



B O S T O N

B O R O U G H C O U N C I L

REPORT TO:	CABINET
DATE:	09 SEPTEMBER 2020
SUBJECT:	BOSTON ALTERNATIVE ENERGY FACILITY (BAEF) PHASE 4 CONSULTATION SUBMISSION
PORTFOLIO HOLDER:	COUNCILLOR YVONNE STEVENS - PORTFOLIO HOLDER ENVIRONMENT
REPORT AUTHOR:	ASSISTANT DIRECTOR REGULATION
EXEMPT REPORT?	NO

SUMMARY

The Council is a consultee in the planning process to determine if the proposed Boston Alternative Energy Facility is approved. As a National Significant Infrastructure Project, the application is determined by the Secretary of State following a Planning Inquiry headed up by a Planning Inspector.

The BAEF proposal is a significant in scale, state-of-the-art power-generation plant, which the developers present as leading the way in land-based renewable power in the UK. The facility will generate 102MW of renewable energy from the thermal processing of refuse derived fuel (RDF), of which 80MW will be exported to the National Grid.

This development creates the potential for significant economic development opportunities linked to the supply chain to support the plant and potential end users of the ancillary products produced during the thermal processing of waste. In addition, the proposals create opportunities for the Borough Council to work with the County Council through the Lincolnshire Waste Partnership to consider alternative ways to manage waste in the county. However, there are many planning and environmental health factors to consider first, having regard to the nature of the proposals.

In July 2019, Cabinet received a report concerning proposals for BAEF as Phase 3 of the statutory formal consultation on the development and the Preliminary Environmental Impact Report. Cabinet agreed a recommendation to delegate authority to the Deputy Chief Executive, in consultation with the Leader and Portfolio Holders for Economic Development, Planning and Environment, to finalise the consultation submission, taking into account the feedback recorded at E&P Committee meeting and Cabinet.

The submission that was agreed and submitted to BAEF is attached at Appendix 0.

Since the Phase 3 consultation was concluded in August last year, BAEF have made some fundamental design changes to the proposed project. We are informed that the

changes are due to several reasons; a project review and ongoing iterative design work, the feedback received during earlier consultations, and input from specialist bodies. Due to the nature of these changes, BAEF have determined that an additional round of public consultation (Phase 4) is appropriate.

This report sets out the details of the BAEF proposal as they stand for Phase 4 consultation, whilst the appendices set out in more detail the context behind the changes and highlight the differences between the Phase 3 proposal and the Phase 4 proposal. The current Phase 4 consultation is concerned only with the changes made to the proposal since the Phase 3 consultation concluded last year. This and all prior consultation rounds are a precursor to the formal submission of the proposal for consideration through the NSIP regime, at which stage the Council will be formally invited to provide comments to the Inspector and take part in the examination process.

The Facility remains an Energy from Waste (EfW) facility, although the technology used to convert waste to energy has switched from gasification to traditional EfW thermal technology. BAEF also report that the changes are anticipated to have only minor and net positive effects, resulting in an overall reduction in potential negative impacts from the development.

RECOMMENDATIONS

That Cabinet consider the report and resolve to;

Delegate to the Assistant Director Regulation, in consultation with the Leader and Portfolio Holders for Economic Development, Planning and Environment, to finalise the Council's submission in response to the Phase 4 consultation.

REASONS FOR RECOMMENDATIONS

The Borough Council continues to liaise with the agent of the applicant to seek further clarification and understanding of the proposals, whilst officers continue to work with the County Council and other stakeholders to consider the impact of the proposed development balanced with opportunity that the scheme would bring to the Borough.

ALTERNATIVES CONSIDERED

None.

REPORT

1.0 Introduction

1.1 The Boston Alternative Energy Facility is a state-of-the-art power generation plant that will generate 102 MW (gross) of renewable energy that will deliver approximately 80 MW (net) to the National Grid. The energy recovery plant has switched from

gasification to traditional energy from waste technology and the plant will contribute to the UK Government's target of generating energy from renewable sources. The facility is considered to be an Environmental Impact Assessment (EIA) development for the purposes of the 'The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017' (the EIA Regulations).

- 1.2 The energy recovery plant will process 1.2 million tonnes of refuse-derived fuel (RDF) as the feedstock (i.e. the fuel) to generate energy. This will generate power that is equivalent to the annual power demand of more than 206,000 homes (roughly 66% of the number of households in Lincolnshire). The RDF will be sourced from UK suppliers and will comprise of non recyclable household waste.
- 1.3 The proposed facility is a Nationally Significant Infrastructure Project (NSIP) because it will have a generation capacity over 50 MW of energy. This means it requires a Development Consent Order (DCO) under the Planning Act 2008. It is proposed that the DCO application will be submitted to the Planning Inspectorate (PINS) in quarter 4 of 2020. PINS determine the application on behalf of the Secretary of State and the Council will be invited to take part in, and make formal representations, as part of the examination of the scheme to be undertaken by the Inspectorate as part of the NSIP process.
- 1.4 The Boston Alternative Energy Facility is currently in the Phase 4; informal, non statutory, pre-application consultation phase, updating on changes to the project and inviting feedback. The final stage, in Quarter 4 of 2020, will be to review the feedback from pre-application consultation before submitting an application for a Development Consent Order (DCO) to the Planning Inspectorate.

2.0 The Proposed Development

- 2.1 The proposed facility is to be located at the Riverside Industrial Estate, Boston, Lincolnshire adjacent to the tidal River Witham (known as The Haven) and down river from the Port of Boston.
- 2.2 The facility is a power generation plant that will generate 102 MW (gross) of renewable energy that will deliver approximately 80 MW (net) to the National Grid. Approximately 20 MW of power produced will be utilised by the facility itself.
- 2.3 The RDF feedstock, used to generate renewable energy, will be transported to the facility by ship and will be sourced from 11 UK ports. No waste will be imported from outside the UK for processing at the site. The process for generating energy has been amended to traditional energy from waste (EfW) technology from the Phase 3 proposal which used 'gasification' as the renewable energy generating source.
- 2.4 The facility will comprise the following main elements:
 - **Delivery** - wharf and associated loading/un-loading infrastructure for RDF feedstock and aggregate transported by ship;
 - **Transfer** – unloading of bales directly onto a conveyor for transfer to bale shredding facility plus external storage for bales as a contingency for when

storage bunker is at capacity;

- **Shredding** – bales of RDF are split open in a sealed building under negative pressure, before transfer to a storage bunker;
- **Bunker** - loose RDF is held in a bunker with capacity of around four days supply, pending transfer to the thermal processing facility by grab crane;
- **Energy generation** – the RDF feedstock is converted to energy using a traditional thermal treatment process;
- **Carbon capture** – two carbon dioxide recovery plants recover carbon dioxide for re-use by a range of industries. Some retained on site for fire prevention purposes;
- **Energy Export** – around 80MW of power is exported to the National Grid via a grid connection and substation;
- **Aggregate** – ash and air pollution control residues from the thermal processing are transferred to a lightweight aggregate plant where it is processed and reused as aggregate in the construction industry;
- **Removal** – lightweight aggregate is removed from site via ship.

Associated site infrastructure, including site roads, pedestrian routes and footbridge, car parking, concrete batching facility, contractor accommodation, security gate, control room, visitor centre and site weighbridge.

3.0 Project Need

- 3.1 The need that exists for new power generating infrastructure, such as the proposed Boston Alternative Energy Facility is confirmed in National Policy Statements (NPS). These NPSs are used by the Secretary of State to make decisions on nationally significant energy infrastructure like this facility.
- 3.2 The relevant NPSs (EN-1 and EN-3) 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.
- 3.3 There were many reasons for choosing energy from waste thermal processing technology. It is a proven technology, with many examples similar in scale already operational in the UK and globally, and therefore a more attractive technology for investment. The plant will divert waste from landfill as well as processing UK derived waste currently sent overseas. There are also advantages from the recycling and re-use of collateral products such as carbon dioxide, heat, lightweight aggregate and metals from bottom ash.
- 3.4 The applicants are mindful of the current waste situation in respect of UK waste being treated overseas, the impact of the restriction of waste exports into far eastern countries and dwindling UK landfill capacity. These factors were key drivers for the

applicant to seek to capture exported or landfilled RDF, and to develop the cleanest, most efficient plant possible to produce renewable energy.

4.0 Site Selection

4.1 The facility is considered appropriate in the Lincolnshire County Council's Minerals and Waste Local Plan as well as having other local planning policy support. The site also forms part of the allocated employment land for Boston within the SELLP (Policy 7), with elements of the scheme falling within Riverside Industrial Estate (BO 006). Parts of the development would technically fall in areas designated as countryside, but which directly abut the settlement boundary and the boundary of the employment allocation.

4.2 Other reasons

- The location is directly adjacent to a navigable watercourse that provides a means of delivery of RDF and export of materials, which significantly reduces the impact on the local road infrastructure;
- There is sufficient footprint to accommodate the required plant and equipment for the facility;
- It is technically feasible to connect to the electricity distribution network on site;
- The site is not directly situated within any environmental designation. It is within a flood zone, however it benefits from flood defences; and
- It is located within an existing urban/industrialised environment, with an existing biomass gasification plant located next door.

5.0 Proposed Construction and Use of the Facility

5.1 The overall construction period will be approx. 48 months from 2022 to 2026 and it is expected that there will be between 250-300 construction jobs at peak construction and 80-100 jobs created once operational. Construction is expected to take place six days a week (Monday to Saturday) between the times of 8am to 8pm, with options to 7am to 7pm, with no work taking place on bank holidays or public holidays.

5.2 Details of construction phasing and proposed construction methods are being developed and form part of the Phase 4 consultation proposals.

5.3 Both the County Council and the Borough Council are proactively working with the developer's agent to seek out any further information that is pertinent to the Phase 4 consultation response.

6.0 The Wharf

6.1 The wharf will be built, replacing sections on the current flood defence bank and will comprise the quay wall, the main area of the wharf, which will also provide the flood defence line, and an area behind the wharf for associated infrastructure. The wharf

facility will include a berthing pocket to allow ships to safely dock at the wharf without restricting the navigable channel of The Haven. The birthing pocket will be constructed by dredging and excavating the mud flats and land edge using land based equipment.

- 6.2 Arriving vessels must navigate up The Haven to the proposed birth over high tide and leave over the next high tide. The river is not wide enough to turn a vessel at the proposed wharf. It is anticipated that vessels will be turned at the Port of Boston, either at the 'Knuckle' point-turning circle outside the Wet Dock or within the Wet Dock.
- 6.3 The wharf will comprise a docking facility with automated cranes for loading and off loading of shipping. The wharf will have two births for receiving RDF feedstock, and one birth for loading aggregate.

7.0 The RDF Storage and Preparation

- 7.1 The facility will receive up to approximately 1.2m tonnes of RDF per year, 0.3m tonnes less than the requirement of 1.5m tonnes of the previous scheme. RDF will be baled and sourced from ports around the UK. No waste will be imported to the site from outside of the UK.
- 7.2 Once the RDF feedstock has been offloaded from the vessels, it is loaded directly onto an enclosed conveyor for conveyance to the shredding and bunker area. There will be a temporary external storage area for holding a contingency stock of bales, should the storage bunker be full. These will be stock rotated to ensure a first in first out system is employed to minimise the potential for nuisance. The storage requirement for baled RDF is significantly less than that proposed under the previous scheme.
- 7.3 The RDF conveyance, shredding and storage bunker will be in a closed environment operated at negative pressure and using odour control measures to ensure no unacceptable odour is released to atmosphere.
- 7.4 The RDF bales will be shredded to remove the outer packaging and to ensure a consistent/blended feedstock is available for the energy from waste plant. From the shredders the RDF will be stored in a bunker prior to transfer, by grab crane, to the thermal processing facility.

8.0 The Thermal Processing Plant

- 8.1 A total of three thermal processing units will convert the RDF feedstock to energy.
- 8.2 The heat from the thermal processing of the waste will be used to create steam that will power 3 generators that will convert the energy to renewable electricity.
- 8.3 Cooled exhaust gas will pass through a pollution control system where chemicals are injected to capture any residual emissions. The residual air pollution residues (APC residues) will be collected and blended with ash from the thermal processing to make lightweight aggregate.

- 8.4 The cleaned gases will flow to one of three exhaust stacks, via a Continuous Emissions Monitoring System (CEMS) serving each of the thermal processing units.
- 8.5 After the energy in the steam turbine is released for electricity production, the cooled steam will be routed to the air-cooled condenser where it is cooled further and turned back into water.

9.0 The Lightweight Aggregate Plant (LWA)

- 9.1 The ash and APC residues from the thermal processing plant will be processed on site to produce a lightweight construction aggregate. This product will be exported by ship via a dedicated berth at the wharf.

10.0 Carbon Dioxide (CO₂) Recovery Plant

- 10.1 CO₂ will be recovered from process exhaust gases in two carbon capture processing units. The CO₂ is a valuable product arising from the process and is capable of being re-used by a range of industries as well as for fire prevention purposes on site.

11.0 Officer Comments and Supplementary Questions

- 11.1 There are several strands within the Borough Council that have already input professional comments to the Phase 4 consultation process. Notes from a meeting held with Borough Council Officers and BAEF on 19th May and with Borough Council and County Council Officers and BAEF on 31st July are attached at Appendix 2 and 3 respectively. It is anticipated that further feedback raised by Members at both Committee and Cabinet will be combined with Officer feedback as the basis of the Council's formal response to the Phase 4 consultation process.
- 11.2 Following the positive meetings Officers have held with BAEF, details of modifications to the traffic impact assessment, noise and pollution impact assessments, following design changes from Phase 3 to Phase 4, are being prepared by the applicant and will be shared with the Consultees as soon as they are available.

12.0 CONCLUSION

- 12.1 The Council has provided feedback on previous phases of public consultation which have been warmly welcomed by the agents acting on behalf of the applicant. Many of the amendments to the revised scheme before members today have been incorporated into the development proposals as a direct result of feedback provided by this Council. Significant changes include reductions in shipping movements, reduction in road transport movements, site layout and noise mitigation, siting of concrete batching facilities, addition of a public footbridge and a proposed visitors centre, both on site and in the town centre.
- 12.2 Phase 4 consultation enables the Council as a consultee to make further comment and seek clarity on outstanding issues to continue to influence the final proposal in a positive way for the benefit of the residents of Boston and the Borough as a whole.

FINANCIAL IMPLICATIONS

There are no direct financial implications arising from this report as the Council is a consultee at this stage of the process.

LEGAL IMPLICATIONS

As a statutory consultee, the Council provides comment and feedback to a planning process that will be determined by the Secretary of State in accordance with the provisions of the Planning Act 2008, as amended by the Localism Act 2011.

CLIMATE CHANGE IMPLICATIONS

The BAEF will contribute to the Government objectives to run on 50% renewable energy by 2030 and to maintain a path to the goal of net zero carbon emissions by 2050.

The plant will be constructed to meet the new more stringent environmental standards contained in the Best Available Techniques (BAT) Reference Document (BREF) for waste incineration 2019. The facility will have to comply with these standards which will be controlled through an environmental permit issued by the Environment Agency.

As well as emissions to air, the environmental permit also sets out standards and controls for the protection of the local environment and ecology such as (but not limited to) noise, light, dust and rainwater run-off.

The changes to the plant design, set out in the Phase 4 consultation are said to deliver a net environmental benefit overall due to the following;

- Net reduction in shipping movements due to an RDF requirement 300,000 tonnes per annum lower than the previous proposal
- Reduced static storage requirement for RDF feedstock area, by between 30 and 50% over the previous design, reducing potential nuisance from dust, odour and pests
- Reduced traffic movements during construction due to a reduced requirement for concrete overall, a concrete batching facility on site reducing movements of concrete tankers by road, delivery of aggregates by ship (to the wharf) rather than by road – reducing exhaust emissions, road traffic noise and congestion.
- During operation, vehicle movements are significantly reduced as there is no longer a requirement to segregate and remove c. 300,000 tonnes of materials (unsuitable for gasification) from site by HGV for recycling - reducing exhaust emissions, road traffic noise and congestion.
- Landscape, noise, light and road traffic impact assessments will all be reviewed and repeated to reflect the design changes proposed
- Twice as much carbon will be captured from emissions for re-use in various industries than previously proposed, thereby reducing harmful emissions to air.
- More cladding around buildings and more space on site will provide opportunities for improving site layout to reduce noise.

The list above is not exhaustive. Further information is provided in the report and relevant appendices.

EQUALITY AND SAFEGUARDING IMPLICATIONS

None as a result of this report

OTHER IMPLICATIONS

None as a result of this report

CONSULTATION

Officers have attended various meetings held pending launch of the Phase 4 public consultation arrangements. This included a meeting with Borough Council Officers on 19th May (notes attached at Appendix 2) and with Borough and County Council Officers on 31st July 2020 (notes attached at Appendix 3).

All elected Members were invited to attend a dedicated video conference on 5th August 2020 with public webinars provided on 11th and 20th August plus a telephone surgery with the applicants agent on 26th August.

The Phase 4 public consultation also has a dedicated email address, telephone line freepost and website address. All these details are included on the back page of the Project Newsletter (Issue 3) which can be found at Appendix 1 to this report

The Cabinet has responsibility for the Phase 4 consultation submission on behalf of the Council. The Environment and Performance Scrutiny Committee have considered the matter at their meeting of 8th September. Due to the timing of the Phase 4 consultation period and subsequent Committee/Cabinet meeting dates, we are seeking approval from Cabinet for the final submission to be prepared by the Assistant Director Regulation in consultation with the Leader and relevant Portfolio Holders as set out in the recommendations.

APPENDICES

Appendices are listed below and attached to the back of the report: -

APPENDIX 0	Boston Borough Council Public Consultation submission dated 6 th August 2019
APPENDIX 1	Newsletter Issue 3: Boston Alternative Energy Facility project Update – July 2020
APPENDIX 2	Notes from meeting between Boston Borough Council Officers and BAEF – 19 th May 2020
APPENDIX 3	Notes from meeting with Boston Borough and County Council Officers held with BAEF on 31 st July 2020

BACKGROUND PAPERS

No background papers as defined in Section 100D of the Local Government Act 1972 were used in the production of this report.

CHRONOLOGICAL HISTORY OF THIS REPORT

A report on this item has been considered by the Environment and Performance Overview and Scrutiny Committee at its meeting on 08th September 2020.