	0.0868	0.0448	0.0121	0.0011	0.0029	0.0095	0.2367	0.2246

Note: This does not account for the biogenic carbon sequestration benefit of landfill - see further calculations overleaf

Table 22: Reduced Bio-waste - Biogenic carbon sequestered in landfill

Column	[1]	[2]	[3]	[4]	[5]	[6]
	Proportion of 1 tonne of waste	**Proportion decomposable C in 1 tonne of waste**	**Proportion biogenic C**	**Proportion sequestered biogenic C**	**Mass of sequestered biogenic C**	**Mass of sequestered biogenic CO_2e**
	= [Landfill Table, Column 1]	= [Landfill Table Column 2]	= [Incineration Table, Column 5]	= [3] - [2]	= [1] x [4]	= [5] x 44÷12
Mixed Paper and Card	0.1750	0	0	0	0	0
Plastics	0.0513	0.0670	0.2000	0.1330	0.0068	0.0250
Textiles	0.0766	0.0890	0.1900	0.1010	0.0077	0.0284
Miscellaneous combustibles	0.1167	0	0.0400	0.0400	0.0047	0.0171
Misc non-combustibles	0.1556	0.0850	0.1400	0.0550	0.0086	0.0314
Food	0.0155	0.0870	0.1700	0.0830	0.0013	0.0047
Garden	0.0155	0.0030	0.0700	0.0670	0.0010	0.0038
Soil	0.0697	0	0	0	0	0
Glass	0.0293	0	0	0	0	0
Metals	0.0074	0	0	0	0	0
Non-organic fines	0.0403	0.1250	0.4400	0.3150	0.0127	0.0465
Wood	0.0507	0.0430	0.1500	0.1070	0.0054	0.0199
Sanitary	1				**0.0800**	**0.2935**
TOTAL PER TONNE OF WASTE	0.1750	0	0	0	0	0

Table 23: Reduced Bio-waste - Result formulas and calculations (Tonnes CO_2e)

		Incineration	Landfill	Relative net GHG impact of incineration
Direct emissions	Formula	[Incineration Table, Column 10] × Throughput	[Landfill Table, Column 13] × Throughput	[Incineration - Landfill]
	Calculation	0.4511 × 265,000 = 119,542	0.2367 × 265,000 = 62,726	119,542 - 62,726 = 56,816
Electricity offset	Formula	[Incineration Table, Column 11] × Throughput × -1	[Landfill Table, Column 9] × Throughput × -1	[Incineration - Landfill]
	Calculation	0.2164 × 265,000 × -1 = -57,346	0.0121 × 265,000 × -1 = -3,207	-57,346 - (-3,207) = -54,140
Biogenic carbon sequestration	Formula		[Sequestration Table, Column 6] × Throughput × -1	[Incineration - Landfill]
	Calculation		0.2935 × 265,000 × -1 = -77,778	0 - (-77,778) = 77,778
TOTAL	Formula	[Sum of above]	[Sum of above]	[Incineration - Landfill]
	Calculation	(119,542) + (-57,346) = 62,196	(62,726) + (-3,207) + (-77,778) = -18,259	62,196 - (-18,259) = 80,455

Table 24: Reduced Bio-waste - Results (Tonnes CO_2)

	Incineration	Landfill	Relative net
Direct emissions	119,542	62,726	56,816
Electricity offset	-57,346	-3,207	-54,140
Biogenic carbon sequestration		-77,778	77,778
TOTAL	62,196	-18,259	80,455

Jane Moseley

From: Rick Pope [redacted]
Sent: 04 March 2019 15:11
To: helen.skinner@pins.gsi.gov.uk
Subject: APP/P3800/W/18/3218965 Former Wealden Brickworks, Langhurstwood Road, Horsham RH12 4QD

To The Planning Inspector,

Re : APP/P3800/W/18/3218965 Former Wealden Brickworks, Langhurstwood Road, Horsham RH12 4QD

I am a local resident and live within a few hundred meters of the proposed incinerator , I strongly object to this application on several grounds..

The sheer size of the development is not in keeping with Horsham and its surrounding area, the proposed 12 storey high building and 95m chimney would be an eyesore for miles around, even in Horsham town there are no buildings that are over 6 storeys high .The view from my house would be very intrusive I cannot see how the proposed landscaping would mask this monstrous building with trees It would take a Beech tree over 80 years to reach a possible 48 feet approx 15m ,the proposed life span of the incinerator is meant to be 25 years .

Very concerned about the pollution, my car and house already is covered in dust when the wind blows from the North East .If there is, as stated in the application ,minimal pollution to be emitted, then why does there have to be a 95m chimney ?
The extra lorry movements will certainly bring added pollution which cannot be a good thing for our already fragile environment.

The intelligent answer is to cut down on our waste, recycle more, not to burn our waste creating a 25 year lifestyle plan and probably longer if this incinerator is built that we will be tied to.

Rick Pope 3 Station Road ,Warnham Sussex RH123SR
Best Regards
Rick Pope
[redacted]

Jane Moseley

From: Jane Moseley <jane.moseley@westsussex.gov.uk>
Sent: 04 March 2019 16:34
To: Skinner, Helen
Subject: FW: Extended Deadline for Submissions & New Weblink: Planning Appeal APP/P3800/W/18/3218965 - Former Wealden Brickworks)

Another rep.

Jane Moseley
County Planning Team Manager | Planning Services | Economy, Planning, and Place Directorate | West Sussex County Council
Location: Ground Floor, Northleigh, County Hall, Chichester PO19 1RH
Phone: 0330 22 26948
Email: jane.moseley@westsussex.gov.uk | Web: www.westsussex.gov.uk

---

From: Gary Porter [redacted]
Sent: 04 March 2019 16:33
To: Jane Moseley
Subject: RE: Extended Deadline for Submissions & New Weblink: Planning Appeal APP/P3800/W/18/3218965 - Former Wealden Brickworks)

Good Afternoon Jane,

I am writing to express my support for Britaniacrest Recycling Ltd on their application for the Renewable Energy Facility. It is such an important and exciting facility, and it is vital that it goes ahead.

I strongly believe that the Facility will not in any way detract from the surroundings, rather it will enhance the area. Over the years in my recycling career I have had the opportunity to view many Renewable Energy Facility's, and have witnessed the positive contribution they play in generating renewable energy ultimately helping the environment.

We are a highly respected fourth-generation family business and our success is based on highly professional, innovative and customer-focused approach and I have been lucky to trade with Britaniacrest for over 10 years and their professionalism towards the environment, people and safety is outstanding.

One major advantage of renewable energy is that it sustainable and will never run out. They provide clean energy because they are non-pollutant and non-contributor to greenhouse effects and global warming. Another benefit for having the facility in the area it will generate numerous jobs.

Best Regards,

Kind Regards

Gary Porter
Mobile: +44 7823 335648

H.RIPLEY&CO
FERROUS & NON FERROUS METAL RECYCLING AND WASTE HANDLING
Apex Way | Hailsham | East Sussex | BN27 3WA | UK | Tel. 01323 440672 | Fax. 01323 841282 | www.hripley.co.uk

From: Jane Moseley <jane.moseley@westsussex.gov.uk> **On Behalf Of** PL Planning Applications
Sent: 26 February 2019 09:39
Subject: Extended Deadline for Submissions & New Weblink: Planning Appeal APP/P3800/W/18/3218965 - Former Wealden Brickworks)

All

As you may be aware, in light of our planning application website being down, the Planning Inspectorate has agreed to extend the deadline for comments/submissions on the above appeal to 4 March.

From today, application and appeal details can now be viewed here:
https://westsussex.planning-register.co.uk/Planning/Display/WSCC/015/18/NH

Thanks
Jane.

Jane Moseley
County Planning Team Manager | Planning Services | Economy, Planning, and Place Directorate | West Sussex County Council
Location: Ground Floor, Northleigh, County Hall, Chichester PO19 1RH
Phone: 0330 22 26948
Email: jane.moseley@westsussex.gov.uk | Web: www.westsussex.gov.uk

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Jane Moseley

From: Harriet Young <hy@powerhausconsultancy.co.uk>
Sent: 22 January 2019 10:49
To: Skinner, Helen
Cc: Mary Power
Subject: APP/P3800/W/18/3218965 - Former Wealden Brickworks
Attachments: Former Wealden Brickworks - PowerHaus Consultancy Representation May 2018.pdf

Dear Helen,

We have recently been informed that an appeal has been made following the decision of West Sussex County Council to refuse planning permission for Recycling, Recovery, and Renewable Energy Facility and Ancillary Infrastructure.

We previously submitted a representation on behalf of Verve Properties, the owners of the Graylands Estate in objection to the application. We therefore request the written representation is considered when determining the appeal.

Please find a copy of the representation attached to this email. Should you have any queries please do not hesitate to contact us. Thank you

Kind Regards,
Harriet Young
Graduate Planner
Powerhaus Consultancy
1 Fore Street
London EC2Y 5EJ
E: hy@powerhausconsultancy.co.uk
T: 020 3608 7615
M: 07757798777

T: 02036087612
M: 07496611110
Suite 6036, 1 Fore Street,
Moorgate, London EC2Y 5EJ
mp@powerhausconsultancy.co.uk
www.powerhausconsultancy.co.uk

PowerHaus Consultancy

Mr Sam Dumbrell
West Sussex County Council
Development Control
County Hall, Tower Street
Chichester
West Sussex
PO19 1RH

Date: 3rd May 2018
Your Ref: WSCC/015/NH
Our Ref: 050

Dear Mr Dumbrell,

The Town and Country Planning Act 1990 (As Amended)

FORMER WEALDEN BRICKWORKS SITE, LANGHURST WOOD ROAD, HORSHAM, RH12 4QD

OBJECTION TO APPLICATION FOR RECYCLING, RECOVERY AND RENEWABLE ENERGY FACILITES AND ANCILLARY INFRASTRUCTURE REFERENCE: WSCC/015/NH

We write on behalf of Verve Properties, the owners of the Graylands Estate, Langhurst Wood Road, in objection to the application for recycling, recovery and renewable energy facilities and ancillary infrastructure at the former Wealden Brickworks site, Langhurst Wood Road, Horsham, RH12 4QD. We are extremely disappointed that Verve were not informed directly about this application and were reliant on a local resident to inform us of the application three days ago. The owners have not received notification of this application and were not aware of any public consultation event announcing the new plans for the site.

Introduction

The boundary of the Graylands Estate lies approximately 250m to the northeast for the furthest extent of the application site. There are a number of residential properties on site amounting to approximately 20 dwellings, in addition to commercial properties (use classes B1-B8) which cater for small and medium-sized businesses. Sole access to the site is from Langhurst Wood Road.

The application is not significantly different to the withdrawn application (Ref: WSCC/062/16/NH) of December 2016 on the two key issues identified to be of concern at that time including: noise and light pollution. In addition, the Council has now permitted the Horsham northern extension with 2,750 new homes and businesses to come forward over the coming years. The implementation of this consent will transform the character of land to the north of the A264, creating a conflict with the existing and proposed industrial waste transfer activities at the former Wealden Brickworks site. It will particularly require HGV vehicles servicing the Recycling, Recovery and Renewable Energy Facility (3Rs Facility) to use the same access road proposed to service the western end of the new urban area, which constructs a new part of Langhurstwood Road through the new residential estate. Again a conflict with residential sensitive users.

Grounds of Objection

Policy W19 of the *West Sussex Waste Local Plan (2014)* requires emissions from developments (including lighting, noise, odour, et.) to be controlled to avoid adverse impact on public health and amenity. The proposed development is contrary to this policy and would result in adverse amenity impacts on the surrounding properties including those on the Graylands Estate. Whilst Verve acknowledge the site currently operates as a waste transfer station and materials recycling facility, it objects to the proposed application for the following reasons:

- The construction and operation of the site would result in noise disturbance of the surrounding properties, particularly in the evenings and at night time.
- The 24hour operation of the site and the aviation lighting would result in light pollution to the detriment of the surrounding properties and wider countryside. The applicant suggests that dimmer lights will be used at night but it is not known how this will be enforced/controlled.

Noise Disturbance

The proposed development would increase noise for the surrounding area at both the construction and operation phases of the development, through both operational activities and vehicular movements.

Operation

The Environmental Statement (ES) suggest the cumulative impacts of the operational noise will only be 'minor adverse'. However, Verve contends that the type of noise and its 24 hour duration would have a greater impact on surrounding properties than a simplistic measure against baseline standards.

Although there are some pre-existing waste transfer and other industrial uses on the site and its immediate surroundings, the site is currently in a rural location and all other noise producing businesses are not operating at night time. This development would introduce operational noise 24 hours a day, 7 days a week. From our understanding of the development, the noise would be constant and not intermittent (like aviation traffic). Any increase in noise from the operation, particularly at night-time would add to the ambient noise level at a constant level and not decrease at any time. Paragraph 8.8.4 of the ES notes that the night-time noise levels would exceed the background sound level by a significant level at Graylands Lodge. Therefore, the residents of Graylands Lodge and other nearby residential properties would experience an increase in noise at a continuous level, permanently, which would significantly impact their amenity.

This is compounded by the change in the character of the ambient noise. It is acknowledged in the ES that 'the character of the sound would be different'. Given the rural night-time experience of Graylands and the surrounding properties, we argue that the effects of increased noise are more keenly felt by residents as the noise would be easily distinguishable from the existing background noise.

The 24hour operation of the site would also result in extra night-time vehicular movements on Langhurst Wood Road. Although the application states that HGV movements would only be between 07:00 and 19:00 hrs.

Construction

The Environmental Statement acknowledges that construction noise will be heard from surrounding properties. The construction hours proposed under this application are increased from condition 19 of the previous permission (ref: WSCC/018/14/NH). The latening of construction hours by 1 hour during weekdays and 4 hours at the weekend, would be significantly detrimental to the amenity neighbouring residential properties. As a result of the increase in hours, both the construction noise and the resultant vehicular movements of construction and construction workers' vehicles would increase noise levels at a time when the roads would generally be less busy and ambient noise levels lower.

The Planning Statement notes that there might be up to 182 construction workers on the site at any one time. The movements of these workers by vehicle, plus the delivery of construction materials

would take considerable time to arrive and depart from the site at the before and after the hours of construction, extending the time when the site and site traffic would create noise disturbance to neighbours.

Furthermore, the applicant states that construction will take place outside of those hours. This should be expressly forbidden so that construction noise is adequately controlled for the amenity of surrounding residents.

Light Pollution

The introduction of 24 hour operations at the site would result in increased night-time artificial lighting at the site both at the external accesses of the site and the car park, but also at high level due to the required aviation safety lighting. The impacts of this light pollution on the surrounding properties have not been adequately assessed. The applicant suggests that dimmer lights will be used at night but it is not known how this will be enforced/controlled.

The Planning Statement states that the developers aim to minimise light pollution by improved landscaping at the boundary. The lighting scheme shows a significant number of external lights, particularly along the borders of the site at a height of 6 meters. However, the landscaping is proposed to be grass, wildflower meadows and scrub. These would not mitigate the emission of light into the surroundings, except at a very low level. The light pollution impacts of the additional night-time lighting of the site does not appear to have been assessed in the application documents. For example, if there are cumulative impacts with other night-time sources, or whether light pollution might be increase in winter months with the loss of foliage on surrounding vegetation.

The proposed aviation safety lighting is proposed to be 'medium intensity' at a level of over 90m. This will, of course, be visible from the surrounding area, however its impacts on the surrounding properties has also not been assessed.

The proposed 3Rs Facility would have significant impacts on the amenity of the surrounding properties, including those on the Graylands estate, which are unacceptable and contrary to *West Sussex Waste Local Plan Policy W19*. The current operation of a waste transfer and recycling facility on the site should not be used to set precedent for the proposed incinerator as the increase in hours and change in nature of operations would significantly alter the site's impacts on the surrounding properties. The 24 hour operation of the site would increase night-time noise levels overall and introduce a different character of noise which would disturb neighbouring residents throughout the night. The 24 hour operation of the site and the proposed 95m stack require external lighting which could result in detrimental light pollution. However, the application documents do not adequately assess the impacts of these.

The application documents use the proposed Land North of Horsham (LNH) site to create a more 'urban context' to the site. However, the closest part of that development to this site would be a cemetery and allotments, which would be largely green open spaces, which would not be used at night time. Further south the residential properties would also be quiet at night. Since these are not proposed to be constructed for at least 10 years, the impacts of the proposed incinerator would sit in isolation for a considerable amount of time.

For the reasons set out above, we respectfully request that planning permission be refused for the proposed recycling, recovery and renewable energy facilities and ancillary infrastructure at the Former Wealden Brickworks Site, Langhurst Wood Road.

Yours faithfully,

PowerHaus Consultancy

PowerHaus Consultancy

For official use only (date received): 01/03/2019 20:55:09

The Planning Inspectorate

COMMENTS ON CASE (Online Version)

Please note that comments about this case need to be made within the timetable. This can be found in the notification letter sent by the local planning authority or the start date letter. Comments submitted after the deadline may be considered invalid and returned to sender.

Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MRS SHEILA POYNTER
Address	33 Pondtail Road HORSHAM RH12 5HP

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence
- ☐ Other

YOUR COMMENTS ON THE CASE

As a resident in Pondtail Road for nearly 50 years and born in nearby Rusper, I am sickened to see the extent of growth of the North of Horsham and with the prospect of a further 2,500 homes on countryside land leading up to the delightful village of Rusper, it is destroying the market town of Horsham that we are so proud to live in. We have over numerous years had to endure the waft of pungent smells coming from the landfill site in Langhurstwood Road when the wind was in the wrong direction. With the thought of this site nearing an end when we could start thinking about sitting out in our gardens and enjoying a fresh air smell, we are now faced with the prospect of this proposed Incinerator sending out untold smells into the atmosphere and causing more pollution to our town. I confess that I am in no way a professional on the inputs and outputs of such a structure and hear that we are assured that the emissions will be of no harm, but can only comment that if, as residents in the town, we are not even allowed to have a bonfire these days, then why is a massive chimney chucking out smoke from dusk to dawn, even being considered as safe! I can't begin to think who would want to buy one of the new houses in that area when they are built if this goes ahead and indeed it the second runway gets the go ahead, it will be in the flight path. However, I strongly object to this Incinerator being allowed to operate in this location and should not be allowed in Horsham. It will bring in vast amount of HGV's from far and wide and will therefore have an unacceptable impact on the highway. There have already been a few accidents on the Moorhead Roundabout where Biffa lorries have overturned and it has been pure luck that no-one has been killed. I accept that waste is a massive problem this country is forced to deal with and causes County Councils huge problems in trying to deal with it, but there has to be a better solution nearer to more major road networks, non residential areas and where it does not impact on public health and have an unacceptable impact on landscape and visual amenity of the area. This site is totally unsuitable and I urge that the appeal is dismissed. Thank you

For official use only (date received): 05/03/2019 00:46:55

The Planning Inspectorate

COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR MARK RADFORD
Address	5 SANDEMAN WAY HORSHAM WEST SUSSEX RH13 6EN

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence
- ☐ Other

YOUR COMMENTS ON THE CASE

I am very concerned that no guarantees can be provided to ensure that the burning of rubbish does not cause public harm/health issues for the population of Horsham and nearby villages. Shouldn't people's health be paramount to any other consideration? The fact that the chimney has to be so tall indicates to me that such an operation should not be near urban areas. No one has yet provided any information in terms of how variations in atmospheric pressure would influence the dispersal pollution.

Apart from the ugliness and any physical impact on the local infrastructure from the recycling plant - Health is at the forefront. Under no circumstances should such a plant be built within a an expanding and more heavily populated area.

Jane Moseley

From: Jim Rae [redacted]
Sent: 01 February 2019 18:19
To: Skinner, Helen
Cc: [redacted]
Subject: JAMES (Jim) Rae, 24 Beaver Close, Horsham RH12 5GB

Importance: High

Dear Helen,

As a former Horsham District and West Sussex County Councillor and one of the founders of HALT (Horsham Anti Incineration Linked Tasked Force) I would in extremis prefer - 2, 750 housing units and 500 sq ft of offices rather than any incinerator which will massively affect our health – housing and businesses will not!

Regards

James (Jim) Rae

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The Planning Inspectorate

COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR PETER REES
Address	Bens Acre 3 Horsham West Sussex RH13 6LW

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence

☐ Other

YOUR COMMENTS ON THE CASE

The development would have an unacceptable level of pollution and affect public health including my family's. The increase in heavy trucks on our roads will cause more traffic delays, more pollution and very disruptive for local residents, walkers and cyclists.
It's absurd to even consider build this incinerator chimney near a built up populated area. The Horsham area, with all the current and proposed building; is only going to get more densely populated.

Jane Moseley

From: Peter Reeve [redacted]
Sent: 04 March 2019 16:12
To: helen.skinner@pins.gsi.gov.uk
Subject: Appeal Reference APP/P3800/W/18/3218965 - OBJECTION

Dear Helen,

I hereby strenuously objection to Appeal Reference APP/P3800/W/18/3218965 in regard an incinerator facility at Former Wealden Brickworks, Langhurstwood Road, Horsham RH12 4QD.

Allowing this development to take place will be disastrous for the future of Horsham and surrounding areas. The visual, environmental, and health impact of such a development is unacceptable and not only will destroy the beauty and character of this part of Horsham forever, but will be damaging to the local environment and health of our residents. This proposal is in no way compatible with the forthcoming nearby North Horsham development, that you have already granted planning permission for, of up to 2,750 new homes, leisure facilities, and a mixed school for ages 4 to 18. An industrial incinerator of this type and size should be sited far from homes and schools where it will not impact the life, health and environment of local residents. As such this is not the right site for this facility and Britanniacrest should withdraw their application/appeal and look elsewhere.

Furthermore as I'm sure you're aware this proposal does not meet West Sussex waste management plan and is purely intended as a money making business for Britanniacrest. At a time when we should be looking to reduce and recycle none renewable waste all levels of government and business should be looking to reduce use of single-use consumables. Burning such waste is not the answer! Reduction in use and increase in recycling is the only sustainable future.

Please refuse this appeal and re-confirm your refusal of this planning application. Quite simply it is the wrong plan and the wrong site.

Regards, Mr P Reeve

--
Peter Reeve
[redacted]

For official use only (date received): 04/03/2019 16:10:21

The Planning Inspectorate

COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR PETER REEVE
Address	6 Hill Mead Horsham Horsham West Sussex RH12 2PU

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

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- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence

☐ Other

YOUR COMMENTS ON THE CASE

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Allowing this development to take place will be disastrous for the future of Horsham and surrounding areas. The visual, environmental, and health impact of such a development is unacceptable and not only will destroy the beauty and character of this part of Horsham forever, but will be damaging to the local environment and health of our residents. This proposal is in no way compatible with the forthcoming nearby North Horsham development, that you have already granted planning permission for, of up to 2,750 new homes, leisure facilities, and a mixed school for ages 4 to 18. An industrial incinerator of this type and size should be sited far from homes and schools where it will not impact the life, health and environment of local residents. As such this is not the right site for this facility and Britanniacrest should withdraw their application/appeal and look elsewhere.

Furthermore as I'm sure you're aware this proposal does not meet West Sussex waste management plan and is purely intended as a money making business for Britanniacrest. At a time when we should be looking to reduce and recycle none renewable waste all levels of government and business should be looking to reduce use of single-use consumables. Burning such waste is not the answer! Reduction in use and increase in recycling is the only sustainable future.

Please refuse this appeal and re-confirm your refusal of this planning application. Quite simply it is the wrong plan and the wrong site.

Regards, Mr P Reeve

Jane Moseley

From: Rachel Riley [redacted]
Sent: 03 March 2019 22:05
To: helen.skinner@pins.gsi.gov.uk
Subject: APP/P3800/W/18/3218965

Appeal reference: APP/P3800/W/18/3218965
Site address: Former Wealden brickworks, Langhurstwood Road, Horsham RH12 4QD

Resident's name and address:
Rachel Riley
7 Quail Close,
Horsham
RH12 5ZJ

Dear Planning inspector,

The request for an industrial incinerator by Britannia Crest Recycling and Waste Management needs to be REFUSED.
It will go against all expert advice and research on Climate Change and Air Pollution (there are reports, recommendations and warnings going back years on this from Friends of the Earth and Greenpeace). Last year Michael Gove launched the 'New Clean Air Strategy' pledging that "We will put new investment into scientific research and innovation strengthening the UK's position as a world leader in clean technology and secure further emissions reductions." An incinerator would completely contradict this,
The people of Horsham want to reduce, reuse and recycle, proven by our Kinder Living fair in town this weekend. Horsham schools are teaching the children how to reduce, reuse and recycle – what would the point be, if the government then suggests we should burn it instead? My 7 year old says he does not want to breathe in polluted air - even air 'within the suggested levels' would be polluted. Of course it would be. All burning of waste leads to pollution.

There are errors with the report Britannia Crest submitted with their proposal, which must be investigated.

It is not been demonstrated that the facility is needed.

Public Health must be of the utmost responsibility of the government. And this incinerator would have a huge impact, not only on the current residents but it would be in extremely close proximity to the 2000+ homes which are set to be built on the adjacent land. And there would be a school there.

This incinerator does not fit into the government remit of 'clean technology'

On January 18th Michael Gove said "The evidence is clear. While air quality has improved significantly in recent years, air pollution continues to shorten lives, harm our children and reduce quality of life. We must take strong, urgent action. Our ambitious strategy includes new targets, new powers for local government and confirms that our forthcoming Environment Bill will include new primary legislation on air quality."

"While air pollution may conjure images of traffic jams and exhaust fumes, transport is only one part of the story and the new strategy sets out the important role all of us - across all sectors of work and society - can play in reducing emissions and cleaning up our air to protect our health."

So how can we justify burning of industrial waste anywhere, let alone in a large historic market town.

Our road system would also struggle with HGV traffic – many of the roads to Horsham are country roads, as West Sussex is a green county.

Please take all of this into consideration and refuse planning permission for Britannia Crest's Incinerator.

Yours faithfully

Rachel Riley

Jane Moseley

From: Rob Riley [redacted]
Sent: 03 March 2019 22:20
To: helen.skinner@pins.gsi.gov.uk
Subject: APP/P3800/W/18/3218965

Appeal reference: APP/P3800/W/18/3218965

Site address: Former Wealden brickworks, Langhurstwood Road, Horsham RH12 4QD

Resident's name and address:

Rob Riley

7 Quail Close,

Horsham

RH12 5ZJ

Dear Planning inspector,

The request for an industrial incinerator by Britannia Crest Recycling and Waste Management needs to be REFUSED.

It will go against all expert advice and research on Climate Change and Air Pollution (there are reports, recommendations and warnings going back years on this from Friends of the Earth and Greenpeace). Last year Michael Gove launched the 'New Clean Air Strategy' pledging that "We will put new investment into scientific research and innovation strengthening the UK's position as a world leader in clean technology and secure further emissions reductions." An incinerator would completely contradict this,

The people of Horsham want to reduce, reuse and recycle, proven by our Kinder Living fair in town this weekend. Horsham schools are teaching the children how to reduce, reuse and recycle – what would the point be, if the government then suggests we should burn it instead? My 7 year old says he does not want to breathe in polluted air - even air 'within the suggested levels' would be polluted. Of course it would be. All burning of waste leads to pollution.

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"While air pollution may conjure images of traffic jams and exhaust fumes, transport is only one part of the story and the new strategy sets out the important role all of us - across all sectors of work and society - can play in reducing emissions and cleaning up our air to protect our health."

So how can we justify burning of industrial waste anywhere, let alone in a large historic market town.

Our road system would also struggle with HGV traffic – many of the roads to Horsham are country roads, as West Sussex is a green county.

Please take all of this into consideration and refuse planning permission for Britannia Crest's Incinerator.

Yours faithfully

Rob Riley

For more information please visit http://www.symanteccloud.com

From: Byron Roberts
Sent: 26 February 2019 21:54
To: helen.skinner@pins.gsi.gov.uk
Subject: Incinerator Plant Langhurstwood Road: Former Wealden Brickworks (WSCC/015/18)

I am writing to oppose the appeal by Brtaniacrest.
My main objection is to the horrible visual impact of this site. It will have a massive chimney and will detract significantly from the rural feel and look of the area. Horsham and its surrounds will be blighted by a development of this kind. It is out of keeping with Horsham as a place to live and specifically for the many local residents (now and in the future) living in the immediate area. It will be visible for many miles and will become a talked about local eyesore.
We can also expect increased levels of light and noise pollution and can anyone honestly say that they'd be proud to have this facility in their town? It will detract from the reputation of Horsham as a pleasant place to live and raise a family and will be a factor in reducing our stature as a lovely market town.

Byron Roberts
16 Firs Close
Horsham RH121GD

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The Planning Inspectorate

COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR ROBERT ROBERTSON
Address	20 Greenfinch Way HORSHAM RH12 5HB

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence
- ☐ Other

YOUR COMMENTS ON THE CASE

I wish make my opinion known that this Planning Appeal should be dismissed. Having an incinerator located so close to existing and future major residential expansion in North Horsham is absurd for public health reasons. This development along side the expansion of North Horsham and increased traffic on the Horsham by-pass will exacerbate pollution and add to the pre-existing effects from a close by land fill site.

There is also the proximity to local schools in the area. The Incinerator development should be rejected out right.

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The Planning Inspectorate

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DETAILS OF THE CASE

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Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR. GRAHAM RUMBOL
Address	28 Thatchers Close HORSHAM RH12 5TL

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

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- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence
- ☐ Other

YOUR COMMENTS ON THE CASE

The development would have an unacceptable impact on landscape and visual amenity of the area. This development along with other existing, allocated and permitted development, including the north of Horsham development, would result in adverse cumulative impacts. It would be very close to large areas of housing.

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The Planning Inspectorate

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DETAILS OF THE CASE

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Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR GEORGE SALLOWS
Address	2 Normans Cottages, High Street Rusper HORSHAM West Sussex RH12 4PX
Company/Group/Organisation Name	Rusper residents

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement

☐ Statement of Common Ground

☑ Interested Party/Person Correspondence

☐ Other

YOUR COMMENTS ON THE CASE

The original development application was refused on six significant grounds and as a Councillor for one of the Parishes that will be most affected by this development, I would like to reinforce these grounds. All of the people I have spoken to, or have approached me as their representative, have concurred with these reasons for refusing the development and have added their own additional reasons for why this development should not be allowed to proceed. I believe that most of these were part of the original letters of objection and I would hope that you will continue to consider all of those objections, in addition to the six listed on the final refusal notice.

I would like to add a few comments to help when considering the appeal, especially in relation to the six original reasons for the refusal:

1. Some attempt has been made to demonstrate that this facility is needed to meet the WSCC need for waste treatment. However, a number of other alternatives that could meet the WSCC needs are still viable options, so that this facility is not the only way in which the waste management needs can be met. Therefore, the development is still contrary to strategic objective 3 of the West Sussex Waste Local Plan 2014.
2. The impact on landscape and visual amenity is inescapable with a development of this scale and this would be bad enough with the impact mostly focusing on views from passing road users. In this case the permitted development of 2,750 houses on the neighbouring land must have an additional significant bearing, when considering this visual impact, which would be contrary to policies W12 and W13 of the West Sussex Waste Local Plan 2014
3. The impact on highway capacity, contrary to Policies W10 and W18 of the West Sussex Waste Local Plan 2014, is also something that becomes even more significant with the 2,750 houses being built next door and the already growing congestion along the A24 and A264 with other major developments at Broadbridge Heath and Kilnwood Vale nearing completion.
4. The unacceptable impact on residential amenity, contrary to Policies W10 and W19 of the West Sussex Waste Local Plan 2014, again becomes a much more significant problem when considering the major housing development just starting right next to this proposed site. It is already arguable, by all of the local residents that have approached me, that this argument is already sufficient for the impact it has on existing residents of the area.
5. The impact on public health, contrary to Policy W19 of the West Sussex Waste Local Plan 2014, is difficult to prove categorically, but it is undeniable that this plant would emit toxic material into the environment as well as contributing to green house gas emissions. It is impossible to model the influence of aircraft movement against different atmospheric conditions, but it is possible to show potential instances where these interactions could lead to dangerous health consequences. As such and given that 2,750 homes are being built next door, I feel that any level of risk in relation to this is unacceptable.
6. "The development, along with other existing, allocated and permitted development, including the North of Horsham development, would result in adverse cumulative impacts, contrary to W10 and W21 of the West Sussex Waste Local Plan 2014" was the original wording to point 6 of the original refusal. Since then, the NPPF changes in relation to the housing development burden for Neighbourhood Plans, suggests that the level of other development in the area is likely to become more significant. Also the latest Gatwick Airport Draft Master Plan 2018, shows traffic growth on all 3 of its optional scenarios. This will mean an increase in air traffic and road traffic, which will add weight to all of the objections listed for the original refusal.

For these reasons, I can see no reason to overturn the original refusal for the development of such a large incineration facility this close to Gatwick Airport and right next to housing developments.

For official use only (date received): 03/03/2019 16:09:22

The Planning Inspectorate

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Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MRS VIVIEN SALLOWS
Address	2 NORMANS COTTAGES HIGH STREET, RUSPER HORSHAM W SUSSEX RH12 4PX

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
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What kind of representation are you making?

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- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence

☐ Other

YOUR COMMENTS ON THE CASE

My comments from the previous incinerator application still stand, but I would like to add the following:

According to Councillor Philip Circus (WSCC) in the 28th February edition of The West Sussex County Times, a number of complaints have been received regarding litter along the A24 and that "it would appear that something like half of the waste on the highway, or the verges of the highway, has actually come from commercial vehicles where tarpaulins over the top have not been properly secured. Fifty percent." We do not want more littering from an increase in the number of vehicles, both commercial and employment related, spoiling the rural lanes and harming wildlife.

The UK has one of the poorest records for recycling, so WSCC should be working harder at reducing, reusing and recycling waste and at raising their recycling targets rather than going to the extreme of supporting incinerators.

Few extra employment opportunities would arise from the proposed incinerator, as opposed to a lot more job opportunities if more emphasis were to be put into recycling.

Incinerators have been shown to pollute the atmosphere. Why is an incinerator in Warnham being encouraged, yet diesel cars, woodburners and coal are being demonised: could it be because WSCC stands to receive payments from Britaniacrest to boost its budget?

Periodically, over many years, the stench from the landfill site envelops Rusper. This is really unpleasant, but with fumes from an excessively high chimney stack, we would now be subjected to noxious and toxic fumes, allergens and irritants, many of which can cause serious illnesses, such as lung and heart disease and cancer. The US Environment Agency has stated that the dioxins from incinerators released into the atmosphere are 10 times more likely to cause cancer than had previously been thought: are Britaniacrest ready to accept responsibility for this?
Incinerators produce toxic ash which still has to be disposed of in landfill. Some of this ash contains toxic heavy metals which will leach into the environment. Fly ash from incinerator chimneys is considered so toxic that it must be treated as "special waste" and disposed of very carefully. Where will Britaniacrest dispose of this? Who will monitor this?

The incineration of recyclable material actually results in even more fossil fuel energy being consumed because more of the same materials will need to be used to replace them, so it is neither sustainable nor environmentally friendly.

The visual impact of the proposed incinerator would be a real blot on the rural landscape. The small lanes leading to the site would be eroded by increased traffic, the noise and light pollution would badly affect the quality of life for local residents, as would narrow lanes clagged with HGVs.

I strongly urge you to refuse this application to protect our health and rural environment.

Jane Moseley

From: Sally Sanderson [redacted]
Sent: 10 February 2019 18:55
To: helen.skinner@pins.gsi.gov.uk
Subject: APP/P3800/W/18/3218965.

Dear Ms Skinner, I am writing to object to the appeal to build an incinerator in Horsham. I thought the WSCC's six reasons for refusing planning permission in line with their strategy for waste would have been sufficient to stop an appeal by this company. As a long-time resident of Horsham and someone committed to reducing the impact of climate change (eg we have had water solar panels on our roof for more than 12 years) I object to the incinerator being built when there is no need for it – there is already overcapacity of incinerators. We should stop this happening and wait until there is a clear need – by which time it is likely that better technologies for dealing with waste without the same environmental impact will have been developed. There are other better and cleaner ways of generating fuel than by this method.

The incinerator

- Will increase traffic on our already congested roads
- Will have an adverse impact on the air quality in this area – and we already have pollution from busy roads and increasing number of flights from nearby Gatwick
- Is planned for an area where new housing is being developed – families moving into these much needed homes will be affected by the noise, congestion and pollution caused by the transport of waste as well as by the incinerator
- The incinerator and increased waste traffic will have an impact on the health of local residents
- The tall permanently lit chimney will be visible for miles and will spoil the landscape.

Your sincerely,

Sally Sanderson
16 Parkside Mews
Horsham
West Sussex
RH12 2SA

Jane Moseley

From: Savigar, Mark [redacted]
Sent: 25 February 2019 10:57
To: Skinner, Helen
Subject: RE: FORMER WEALDEN BRICKWORKS (SITE HB), LANGHURSTWOOD ROAD, HORSHAM, WEST SUSSEX, RH12 4QD - PLANNING APPEAL REFERENCE: APP/P3800/W/18/3218965
Attachments: 1284_001.pdf

Helen,

Yes apologies – technology failed me. Please find attached full scan of the letter.

Kind Regards
Mark

From: Skinner, Helen <HELEN.SKINNER@planninginspectorate.gov.uk>
Sent: 25 February 2019 10:54
To: Savigar, Mark [redacted]
Subject: RE: FORMER WEALDEN BRICKWORKS (SITE HB), LANGHURSTWOOD ROAD, HORSHAM, WEST SUSSEX, RH12 4QD - PLANNING APPEAL REFERENCE: APP/P3800/W/18/3218965

Thanks Mark – it looks like page 6 of your objection letter might be missing?

Regards

Helen

Helen Skinner
The Planning Inspectorate
Major Casework
3/J Kite Wing
Temple Quay House
2 The Square
Temple Quay
Bristol
BS1 6PN

0303 444 5531

Please note ny new email address: helen.skinner@planninginspectorate.gov.uk

---

From: Savigar, Mark <[redacted]
Sent: 25 February 2019 10:26
To: helen.skinner@pins.gsi.gov.uk
Subject: FORMER WEALDEN BRICKWORKS (SITE HB), LANGHURSTWOOD ROAD, HORSHAM, WEST SUSSEX, RH12 4QD - PLANNING APPEAL REFERENCE: APP/P3800/W/18/3218965

Helen,

Please find attached Schroders objection letter plus associated appendices to the planning appeal (Reference: APP/P3800/W/18/3218965).

If you have any queries relating to this objection please do not hesitate to contact me.

Kind Regards

Mark Savigar
Accommodation Manager
[redacted]

Schroders

Schroders

Schroder Corporate Services Limited
1 London Wall Place, London EC2Y 5AU

T +44 (0)20 7658 6000
www.schroders.com

FAO Helen Skinner
The Planning Inspectorate
Room 3/J
Temple Quay House
2 The Square
Bristol
BS1 6PN

(Sent by Email to helen.skinner@pins.gsi.gov.uk)

Dear Ms Skinner

FORMER WEALDEN BRICKWORKS (SITE HB), LANGHURSTWOOD ROAD, HORSHAM, WEST SUSSEX, RH12 4QD
PLANNING APPEAL REFERENCE: APP/P3800/W/18/3218965

Introduction

We (Schroders) write in relation to the pending planning appeal at the Former Wealden Brickworks (Site HB), Langhurstwood Road, Horsham, West Sussex, RH12 4QD ("the Appeal Site").

The appeal, submitted by Britaniacrest Recycling Ltd ("the Appellant") relates to proposals for a 'recycling, recovery and renewable energy facility and ancillary infrastructure' ("the Proposed Development").

(Schroders) are the owners of the Broadlands Business Campus ("the BBC") which is situated within the jurisdiction of Horsham District Council ("HDC"). The BBC is located circa 1 mile to the north of the Appeal Site and, like the Appeal Site, is accessed from Langhurstwood Road. The location and extent of the BBC is identified, in red, on the accompanying Site Location Plan attached at Appendix 1 of this letter.

The BBC comprises two office buildings (Holmwood House and Ashurst House), areas of hard standing car parking and areas of soft landscaping. The BBC is currently being refurbished to bring it up to modern day standards and provide high quality office accommodation for circa 1300 full time equivalent employees. We have been engaging with HDC Planning Department in relation to this refurbishment accordingly.

Summary of Comments

Given the close proximity of the Appeal Site to the BBC, coupled with the nature of the Proposed Development, Schroders have a number of concerns which are set out within this letter of objection. We consider that the decision reached by West Sussex County Council ("WSCC") Planning Committee Members to refuse planning permission for the Proposed Development is the correct decision and should be upheld accordingly. As such, we seek to object to this planning appeal on the following grounds:

a. The development would have an unacceptable impact on public health and amenity; and
b. The development is not compatible with the approved North of Horsham development.

These reasons for objecting to the Proposed Development are intrinsically linked and are discussed in detail within the remainder of this letter.

Public Health and Amenity

Planning Policy Framework

The need to protect public health and amenity is set out in national, regional and local planning policy. The key policies to consider are as follows:

National Planning Policy Framework, February 2019 ("NPPF")

- Paragraph 8 sets out that, inter alia, minimising pollution is a fundamental component to achieving sustainable development;
- Paragraph 127 sets out that planning decisions should, inter alia, create places with a high standard of amenity for existing and future users; and
- Paragraph 170 sets out that planning decisions should, inter alia, prevent development from contributing to unacceptable levels of pollution and that development should, wherever possible, help to improve the local environment conditions such as air quality.

West Sussex Waste Local Plan, April 2014 ("WSWLP")

- Policy W16 (Title: 'Air, Soil and Water') sets out that, inter alia, proposals for waste development will only be permitted in instances where they create no unacceptable impacts on air quality; and
- Policy W19 (Title: 'Public Health and Amenity') sets out that, inter alia, proposals for waste development will only be permitted in instances where they create no unacceptable impacts on public health and amenity.

Horsham District Planning Framework, November 2015 ("HDPF")

- Policy 24 (Title: Environmental Protection) sets out that, inter alia, the high quality of the district's environment will be protected and that developments will be expected to minimise air pollution and greenhouse gas emissions in order to protect human health and the environment. Furthermore, the policy states that developments will need to *"Maintain or reduce the number of people exposed to poor air quality including odour. Consideration should be given to development that will result in new public exposure, particularly where vulnerable people (e.g. the elderly, care homes or schools) would be exposed to the areas of poor air quality".*

Comments / Objections

The relevant planning policies are acknowledged within the planning application submission material (i.e. the Planning and Environmental Statements, prepared by RPS) and the WSCC Planning Committee Report. It is, however, considered that, for the four reasons set out below, the assessment of the Environmental Statement undertaken by WSCC Planning Officers has not been satisfactorily robust for a sensitive project of this scale and nature. As a result, the conclusion reached by WSCC Planning Officers, as set out in their Committee Report, (i.e. that the Proposed Development complies with planning policy and is, therefore, acceptable) is flawed and the WSCC Committee Members' decision to overturn the Planning Officer's recommendations and refuse planning permission is justified.

1. Review of Application Submission Material

The planning application submission material contains an abundance of specialist and technical information and data. There appears to have been no detailed review of this material as part of the consideration of the planning application by specialists with the relevant technical expertise. This necessity is recognised by Public Health England ("PHE") who, as part of their comments in relation to the planning application, recommended that *"organisations in relation to their areas of expertise"* should be consulted accordingly. Furthermore, it is stated, within the WSWLP that *"In all cases, the Authorities will work closely with the Environment Agency, the District and Borough Council (in relation to environmental health), and other bodies such as the Health and Safety Executive. To ensure that the imposition of environmental controls can be co-ordinated, necessary applications to the Environment Agency should normally be submitted at the same time as planning permission is sought".*

Whilst the application has been reviewed, and commented on, by the HDC Environmental Health Officer it has not been sufficiently and robustly reviewed, at this juncture, by the Environment Agency.

The Environment Agency, within their response letter, state that issues relating to emissions to air are regulated through the Environmental Permitting regime which would happen at a later date and not concurrent with the consideration and determination of the planning application. To emphasis, this approach is not consistent with the WSWLP which states that *"necessary applications to the Environment Agency should normally be submitted at the same time as planning permission is sought".*

It is considered that a full and comprehensive review by the Environment Agency, at the planning application stage, is fundamentally required in order for decision makers to be able to make an informed decision as to whether the Proposed Development does, or does not, comply with the relevant planning policies. It is not, in this instance, considered acceptable for such analysis and assessment to be deferred to a later date as proposed. In the absence of an Environment Agency assessment it is considered that any decision made would be premature and fundamentally flawed.

2. Response to Statutory Consultees

Whilst some statutory consultees, i.e. the Environment Agency, have failed to undertake a detailed assessment of the proposed development, others did review and provide comments accordingly. Unfortunately, from the information available published on the planning register, it appears, that comments received by WSCC have not been fully considered and addressed by WSCC in an appropriate manner. Public Health England ("PHE"), for example, provided comments and flagged that *"the air quality impacts have only been modelled at a relatively small number (n=8) receptors".* It does not appear that the air quality assessment work was updated to include additional receptors as recommended. As such, the validity of the results of this work is questionable.

Furthermore, the PHE make a recommendation that WSCC consult the Food Standards Agency ("FSA"), in order for the potential for deposition on land used for the growing of food crops or animal rearing to be considered. Again, from the information available online, it appears that this recommendation was not actioned and the FSA were not provided the opportunity to review the planning application and provide comments accordingly.

3. Response to Third Party Representations

Third-party representations from 1,189 local residents and interested parties were submitted to WSCC. A petition, signed by 4,532 people opposing the development, was also submitted to WSCC. Key reasons raised in objection include impacts on air quality and impacts on human health. These objections are recognised and referenced, albeit in a broad brush manner, within the WSCC Committee Report.

The content within the vast number of third party representations is, on the whole, fairly high-level and generic and it would, therefore, not be reasonable to expect WSCC to provide a response / rebuttal to each and every letter. What is, however, concerning is that more detailed, focused, and technical objection letters were submitted (without responses) by the following parties:

- *United Kingdom Without Incineration Network ("UKWIN") – Attached at Appendix 2; and*
- *Campaign to Protect Rural England ("CPRE") – Attached at Appendix 3.*

Key points raised by these well-informed parties include, inter alia, the following:

UKWIN:

- *"Applicant has not followed the methodology set out in 'Energy recovery for residual waste: A carbon based modelling approach'";*
- *"Appendix 2.3: Carbon Assessment is in fact a report that was "prepared to accompany the 2016 application"";*
- *"Some of the statements made within Appendix 2.3 appear to be contradictory, confused, and/or simply out-of-date;*
- *"it appears that the applicant and their consultants made a simple 'unit of measurement error' that results in an overstatement of emissions avoided through reduced transport by a factor of one thousand, i.e. the applicant's figure of 110,315 kilograms per annum was erroneously treated as if it were 110,315 tonnes per annum"; and*
- *A plethora of further specific, technical queries and criticisms have been raised.*

CPRE:

- *"Toxicity data for pollutants emitted by the facility seems not to have been included in the application bundle; and how the mix of the various pollutants might impact on human health seems not to have been assessed;*
- *"Mapping, showing where pollutants emitted by the proposed facility would come to earth and the extent of resulting ground fall/downwind-hazard areas ought to have been provided for public scrutiny, as part of the consultation";*
- *"Did the Terrain Modelling employed replicate the actual terrain and, if it did, up to what distance from the site of the proposed facility?";*

- *"The cumulative impact of dioxins and of any other persistent pollutants emitted by the facility, after coming to earth, seems not to have been assessed";*
- *"How pollutants emitted by the facility, individually, collectively, and cumulatively over time, could or would impact on farmland and livestock and the natural environment, including habitats, biodiversity and ecology, seems not to have been assessed"; and*
- *"In conclusion, we are concerned that the apparent omissions and shortfalls identified above, in respect of the pollutants that would be emitted by the proposed facility, prevent proper assessment being made of whether the application, if permitted, would be fully compliant with West Sussex Waste Local Plan (WSWLP), April 2014: Policy W19: Public Health and Amenity and Policy W14: Biodiversity and Geodiversity, and Horsham District Planning Framework: Policy 24 Strategic Policy: Environmental Protection".*

It would appear, from the information available published on the planning register and the commentary within the WSCC Committee Report, that these objections have been addressed in the same broad brush manor as those raised by other third parties who provided more high level and generic comments.

Given the detailed and technical nature of the comments raised within the appended letters it would seem reasonable, and indeed necessary, for these comments to be considered carefully and responded to / addressed in full where applicable. From the information published on the planning register there appears to be no response / follow up correspondence to the points raised from either WSCC or the appellant. No rebuttals appear to of been prepared and issued and, similarly, no documents seem to of been updated / revised to address the comments. Ultimately, there appears to be no conclusions reached as to whether, in light of the detailed third party comments, the application submission documents are considered to be robust, from a methodology perspective and that the conclusions that they set out are sound. This uncertainty leads us to ask the question of "how can decision makers assess whether the Proposed Development meets local and national planning policy if the accuracy of the data is questionable?" As such, it would seem absolutely critical for this to be resolved before a robust and informed appeal decision can realistically be made.

Given the apparent dispute as to the validity of methodologies used and data presented it would seem sensible, for the Environmental Statement to be independently reviewed by a third party Environmental Consultant.

As a general point, it seems odd, for a scheme of this nature, that there appear to of been no amendments made to the proposals during the course of determination and, therefore, no subsequent rounds of public consultation. It appears, from the information published on the planning register that the original planning application submission material has been accepted by WSCC to be wholly acceptable in its entirety. This, again, raises us to question the robustness of the review of the application material.

4. Impact on Commercial / Business Uses

Whilst the WSCC Planning Committee Report discusses the impacts that the Proposed Development may have on residential amenity there is no reference to the impact on commercial properties and the workers located at such site. The refurbished BBC, for example, will be home for up to 1300 full time equivalent employees. It would seem prudent for the impact on amenity and public health of such employees to be carefully considered alongside the considerations given to residential amenity.

Conclusions to this Section

For the reasons set out above it cannot be concluded, at this juncture, whether the Proposed Development would, or would not, result in unacceptable impacts on amenity and public health. Consequently, it is not

possible to come to a conclusion as to whether the Proposed Development is, or is not, in accordance with the relevant national, regional and local planning policies (the Development Plan) relating to amenity and public health. Given the inability to conclude that the Proposed Development is in accordance with the Development Plan it is considered that the Proposed Development should be refused permission on that basis.

Compatibility with the approved North of Horsham Development

North of Horsham Development

The North of Horsham Development was granted outline planning permission in March 2018. The permission allows for up to 2, 750 dwellings, along with other uses including three schools, a range of community facilities, retail outlets and a business park north of the A264.

It is important to note that this major strategic development will be adjacent to the Proposed Development.

Comments / Objections

As set out above, we have concerns in respect of the robustness and validity of the review and assessment of technical reports. Our concern leads us to question how it can be reasonably concluded that the Proposed Development and the North of Horsham Development can successfully co-exist? Until our concerns set out above have been addressed it would seem premature and flawed to come to this conclusion.

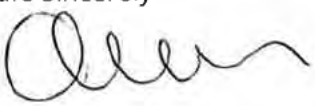
Conclusions

We have considered all of the application documentation in relation to the Proposed Development. We conclude, for reasons set out in this letter, that the material submitted is either flawed, or the assessments undertaken by WSCC planning officers (as summarised in their Planning Committee Report) are not sufficiently robust.

Given the points that we have raised we remain to have concerns and strongly object to the Proposed Development in its current form. Given the inability to conclude that the Proposed Development is in accordance with the Development Plan it is considered that the previous decision by WSCC Planning Committee Members, to refuse the Proposed Development, should be upheld.

Should you wish to discuss the content of this letter in further detail please do not hesitate to contact Mark Savigar – 0207 6583979

Yours Sincerely



Signed for and on behalf of
Schroder Corporate Services Limited

APPENDIX 1: SITE LOCATION PLAN

APPENDIX 2: UNITED KINGDON WITHOUT INCINERATION NETWORK LETTER

APPENDIX 3: CAMPAIGN TO PROTECT RURAL ENGLAND LETTER

Jane Moseley

From: Phypsi Phypsi [redacted]
Sent: 04 March 2019 12:08
To: helen.skinner@pins.gsi.gov.uk
Subject: APP/P3800/W/18/3218965 - Appeal Against

Dear Helen

I have already written to Jane Moseley and she's promised to take my appeal against this chimney forward as the company in question have not accepted the last outcome.

Myself and my family from the Lambs Farm area of Horsham, are against this pollution. We moved to Sussex from Surrey in the early 1980s and remember it being such a beautifully green and pleaant countryside - gradually that's been eroded over the years and we're very mindful of falling air quality, not least because my father now uses oxygen 24/7 and we're some growing concerns about the environment before this has to even been considered.

Whilst we're clear that many don't want such things in their backyards and environmental issues are at the forefront of our minds now, with regard to cleaning up nature, I very much fear this particular project is not in line with our ideals and hopes for a cleaner future. Infact, with the threat of an expanding Gatwick and the current roads around our home getting more and more busy by the day, we are concerned not only for our health, but that of what's left of our green and pleasant town and surrounds.

For all these reasons, the decision will hopefully be as before with a NO to this monster on the horizon - a positive and permanent NO.

Regards

Laura Schofield (of the Schofield family).

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The Planning Inspectorate

COMMENTS ON CASE (Online Version)

Please note that comments about this case need to be made within the timetable. This can be found in the notification letter sent by the local planning authority or the start date letter. Comments submitted after the deadline may be considered invalid and returned to sender.

Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR JOHN SCUILLO
Address	50 Comptons Lane HORSHAM RH13 6AT

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence
- ☐ Other

YOUR COMMENTS ON THE CASE

We, this County and this Country need to acknowledge our part in producing waste and cannot simply say we don't want it! This application we wholeheartedly support as it is well thought out and responsible. It will contribute to the grid and preclude us paying to export to another country. The building itself is not any different to the weird shapes architects construct for domestic dwellings. The chimney needs to be the requisite height to adequately disperse by products. Modern suitable filters/scrubbers are fitted within the extract system, so pollution will not be significant. This facility would benefit from an upgrade in any respect. The appeal should be allowed.

Debbie and David Segal
Northlands Home Farm
Bognor Road
Warnham RH12 3SH
[redacted]

Date: 1 March 2019

WSCC planning officers/ Horsham planning officers/ WSCC councillors/ Horsham councillors

Dear Sirs

Objections to Britaniacrest Recycling's appeal to develop and operate a recycling, recovery and renewable energy facility (an incinerator) at Langhurstwood Road Warnham

ref APP/P3800/W/18/3218965

1. As owner occupiers of the above address and council tax payers, we are writing to express in the strongest possible terms our disapproval for, and opposition to, this planning application and to request that you refuse the original application or any subsequent similar application or appeal for any broadly comparable industrial use on this site or in our immediate vicinity.

Our objections to this application fall into a number of categories (in alphabetic order but not necessarily order of severity/importance) as below.

A. Environmental damage – especially pollution
B. Additional HGV traffic on local roads going to and from the site
C. Light pollution
D. Neighbourhood disturbance
E. Noise pollution especially at night
F. Site suitability
G. Unsocial hours of business operation

We expand on several of these areas below.

A. Environmental damage

The site borders onto an ancient woodland which would be compromised if the application is approved. In our opinion the local authority must carry out a full survey to determine the extent of any potential adverse effects on the woodland and its fauna and flora adjacent to the site before considering granting approval.

C **Light pollution**

The proposed hours of operation will require installation of external industrial lighting creating a significant source of light pollution to the immediate environment and a nuisance to the site's neighbours. In addition to requirement for aviation lights will increase light pollution in the vicinity.

D, E Neighbourhood and noise disturbance and pollution

We are concerned, and indeed are totally convinced, that the introduction of this business in this neighbourhood especially one of such a substantial nature will result in a significant noise nuisance as well as creating congestion on local roads regularly if the application is approved.

We are also concerned that in practice air quality especially for some distance downwind of the facility (as we note our property is) will suffer to everyone's detriment.

continued

F Site suitability

We consider this application is contrary to your planning guidelines as being on the very edge of West Sussex it will necessitate transporting the county's waste across the county rather than minimising travel distances as your policy demands.

We also believe that the site is totally unsuitable for the proposed processing given the indicated scale of the proposed operation and the visibility and rural location of the site

In view of these objections and concerns we therefore trust that you will not hesitate in declining this application.

Yours faithfully

Debbie and David Segal

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The Planning Inspectorate

COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR MARC SFAKIANAKIS
Address	16 Rookwood Park Horsham West Sussex RH12 1UB

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence
- ☐ Other

YOUR COMMENTS ON THE CASE

Reference subject appeal case I herewith reaffirm my objection for the building of an incinerator in Horsham district. Labelling this a technology agnostic and not what is it is a deception which I can only conclude is to obtain planning permission. The appeal must not overturn the decision of the local planning office which knows its area best.

To offer background I object in principal to any burning of material which is otherwise recyclable and would rather Brittania consider plan to cleanly re-process this waste rather than the making the ludicrous choice of burning it. Why would I bother washing and separating recyclable material if it is just to be burned and if the appeal is won I will demand council refuse department to provide me another large waste bin and refuse to separate my household's recycling waste.

Furthermore the increased risks in cancer, dioxin intake and general air pollution are well publicised and living, schooling and working in Horsham means my family and I will be exposed to this toxic mix on a near 24/7 basis. This is unacceptable.

I also remind you of plannings own conditions:

Non-compliance with West Sussex County Council's Waste Local Plan
The size of the incinerator is larger than that required for local use so apart from impacting the natural beauty of the surrounding area why is it so large? Are we going to be importing waste from the surrounding areas? Just how far out is the catchment area for this site and will it also process commercial waste? What types and what toxins can we expect to be exposed to?

Strategic Objective 11:
The roads in the surrounding area cannot handle increased heavy loads and the council can barely keep up with pothole repairs as it is without the additional traffic and congestion. How if this goes ahead will the council remain committed to this objective?

Policy W11: Character:
I remain sceptical that this policy can be achieved when the site will be in plain view of all the surrounding villages and possibly the west side of Horsham. Certainly the exhaust fumes will be seen by many more.

Policy W12: High Quality Developments:
Having viewed the plans this clearly has not been met.

Policy W19: Public Health and Amenity.
Given it's size the site will be require aviation lighting so that along with noise levels and light pollution the impact the local community will be sizeable.

Jane Moseley

From: Jill Short [redacted]
Sent: 01 March 2019 18:20
To: helen.skinner@pins.gsi.gov.uk
Subject: Planning Appeal - Britaniacrest Recycling Ltd.

Dear Ms Skinner,

I add my voice to the protest against the above proposed and euphemistically named recycling scheme.

My objections are:

It ignores climate change advice by encouraging incineration rather than waste reduction, recycling, composting and, we hope, eventual less usage of disposable goods.

It is in a residential area, due to be developed further, and with a capacity to deal with 230,000 tonnes of waste a year from far afield as well as immediate locality will a) cause traffic problems and b) cause light and noise intrusions and most probably offensive smells. These are hazards and causes of pollution which we must counter for a healthy population.

It most certainly won't enhance the landscape, with which it is incompatible, and will most definitely mar it.

It could also set a precedent for more unsightly and topographically inappropriate buildings to be constructed in arguably, unsuitable, areas.

Allowing this potentially harmful incinerator to be constructed can only be seen as highly irresponsible

Regards,

Jill Short

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The Planning Inspectorate

COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR ROBERT SIMMONDS
Address	2 Reynard Close HORSHAM RH12 4GX

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence
- ☐ Other

YOUR COMMENTS ON THE CASE

I would like to register my objections to the sitting of this facility at North Horsham.

The original planning application was refused on a number of points by WSCC, all of which would probably be supported by most of the population of West Sussex but because they have the financial capability Brittaniacrest are appealing against the decision knowing that WSCC are unable to defend their decision legally because WSSC do not have the same capability.

This facility proposed is to process commercial and industrial waste purely for financial gain, none of this gain going to the population of West Sussex.

This facility will have a totally unacceptable impact on residential amenity, highway capacity, visual impact on the landscape and public health.
The proposed development is also sited adjacent to a large residential development already having been agreed.

This proposal has no advantages to Horsham so I ask for you to reject this appeal.

Jane Moseley

From: Peter Reeve <p[redacted]
Sent: 04 March 2019 16:31
To: helen.skinner@pins.gsi.gov.uk
Subject: Objection to Appeal Reference APP/P3800/W/18/3218965

Please see below my reasons for opposing the construction of an incinerator in Horsham:

1. Evidence suggests it will increase the level of pollution in the vicinity and as I live and work near the proposed site it will directly affect me and thousands of other existing residents, as well as new residents of the North Horsham housing development.
2. Despite assertions that vehicle movements will not increase that daily maximum will be subject to revision once the site is operational, and it means the overall number of heavy and large commercial vehicles are likely to increase.
3. The height of the proposed chimney will inevitably dominate the skyline adversely affecting the current landscape. This location is not the right site for a chimney or building of this size.
4. Incinerating waste is not the way to dispose of our rubbish as it adds to emissions that contribute to global warming. We should be looking to increase recycling such as that provided by the adjacent MBT facility run by Biffa and reduce the use of single-use plastics and consumables.
5. The company making the proposal does not, in my opinion, have a good reputation and does not appear to want to go the extra mile to ensure profit is balanced against environmental considerations.
6. In summary the consequence of allowing the creation of this facility to go ahead will be detrimental to public health, the local environment and to harmful emissions.

Please dismiss this appeal and application for planning permission.

Peter Simons - 51 East Street Horsham RH12 1HR

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COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MRS ANN SLATTER
Address	Southlands Cottage, Graylands Farm Barns Langhurstwood Road HORSHAM RH12 4QD

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence
- ☐ Other

YOUR COMMENTS ON THE CASE

Everything I wrote in my original submission I reiterate. But, In the time since the original application was submitted and subsequently refused there has been much coverage and an increased intensity on the necessity to 'Save the Planet" and change our ways, before it's too late to reverse the damage being caused . More incineration capacity for the UK is not the way to reach this goal. From many sources views are changing as are policies from governments with changes in waste policies and more focus and emphasis on reduce, reuse and recycle.

Our local and county authorities and our government should be encouraging and incentivising businesses to invest in a recycling infrastructure that will not only meet the demands of today, but with the technological capability and capacity to meet the demands way into the future, also in the most environmentally friendly way. Any incinerator that becomes operational is potentially locked in to emitting toxic air for 20-30 years. They need to be run at full capacity 24/7 365 days to run at optimum levels. Surely as recycling levels increase, both municipal and commercial (as is the current trend) there will be far less residue to burn and by commissioning new incinerators this will undermine the need to recycle…. Does that mean materials that can and should be recycled will be sent to incineration? That leads me to the point of the toxic bottom ash that needs to be dumped, where will that end up? Maybe in a disused mine somewhere or deep in the Cumbrian countryside brewing up more problems for our future generations.

Schoolchildren across Europe and the world have been forced to take action to make us adults see sense (eg: Greta Thunberg from Sweden). They have been compelled into striking from school and publicly demonstrating to make governments listen, THEY ARE WORRIED FOR THEIR FUTURES! We cannot and should not be leaving this to our children to shoulder this responsibility.

Whilst I am no expert on these matters, I am sufficiently worried, that I fear for our younger generations.

Please do not allow another 30 years of pollution to enter our atmosphere, it could be too late for our children and grandchildren. We cannot ignore what we see and hear in the media and witness with our own eyes. Things have to change.

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COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

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Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR KEVIN SLATTER
Address	Southlands Cottage, Graylands Farm Barns Langhurstwood Road HORSHAM RH12 4QD

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

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COMMENT DOCUMENTS

The documents listed below were uploaded with this form:

Relates to Section:	REPRESENTATION
Document Description:	Your comments on the appeal.
File name:	submission.docx

PLEASE ENSURE THAT A COPY OF THIS SHEET IS ENCLOSED WHEN POSTING THE ABOVE DOCUMENTS TO US

Representation against the appeal - APP/P3800/W/18/3218965

I still stand by all my objections submitted against the original planning application last year, nothing has materially changed. However, since then I have done further reading into the topics plus the world continues its move towards a sustainable future with reduced pollution.

The Need

Is it Big Business's need for profit, or a well thought through waste policy that dictates our incineration requirements?

I fear it is the forma. BritanniaCrest are not proposing an incinerator for the goodness of the nation but for business profit. While I don't deny any business a profit, it does have to be questioned when it is not in the best interest of the nation or community.

Across Europe it is becoming apparent that the business led approach ultimately leads us into a worse situation. Germany import many tonnes of waste to keep their own incinerators burning, is this because they are so short of their own waste or because the businesses need to continue to burn from wherever they can get it to continue making a profit? They certainly wouldn't import it if they could acquire it locally.

Scandinavia was long held up as an example of the way forward with incineration, but they too are now reversing this trend. The business-driven approach has led to an over capacity and incinerator locations across Sweden and Norway competing against each other to attract needed waste. This has led to additional HGV miles with waste being taken to the cheapest site rather than the local site. The EU proximity principle has had to be enforced here to try and control this. This has directly led to incinerators short of material, openly burning materials that would have otherwise been recycled. Therefore, recycling rates far from increasing are now beginning to decline.

There have also been recent reports of our own UK incinerators already having to burn potentially recyclable material, most recently in Newhaven.

This all points to the critical balance required in having a national waste policy informed by the latest studies and waste arisings rather than a simple business venture.

Looking at the latest waste arising figures it is clear that as a nation we are making great strides in reducing our residential and C&I residue waste. This also puts doubt on the figures used in the waste forecasts by WSCC and these may be overstated without taking into consideration the better than expected reductions in waste. These are due to both consumers and businesses taking note of the Reduce, Reuse and Recycle approach. Many residents supported by local councils recycle much more than they did even a few years ago and big business are also stepping up. Exxon-Mobile recently winning a global award for their recycling (RRR) program and big brands like Colgate (and many more) reducing packaging and looking at product refill stations.

Consumers and business are recognising the need, now we need our Government and councils to ensure that they are also up to speed and ensure this approach is consistent within the planning application process and a sustainable future.

Considering the proximity principle, BritanniaCrest have stated that waste will be imported to this site from across the southern counties, this will therefore require HGV's to drive past other incineration facilities to arrive at the Horsham site. Southampton, Portsmouth, Newhaven, Lancing, Basingstoke, Croydon and Maidstone all in operation with Ford also having been granted permission but yet to be built. Restricting the waste catchment area to just half way between Horsham and these other sites would I suggest, not provide enough waste material to keep this incinerator burning.

HGV movements

The current application/appeal relies upon the permissions granted under WSCC/021/15/NH for increased tonnage and HGV movements and thereby states that there will be no increase in HGV movement over existing granted permission. However, what they fail to point out is that the granted permission in 2015 has never been utilised and the average current HGV moments are around 50% of the total allowable number. Therefore, should the incinerator proposal go ahead, the expected HGV traffic will DOUBLE from its current level.

The extra permissions granted in 2015 were surely based upon a business case at that time and as that clearly didn't transpire, shouldn't the actual increase in HGV movements required for this proposal be re-evaluated based upon to the current environmental situation.

In the last 4 years since that extra permission was granted, the volume of local traffic, especially affecting Langhurst Wood Rd, has dramatically increased. Increases in business and residential activity from Graylands Estate and Broadlands Business Campus has seen additional daily traffic flows. Further increased activity with this proposal and the doubling of the current HGV movements will have a serious impact on what is a narrow country road creating restricted access to local amenities for residents as well as increased health concerns from the extra pollutants from passing HGV traffic.

These concerns are further heightened when considered alongside the planned North of Horsham housing development, where the rerouting of the southern entrance to Langhurst Wood Rd will route all this traffic through the new housing estate and close to new schools.

As a minimum there should be a new traffic impact study carried out, especially as the requirement is for a new application and not for the original need that was originally given permission for.

Impact

Again, I stand by my original points but there two points worthy of repeat and enhancement.

The ‘minimal’ visual impact is supposed to be evidenced by BritanniaCrest’s own photo montages, but it is obvious that these have been taken from very selective views and avoid viewpoints that will be most obvious. There are many positions where both the building and chimney will be on full display, no more obvious than from the A24 coming through Kingsfold. In fact, anywhere the current brickwork chimney can be seen, the incinerator building being nearly twice that height, will certainly be visible.

Much has been spoken about the 95m height of the stack, but little has been commented on the design which as I understand it, is yet to be finalised. Therefore, we could be looking at a much different design of chimney (double flue or much greater circumference) once the structural studies and wind effects have been completed. And NOT the very thin stack that is in the current application. This potential could have a much greater visual impact than the photo montages.

The application also states that a plume would only be visible for less than 5% of days in a year. However, based upon my own observations of two incinerators, the recently opened Croydon incinerator which of 23 observed days since the beginning of the year, a plume has been visible on 20 of those days, that’s 87%. Portsmouth has been observed on 6 occasions and only 1 day without a plume, that’s 83%. At those rates it is hard to see how this would average out to less than 5% even if it is a (warm) winter period.

On both these points, the visibility and the plume, the application seems short on guarantees of minimum impact. These should be investigated further as once the building is built, it would be impossible to go back and the community and the Area of Outstanding Beauty would be blighted if the details in the application are wrong or conservative. And with no consequences to BritanniaCrest.

Kevin Slatter

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The Planning Inspectorate

COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR BARRY SMITH
Address	41 Calvert Link Faygate HORSHAM RH12 0AF

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

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- ☐ Rule 6 (6)

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YOUR COMMENTS ON THE CASE

We are opposed to this site because of the wide ranging use from all over South East England. Massive trucks shipping rubbish up and down the A264.
We also have the problem of another massive disruption caused by the Liberty development near by. This will all be too much for little Horsham.
You have to consider are we recycling or incinerating, that is the question.

Jane Moseley

From: Alison Woodfield <alison.woodfield@westsussex.gov.uk> on behalf of PL Planning Applications <planning.applications@westsussex.gov.uk>
Sent: 28 February 2019 09:43
To: helen.skinner@pins.gsi.gov.uk
Cc: [redacted]
Subject: FW: Planning Inspectorate APP/P3800/W/18/3218965: Former Wealden Brickworks, RH12 4QD

Please see the attached email that was sent to us regarding appeal APP/P3800/W/18/3218965 at Former Wealden Brickworks (Site HB), Langhurstwood Road, Horsham, West Sussex, RH12 4QD

Regards
Alison

Alison Woodfield | Planning Technician, County Planning, West Sussex County Council | Location: Ground Floor, Northleigh, County H
Chichester, West Sussex PO19 1RH
Internal: x26950 | External: 0330 222 6950 | E-mail: alison.woodfield@westsussex.gov.uk

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From: Smith, Jonathan [m[redacted]
Sent: 28 February 2019 09:38
To: PL Planning Applications
Subject: Horsham Incinerator Planning Application

I am writing to object to this development due to the traffic, pollution and disruption to the Horsham area.

Kind regards,

Jonathan

Jonathan B Smith
VR MSc BA (Hons) CGeog FRGS MCIT MCIM

Jane Moseley

From: Mel Smith [redacted]
Sent: 04 March 2019 19:20
To: Helen.skinner@pins.gsi.gov.uk
Subject: APP/P3800/W/18/3218965

Dear Helen,

I am living in Horsham with my husband and children, and for the sake of the thousands families living here, I am objecting to the construction of the incinerator in our town by Britaniacrest Recycling Ltd at the following site Former Wealden Brickworks, Langhurst Wood Road, Horsham, RH12 4QD. The reference of the appeal being: APP/P3800/W/18/3218965.

Kind regards

Melanie Smith

11/2/19

3218965

MPP/P3800/W/19

5. Foxfield Cotts
Southwater
HORSHAM
RH13 9ER.

Dear Sir/Madam,

I thank you for your letter. Yes I would like to add a few things to the appeal. I went to Newhaven 2 weeks ago and if only more people went there too, they would most certainly be against Britaniacrest Recycling Ltd building a similar one at Langhurstwood Road Horsham. The chimney is Huge and pumping out horrid smoke 24/7. The whole place is a blot on the countryside. My family who live at Peacehaven (and there are many new housing estates there and schools) get the brunt of the smoke. They too appealed against it but it was built. I was told by a gentleman (unknown to me) that ship loads of rubbish come into Newhaven to be burnt at Britaniacrest so it is a huge money making outfit & upsetting the country side as it will surely do at Horsham & we will ALL breathe in the extracts from the Huge Chimney, it cannot be allowed. In the Daily Express 2 weeks ago they wrote about the first youngster to die

from Air Pollution aged 11 years.
So it must effect everyones breathing
but for such youngsters to die from
Air Pollution is dreadful. Please,
please do try & stop Britaniacrest
from building at Horsham. I cant help
wondering how many more they have
built in our countryside. It must
be a money making venture. BUT
must not be allowed when people
can die from the consequences
Many thanks from an
OLD pensioner who has seen this
dreadful smoke first hand.
Yours faithfully.
Mrs Nancy Smith.

Newhaven also has new housing estates, they
also must be worried about their children's
future health. I Daresay the Harbour Master
would know IF overseas Rubbish is coming
PTO

into Newhaven and lorry's can very quickly and easily bring it into Horsham's Britaniacrest Recycling. If they get permission to establish at Langhurstwood Road there will be no stopping them from ANYWHERE

again Thank You we are all trusting you

Jane Moseley

From: wadoguard-roffeykarate [redacted]
Sent: 03 March 2019 16:20
To: helen.skinner@pins.gsi.gov.uk
Subject: Planning Appeal APP/P3800/W/18/3218965

Dear Ms Skinner

I have signed the original objection and submitted comments. I now strongly object to the appeal. Horsham is almost unique in that it retains its Market Town feel. To place a waste incinerator so close to Horsham will create an environment that will blight our area forever. Horsham will become the waste bucket for much of the southeast. Our infrastructure will not cope and the health of the entire community will be at risk.
Please reconsider the impact this incinerator will have. Other councils will be clapping their hands together with the thought that they can go to their constituents and say how they have improved the health and well-being of their area, whilst you will have damaged ours.
I'm sure you have received many of these emails and no doubt get fed up with them, please take a moment to consider the objections and think of how to make the future for Horsham better not worse.

Thank you for your time

P K Smith
1 North Holmes Close
Horsham
RH12 4HB

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The Planning Inspectorate

COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	DR SHIRLEY SMITH
Address	89 Trafalgar Rd Horsham RH12 2QJ

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

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- ☐ Other

YOUR COMMENTS ON THE CASE

I oppose the plans for building a waste incinerator in the Horsham area for a number of reasons. These include: the adverse impact such a large incinerator will have on air quality in the Horsham District as well as contributing to the wider issue of CO2 emissions and adverse climate change; that it is unclear whether an incinerator is even required for the area to meet its recycling targets and the council should continue its successful strategy of educating and encouraging residents of the need to reduce, reuse and recycle our waste; that it has been recently acknowledged the UK is forecast to have an incineration overcapacity in respect to the amount of waste that will actually require incineration. The WSCC's original reasons for refusing the application should be upheld. Please don't let Horsham become a dumping ground for 230000 tonnes of commercial and industrial waste from the across the Southeast. Thank you.

Jane Moseley

From: Rian Steward [redacted]
Sent: 01 March 2019 15:57
To: helen.skinner@pins.gsi.gov.uk
Subject: APP/P3800/W/18/3218965

Incinerator opposition

I am writing to oppose the proposed plans for an incinerator in Horsham.

Health implications to our young children with increased air pollution.

Most of what is incinerated could and should be recycled or composted. Better recycling facilities (food waste system) would be a better use of resources.

Sincerly
Mrs R Steward

Sent from Yahoo Mail on Android

Jane Moseley

From: Marion Stockley [redacted]
Sent: 15 February 2019 18:12
To: helen.skinner@pins.gsi.gov.uk
Subject: Re; WSOC/015/18/NH

Re:- Planning Application for a new incinerator plant on the site of the previous brickworks site at Horsham, West Sussex - WSCC/015/18/NH.

I live at Marches Cottage, Marches Road, Kingsfold, Warnham, West Sussex. This dwelling is very close to the site of the proposed incinerator plant.

I strongly OBJECT to this application, (in no particular order) - (1) in terms of the total unsuitability of such a large sized and large scale industrial activity within a pleasant rural landscape, - (2) its physical locality and poor architectural design of the large structures at both low and high level, - (3) the affect of its visual impact upon the wider neighbourhood, - (4) the new inevitable greatly increased generation of heavy traffic movement in Warnham ,Kingsfold and other surrounding areas, - (5) the unacceptable levels of both air and land pollution and (6) - the encouragement given to other unsuitable developers to seek to extend their semi-industrial activities in this particular area should this application be allowed.

N.B. Brickmaking is a traditional rural activity in West Sussex. Burning rubbish on a massive industrial scale is not.

It is wryly noted that the identified site is in the farthest north of the County of West Sussex, thus pushing and placing such unpleasant activities to the very edge of the County boundary. You at Chichester can thus safely ignore any complaints from nearby dwellers in Surrey for whom you hold no planning responsibility and, numerically, there are not so many of us living within but near the W.S.C.C. border, and merely "scattered" on the West Sussex side, to complain!

The extraordinary height of the planned chimney - far taller than that of the previous brickworks - would be a terrible "blot" on this rural landscape for many miles around.

The chimney effluent would be detrimental to the surrounding atmosphere. Even with technological attempts to mitigate some of the more harmful by-products of burning waste, inevitably, some toxic smoke would still pervade the atmosphere and the neighbourhood for many miles around.

Moreover, the volume and consequent noise pollution of heavy lorry traffic travelling to and from this vast complex would be horrendous. Furthermore, It is fact of life that when driving behind such vehicles, some of the load inevitably gets "dropped/blown" off the lorries to gather unsightly rubbish on the verges, fields and gardens as well as on the roads. Unclassified Marches Road already provides a quick cut-through route between the A 24 and the A 29 for far too many unsuitable heavy goods vehicles. The additional traffic in Marches Road generated by this proposed development would be horrendous.

Such a development, if approved. would generate more semi- and fully industrial companies to seek permission for their non-rural activities to be located in this hitherto rural location. "A sprat to catch a mackerel" comes to mind, but, in fact, this would be a VERY LARGE SPRAT that had been well and truly hooked to the total detriment of our neighbourhood.

I most strongly object to the above application.

Yours faithfully
Marion Stockley
Marches Cottage, Marches Road, Kingsfold, Warnham, west Sussex RH12 3SL

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The Planning Inspectorate

COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR MATTHEW STRUTT
Address	Blackfriars Farm, Friday Street Rusper HORSHAM RH12 4QA

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
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YOUR COMMENTS ON THE CASE

My family of 6 live approx. 1 mile North West from the proposed site and in direct path of the prevailing south westerly winds. I am extremely concerned to hear that this planning application is back and that HDC seem unable to stop. As a resident whose life would be impacted on a daily basis I feel our views and quality of life should be represented in this process.

The proposed incinerator will have a negative impact in the following ways that I deem unacceptable:

1. Increased traffic on Langhurst Road / Friday Street, which combined with the recent successful application for 5000 new homes North of the A262 will significantly increase traffic on a single lane country road is simply not viable.

2. Risks of Toxic fumes / gases being deposited / blown into the path of my residential property and the risk to health and daily life i.e enjoying the garden of nearby countryside.

3. Significant visual impact on the landscape from all sides for several miles is a concern and I question why and how this site was selected when it is so close to 1000s of existing homes and next door to 5000 new homes to be built. When will the local council stop this constant erosion of our quality of life. If its not 5000 new homes its a new runway or now an incinerator !

4. Property prices will be negatively impacted is a fact. Who would want to buy my house with all the above issues impacting there lives ? The economic impact on local people should not be forgotten in this process.

I will be supporting the protests and urge the local and regional government to stand up and fight against this outrageous proposal in our neighborhood.

Mr Strutt

North Horsham Parish Council

Roffey Millennium Hall,
Crawley Road, Horsham,
West Sussex, RH12 4DT

Tel: 01403 750786 (Office & Hall Bookings)
Roffey Millennium Hall, North Heath Hall
HolbrookTythe Barn

Email: parish.clerk@northhorsham-pc.gov.uk **Website:** www.northhorsham-pc.gov.uk

Helen Skinner
The Planning Inspectorate
Room 3/J
Temple Quay House
2 The Square
Bristol
BS1 6PN

22nd February 2019

Appeal Reference APP/P3800/W/18/3218965

Planning Application WSCC/015/18/NH - Recycling, Recovery and Renewable Energy and Ancillary Infrastructure at the former Wealden Brickworks, (Site HB) Langhurstwood Road, Horsham, West Sussex, RH12 4QD. Planning Application submitted by Britaniacrest Recycling Ltd.

North Horsham Parish Council wishes to make supplementary comments on the above planning application in light of new information that West Sussex County Council (WSCC) will only be defending the appeal on Landscape and Visual Amenity.

The Parish Council is deeply disappointed that WSCC is not defending the appeal against the decision to refuse permission for the Recycling, Recovery and Renewable Energy Plant on the six original reasons for refusal, especially when there is insufficient evidence to allay resident's concerns about need, highway capacity, public health and the cumulative impact that development may have on the future residents north of Horsham and the parish in general.

The Parish Council gave comprehensive reasons why they concluded that the design, height, size and mass of the proposed buildings do not comply with the HDPF (2015) policies and WSWLP (2014) policies and would like to restate their objections on those terms in the strongest way possible.

North Horsham Parish Council would again request that the Inquiry is heard at a venue of substance close to Horsham where there is sufficient capacity for those who want to attend to do so comfortably.

Yours sincerely

P. Whitehead

Pauline Whitehead BA(Hons) FSLCC
Clerk to the Council

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The Planning Inspectorate

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Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR BRIAN SWIFT
Address	Westons House, Wimland Road Rusper HORSHAM RH12 4QU

ABOUT YOUR COMMENTS

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YOUR COMMENTS ON THE CASE

Building Better. Building Beautiful is the government policy. In addition, one could add Building in the Correct Location.
Horsham is a beautiful, important and historic market town, about to be increased in size by 25% by the North of Horsham Development. What idiot would be an Incinerator upwind, of the prevailing wind of this development.
Clearly the intention is to attract combustibles to this incinerator from a large catchment area. Hence a large area should also be sourced for a suitable location. While it is not the job of the Inspector to determine that location, one would, as start, suggest industrial wasteland, perhaps adjacent to docks.

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Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MRS KAREN SYMES
Address	97 Trafalgar Road HORSHAM RH12 2QL

ABOUT YOUR COMMENTS

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- ☐ Other

YOUR COMMENTS ON THE CASE

I object to the proposed incinerator because of the dangers to our health due to the release of particulates into the atmosphere. I understand that there is no requirement to monitor the release of particulates and when other European countries are scaling back on incinerators, and looking at other ways of dealing with waste, it is unacceptable that this country is going in the opposite direction.

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The Planning Inspectorate

COMMENTS ON CASE (Online Version)

Please note that comments about this case need to be made within the timetable. This can be found in the notification letter sent by the local planning authority or the start date letter. Comments submitted after the deadline may be considered invalid and returned to sender.

Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR MICHAEL SYMES
Address	97 Trafalgar Road HORSHAM RH12 2QL

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence
- ☐ Other

YOUR COMMENTS ON THE CASE

I am appalled at the prospect of a waste incinerator in Horsham and I am against the use of incineration to deal with waste anywhere. I believe it discourages recycling and I am very worried about the impact on health. The research I have undertaken makes me very sceptical over claims that it is safe. Particulates are very dangerous and will have a serious impact on people living nearby. The project is about profit with no regard for people's health.

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The Planning Inspectorate

COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR GEORGE TAYLOR
Address	23 Patchings HORSHAM RH13 5HJ

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence
- ☐ Other

YOUR COMMENTS ON THE CASE

The chimney for the incinerator is abnormally high , so much so , it will probably need low flying aircraft warning lights . Having worked with Chemical Engineers who have designed many chimneys to avoid exceeding the allowable ppm of polution at ground level I am exceedingly sceptical about this aspect of the design . The comment they always made was "Don't worry just make the chimney higher and we will get away with it !" Obviously the amount of pollution always remains the same , but it's effect at ground level is only reduced by a very high chimney . No allowance is made for local micro-climates . I have had to endure the stench from this site for many years and expect a cloud to descend over Horsham of higher than calculated ppm of polution . The Horsham Council Have now withdrawn objections to the visual impact and polution from this chimney . No doubt they know polution levels will be too high if the chimney height was reduced to a height acceptable to the local community . A reduction in chimney height would undermine the whole of this design and show that is located in the wrong place too close to a highly populated rural town growing even larger with its north Horsham development ." I trust that Horsham Council will be honest for once and push for a shorter chimney to expose the polution problems of this Blot on the landscape .

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The Planning Inspectorate

COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MRS GWEN TAYLOR
Address	25 Leechpool Lane HORSHAM RH13 6AG

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence
- ☐ Other

YOUR COMMENTS ON THE CASE

I feel that all the original reasons for the refusal of planning permission for this endeavour still stand. In particular, the possible impact on public health as we cannot be certain that dangerous particulates will not be released into the air. The public for miles around the site would be acting as human guinea pigs while we wait for a gigantic 'oops' some time in the future as clusters of cancers, for example, materialise. We cannot take this risk.

Jane Moseley

From: Deryck & June <[redacted]
[redacted] February 2019 15:08
To: helen.skinner@pins.gsi.gov.uk
Subject: FW: Planning Appeal APP/P3800/W/18/3218965 - Former Wealden Brickworks
Attachments: Toxic waste feb 2019.pdf

Hi Helen, I can only reiterate my previous concerns about the unsuitability of the site for waste incineration being so close to a heavily populated area with new schools etc planned very close to this site!

Also see the attached article from a nation newspaper expressing concerns regarding Waste incineration!

Deryck Thomson

From: Alison Woodfield [mailto:alison.woodfield@westsussex.gov.uk] **On Behalf Of** PL Planning Applications
Sent: 17 January 2019 15:59
To: PL Planning Applications <planning.applications@westsussex.gov.uk>
Subject: Planning Appeal APP/P3800/W/18/3218965 - Former Wealden Brickworks

Dear Sir/Madam

TOWN AND COUNTRY PLANNING ACT 1990
APPEAL UNDER SECTION 78

Site Address:	Former Wealden Brickworks (Site HB), Langhurstwood Road, Horsham, West Sussex, RH12 4QD
Description of development:	Recycling, Recovery and Renewable Energy Facility and Ancillary Infrastructure
Application reference:	WSCC/015/18/NH
Appellant's name:	Britaniacrest Recycling Ltd
Appeal reference:	APP/P3800/W/18/3218965
Appeal start date:	14 January 2019

I write to inform you of the above appeal, made to the Secretary of State, against the decision of West Sussex County Council to refuse planning permission for Recycling, Recovery and Renewable Energy Facility and Ancillary Infrastructure.

The appeal will be determined through the **inquiry** procedure. The procedure to be followed is set out in the Town and Country Planning (Hearing and Inquires Procedure) (England) (Amendment) Rules 2013.

We have forwarded all the representations made to us on the application to the Planning Inspectorate and the appellant. These will be considered by the Inspector when determining the appeal.

If you wish to make additional comments on the appeal, or modify/withdraw your previous representation, you must do so by **25 February 2019.** Any representations submitted after the deadline will not usually be considered and will be returned. The Planning Inspectorate does not

acknowledge representations. **All representations must quote the appeal reference (APP/P3800/W/18/3218965).**

You can submit comments online through the Planning Portal at www.planningportal.gov.uk/pcs or by emailing helen.skinner@pins.gsi.gov.uk If you do not have access to the internet, you can send **three** copies to:

Helen Skinner
The Planning Inspectorate
Room 3/J
Temple Quay House
2 The Square
Bristol
BS1 6PN

Please note that any representations you submit to the Planning Inspectorate will be copied to the appellant and West Sussex County Council, and will be considered by the Inspector when determining the appeal.

The appeal documents are available for inspection at County Hall, Chichester, West Sussex PO19 1RH between 09.30 – 16.00. Please call 01243 642118 to arrange a suitable time.

The documents will also be made available online via West Sussex County Council's online planning register under the planning application reference WSCC/015/18/NH

You can get a copy of one of the Planning Inspectorate's "Guide to taking part in planning appeals proceeding by an inquiry" booklets free of charge by contacting us, or on GOV.UK at https://www.gov.uk/government/collections/taking-part-in-a-planning-listed-building-or-enforcement-appeal.

When made, the decision will be published on GOV.UK: https://acp.planninginspectorate.gov.uk/ (search by the appeal reference: 3218965).

Yours faithfully

Jane Moseley
County Planning
Tel: 033022 26948
email: jane.moseley@westsussex.gov.uk

County Planning, West Sussex County Council | Location: Northleigh, County Hall, Chichester, West Sussex PO19 1RH
Tel: 0330 2225 777 | E-mail: planning.applications@westsussex.gov.uk

Toxic toll of incinerators burning so much waste

THE incinerator boom must be stopped amid public health concerns, MPs warned yesterday.

Britain is on the verge of burning more waste than it recycles for the first time, and the MPs called on the Government to take oversight of the industry and introduce an 'incineration tax'.

Some councils send more than 80 per cent of rubbish for incineration – despite much of it being recyclable material such as plastic. This is partly due to local authorities locking themselves into contracts of 25 years or more with incinerator firms, giving them an incentive to burn waste rather than recycle it.

But new research reveals that harmful particles released by incinerators in England last year

'Pay for pollution they cause'

were equivalent to the emissions of more than a 250,000 lorries each travelling 75,000 miles a year.

The smallest particles can pass into the blood and airways and cause breathing problems, heart and lung disease.

Earlier this year, the Daily Mail revealed that local authorities had allowed 21 new incinerators to spring up across Britain since 2010, bringing the total to 44. A further 18 are under construction.

A report by campaign group UK Without Incineration Network (UKWIN) – released yesterday with support from MPs of all parties – claims incinerators across Britain are failing to properly report their levels of dangerous pollutants.

At a House of Lords meeting, politicians called for an incineration tax – similar to taxes on landfill which

By **Glen Keogh**

have dramatically decreased the amount of waste dumped.

Labour MP David Drew, shadow minister for environment, food and rural affairs, said: 'Incinerator pollution is a matter of serious concern for many of my constituents.

'We need to halt the building of incinerators and there are many arguments in favour of taxing existing incinerators. It is right for polluters to be expected to pay for the pollution they cause.'

Conservative MP Philip Davies added: 'Incinerators are being foisted on local communities right across the country and yet the damage that they cause to the local environment is not fully known.'

Lib Dem peer Lord Tyler said: 'The Government seems unconcerned about adequately monitoring the emissions from incinerators and has allowed this monitoring loophole to go unchecked.'

The Environment Agency requires incinerators – also known as energy-from-waste plants – to report levels of harmful tiny pollutants if they exceed one tonne, but the body which represents the industry says they are too small to be properly recorded, so specific emissions are not published.

But UKWIN, using official Environment Agency figures, has calculated that an incinerator burning 45,455 tonnes a year emits one tonne of the dangerous pollutants.

Jane Moseley

From: Shirley Tomblin [redacted]
Sent: 02 March 2019 17:35
To: PL Planning Applications
Subject: Incinerator

Dear Sirs,

I again send my objections as previously stated.
Now I add the obvious problem of so many new houses being built so close to where the incinerator would be .
Not only is there a possible problem of fumes from the incinerator , but also from the vast number of lorries using it every day .
How many people will buy a house near so much pollution ?

Yours faithfully.
S. Tomblin (Mrs)

For official use only (date received): 15/02/2019 19:52:08

The Planning Inspectorate

COMMENTS ON CASE (Online Version)

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DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR DUNCAN TYLER
Address	3 Gateford Drive HORSHAM RH12 5FW

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
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- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence
- ☐ Other

YOUR COMMENTS ON THE CASE

A a resident of Horsham I am very concerned about this case due to:
1. The impact on the surrounding road network would be unacceptable - it's already busy enough in this area.
2. It would have an unacceptable impact on the landscape and the visual appeal of the area.
3. The area nearby is planned for residential development and this, combined with the incinerator would have massive adverse impacts to the area.
4. The site has not demonstrated to be needed to maintain net self-sufficiency to maintain the transfer of waste within West Sussex.

UNITED KINGDOM WITHOUT INCINERATION NETWORK

Britaniacrest Recycling Ltd Application for Former Wealden Brickworks (Site HB), Langhurstwood Road, Horsham West Sussex RH12 4QD

Application Reference: WSCC/015/18/NH

UKWIN Objection and Request for R1 Planning Condition

"Recycling, Recovery and Renewable Energy Facility and Ancillary Infrastructure"

April 2018

Introduction

1. The United Kingdom Without Incineration Network (UKWIN) was founded in March 2007 to promote sustainable waste management. Since its inception, UKWIN has worked with more than 120 member groups.

2. As part of fulfilling our aims and objects, UKWIN works to help facilitate access to environmental information, public participation in environmental decision-making, and access to justice in environmental matters. Where relevant we also make representations to consultation exercises to help ensure that relevant matters are considered.

3. In addition to **objecting** to the proposal, this submission also asks that further information be requested of the applicant by the Waste Planning Authority (WPA) and that, if planning permission is granted, a Design Stage R1 Planning Condition is attached in line with the condition previously imposed by the Secretary of State.

Relevant Government Statements in Relation to Climate Change

4. Incineration is known to exacerbate climate change by releasing CO2 when waste is burned. According to the Environment Agency: *"Between 0.7 and 1.7 tonnes of CO2 is generated per tonne of MSW [Municipal Solid Waste] combusted"*.[1]

5. The importance of understanding the specific technology being proposed as well as the net carbon impacts of the proposed facility compared to alternatives and the importance of understanding the assumptions regarding feedstock volume and composition, and how these are expected to change over time, is underscored by the Government's 2011 Review of Waste Policy.

6. We note, for example, that Paragraph 209 of the 2011 Waste Review states that: "...*while energy from waste has the potential to deliver carbon and other environmental benefits over sending waste to landfill, energy recovery also produces some greenhouse gas emissions. It is important to consider the relative net carbon impact of these processes, and this will depend on the composition of feedstocks and technologies used*".

[1] According to page 5 of the Environment Agency's "Pollution inventory reporting – incineration activities guidance note Environmental Permitting (England and Wales) Regulations 2010 Regulation 60(1)", Version 4 December 2012 available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296988/LIT_7757_9e97eb.pdf "Between 0.7 and 1.7 tonnes of CO2 is generated per tonne of MSW [Municipal Solid Waste] combusted".

7. Similarly, Paragraph 230 of the 2011 Waste Review states: "*Waste infrastructure has a long lifetime and therefore changes in the composition and potential volumes of waste in the future cannot be ignored in the development and selection of technologies now*".

8. The adverse environmental implications of waste incineration include the exacerbation of climate change through the release of greenhouse gas (GHG) emissions.

9. For the facility proposed for Horsham, with its 180,000 tonne per annum capacity, this equates to between about 126,000 tonnes and nearly 306,000 tonnes of CO2 released for each year of operation, or potentially more than around **9 million tonnes of CO2** over the anticipated 30 year operational period.

10. This should weigh heavily against the proposal.

11. UKWIN notes the explanation in the Government's EfW Guide that: "*Fossil based residual wastes, e.g. plastics that cannot be recycled, do not decompose in the same way as biogenic material in landfill. For these waste streams conventional energy from waste will almost always deliver a negative carbon balance compared to landfill*…"[2]

12. The applicant appears to have compared the proposed incinerator with sending the waste directly to landfill, without first being bio-stabilised, e.g. via an appropriate Mechanical Biological Treatment (MBT) process.

13. Highlighting the relative impacts of incineration and of sending waste to MBT prior to landfill, DEFRA's Waste Economics Team noted that: "*MBT-landfill provides the best emissions performance in terms of the treatment/disposal of residual waste. It essentially involves landfilling somewhat stabilised wastes with some material recovery. The magnitude of the environmental impact depends on the extent to which the waste is stabilised*".[3]

14. Even when waste is sent directly to landfill (without appropriate pre-treatment), there are various factors that are sometimes overlooked in modelling exercises in terms of the carbon sequestration effects of landfilling waste.

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[2] DEFRA's "Energy from waste: A guide to the debate", February 2014 (revised edition), available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/284612/pb14130-energy-waste-201402.pdf

[3] DEFRA's " The Economics of Waste and Waste Policy", June 2011, available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69500/pb13548-economic-principles-wr110613.pdf

15. As noted in the Government's aforementioned EfW Guide: "…*considering the landfill route, all the fossil carbon stays in the ground and doesn't break down. The fossil carbon is sequestered, as is potentially up to half of the biogenic carbon depending on the exact conditions in the landfill"*.

16. The impacts of biogenic carbon releases being avoided, sequestered or delayed in landfill compared to being immediately released as the result of incineration is erroneously omitted from some assessments of relative net emissions, and these omissions improperly favour incineration in such assessments.

17. On 3rd August 2015 Planning Inspector Mel Middleton decided to dismiss an appeal for a circa 140,000 tonne per annum incinerator proposed for the Former Ravenhead Glass Warehouse and other land at Lock Street, St. Helens, Merseyside WA9 1HS (Appeal Ref: 2224529, 'the Lock Street decision'). One of the issues material to the refusal was the poor "*carbon credentials*" of the plant - this was deemed to conflict with relevant local and national policies.

18. Paragraph 30 of the Lock Street decision states: "*In certain circumstances generating electrical energy from waste can contribute to carbon emissions to a greater extent than depositing the same material as landfill. It is therefore not a simple exercise to demonstrate that an EfW will have a positive effect on overall carbon emissions...*" *(emphasis added)*

19. Paragraph 19 of the Government's EfW Guide clearly states that*: "…residual waste also contains wastes from 'fossil' sources (oil etc.) such as plastic. Therefore when energy is recovered from mixed residual waste it is considered to be only a partially renewable energy source"*. (emphasis in original)

20. In January 2018 Resource Minister Dr Thérèse Coffey, responding on behalf of the Department for Environment, Food and Rural Affairs (DEFRA) to a Parliamentary Question made clear that: *"A comparison of the CO_2 impact of waste going to energy from waste and landfill is included in the analysis of the 2014 report 'Energy recovery for residual waste: A carbon modelling based approach'. No formal analysis has been undertaken since this report was published"*.[4]

[4] https://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2018-01-22/124194/

Climate Change Impacts of the Proposal

21. It is noteworthy that the applicant has not followed the methodology set out in 'Energy recovery for residual waste: A carbon based modelling approach' and does not justify their choice to deviate from the central assumptions of the Government-based approach.

22. UKWIN notes Paragraph 2.20.1 of Volume 1 Chapter 2 of the applicant's Environmental Statement (ES) explains that: *"A greenhouse gas assessment of the proposed thermal treatment facility, based on an estimate of its operational carbon footprint has been undertaken and is included at Appendix 2.3"*. UKWIN also notes that the Appendix 2.3: Carbon Assessment is in fact a report that was *"prepared to accompany the 2016 application"*.

23. The analysis contained within Appendix 2.3 fails to adequately set out all of the assumptions and methodologies applied and all of the underlying data and associated justifications for using those assumptions and methodologies.

24. Furthermore, some of the statements made within Appendix 2.3 appear to be contradictory, confused, and/or simply out-of-date.

25. If some of the omissions in the assessment are corrected then it appears that the development would have a significant adverse GHG impact, and therefore either additional information should be sought from the applicant or the application should be determined on the basis that climate change benefits have not been demonstrated and significant adverse change impacts have not been ruled out.

26. In relation to errors, it appears that the applicant and their consultants made a simple 'unit of measurement error' that results in an overstatement of emissions avoided through reduced transport by a factor of one thousand, i.e. the applicant's figure of 110,315 kilograms per annum was erroneously treated as if it were 110,315 tonnes per annum.

27. At Paragraph 9.6 of the applicant's 2016 Carbon Assessment the applicant adopts a '0.70' conversion factor, stating: *"Therefore the impact of the 3R Facility is to reduce vehicle-Kilometers by 157,140 Km per year, and from the Department of Energy & Climate Change standard set of GHG conversion factors 2016 for all HGVs (diesel), the CO2 conversion factor is 0.702022 per Km".*

28. The unit of the 0.70 CO2 is not stated by the applicant, but if one goes back to the DECC source document it is noted to be 0.70 kilograms of CO2e per kilometre.

29. To quote the DECC spreadsheet: *"All conversion factors presented here are in units of 'kilograms of carbon dioxide equivalent of Y per X' (kg CO2e of Y per X), where Y is the gas emitted and X is the unit activity. CO2e is the universal unit of measurement to indicate the global warming potential (GWP) of GHGs, expressed in terms of the GWP of one unit of carbon dioxide".*

30. As per DECC's source spreadsheet, the standard set conversion factor cited is 0.70kgCO2e/km (equating to only 0.0007tCO2e/km), but the applicant appears to be working on the basis that the factor is expressed in tonnes (0.70tCO2e/km), which is one thousand times higher than DEC's actual figure.

31. This means that the result of applicant's calculation of 157,140km x 0.70 is actually 110,315 kilograms of CO2 avoided per annum, i.e. only 110 tonnes of CO2 per annum. However, Table 3 of the 2016 Carbon Assessment uses the 110,315 kilogram figure as it if were 110,315 tonnes rather than 110 tonnes.

32. Over the expected lifetime of the plant this mistake with transport emissions adds up to overstating avoided emissions by more than **2.75 million tonnes of CO2** ((110,135 - 110) x 25).

33. In relation to inconsistencies, Paragraph 5.3.6 of the applicant's 2016 Carbon Assessment (Appendix 2.3) talks about "*21 MW recovered as electricity and exported to the grid at a net efficiency of **28.4%**".* This is clearly not consistent with Paragraph 8.4 of the Planning Supporting Statement, which states that "*18 MW would be available for export to the national grid*". (emphasis added)

34. Another inconsistency is that the Executive Summary of the Planning Statement says that the proposal involves: *"Generating 21Mw of renewable energy to be transported to the local distribution network"* which, based on statements that the gross generation capacity is 21MW, implies that 100% of the feedstock (and therefore 100% of the energy) would be renewable, whereas the composition in Table 1 of the 2016 Carbon Assessment states that the feedstock would include non-renewable fossil-based material such as plastic.

35. The applicant has not explained how they get from the energy content of their proposed feedstock composition to their claimed level of electricity export.

36. Their claimed composition in Table 1 of the 2016 Carbon Assessment includes a high proportion (44.75%) of putrescibles which tend to contain less energy than high-calorific value (CV) feedstocks such as plastic.

37. As Footnote 31 of the Governments' EfW Guide notes: *"Some wet* [i.e. putrescible] *wastes e.g. food are not particularly suitable for energy from waste"*.

38. The following assumptions have been adopted in order to attempt to reconcile these inconsistencies for the purpose of producing an indicative, partially corrected, version of the applicant's Table 3 'Summary of estimated emissions (tCO2 equivalent per annum)':

    a. The properties of the feedstock (e.g. calorific value, proportion of biogenic carbon, etc.) are assumed to be those set out in the Government's 'Energy recovery for residual waste: A carbon based modelling approach', using the input waste composition data given by the applicant in Table 1 of their 2016 Carbon Assessment; and

    b. The applicant's 28.4% efficiency figure (based on generation of 21 MW) is for gross efficiency, and their 18MW export figure implies a net efficiency of 24.3%; and

    c. The applicant's assumed 44.75% of putrescibles in the feedstock would be comprised of garden waste; and

    d. As the assessment is intended to examine the impact of incineration versus landfill, the model below assumes that material recovery would occur irrespective of the final treatment option (and therefore the -37,684 figure for 'Materials Recovery' has been excluded from the calculations).

39. If one were to consider the impact of Materials Recovery then the correct approach would be to use a counterfactual of MBT-Landfill, which would not only recover recyclables prior to landfill but which would also bio-stabilise the waste sent for landfill and therefore reduce the emissions of methane from landfill and increase the 'biogenic carbon sink' benefit of landfill.

40. This would result in the proposal performing even worse than landfill than is shown in the partially corrected modelling below.

41. Indeed, given the high quantity of putrescible waste it would also be appropriate to include separately collecting this feedstock for composting and anaerobic digestion (AD) as part of an alternative treatment scenario.

42. The proposed facility's performance against a composting/AD counterfactual would be even worse than comparison with MBT-Landfill.

43. In addition to the errors set out above, and in addition to inconsistencies in relation to both efficiency and uncertainties regarding composition highlighted above, we would like to draw attention to two further significant problems with the applicant's 2016 carbon assessment, as follows:

    a. The incorrect marginal emissions factor (MEF) is used; and

    b. The biogenic carbon sequestration benefits of landfill are not accounted for.

44. Paragraph 6.2 of the 2016 Carbon Assessment states that the modelling assumes a 2016 conversion factor of 0.41205 kgCO2e/kW, which in Table 3 is multiplied by 168,000 kWh to provide displaced electricity generation of -69,224.

45. Applying the 2016 conversion factor is not consistent with the most recent Government guidance from December 2017.

46. As explained in DEFRA's 'Energy recovery for residual waste: A carbon based modelling approach' (February 2014): *"…we should use the marginal energy mix which represents the carbon intensity of generating an additional kW of electricity…"* (emphasis added)

47. Footnote 29 of the Government's 2014 EfW Guide states that: *"When conducting more detailed assessments the energy offset should be calculated in line with DECC guidance using the appropriate marginal energy factor"*. (emphasis added)

48. The DECC guidance has now been taken up by BEIS, DECC's successor. The appropriate marginal energy factor (MEF), i.e. the generation-based long-run MEF, is provided in BEIS' Green Book supporting data tables.

49. According to Table 1 of the Green Book's supporting data tables (Department for Business, Energy & Industrial Strategy (BEIS), December 2017), the generation-based long-run marginal emissions factor for new energy generation facilities entering commissioning in 2020 is 0.270 kg CO2e/kWh and the 2020 generation-based grid average is 0.181kg CO2e/kWh.

50. When the Government's 0.270 kg CO2e/kWh MEF for 2020 is applied, with an assumed net efficiency of 24.3% alongside using an energy input (of around 2.58 MWh/t) based on the applicant's Carbon Assessment Table 1, then the applicant's -69,224 figures becomes **-30,474 tCO2 equivalent per annum** (i.e. 180,000 tonnes x 2.580427 x 0.243 x 0.270).

51. In addition to using the correct MEF, the comparison should also properly account for biogenic sequestration in landfill.

52. Whilst the applicant assumes that half of the biogenic carbon is sequestered in landfill, and whilst the applicant uses this assumption to reduce the assumed quantity of methane released from landfill, the applicant fails to follow best practice by neither crediting landfill with 'negative emissions' for this sequestered biogenic material nor including the additional release of this biogenic carbon on the incineration side of the equation.

53. As noted in the evidence-based recommendations of Eunomia's 2015 report entitled 'The Potential Contribution of Waste Management to a Low Carbon Economy': *"All lifecycle studies engaged in comparative assessments of waste treatments should incorporate CO2 emissions from non-fossil sources in their comparative assessment".*[5]

54. Eunomia's report also explains that: *"In comparative assessments between waste management processes, it cannot be considered valid to ignore biogenic CO2 emissions if the different processes deal with biogenic CO2 in different ways…"*

55. As stated at Paragraph 18 of DEFRA's 'Energy recovery for residual waste A carbon based modelling approach' (February 2014): *"…some biogenic carbon that would be released in energy recovery is sequestered in landfill".*

56. DEFRA's document goes on to explain, at Paragraphs 171-173, how: *"…the model assumes that not all of the biogenic material decomposes in landfill but it is all converted to CO2 in energy from waste. Landfill therefore acts as a partial carbon sink for the biogenic carbon. This is a potential additional benefit for landfill over energy from waste. There are two ways to account for this additional effect:*

    - *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)*
    - *Include all carbon emissions, both biogenic and fossil on both sides of the model*

    While both approaches would address the issue of sequestered biogenic carbon the first would potentially be the better solution as it would avoid double counting carbon with other inventories." (emphasis added)

57. When the biogenic sequestration in landfill is taken into account, using the same waste composition data as above and the same MEF of 0.270 as above, the

[5] https://zerowasteeurope.eu/downloads/the-potential-contribution-of-waste-management-to-a-low-carbon-economy/

applicant's -76,505 figure for Landfill Diversion becomes **-3,892 tCO2 equivalent per annum**.

58. It should be noted that the -3,892 tCO2e/annum figure is derived using the central assumptions from DEFRA's Carbon Based Modelling Approach, e.g. in relation to landfill gas engine efficiency.

59. Correcting these issues has a material impact on the conclusions of the carbon modelling that should weigh heavily against the proposal in the planning balance.

60. These adjustment are summarised in the Partially Corrected Table 3 below:

Partially Corrected Table 3

Emissions Source	**Proposed Facility Electricity only (uncorrected)**	**Proposed Facility Electricity only based on 24.3% net efficiency (partially corrected)**
Process	+50,955	+50,955
Transport	-110,315	-110 [i]
Avoided CO_2		
Displaced Electricity Generation	-69,224	-30,474 [ii]
Materials Recovery	-37,684	Not applicable [iii]
Landfill Diversion	-76,505	-3,892 [iv]
Total	-242,773	+16,479

[i] Corrected to account for the applicant's 'unit of measurement error', as explained in Paragraphs 26 - 32 above.

[ii] Corrected to apply an assumed net efficiency of 24.3% while applying the correct MEF of 0.270 (rather than the applicant's 0.412 conversion factor)

alongside using an energy input based on the applicant's Carbon Assessment Table 1, as explained in Paragraphs 33 - 50 above.

[iii] As per Paragraph 38 (d) above.

[iv] Corrected to account for biogenic sequestration in landfill (applying assumption's from DEFRA's Carbon Based Modelling Approach), as explained in Paragraphs 51 - 58 above.

61. Therefore, based on a partially corrected version of the applicant's own estimated emissions scenario, sending the waste to the proposed incineration facility would be **16,479 tcO2e per annum worse** than sending that same waste directly to landfill.

62. Other problems that we have observed in relation to the applicant's 2016 carbon assessment include:

    a. the transport assumptions (which appear to overstate the benefits of incineration, and which do not take account of diesel vehicles being replaced with electric vehicles during the lifetime of the proposed facility); and

    b. the landfill gas engine efficiency (which appear to overstate the benefits of incineration).

63. As should be clear from the issues raised above, the conclusions of the applicant's 2016 carbon assessment cannot be relied upon to provide an accurate description of the likely environmental impacts of the proposal.

64. Problems inevitably arise from the applicant's fundamental failure to correctly follow an accepted methodology applying a set of justified assumptions. We hope that these problems will be resolved as part of any revised climate change assessment required of the applicant by the WPA.

65. Alternatively, we would expect the WPA to determine the application on the basis that the proposal would contravene the strategic objective to minimise carbon emissions, and would therefore go against Waste Local Plan SO 14 as well as other local and national plans and policies in relation to carbon emissions and climate change.

R1 Planning Condition

66. ES Volume 1, Chapter 2 states: *"2.4.18 The efficiency of the facility determines the remaining energy available for export. It is not possible at this stage to state what the exact efficiency would be, but it would be more than sufficient to meet the energy efficiency requirement for a recovery facility of 0.65 set out in the Waste Framework Directive (2008/98/EC). In consequence the facility would qualify as "recovery" under Article 3 of the Directive."*

67. The facility proposed for Horsham should, if granted planning consent, be given a Design Stage R1 Planning Condition in line with previous decisions by the Secretary of State and other local authorities to promote movement of waste management up the Waste Hierarchy, in line with local and national policies.

68. Appendix A of the National Planning Policy for Waste sets out a five-step waste hierarchy, with the bottom tiers being 'Other Recovery' followed by 'Disposal'.

69. The accompanying footnote states that: *"The full definition of each level of the waste hierarchy is set out in Article 3 of the revised Waste Framework Directive (2008/98/EC)"*.

70. As set out in the Government's EfW Guide and as elaborated upon in further detail in the European Commission's *'Guidance on the interpretation of key provisions of Directive 2008/98/EC on waste*', inefficient Energy from Waste (EfW) plants are classified as 'Disposal' at the bottom of the Waste Hierarchy rather than as 'Other Recovery', even in cases where some energy is generated.

71. UKWIN draws the WPA's attention to the Secretary of State imposed Condition 16 for the Bilsthorpe Energy Centre (PINS Ref. 3001886).

72. That condition states: *"Prior to the development hereby permitted being brought into use, the operator shall submit to the Waste Planning Authority for approval in writing, verification that the facility has achieved [Design] Stage R1 Status through Design Stage Certification from the Environment Agency. The facility shall thereafter be configured in accordance with these approved details. Once operational, alterations to the processing plant may be undertaken to satisfy Best Available Technique or continued compliance with R1"*.

73. Indeed, it is currently a matter of course to impose Design Stage R1 Planning Conditions. For example:

    a. **Birmingham City Council** - Rolton Kilbride's 105ktpa gasification plant at Castle Bromwich. Condition 32 of 2015/09679/PA.

    b. **West Sussex County Council -** Grundon's Circular Technology Park. Condition 24 of WSCC/096/13/F.

    c. **Warwickshire County Council -** Rolton Kilbride's Hams Hall gasification plant - Condition 21 of NWB/16CM011

    d. **Bradford City Council -** Endless Energy Ltd's 90ktpa RDF plant in Keighley. Condition 45 of 16/06857/FUL.

    e. **Selby District Council -** Kingspan's 132tktpa RDF plant in Sherburn in Elmet. Condition 23 of 2016/1456/EIA

    f. **Nottingham City Council** - Chinook Sciences' 160ktp plant in Bulwell. Condition 20 of 13/03051/PMFUL3

Previous UKWIN Comments on Planning Committee Report

74. UKWIN draws the WPA's attention to UKWIN's comments made in relation to Application Reference: WSCC/062/16/NH in general, and in particular the comments from UKWIN's Technical Adviser Tim Hill C Eng made on 30th January 2017 and 8th June 2017 as follows:

    a. *Referring to the Planning Statement Appendix G Carbon Assessment, the Applicant has (a) failed to make available supporting calculations setting out the carbon effects of start up fuel and imported electricity / electricity generated within the plant, and (b) assumed that electricity generation emission avoided by production of electricity at the proposed ERF is 0.41205 kgCO2e/kWh electricity generated. This is incorrect...*

    b. *The applicant's analysis presents a misleading picture and until the aspects above have been taken account of and included, it cannot be assumed that the proposed facility represents an improvement over landfill.*

    c. *The applicant has failed to clarify the basis on which their net overall energy efficiency figure. The applicant should be asked to make available (i)an Energy flow Sankey diagram and (ii) a heat flow diagram.*

    d. *…I note that, in relation to Paragraph 4.20 of the Planning Officer's report, the statement that: "The Environment Agency would control the efficiency of*

the facility to ensure that the process qualifies as 'recovery' (in accordance with the R1 formula, referred to in representations) and to optimise the amount of electricity available for export outside of the facility." is fundamentally flawed. The Environment Agency (EA) does not control the efficiency of a waste incineration facility. Based on the relevant design data that should have been submitted by the applicant as part of the planning application, and any further information that would be required by the EA as part of a bespoke R1 application, the EA will indicate if the proposed incinerator can be expected to achieve an R1 value of 0.65 (recovery status) or (if less than 0.65) it retains its disposal status. The planning committee should, prior to the Tuesday 18 July 2017 meeting, be made aware that, if minded, notwithstanding the planning officers recommendation to refuse, to consent, then a condition should be set to the effect that consent is dependent on the EA deciding that, based on the design data, an R1 value of 0.65 or greater can be expected.

UKWIN Comments on the Applicant's Air Quality Assessment

75. UKWIN notes that Table 7.8: Mass Emissions from the applicant's Environmental Statement (ES) Volume 1, Chapter 7 on Air Quality and Odour appears to omit figures for total organic carbon (TOC) despite the fact that emissions are limited by the Industrial Emissions Directive (IED) and despite the fact that the applicant themselves include benzene as a main air pollutant (e.g. at Paragraph 7.2.18).

76. UKWIN urges the WPA to ask the applicant to provide TOC data, expressed as benzene (i.e. assuming all TOC is benzene), in accordance with standard practice and with IED requirements and with the relevant requirements of Environmental Impact Assessment legislation.

77. In relation to the applicant's attempt to assess emissions associated with a 'worst case scenario' UKWIN draws attention to Paragraphs 7.2.4 and 7.3.39 of the applicant's ES Volume 1, Chapter 7.

78. Paragraph 7.2.4 states: "For the purposes of this assessment for those pollutants having only one emission limit (for a single averaging period), the facility has been assumed to operate at that limit".

79. Paragraph 7.3.39 states: "As there are 8,760 hours in a non-leap year, the hourly-mean concentration would need to be below 200 µg.m-3 in 8,742 hours, i.e. 99.79% of the time".

80. It should be noted that the limits set out in 'Table 7.1: Relevant Industrial Emission Directive Limit Values' can be exceeded not only during start-up and shut down but also during normal operation.

81. The standard way that the Environment Agency (EA) would assess monitored emissions against the Emissions Limit Values (ELVs) is to subtract the uncertainty of the measurement from the value and to compare this lower figure against the ELV.

82. This means that the greater the level of uncertainty the lower the assumed emissions when compared to the ELV. Subtracting uncertainty in this way would imply that actual emissions could exceed the ELV by a greater margin than is allowed for by the applicant in their 'worst case scenario' assessment, e.g. by twice the 'uncertainty budget' allowed for under the ELV.

83. As such, the applicant's proposed 'worst case' scenarios could be significantly underestimating the potential permitted emissions from the plant.

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COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR. JAMES UNSWORTH
Address	Dragons New Road Southwater Horsham West Sussex RH13 9AU

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground

☑ Interested Party/Person Correspondence
☐ Other

YOUR COMMENTS ON THE CASE

To whom it may concern,

I oppose the planned Britanniacrest recycling works in the strongest possible terms. This proposal has been defeated once before, after a petition to block it was signed by 4532 people and WSCC received almost 1200 objections.

If this goes ahead, it will almost certainly prove to be an eyesore on the beautiful environs of North Horsham. As a passionate walker, I spend a lot of my time enjoying the natural scenery in this general area, but I would avoid the area if there was a huge incinerator and chimney situated there. Looking down from areas like Tower Hill; a person can see the black steeple of St. Mary's church on the South of town, and the pale steeple of what used to be St. Mark's church in the North. It's currently a beautiful picture which speaks of tranquility and our local history. Please don't let it be ruined.

This will also likely be detrimental to the air quality in the area, and is certain to impact the health of nearby residents. The proposed incinerator chimney is supposed to be almost as tall as Big Ben, and will therefore be visible pretty much anywhere in a wide radius.

I wrote a much longer representation the first time this proposal was struck down. There's not a lot more I can say now, other than that I feel the residents of our area have made their opinions known already.

Yours in hope,
James Unsworth

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COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR ANDREW VAUGHAN
Address	4 St. Leonards Park House St. Leonards Park Horsham SUSSEX RH13 6EG

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

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- ☐ Proof of Evidence
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- ☑ Interested Party/Person Correspondence

☐ Other

YOUR COMMENTS ON THE CASE

I am an full support of the proposed incinerator which is the most environmentally sensitive way to dispose of recyclable waste. I would hope that approval of this project will coincide with increased efforts to reduce packaging waste and improve recycling.

Jane Moseley

From: [redacted]
Sent: 02 March 2019 21:44
To: PL Planning Applications
Subject: Re: Appeal at Former Wealden Brickworks, Langhurstwood Road, Horsham APP/P3800/W/18/3218965 & WSCC/015/18/NH

Dear sirs,

it is a shame that our community is still looking at the incenerartion option instead of a recycling facility, we are lacking of food composting in Horsham. The community should work together in reducing waste, recycling and reusing! Horsham is a great place for families but I have no doubt that building an incenerator would drive people away from the area due to health concerns.

Kind regards

Michela Vianello

Il 6 febbraio 2019 alle 14.40 PL Planning Applications <planning.applications@westsussex.gov.uk> ha scritto:

This email is going to all interested parties (including consultees) in relation to the above appeal.

Following consideration of legal advice at a meeting of Planning Committee on 5 February 2019, West Sussex County Council will not defend five of the six reasons for refusal being considered in the above appeal.

Specifically, the County Council will not defend the following:

Reason 1: Need

> *It has not been demonstrated that the facility is needed to maintain net self-sufficiency to manage the transfer, recycling and treatment of waste generated within West Sussex. Therefore, the development is contrary to strategic objective 3 of the West Sussex Waste Local Plan 2014.*

The site is allocated in the West Sussex Waste Local Plan 2014, which demonstrates that there is an identified, quantified need for the waste management capacity that this facility would provide. Furthermore, the site benefits from an extant planning permission (WSCC/021/15/NH) for the same waste management capacity. Accordingly, it is accepted that there is a need for the facility and, therefore, the County Council will not defend this reason for refusal.

Reason 3: Highway Capacity

The development would have an unacceptable impact on highway capacity, contrary to Policies W10 and W18 of the West Sussex Waste Local Plan 2014.

The proposed development would not involve an increase in HGV movements over that already allowed under the extant planning permission. Accordingly, it is accepted that there is no evidence that there would be an unacceptable impact on highway capacity and, therefore, the County Council will not defend this reason for refusal.

Reason 4: Residential Amenity

The development would have an unacceptable impact on residential amenity, contrary to Policies W10 and W19 of the West Sussex Waste Local Plan 2014.

The proposed development would not result in either an increase in HGV movements or impacts from site operations over those already allowed under the extant planning permission. Accordingly, it is accepted that there is no evidence that there would be an unacceptable impact on residential amenity and, therefore, the County Council will not defend this reason for refusal.

Reason 5: Public Health

The development would have an unacceptable impact on public health, contrary to Policy W19 of the West Sussex Waste Local Plan 2014.

The County Council accepts that there is no evidence to indicate that there would be an unacceptable impact on public health resulting from the development, acknowledging that no

objections were raised in this regard by the relevant statutory consultees (the Environmental Health Officer, Public Health England or the Environment Agency). Further, it is accepted that the planning process should not duplicate other regimes including, in this case, Environmental Permitting. For these reasons, the County Council will not defend this reason for refusal.

Reason 6: Cumulative Impact

The development, along with other existing, allocated and permitted development, including the North of Horsham development, would result in adverse cumulative impacts, contrary to W10 and W21 of the West Sussex Waste Local Plan 2014.

The proposed development would not result in increased impacts from HGV movements or impacts from site operations over those already allowed under the extant planning permission. Accordingly, it is accepted that there is no evidence that there would be adverse cumulative impacts, and, therefore, the County Council will not defend this reason for refusal.

For the avoidance of doubt, the County Council will defend the remaining reason for refusal at appeal, namely:

Reason 2: Landscape and Visual Amenity

The development would have an unacceptable impact on landscape and the visual amenity of the area, contrary to Policies W12 and W13 of the West Sussex Waste Local Plan 2014.

Regards

Jane Moseley

County Planning Team Manager | Planning Services | Economy, Planning, and Place Directorate | West Sussex County Council
Location: Ground Floor, Northleigh, County Hall, Chichester PO19 1RH
Phone: 0330 22 26948
Email: jane.moseley@westsussex.gov.uk | Web: www.westsussex.gov.uk

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COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MRS LESLEY VIGAR
Address	28 Earles Meadow HORSHAM RH12 4HP

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence
- ☐ Other

YOUR COMMENTS ON THE CASE

I have just returned from a visit to Central America and seen first hand the effects of noticeable climate change over the last ten years or so on countries like Nicaragua and Guatemala where the coastlline is diminishing due to rising sea levels caused by glacier melt and Bonaire where they can no longer grow any of their own food due to lack of rainfall. These countries are trying their hardest for example with plans for 80% renewable energy in the next couple of years whilst at the same time connecting many more people to the grid. We should be ashamed that we are even considering building this facility when we should be recycling more. Horsham has already achieved the 50% recycling target two years early. We shouldn't have to take waste from elsewhere in the county, the road miles just add to the pollution. Traffic around Horsham is already gridlocked at certain times of day. If it was built what's to stop them asking for increases to the number of lorry loads in the future - absolutely nothing. Having worked in Langhurstwood road for a number if years, the lorries are a major hazard, not least to the cyclists and pedestrians whou use the road particularly during the rush hour.
We already have the eyesore of the landfill hill in North Horsham. This will be even worse. I have heard that it will be floodlit at night because of Gatwick. Why should we have to put up with all this light pollution. What about the air pollution. Not matter how tall the chimney it all falls to earth eventually.

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COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MRS CAROL WHITE
Address	26 Greenfinch Way Horsham Horsham West Sussex RH12 5HB

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

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☐ Other

YOUR COMMENTS ON THE CASE

I cannot believe that anyone can think it sensible to put an incinerator so close to planned housing and established housing. It cannot be healthy for local residents. It doesn't matter what precautions are taken, we do not have a good enough understanding of the emissions to be able to guarantee peoples safety. At one point smoking was good for you and diesel cars were better than petrol !
The sight of the landfill as you come down the A24 is depressing enough. Adding a tall chimney will make things even worse. It will be visible from far away. If this was to benefit local residents it would be bad enough but it is not needed for our waste...it would be dealing with waste from outside the area. It is the wrong location.

Jane Moseley

From: Sheila White [redacted]
Sent: 20 February 2019 15:40
To: helen.skinner@pins.gsi.gov.uk
Subject: APP/P3800/W/18/3218965 - Former Wealden Brickworks, Langhurstwood Road, Horsham RH12 4QD - Appeal by Britaniacrest Recycling Ltd

I e-mailed detailed objections to Planning Application WSCC/015/18/NH on 21st April 2018. I stand by those and want them to remain on record. I now have some additional objections to this scheme, which I trust will be taken into account when the above Appeal is considered.

One of the main grounds the appellant gives for appealing against refusal is that there is no requirement to prove the need for the facility because West Sussex Waste Local Plan has already allocated the site for waste management. That may be so, but the Waste Local Plan does not specifically call for waste management on that site by means of incineration.

Since West Sussex County Council's decision to refuse the application last June, more information has emerged regarding the emission of dangerous pollutants released from incinerators. A report (released 17th July 2018 and supported by MPs of all parties) stated that incinerators across Britain are failing to properly report their levels of dangerous pollutants. The Shadow Minister for Environment, Food and Rural Affairs stated that incinerator pollution is a matter of serious concern and that the country needs to halt the building of incinerators and that there are arguments in favour of taxing existing incinerators based on "The polluter pays" principle.

Indeed, the European Commission calls for member states to consider more carefully the waste hierarchy when looking at increasing incineration and suggests phasing out support for mixed waste incineration. It stated, "Member states are advised to gradually phase-out support for the recovery of energy from mixed waste". Although we haven't yet achieved Brexit, I am sure this advice will still hold good for the UK if and when we do.

It must be obvious to everyone that public perception has changed markedly and there is now a much greater appetite for recycling waste. Local and nationwide campaigns to encourage recycling are being very effective and will continue to be so. An increase in incinerator numbers should be resisted (and particularly so in this case, where the application is for the wrong plan on the wrong site).

On the matter of air quality, although the Environment Agency requires incinerators to report levels of pollutants if they exceed acceptable levels, the body which represents the industry says they are too small to be properly recorded, so specific emissions are not published. Given that the Environment Agency can only "**monitor**" emissions and not specifically "**control**" them, it is unacceptable that, for this appeal, Britaniacrest's agent is relying on a statement that: "……air quality will be subject to further **control** through the Environmental Permitting process". Sadly I have to admit that I do not trust Britaniacrest to reliably report any problems with hazardous emissions – particularly as they might affect the profitability of their development.

On the matter of impact on the landscape, the appellant maintains the proposed development would not have an unacceptable impact on the landscape. This is demonstrably not the case. A development of this bulk and height will not be screened by "vegetation". No matter how many trees the developer my plant, they cannot hide the building, nor the chimney stack. In any event, during the long winter months when there are no leaves on deciduous trees, the development will be all-too-obvious in the landscape.

Regarding extra traffic impact, the appellant states that the development would not have an unacceptable impact on highway capacity because there would be no increase in HGV movements to those currently consented. He conveniently ignores the fact that currently only about half the allowable movements are being made, so the actual increase in movements will be doubled.

Another problem with HGV and other vehicular movements to and from the development is the fact that, of the two "primary routes" offering access to the site, one is the A24 which is a "primary route" from central London via Dorking and Horsham to the South Coast. Although this is designated a primary route, the 5-mile long section between Capel and the junction with the A264 is a dangerous, narrow and twisting single carriageway, little better than a country lane. Since the refusal of the application, more and more traffic has built up on this road, due to increasing development in the Horsham area. There is more to come with what was Liberty Property Trust's (and is now Legal & General's) planned development on the North of Horsham site. In addition there are 300 more homes in the pipeline for a mixed development on the old Novartis site close to central Horsham. Traffic on the A24 is increasing almost daily and it is totally unsuitable for all those extra HGVs to service the Britaniacrest proposal.

When HM Government Inspector, Geoff Salter, came to review Horsham District Council's Planning Framework and particularly the proposed North of Horsham development, he expressed concerns about the ability of the A24 to cope with all the additional traffic. Following his intervention the Framework had to be modified to include the words, and I quote: "…. Other measures to be funded by the developer to ensure continued safe and efficient operation of strategic and local road networks including outside the district boundary". This followed representations from Mole Valley District and Surrey County Councils. They know the impact extra traffic is having, and will have, on the A24. To date, apart from extra signage warning of the dangers of the road and some additional speed restrictions there have been no modifications to the actual carriageway, so it remains a matter of great concern to local residents.

Finally, there are plans to signalise roundabouts in the vicinity of the development proposal. This will lead to queuing of traffic along the A264 and the A24. HGVs emitting their toxic diesel fumes while waiting for the lights to change will just add to the air pollution in the area of the incinerator and will further blight the living conditions of people in the vicinity.

Thank you for taking note of my concerns and objections.

Sheila White

Address: 1 Great Daux Cottages, Dorking Road, Warnham, Horsham, RH12 3QQ

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The Planning Inspectorate

COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR ADAM WICKS
Address	77 Ropeland Way HORSHAM RH12 5NZ

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence
- ☐ Other

YOUR COMMENTS ON THE CASE

Dear Planning Inspectorate,

You will see from my previous comments on this case that I am vehemently opposed to this development, and this remains the case.

As a property owner with a young family located only 1 mile from the proposed location of the incinerator my primary reasons for objection are on the grounds of increased air pollution and the unknown detrimental long term effects that this will have on our health and that of our 5 year old son. I have seen nothing in the presented data in the application that alleviates any concerns I have and the facts are that the air quality simply cannot be improved by the construction of an incineration facility so close to our home. Regardless of any approved limits for pollution the content of air particulates and gases..etc that will be emitted from the incinerate can only be worse than it is right now.

My son attends a local primary school (Holbrook) that is located less than one mile from the proposed site of the incinerator, which further compounds these concerns, no doubt shared by all the families that attend the same school. It strikes me as somewhat reckless and irresponsible to even suggest the building of an incineration facility this close to a primary school that is frequented on a daily basis by several hundred young children.

Further to my primary concerns above, it is difficult to see how the construction of a 95m tall chimney in a picturesque area of the country such as this will contribute positively to the visual amenity of the area. I also note that all arguments relating to tree cover focus on the summer months and not in winter when there is less coverage from the trees.

The A264 is already a very busy road, as are parts of the A24 which are not dual carriageway. I have concerns that although the number of HGV movements is within an already approved limit, my understanding is that limit is not currently fully utilised so there will be a relative increase in the amount of traffic from today.

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The Planning Inspectorate

COMMENTS ON CASE (Online Version)

Please note that comments about this case need to be made within the timetable. This can be found in the notification letter sent by the local planning authority or the start date letter. Comments submitted after the deadline may be considered invalid and returned to sender.

Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR MICHAEL WILDERS
Address	11 Nymans Close HORSHAM RH12 5JR

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence
- ☐ Other

YOUR COMMENTS ON THE CASE

I hope you will refuse permission to build the incinerator. I am conerned about this proposal on several grounds. The building and chimney will adversly affect the visual amenity. I am concerned at potential health effects from emmisions generated. The horsham by-pass (A264) and associated roundabouts already get congested and will be made worse with additional lorry traffic. Similarly for the A24. It will potentially blight the planned new housing on the North horsham site. As a local resident, I therefore object to the porposal, and hope you will refuse planning permissions.

For official use only (date received): 25/02/2019 18:36:31

The Planning Inspectorate

COMMENTS ON CASE (Online Version)

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DETAILS OF THE CASE

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Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR BRIAN WILLIAMS
Address	29 Collingwood Road HORSHAM RH12 2QN

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
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- ☐ Other

YOUR COMMENTS ON THE CASE

These units must be put in place some where and although it is true to say no one wants it in their back yard in this instance I am in favour of it proceeding as they have been installed in other areas without significant disruption

Jane Moseley

From: Lisa Samos [redacted]
Sent: 27 February 2019 12:17
To: helen.skinner@pins.gsi.gov.uk
Cc: oliver williams
Subject: Planning appeal letter

Ref: APP/P3800/W/18/3218965

Dear Helen

Please can you put forward our appeal again the planning proposal of an incinerator on the boundary of Warnham.

The idea is repellant and harks back to an age of ignorance akin to the industrial revolution. Have we learned nothing about the burning and funnelling of pollution into our atmosphere? With increased pollution comes irreversible impact on bird life, insect life and all flora and fauna in the vicinity. Our neighbours and our home is also host to endangered swifts, honey bees and barn owls to name a few. We have a very special ecosystem in this area growing elderflower, blackberries and apples, rearing ducks and chickens and of course the local deer. We need to preserve all this for the future.

The construction of this incinerator in this rural area will be catastrophic not to mention with the air pollution that we and our young school children breathe. We chose to leave the City 10 years ago and chose to live on a deer park with trees and fields and zero light pollution at night. We did not choose to live next to an incinerator that we could see, hear, breathe and smell...a relentless smoke bellowing monstrosity.

With public empowerment we will be relentless in the pursuit of ensuring no such incinerator and pollution of our atmosphere and night skies will be allowed to commence. We have won previous battles against potential fracking for oil in the Surrey Hills. Olly works in the conservation world and for us we cannot allow to scar this landscape permanently for future generations. We hope Britaniacrest Recycling look to the 21st century and apply some creativity and ownership for a pollution free area of natural beauty.

Please can you log our complaint and keep us informed of next steps.

With thanks

Olly & Lisa Williams and their 2 teenage children
Bailing Hill Farmhouse
Broadbridge Heath Rd
Warnham
W Sussex. RH12 3RS

Please Telephone Olly (copied)
[redacted]

For more information please visit http://www.symanteccloud.com

Jane Moseley

From: [redacted]
Sent: 03 March 2019 11:06
To: helen.skinner@pins.gsi.gov.uk
Subject: No incinerator for Horsham please

Dear Ms Skinner,
I am deeply concerned about the health implications having a commercial incinerator nearby will have on the local population. Whilst the chimney will be high up, I have seen the plume maps showing that the area where we live, including many local schools, will be in the red danger zone for pollution when the wind is blowing in this direction. The pollution is carcinogenic and it is not fair to inflict this on our children and adults in such a densely populated town.
Please do not allow this extremely concerning plan to go ahead.
Kind regards,
Francesca Wilson

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The Planning Inspectorate

COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MR MICHAEL WILSON
Address	38 Erica Way HORSHAM RH12 5XL

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence
- ☐ Other

YOUR COMMENTS ON THE CASE

To whom it may concern,
I am deeply concerned about the health implications having a commercial incinerator nearby will have on the local population. Whilst the chimney will be high up, I have seen the plume maps showing that the area where we live, including many local schools, will be in the red danger zone for pollution when the wind is blowing in this direction. The pollution is carcinogenic and it is not fair to inflict this on our children and adults in such a densely populated town.
Please do not allow this extremely concerning plan to go ahead.
Kind regards,
Michael Wilson

Jane Moseley

From: tania woods [redacted]
Sent: 23 February 2019 11:08
To: helen.skinner@pins.gsi.gov.uk
Subject: APP/P3800/W/18/3218965

APP/P3800/W/18/3218965

Dear Helen Skinner, the planning portal for West Sussex County Council is under maintenance until after the date for submissions to the above appeal. So, please accept this as a representation.

I feel that the proposed incinerator building, at 35.92 m in height, so therefore bigger than Swan Walk, will be seen from miles away, including areas of outstanding natural beauty. The proposed site is too small and a blight in areas of outstanding natural beauty.

Also, the CAA has demanded the middle and top of the stack be lit at night due to flight routes, so light pollution will be significantly increased.

The site will be operated 24/7 so will create ambient noise and experienced by rural areas above that currently in place of 30-35 dB decreasing at night.

Another objection is that WSCC has already given permission for an incinerator in Ford (2014). Why another is needed in this county?

Tania woods

Wattlehurst barn

Dorking rd

Kingsfold horsham

rh123sd

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The Planning Inspectorate

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Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MRS DIANE WRIGHT
Address	50 Chennells Way HORSHAM RH12 5TW

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

- ☐ Final Comments
- ☐ Proof of Evidence
- ☐ Statement
- ☐ Statement of Common Ground
- ☑ Interested Party/Person Correspondence
- ☐ Other

YOUR COMMENTS ON THE CASE

Refusal for planning:
Climate change tells us that we need to reuse and recycle and avoid incineration overcapacity.
The development will have an unacceptable impact on public health.
The development will have an unacceptable impact on the landscape and visual amenity of the area.
The devlopment will have an unacceptable impact on highway capacity. Horsham and the surrounding areas are already full to capacity and bursting at the seams.
The development together with the North Horsham developemnt will result in adverse cumulative impact.

For official use only (date received): 17/01/2019 20:31:39

The Planning Inspectorate

COMMENTS ON CASE (Online Version)

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Appeal Reference: APP/P3800/W/18/3218965

DETAILS OF THE CASE

Appeal Reference	APP/P3800/W/18/3218965
Appeal By	BRITANIACREST RECYCLING LTD
Site Address	Former Wealden Brickworks Langhurst Wood Road Horsham RH12 4QD Grid Ref Easting: 517058 Grid Ref Northing: 134349

SENDER DETAILS

Name	MISS KJERSTIN YOUNG
Address	2 Fieldend HORSHAM RH12 4GY

ABOUT YOUR COMMENTS

In what capacity do you wish to make representations on this case?

- ☐ Appellant
- ☐ Agent
- ☑ Interested Party / Person
- ☐ Land Owner
- ☐ Rule 6 (6)

What kind of representation are you making?

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- ☐ Other

YOUR COMMENTS ON THE CASE

As a homeowner in the North Horsham area, I am concerned to learn that the correct and proper decision to deny permission for the incinerator is being appealed. The response in opposition to this plan was overwhelming and the right judgement was made, and should be strongly upheld. All of the original concerns relating to this proposal are still fully applicable - air and noise pollution, traffic, an unsightly chimney and the non-sustainable basis of incinerating waste. Please don't spend any more time considering this as an option - instead resources could be spent finding a sustainable and appropriate solution to waste in the area.

Jane Moseley

From: Patricia Youtan [redacted]
Sent: 01 February 2019 22:18
To: Jim Rae
Cc: Skinner, Helen
Subject: Re: JAMES (Jim) Rae, 24 Beaver Close, Horsham RH12 5GB

Absolutely agree Jim!

Sent from my iPad

On 1 Feb 2019, at 18:18, Jim Rae <[redacted]> wrote:

> Dear Helen,
>
> As a former Horsham District and West Sussex County Councillor and one of the founders of HALT (Horsham Anti Incineration Linked Tasked Force) I would in extremis prefer - 2, 750 housing units and 500 sq ft of offices rather than any incinerator which will massively affect our health – housing and businesses will not!
>
> Regards
>
> James (Jim) Rae

gatwickdiamondbusiness.com

FAO Helen Skinner
The Planning Inspectorate
Room 3/J
Temple Quay House
2 The Square
Bristol
BS1 6PN

28 February 2019

Re: Appeal Reference: APP/P3800/W/18/3218965
Britaniacrest Recycling Ltd
Former Wealden Brickworks
Langhurstwood Road
Horsham
RH12 4QD

Dear Sir/Madam

I write in connection with the above planning appeal.

I wish to offer the support of Gatwick Diamond Business (gdb) to the proposal and for the appeal to be upheld, overturning the refusal for planning permission determined by West Sussex County Council.

Gdb is a business membership organisation with some 420 members drawn primarily from West Sussex and east Surrey. As well as supporting our members through networking and other activities, we seek to influence planning and investment in the Gatwick Diamond economic area that promotes business sustainability and growth.

We are informed that West Sussex County Council refused the application on 11th July 2018, giving six reasons for the refusal, and that it subsequently withdrew support for five of those six reasons, leaving only the issue relating to the visual impact of the proposed facility.

We are not experts in assessing visual impact and will not therefore make any representation on the adequacy of the proposal in this regard. We are pleased, however, that the County Council has accepted the need for an energy from waste facility and that the plant, if built, will be adequately regulated and impact on the local highways has been taken fully into account.

Waste and the responsible management of it, is key to the wellbeing of any economy. Whilst it is of course important that the quantity of waste produced is minimised, it is inevitable that some waste is produced that cannot be reused or recycled. It is vital, therefore, that facilities exist for disposal of waste local to the source of production to minimise the environmental impact and enable sustainable economic growth

Our understanding is that currently within the south of England there are few facilities for waste disposal, and none in West Sussex. We further understand that residual waste that cannot

Telephone 01293 440088
Email info@gatwickdiamondbusiness.com
Address Basepoint, Crawley, RH11 7XX

be recycled is therefore taken to Surrey - which has one active but limited landfill - or is exported to continental Europe. Both these routes to disposal cannot be considered as ideal in terms of either environmental or economic impact.

The location of facilities for the disposal of waste within West Sussex was considered in the Waste Local Plan, which sets out the strategic planning for the County until 2031. The Plan was adopted by the authorities in West Sussex in April 2014 and allocated the applicant's site as being suitable, inter alia, for waste disposal. The processes available for the disposal of waste are limited to either landfill or energy from waste Therefore, in making such an allocation, whilst not specifically referring to energy from waste, since landfill has not been a consideration for many years now, the only disposal option for which the allocation could have been made was for energy from waste

We understand that the size of energy from waste facilities is determined by practical design and regulatory requirements. As stated above, we cannot judge whether or not the visual impact of the facility proposed is acceptable in planning terms, but we do know that the applicants have worked with industry experts in developing the design and have done their best to minimise its size and general the impact. We understand, for example, that there is a trade-off between the height of the chimney and the environmental impact.

We appreciate that decisions to locate facilities such as these are controversial locally. We assume that through the planning process this site has been identified on the balance of its merits and negative impacts relative to other possible locations On that basis, we consider that the environmental and economic benefits of the site for the wider County Council and Gatwick Diamond areas outweigh the understandable local concerns.

Yours faithfully

[redacted]

Jeff Alexander

Chief Executive