



**MERCIA WASTE
ENVIRECOVER FACILITY
REBUTTAL PROOF OF EVIDENCE**

Fichtner Consulting Engineers Limited
Kingsgate (Floor 3), Wellington Road North,
Stockport Cheshire SK4 1LW United Kingdom
t: +44(0) 161 476 0032 f: +44(0) 161 474 0618 www.fichtner.co.uk

REBUTTAL PROOF OF EVIDENCE OF STEPHEN OTHEN

Public Inquiry Under Section 77 of the Town and County Planning Act 1990 (as amended)

Application by Mercia Waste Management Ltd for the proposed development of an energy from waste facility on land at Hartlebury Trading Estate, Hartlebury, Worcestershire.

PINS reference: APP/E1855/V/11/2153273

LPA reference: 10/000032/CM

DOC reference: MWM 11

Date: 9 November 2011

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1 Introduction

- 1.1 This rebuttal proof should be read in conjunction with my main proof of evidence and its appendices.
- 1.2 In this rebuttal proof of evidence, I am primarily responding to points made in the statement by Philip Vernon on behalf of WAIL. I have also responded to a small number of points made by Louise Brooke-Smith.
- 1.3 It should be noted that I have not repeated points which I consider are already made clear in my main proof of evidence. Therefore, the fact that I have not commented on a particular issue or point made by an opposing witness which contradicts my evidence is not intended to show that I agree with them or that I accept the point.

2 Climate Change

Louise Brooke-Smith

2.1 In paragraph 5.5.5 of her proof of evidence, Louise Brooke-Smith states that *"The Government's Waste Policy Review of June 2011 states that incineration of non-biodegradable waste gives rise to significant Green House Gases."*

2.2 This is a misrepresentation of the Waste Policy Review. Paragraphs 208 and 209 are clear:

"208 The benefits of recovery include preventing some of the negative greenhouse gas impacts of waste in landfill. Preventing these emissions offers a considerable climate change benefit, with the energy generated from the biodegradable fraction of this waste also offsetting fossil fuel power generation, and contributing towards our renewable energy targets. Even energy from the non-biodegradable component, whilst suffering from the negative climate impacts of other fossil fuels, has additional advantages in terms of providing comparative fuel security, provided it can be recovered efficiently.

209 The revised Waste Framework Directive allows for deviation from the waste hierarchy where it can be clearly demonstrated there is a better environmental outcome from doing so, which may be the case for energy recovery from certain waste streams. Conversely, 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."

2.3 In paragraph 5.5.4, Ms Brooke-Smith states that "*there will be a net increase in CO₂.*" She presents no evidence to support this statement herself, but I assume that she is relying on the statement of Mr Vernon, which I have addressed below.

Philip Vernon

2.4 In section 1.0 of Mr Vernon's statement, he makes essentially two criticisms of the carbon assessment submitted in support of the Environmental Permit.

- a) He queries the type of power which would be displaced by the EnviRecover Facility (paras 1.1 to 1.5); and
- b) He questions whether the avoidance of emissions of methane from landfill should be treated as a benefit (paras 1.6 to 1.8).

2.5 Since the carbon assessment in Appendix C to MWM5 uses the same approach as the carbon assessment which Mr Vernon has commented on, I assume that he would make the same criticisms of this part of my evidence.

2.6 In making the first point, he has misunderstood the approach taken. I have not claimed that EfW facilities choose which power source is displaced. I have merely explained the workings of the electricity market and concluded that coal-fired and gas-fired power stations are the most flexible power sources and hence are likely to be displaced.

- 2.7 The only relevance of this assumption is that it determines the benefit of generating more power, known as the “carbon intensity”. While I have then selected a 50/50 mix of gas and coal as the base case, I have considered a range of carbon intensities in Table 1.1 in Appendix C, going from 373 g CO₂-equivalent per kWh of power to 835 g CO₂-eq/kWh. This range encompasses most, although not quite all, of the figures quoted by Mr Vernon.
- 2.8 Throughout my range of carbon intensities, my assessment shows that the EnviRecover Facility has a beneficial impact on carbon emissions. This continues to be the case until the carbon intensity drops below 200 g CO₂-eq/kWh, which is well below the lowest figure, 300 g CO₂-eq/kWh, which Mr Vernon is proposing.
- 2.9 His second point is clearly not in step with government policy. In paragraph 4.3.8 of MWM4 I quote from the Government’s Waste Policy Review (CD WSL4). The relevant paragraph 208 is quoted again above and states that “*The benefits of recovery include preventing some of the negative greenhouse gas impacts of waste in landfill.*”
- 2.10 It is clear that excluding landfill gas emissions because the assumptions are uncertain, as suggested by Mr Vernon, is not correct. I have clearly quantified the assumptions and, more importantly, I have carried out a sensitivity analysis on the most important, which is the collection rate of landfill gas.
- 2.11 I stand by my statement, in accordance with government policy, that the EnviRecover Facility will reduce carbon emissions overall.

3 WRATE

- 3.1 Mr Vernon criticises the options appraisal submitted with the planning application in a number of ways. Appendix B to my proof contains an updated options assessment, but the approach has not changed and so I have addressed his criticisms by referring to the updated options appraisal. His criticisms are generally due to misunderstandings of the approach or of the use of WRATE. I have responded to two specific criticisms before considering the additional option which is suggested.
- 3.2 Firstly, Mr Vernon states *"It is suggested that WRATE should not be used to determine between hypothetical options with assumed values and scaling, and real situations with known and factual values"*. If this approach were adopted, then new or less proven technologies could never be considered, nor could any change in scale be considered. WRATE is designed to allow a wide range of technologies to be considered and to allow them to be scaled.
- 3.3 Secondly, Mr Vernon suggests that we did not include any benefit from power generation for the MBT options. I can confirm that the impacts of burning the RDF and of generating power were fully considered in the options appraisal, as shown in Figure 7 in Appendix B to my proof. The mass balance diagram, which is Figure 12 in Appendix B, was only intended to show process flows at the MBT plant itself.
- 3.4 Mr Vernon appears to be proposing an additional option, where all of the biodegradable content of MSW is separated at source and treated in an Anaerobic Digestion facility. There would be some additional recycling and the use of an autoclave, although it is not clear how this would all fit together.

- 3.5 This is not a realistic option. The biodegradable part of municipal waste is not a single waste fraction, but it covers a number of different waste types, such as food waste, garden waste and paper, and it is not practical to separate all of the biodegradable waste at the kerbside. I have added an additional option to the Options Appraisal, as explained in paragraph 3.2.3 of MWM4. This includes source segregation of food waste, following the model of Wychavon District Council, which is a more realistic approach.
- 3.6 Overall, I stand by the conclusions of the Options Appraisal.



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t: +44(0) 161 476 0032 f: +44(0) 161 474 0618 www.fichtner.co.uk