

# REPORT

## **Boston Alternative Energy Facility - Preliminary Environmental Information Report**

### Chapter 2 Project Need

Client: Alternative Use Boston Projects Ltd

Reference: PB6934-RHD-01-ZZ-RP-N-2002

Status: 01/Final

Date: 17 June 2019



HASKONINGDHV UK LTD.

Rightwell House  
Rightwell East  
Bretton  
Peterborough  
PE3 8DW  
Industry & Buildings  
VAT registration number: 792428892

+44 1733 334455 **T**  
+44 1733 262243 **F**  
email **E**  
royalhaskoningdhv.com **W**

Document title: Boston Alternative Energy Facility - Preliminary Environmental Information Report  
Document short title: Project Need  
Reference: PB6934-RHD-01-ZZ-RP-N-2002  
Status: 01/Final  
Date: 17 June 2019  
Project name: Boston Alternative Energy Facility  
Project number: PB6934-RHD-01-ZZ-RP-N-2002  
Author(s): Ashleigh Holmes, Charlotte Goodman

Drafted by: Ashleigh Holmes

---

Checked by: Charlotte Goodman

---

Date / initials: CG 18/03/2019

---

Approved by: Gary Bower

---

Date / initials: GB 17/06/2019

---

Classification

Project related



## Disclaimer

*No part of these specifications/printed matter may be reproduced and/or published by print, photocopy, microfilm or by any other means, without the prior written permission of HaskoningDHV UK Ltd.; nor may they be used, without such permission, for any purposes other than that for which they were produced. HaskoningDHV UK Ltd. accepts no responsibility or liability for these specifications/printed matter to any party other than the persons by whom it was commissioned and as concluded under that Appointment. The integrated QHSE management system of HaskoningDHV UK Ltd. has been certified in accordance with ISO 9001:2015, ISO 14001:2015 and OHSAS 18001:2007.*

## Table of Contents

<b>2</b>	<b>Project Need</b>	<b>1</b>
2.1	Introduction	1
2.2	National Policy Statements for Energy	1
2.3	Waste Management	3
2.4	The UK Residual Waste Infrastructure Deficit	4
2.5	References	8

## Table of Tables

Table 2.1 Available Waste – Central Scenario Source: Tolvik Analysis	6
--	---

## 2 Project Need

### 2.1 Introduction

- 2.1.1 The 'need' that exists for new power generating infrastructure, such as the proposed Boston Alternative Energy Facility ('the Facility'), is confirmed in the National Policy Statements (NPS) for energy infrastructure that were designated by the Secretary of State for the Department for Business, Energy and Industrial Strategy (BEIS) (then the Department of Energy and Climate Change) in July 2011. These NPS form the primary basis for decisions by the Secretary of State on nationally significant energy infrastructure that fall to be considered under the Planning Act 2008.
- 2.1.2 The NPS of most direct relevance to the Facility are EN-1 (Overarching National Policy Statement for Energy) and EN-3 (National Policy Statement for Renewable Energy) (DECC, 2011a; 2011b).
- 2.1.3 NPS EN-1 and EN3 establish an urgent and substantial need for new energy generation infrastructure, with the desire for it to be renewable or low carbon, to achieve climate change targets established and made legally-binding under the Climate Change Act 2008.

### 2.2 National Policy Statements for Energy

- 2.2.1 EN-1 sets out the 'need' that exists for new energy infrastructure, such as the Facility, is clearly confirmed by Parts 2 and 3 of EN-1.
- 2.2.2 Part 2 of EN-1 provides the policy context for the development of nationally significant energy infrastructure. EN-1 states (Paragraph 2.1.2) that *'energy is vital to economic prosperity and social well-being. Therefore, it is important to ensure that the UK has secure and affordable energy. Producing the energy that the UK requires necessitates a significant amount of infrastructure, both large and small scale'*.
- 2.2.3 With respect to Security of energy supplies, EN-1 states *'It is critical that the UK continues to have secure and reliable supplies of electricity as we make the transition to a low carbon economy. To manage the risks to achieving security of supply we need: sufficient electricity capacity (including a greater proportion of low carbon generation) to meet demand at all times.'*
- 2.2.4 Part 3 of EN-1 addresses the need for new nationally significant energy

infrastructure. It explains the 'need' that exists for nationally significant energy infrastructure, stating (Paragraph 3.1.1) the UK needs all the types of energy infrastructure covered by EN-1 (this covers a range of electricity generating capacity, including renewable energy) to achieve energy security. It further states (Paragraph 3.1.2): *'it is for industry to propose new energy infrastructure and that the Government does not consider it appropriate for planning policy to set targets for, or limits on, different technologies.'*

- 2.2.5 Part 3 of EN-1 identifies that the Secretary of State should assess applications for development consent for the types of infrastructure covered by the energy NPSs *"...on the basis that the Government has demonstrated that there is a need for those types of infrastructure and that the scale and urgency of that need..."* is as described for each of them. The Secretary of State should give substantial weight to the contribution that all proposed developments would make toward satisfying this need when considering applications.
- 2.2.6 The UK is committed to generate at least 15% of energy demand from renewable energy sources by 2020 and by 2050 to further reduce carbon emissions by 80%. The proposed Facility will provide a sustainable and renewable form of energy recovery, to contribute towards meeting renewable targets and carbon emissions and is in line with the requirements of NPS EN-1 and EN-3 (DECC, 2011a; 2011b).
- 2.2.7 EN-1 (Paragraph 3.3.10) further states: *'As part of the UK's need to diversify and decarbonise electricity generation, the Government is committed to increasing dramatically the amount of renewable generation capacity... increasingly it may include plant powered by the combustion of biomass and waste'*.
- 2.2.8 Section 3.4 of EN-1 includes assessments of the need for new major renewable energy infrastructure (DECC, 2011a). In the light of this, the need for infrastructure covered by EN-3 has been demonstrated and the Facility can help meet this need.
- 2.2.9 EN-1 (Paragraph 4.1.2) confirms that given the level and urgency of need for infrastructure of the types covered by the energy NPS's, there is a presumption in favour of granting consent to applications for energy NSIPs.
- 2.2.10 EN-1 clarifies that Development Plan Documents or other documents in Local Development Frameworks may be both important and relevant considerations to the Secretary of State's decision making. However, EN-1 confirms (paragraph 4.1.5) that in the event of a conflict between (Development Plan Documents or other documents in the Local Development Framework) and an NPS, the NPS 'prevails' for the purpose of decision making given the national significance of the infrastructure.

- 2.2.11 Development that includes energy from biomass and/or waste with power generation of >50MW is covered by EN-3 (Paragraph 1.8.1) (DECC, 2011b). The policies set out in EN-3 are additional to those on generic impacts set out in EN-1 and do not replace them and should be considered together with EN-1 policies.
- 2.2.12 Section 2.5.2 of EN-3 (DECC, 2011b) states that “*The recovery of energy from the combustion of waste, where in accordance with the waste hierarchy, will play an increasingly important role in meeting the UK’s energy needs. Where the waste burned is deemed renewable, this can also contribute to meeting the UK’s renewable energy targets. Further, the recovery of energy from the combustion of waste forms an important element of waste management strategies in both England and Wales.*”

## 2.3 Waste Management

- 2.3.1 The Government’s Waste Strategy for England 2007 (Defra, 2007) introduced stringent targets for increasing recycling and reducing landfill. This was reinforced by the National Waste Management Plan for England in July 2013 (Defra, 2013). The key aim of the Waste Management Plan for England was to set a direction towards a ‘zero-waste economy’ as part of the transition to a sustainable economy. In particular, this means using the “waste hierarchy” (a priority order for waste management from waste prevention, re-use, recycling, recovery and finally to disposal as a last option) as a guide to sustainable waste management. See **Chapter 23 Waste** for further information on the application of the waste hierarchy to the Facility.
- 2.3.2 The EU’s Circular Economy Package (CEP) entered into force at the start of July 2018. The governments of member states have 24 months to transpose it into national legislation. The implementation of CEP in the UK will be subject to the UK withdrawal agreement. However, the UK is likely to implement rigorous targets for diverting waste from landfill; and managing the waste produced by households.
- 2.3.3 The CEP extends targets for municipal waste recycling. A target of 55 per cent by 2025 will be introduced, with a 60 per cent goal for 2030, then a subsequent 65 per cent target being set for 2035. EU member states are currently working towards a 50 per cent target for 2020. Additionally, the CEP proposes a limit on waste to landfill of 10 per cent by 2035.
- 2.3.4 The CEP will also provide concrete measures to promote re-use and stimulate industrial symbiosis - turning one industry’s by-product into another industry’s raw material.
- 2.3.5 The UK’s total waste arisings are made up of Local Authority Collected Waste (LACW) and private sector Commercial and Industrial (C&I) waste. Of this waste,

a proportion is recycled or requires special treatment for disposal. The remainder is termed 'residual waste', and a proportion of this waste has a sufficient calorific value for use as refuse derived fuel (RDF).

- 2.3.6 RDF would be sourced for the proposed Facility from household waste producers which represent a 13.6 Mt waste market, of which 3.5 Mt is exported from the UK and the majority of the remainder is landfilled. The Facility would therefore contribute to the reduction in the export of waste from the UK and associated emissions; and divert material from landfill. There are nine counties which already have no landfill capacity and five English regions are set to run out within the next 10 years (Biffa, 2017). Furthermore, recovery of energy from residual waste is a preferential option on the waste hierarchy compared to landfill; and managing the UK waste within the UK, rather than exporting it, promotes the proximity principle at a national scale..

## 2.4 The UK Residual Waste Infrastructure Deficit

- 2.4.1 The Environmental Services Association (ESA) is the trade association representing the UK's resource and waste management industry, which is leading the transformation of how the UK's waste is managed. The ESA Report warns of 6 million tonne per annum gap for waste infrastructure in the UK by 2030. National Infrastructure Assessment; series of recommendations to help put in place the right infrastructure for the transition to a more circular economy.
- 2.4.2 Viridor is a waste and recycling firm in the UK and the company has consistently emphasised the significant gap between current capacity and the demand for energy recovery facilities, to deal with the UK's non-recyclable waste streams. Viridor analysis predicted a 7.5 million tone shortfall of UK residual waste capacity by 2030; highlighting the need for a firm focus on post-Brexit UK infrastructure investment in line with the Government's industrial energy strategies.
- 2.4.3 However, it is important to acknowledge counter views. Eunomia's 11th edition of the Residual Waste Infrastructure Review examines the implications of Brexit uncertainties for residual waste treatment in the UK. Under a high recycling scenario (soft Brexit) the UK's supply capacity will exceed the available quantity of residual waste. Brexit may be exporting RDF less financially attractive, but the surplus treatment capacity amongst the EU Member States to which the UK currently exports, appears to grow as the whole "Northern Cluster" of countries moves towards over capacity by 2026.
- 2.4.4 The Waste Flow detailed in **Plate 2.1** (Tolvik 2017a) provides a representation of

UK Waste Arisings & flow of waste for treatment/disposal of residual waste in the UK. This presents a picture of the need of this type of Facility for residual waste management.

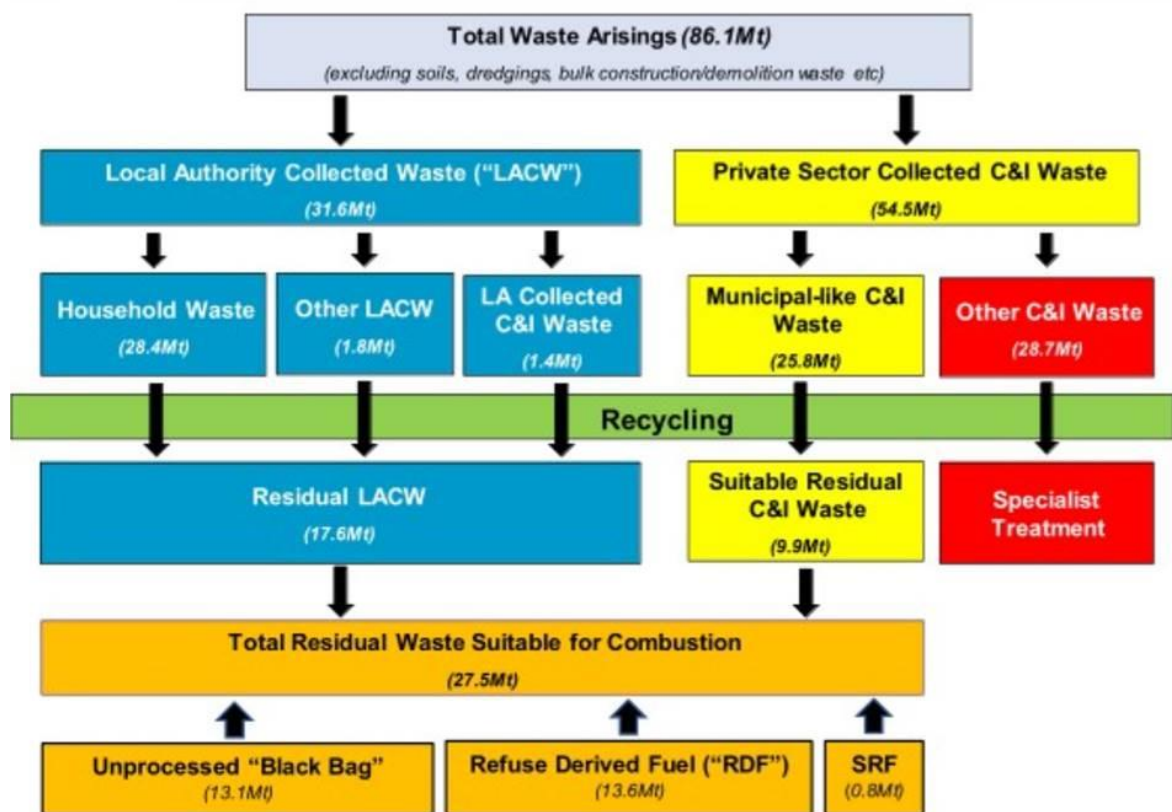


Plate 2.1 UK Residual Waste Flow Source: Tolvik Analysis 2017

2.4.5 Tolvik was commissioned by The Environmental Services Association (ESA) to undertake an independent review of third party reports and analysis relating to the Residual Waste market in the UK. The Tolvik report states that residual waste in the UK is currently presented in three forms:

- Unprocessed "black bag" waste;
- Lightly processed RDF suitable for export to Europe/or use in specific UK Energy from Waste (EfW) facilities requiring fuel of a higher Net Calorific Value (NCV); and
- A refined Solid Recovered Fuel (SRF), prepared to a specification and generally for use in a cement kiln.

2.4.6 The report considers that the boundaries between these different presentations of residual waste in the UK are blurred and vary with changing market conditions.



Tolvik state that “Assuming the UK continues to track the same path, a maximum Household Waste recycling rate of 55% could be achieved by 2035.” To achieve this, the UK will require a greater degree of legislative and financial intervention.

2.4.7 For municipal-like commercial and industrial (C&I) Waste, it is estimated by Tolvik that the current UK recycling rate is approximately 61% with modest scope for recycling rates to increase. Overall, in Tolvik’s opinion, it is unlikely that the UK could achieve the 2035 recycling targets set out in the CEP, and they provide a “Central Scenario” where it is estimated that the tonnage of Residual Waste in the UK will decline modestly from 27.5 Mt in 2017 to 26.5 Mt by 2030.

2.4.8 In 2017 Tolvik estimated that residual waste inputs to EfW in the UK represented 39.1% (2016: 35.4%) of the overall UK Residual Waste market. In 2018, it was expected that for the first time the tonnage of Residual Waste sent to EfW facilities in the UK would exceed the tonnage sent to landfill. RDF exports marginally declined in 2018.

2.4.9 The Tolvik analysis for the South-East is provided in **Table 2.1**.

**Table 2.1 Available Waste – Central Scenario Source: Tolvik Analysis**

Available Waste – Central Scenario	2020	2025	2030	2035
Total C&I Waste	3.46	3.61	3.76	3.80
Contracted C&I Waste	1.25	1.32	1.32	1.32
Contracted RDF Export	0.72	0.30	-	-
<b>Available C&amp;I Waste</b>	<b>1.50</b>	1.99	2.44	2.49
Total Residual LACW	4.87	4.71	4.57	4.44
Contracted LACW	4.26	3.52	2.98	2.20
<b>Available LACW</b>	<b>0.60</b>	1.19	1.59	2.24
<b>Total Residual Waste</b>				
<b>Total Residual Waste</b>	<b>8.33</b>	<b>8.32</b>	<b>8.32</b>	<b>8.24</b>
<b>Total Contracted Residual Waste</b>	<b>6.22</b>	<b>5.14</b>	<b>4.30</b>	<b>3.52</b>
<b>Total Available Residual Waste</b>	<b>2.10</b>	<b>3.18</b>	<b>4.03</b>	<b>4.72</b>

2.4.10 As shown in **Table 2.1**, ‘Total Available Residual Waste’ based on a ‘Central Scenario’ of recycling rate targets, are estimated to be 3.18 Mt in 2025, and of

that figure 1.99 Mt is produced by C&I waste producers. Therefore, the current RDF export market conditions indicate that sourcing RDF for the Facility is favourable and it is not anticipated that there is an issue sourcing suitable and sufficient material; and that there's a need for such material to be managed.

### Supply Commitment

- 2.4.11 The approach of the intended supplier of RDF feedstock will be to secure Letters of Intent post financial close stage of the project from waste producers who best meet the specification of feedstock for the Facility.
- 2.4.12 There is also potential for the Facility to accept residual household waste from the Slippery Gowt Transfer Station operated by Lincolnshire County Council (LCC). This receives all of the residual household waste from Boston Borough Council (BBC) and South Holland District Council (SHDC) areas, and some residual household waste from East Lindsey Council area. This waste is bulked and transferred to the North Hykeham facility at Lincoln, which is an EfW incineration facility operated on behalf of LCC. This facility is close to capacity. SHDC, BBC and LCC have raised interest in the potential for the Facility to receive 'black bag' waste sourced from South Lincolnshire. This would be subject to agreement between the Applicant and the Waste Disposal Authority (LCC).
- 2.4.13 The residual household waste would have to be baled and wrapped before transfer. However, this would result in additional reduction in emissions from transportation of the waste further afield if the Facility receives this waste.

## 2.5 References

Biffa (2017). Annual Report 2017

Department of Energy and Climate Change (DECC) (2011a). Overarching National Policy Statement for Energy (EN-1). London: HMSO.

Department of Energy and Climate Change (DECC) (2011b). National Policy Statement for Renewable Energy Infrastructure (EN-3). London: HMSO.

Department of Energy and Climate Change (DECC) (2011c). National Policy Statement for Electricity Networks (EN-5). London: HMSO.

Department for Environment, Food & Rural Affairs (Defra) (2007). Waste Strategy for England 2007.

Department for Environment, Food & Rural Affairs (Defra) (2013). Waste Management Plan for England.

Department for Environment, Food & Rural Affairs (Defra) (2017). 2016/17 National Statistics on Local Authority Collected Waste Management in England.

Eunomia (2016). Residual Waste Infrastructure Review (11<sup>th</sup> Issue).

Tolvik Consulting (2017). UK Energy from Waste Statistics - 2017.

Tolvik Consulting (2017). UK Residual Waste: 2030 Market Review.