

REPORT

Boston Alternative Energy Facility – Environmental Statement

Chapter 2 Project Need

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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**

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Author(s): Ashleigh Holmes, Charlotte Goodman

Drafted by: Ashleigh Holmes

Checked by: Charlotte Goodman

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Approved by: Paul Salmon

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2 Project Need

2.1 Introduction

- 2.1.1 The 'need' that exists for new power generating infrastructure, such as the proposed Facility, is confirmed in the National Policy Statements (NPSs) for energy infrastructure. The relevant NPSs 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 (DECC)) in July 2011. These NPS form the primary basis for decisions by the Secretary of State on nationally significant energy infrastructure to be considered under the Planning Act 2008.
- 2.1.2 The NPSs of most direct relevance to the Facility are EN-1 (Overarching NPS for Energy) and EN-3 (NPS for Renewable Energy) (DECC, 2011a; 2011b).
- 2.1.3 NPSs 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 and this is clearly confirmed by Parts 2 and 3 of EN-1 (DECC, 2011a).
- 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) that *“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 to net zero. 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 NPSs, there is a presumption in favour of granting consent to applications for energy Nationally Significant Infrastructure Projects (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 >50 megawatts (MW) 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. 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. The UK’s own Circular Economy Package was published on 30 July 2020 by the UK, Welsh, Scottish and Northern Ireland Governments and is predominantly the same as the European CEP. The Government states (at the time of writing) that it is looking to lay legislation in the autumn (of 2020) to transpose the relevant CEP regulations into UK law.
- 2.3.3 The CEP extends targets for municipal waste recycling. A target of 55 % by 2025 will be introduced, with a 60 % goal for 2030, then a subsequent 65 % target being set for 2035. EU member states are currently working towards a 50 % target for 2020. Additionally, the CEP proposes a limit on waste to landfill of 10 % 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 Government's environment plan 'A Green Future: Our 25 Year Plan to Improve the Environment' (Defra, 2018) sets out goals for improving the environment within a generation and leaving it in a better state. In terms of waste management, it seeks to minimise waste, reuse materials and manage materials at the end of their life to minimise the impact on the environment, by "... *working towards the ambition of zero avoidable waste by 2050 and ... meeting all existing waste targets – including those on landfill, reuse and recycling – and developing ambitious new future targets and milestones.*"
- 2.3.6 The 'Proximity Principle' as established in the revised Waste Framework Directive (rWFD) (2008/98/EC; European Parliament, 2008), requires waste to be disposed of, or recovered in one of the nearest appropriate installations, by means of the most appropriate methods and technologies to ensure a high level of protection for the environment and public health. The rWFD also requires Member States to move towards the aim of self-sufficiency in waste disposal and recovery of waste. This is within the context of the requirement on Member States to establish an integrated and adequate network of waste disposal facilities for recovery of mixed municipal waste collected from private households. The requirement included where such collection also covers waste from other producers.
- 2.3.7 Approximately 2.9 million tonnes of waste derived fuel are exported from England alone (Environment Agency, 2018), to northern continental Europe and Scandinavia for energy recovery by incineration. Therefore, in line with the proximity principle, the proposed Facility seeks to move the recovery of energy to closer to the point of production and ensure that England is more self-sufficient in managing its own waste.
- 2.3.8 The construction, demolition and excavation (CD&E) sector is the largest contributing sector to the total waste generation. The Government keeps progress towards the 2020 targets under review by monitoring actual recycling rates and by modelling future recycling. In 2016 the UK generated 66.2 million tonnes of non-hazardous construction and demolition (C&D) waste, of which 60.2 million tonnes was recovered. This represents a recovery rate of 91.0 % (Defra, 2020). This already exceeds the 2020 target of recovering at least 70 % by weight, of non-hazardous C&D waste.
- 2.3.9 The amount of UK biodegradable municipal waste sent to landfill fell from approximately 7.4 million tonnes in 2017 (21 % of the baseline 1995 value) to around 7.2 million tonnes in 2018 (20 % of the baseline 1995 value). The UK is therefore still on track to meet the EU target to restrict the amount of biodegradable municipal waste landfilled to 35 % of the 1995 baseline by 2020

(Defra, 2020).

2.4 The UK Residual Waste Infrastructure Deficit

- 2.4.1 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).
- 2.4.2 RDF would be sourced for the proposed Facility from the residual waste element (non-recyclable) from materials recycling facilities (MRFs). This represent a 13.6 million tonne (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.
- 2.4.3 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 'UK Residual Waste: 2030 Market Review' (Tolvik, 2017a) warns of a six 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.
- 2.4.4 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.
- 2.4.5 However, it is important to acknowledge counter views. Eunomia's 12th edition of the Residual Waste Infrastructure Review (Eunomia, 2017) forecasts that the UK's supply of treatment capacity will exceed the available quantity of residual waste in 2020/21. If all facilities were to operate at full capacity, together they would limit the UK's recycling rate to no more than 63 %.

2.4.6 The Waste Flow detailed in **Plate 2-1** (Tolvik, 2017b) provides a representation of UK waste arisings and 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.

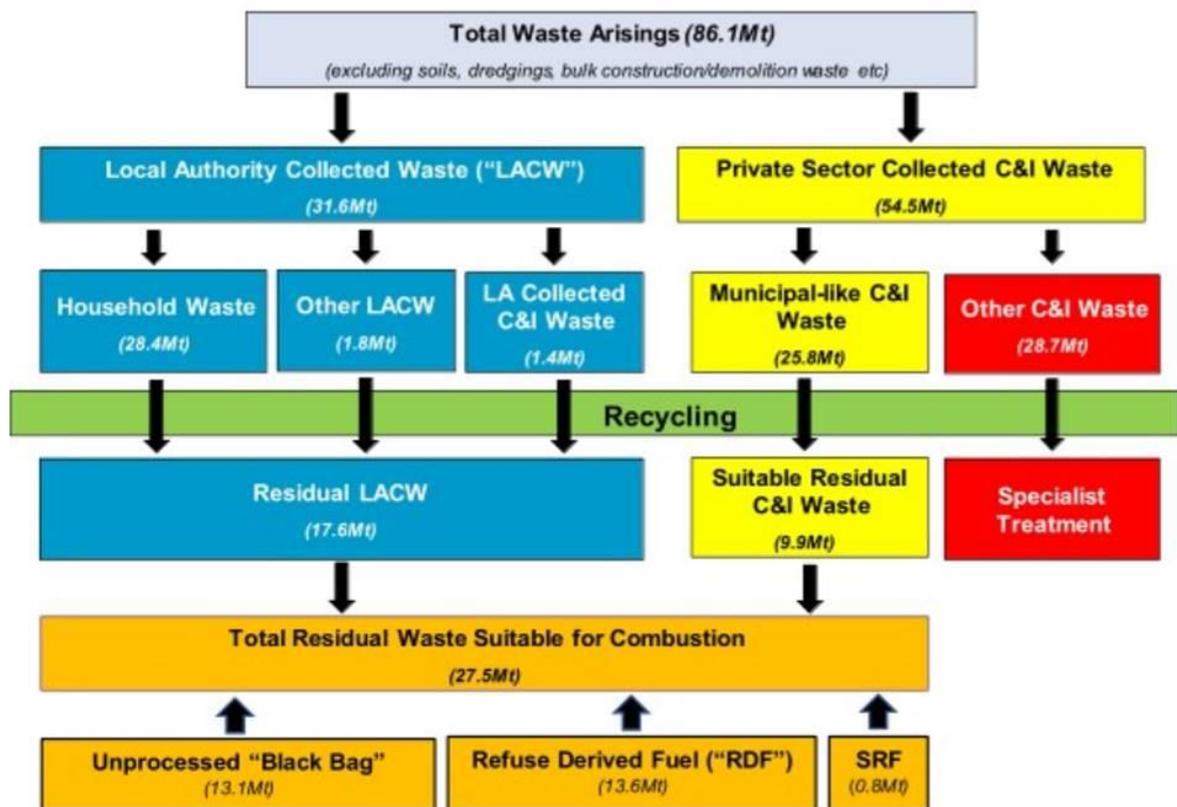


Plate 2-1 UK Residual Waste Flow. Source: Tolvik Analysis (2017)

2.4.7 Tolvik was commissioned by ESA to undertake an independent review of third party reports and analysis relating to the residual waste market in the UK (Tolvik, 2017a). 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.

2.4.8 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 states 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.

- 2.4.9 For municipal-like 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 it provides 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.
- 2.4.10 In 2019, Tolvik estimated that residual waste inputs to EfW in the UK represented 45.5 % (2018: 41.8 %) of the overall UK residual waste market. In 2019, the total tonnage of residual waste sent to EfW facilities in the UK exceeded the tonnage sent to landfill for the first time. RDF exports from the UK also declined by around 16 % when compared with 2018 (Tolvik, 2020).
- 2.4.11 The Tolvik analysis for the south-east is provided in **Table 2-1** (Tolvik, 2018).

Table 2-1 Available Waste – ‘Central Scenario’. Source: Tolvik Analysis (2018)

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	-	-
Available C&I Waste	1.50	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
Available LACW	0.60	1.19	1.59	2.24
Totals				
Total Residual Waste	8.33	8.32	8.32	8.24
Total Contracted Residual Waste	6.22	5.14	4.30	3.52
Total Available Residual Waste	2.10	3.18	4.03	4.72

- 2.4.12 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 is a need for such material to be managed.

Supply Commitment

- 2.4.13 The approach of the intended supplier of RDF feedstock will be to secure Letters of Intent post financial close stage of the Facility from waste producers who best meet the specification of feedstock for the Facility.
- 2.4.14 There is also potential for the Facility to accept residual household waste from the Slippy Gowt Transfer Station (TS) 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 at the Slippy Gowt TS then transferred to the North Hykeham facility at Lincoln, which is an EfW incineration facility operated on behalf of LCC. SHDC, BBC and LCC have raised interest in the potential for the Facility to receive residual household waste from Slippy Gowt TS. This would be subject to agreement between the Applicant and the Waste Disposal Authority (LCC).
- 2.4.15 The residual household waste from Slippy Gowt TS 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.

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