

Clinical Waste Market: Initial Assessment

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1.0 Introduction

This briefing note is to identify local sources of feedstock for a high temperature clinical waste incinerator designed to feed heat/steam to a dry anaerobic digestion plant. Here we review waste arisings to assess whether there will be sufficient tonnage of both hazardous and non-hazardous clinical waste (EWC Chapter 18) produced per year which could be used as feedstock for the facility. First, we review whether the 25% by weight of clinical waste (5,000 tonnes per annum) required to be procured from a 40km catchment area of the site and the administrative areas of Cambridgeshire and Peterborough are generated in Cambridgeshire and Peterborough. Then we review whether the required 40% by weight of clinical waste (8,000 tonnes per annum) are generated in the East of England, including the counties of Cambridgeshire, Norfolk, Suffolk, Essex, Hertfordshire, Bedfordshire and Northamptonshire, and the unitary authorities of Peterborough, Southend-on-Sea, Milton Keynes and Luton.

2.0 Method

We use three methods to assess the amount of clinical waste available in the Cambridgeshire/ Peterborough and East of England areas. These include assessing:

- 1) clinical waste arisings at NHS trusts sites, as reported in Estates Returns Information Collection (ERIC) data¹;
- 2) EWC chapter 18 waste arisings reported to have been received at waste processing facilities from the Environment Agency's (EA) waste facility returns data²; and
- 3) Online search of NHS hospital websites, freedom of information requests and contracts to spot check the tonnages identified from the ERIC data.

These three approaches will then be used in combination to give an estimate of the clinical waste available per year in both regions.

¹ NHS *Estates Returns Information Collection Summary page and dataset for ERIC 2018/19*, accessed 5 November 2020, <https://digital.nhs.uk/data-and-information/publications/statistical/estates-returns-information-collection/england-2018-19>

² Agency, E. (2020) *Waste Data Interrogator 2018*, accessed 21 April 2020, <https://data.gov.uk/dataset/312ace0a-ff0a-4f6f-a7ea-f757164cc488/waste-data-interrogator-2018>

3.0 Results – Cambridgeshire and Peterborough

We identified 3,724 tonnes of clinical and offensive wastes produced by NHS trusts in 2018/19 across Cambridgeshire and Peterborough. The EA’s waste facility returns data gives a higher figure of 6,249 tonnes in 2018 and 7,893 tonnes in 2019 that originated in Cambridgeshire and Peterborough (Table 1).

Table 1: Waste Facility Returns for EWC Chapter 18 waste that originated in Cambridgeshire and Peterborough

	2018	2019
Cambridgeshire	5,398	7,204
Peterborough UA	851	690
Total	6,249	7,893

Table 2 provides the breakdown of hospitals in Cambridgeshire and Peterborough identified from the ERIC data that produce clinical waste and the results of the spot check of tonnages from online sources. The spot check confirms tonnage reported for Addenbrooke’s Hospital and a similar tonnage for Hinchingsbrooke Hospital. It revealed an inconsistency of 500 tonnes for Papworth Hospital and no information could be found to confirm the 616 tonnes produced from Peterborough City Hospital. The small volumes of clinical waste produced by the remaining NHS trust facilities, which totalled 48 tonnes, could not be confirmed through the spot check.

The discrepancy between the NHS trusts ERIC data and the EA’s facility waste returns datasets is likely to be because not all clinical waste in the region is generated by NHS trusts. Other sources include dental surgeries and GP practices. This waste will still be processed so therefore is accounted for in the EA’s datasets. This suggests that approximately 2,500 to 4,200 tonnes of clinical waste is produced from non-NHS trust sources within the Cambridgeshire and Peterborough areas.

The full 40km radius around the facility site may incorporate some other areas not included in this assessment. The next stage of work proposed would include a radius calculation in a model to assess the tonnages available more thoroughly.

Table 2: Site Level Clinical Waste and Spot Check

Site Name	Postcode	NHS Clinical Waste Reported in ERIC data 18/19 (t)	Spot Check Results
Papworth Hospital	CB3 8RE	812	Reported 300 tonnes in 17/18 ³
Peterborough City Hospital	PE3 9GZ	616	Clinical waste treated through PFI – no tonnage given ⁴
Hinchingbrooke Hospital	PE29 6NT	265	280 tonnes of clinical waste in 2016-17 ⁵
Addenbrooke's Hospital	CB2 2QQ	1,938	Reported 1,937.88 tonnes waste proceed through high temperature disposal ⁶ and notes all clinical waste is disposed of by incineration on site. ⁷
Other sites		48	No information
Total		3,724	

4.0 Results – East of England

Across the East of England there were 51,116 tonnes of clinical and offensive waste produced by NHS trusts in 2018/19 in the ERIC data. The EA’s waste facility returns data gives a lower figure of 38,188 tonnes generated in 2018 and 32,228 tonnes generated in 2019 in the East of England (

Table 3). It is not clear why this discrepancy exists but given that even the lower figures from the EA data are well above the required 8,000 tonnes from the region this is not a concern.

³ Royal Papworth Hospital *Annual Report and Accounts 2017/18*, https://www.england.nhs.uk/wp-content/uploads/2019/10/Royal_Papworth_Hospital_NHS_FT_Annual_Report_and_Accounts_2017-18.pdf

⁴ Peterborough City Hospital, K. (2016) *Freedom of Information request*

⁵ Hichingbrook Health Care *Hinchingbrooke Annual Report and Accounts 2016-17*

⁶ Cambridge University Hospitals (2019) *Annual Report and Accounts 2018/19, 2019*,

https://www.england.nhs.uk/wp-content/uploads/2019/09/Cambridge_University_Hospitals_NHS_Foundation_Trust_Annual_Report_and_Accounts_2018-19.pdf

⁷ Cambridge University Hospitals (2018) *Annual report and accounts 2017/18, 2018*, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/765297/Cambridge_University_Hospitals_NHS_Foundation_Trust_Annual_Report_and_Accounts_2017-18.PDF

The proposed next stage detailed assessment would seek to provide more clarity on the cause of this discrepancy.

A spot check was performed for the top 16 NHS trusts that produced 35,152 tonnes of the waste reported by the ERIC data. Only one location could be confirmed through this spot check: Basildon Hospital reported a total of 861 tonnes of clinical waste produced in 2018/19 in the ERIC data, and reported producing 858 tonnes in its 2013/14 Annual Report⁸ showing consistency in the reported data over the years. The majority of the remaining facilities were mental health and learning disabilities facilities, which may have different reporting requirements to hospitals and therefore do not provide clinical waste tonnages.

Table 3: Waste Facility Returns for EWC Chapter 18 waste that originated in the East of England

Authority	2018	2019
Cambridgeshire	5,398	7,204
Norfolk	2,678	1,776
Suffolk	2,936	5,306
Essex	9,440	4,539
Hertfordshire	7,757	5,253
Bedfordshire	74	762
Northamptonshire	8,429	5,955
Peterborough	851	690
Southend-on-Sea	3	4
Milton Keynes	168	201
Luton	454	538
Total	38,188	32,228

5.0 Conclusion

The results presented here show there are over 5,000 tonnes of clinical waste produced within Cambridgeshire and Peterborough, and over 8,000 tonnes produced within the specified East of England region. This supports that there is sufficient availability of local sources of feedstock for a high temperature clinical waste incinerator, subject to the absence of existing contractual constraints on feedstock and competitive viability.

⁸ <http://www.basildonandthurrock.nhs.uk/component/phocadownload/category/224-annual-reports-archive?download=724:annual-report-and-accounts-201314>