REPORT

Boston Alternative Energy Facility

Appendix A: Response to ExA's Written Question Q12.0.7

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Boston Alternative Energy Facility

Royal HaskoningDHV
Enhancing Society Together

Review of Draft Overarching National Policy Statements (Published 6th September 2021)

Planning Policy – Examining Authority's (ExA) Written Question Q12.0.07

Following publication of the following:

- the National Infrastructure Strategy (November 2020);
- the Energy White Paper (December 2020); and
- the Sixth Carbon Budget (December 2020)

The Government is currently undertaking a review of the existing Energy National Policy Statements (ENPSs). Drafts for consultation were published on 6 September 2021. Any emerging draft NPSs are potentially capable of being important and relevant considerations in the decision-making process. This note, which has been submitted in response to Q12.0.07 of the ExA Written Questions, identifies aspects of the Proposed Development which could be affected by wording in the draft ENPSs, which are currently at consultation stage, by comparison to the currently designated ENPSs.

Response Summary

Many of the proposed changes to the ENPSs are designed to build more flexibility into the policy framework to reflect the fact that the future energy generation mix will be more complex with energy coming from a wider range of sources (for example renewables, low carbon, hydrogen, with residual use of unabated natural gas and crude oil fuels for heat, electricity, transport and industrial applications) and these will all play a role in the transition to net zero. The ENPSs must therefore be flexible enough to support and accommodate the infrastructure requirements of the emerging and future energy network.

With the exception of the need for new coal and large-scale oil-fired electricity generation which is removed, the need and urgency for new largescale energy infrastructure to meet government objectives is strengthened by the revisions proposed in draft NPS EN-1 and EN-3.

There is more detail on environmental principles, biodiversity net gain (with technology specific guidance on suitable types of biodiversity net gain schemes) and on good design.

Overall, the draft ENPSs are not in force yet and as such compliance is not mandatory but they do strengthen the case for the Applicant's Proposed Development as they are reflective of the government's position and attitude to new energy infrastructure.

Introduction

The publication of the draft ENPSs follows the publication of the energy white paper by the UK government in December 2020. The energy white paper sets out the government's 'vision' for the transition to clean energy by 2050. The white paper committed the government to review the existing national policy statements for energy to ensure that they reflect the policies in the white paper and that "we continue to have a planning policy framework which can deliver the investment required to build the infrastructure needed for the transition to net zero".

The ENPSs set out the framework for the approval of energy-related Nationally Significant Infrastructure Projects (NSIPs). The government has launched a consultation, on 6 September 2021 for 12 weeks, on updated draft versions of five of its six NPSs for major energy projects that aim to support the infrastructure required for the transition to net zero, though an accompanying sustainability appraisal says the overarching NPS will still generate residual carbon emissions which will need to be addressed if the government target of net zero by 2050 is to be met.

The consultation seeks views on:

1 whether the revised ENPS provide a suitable framework to support decision making for nationally significant energy infrastructure; and

2 the appraisals of sustainability and habitats regulations assessments that have been carried out in relation to the draft ENPS.

The following general review of the ENPSs considers whether any changes will affect the Proposed Development. The Applicant has summarised the relevant changes in this response and provide comment on the impact to the Proposed Development where relevant.

The draft ENPSs are not yet in force. However, they are "potentially capable of being important and relevant considerations in the decision-making process. The extent to which they are relevant is a matter for the relevant Secretary of State to consider within the framework of the Planning Act and with regard to the specific circumstances of each development consent order application." As such, they are likely to be considered 'important and relevant'.

DRAFT OVERARCHING NATIONAL POLICY STATEMENT FOR ENERGY (EN-1)

Net Zero by 2050

The UK government has committed to meeting a series of greenhouse gas emissions reduction targets to combat the effects of climate change. The UK's Climate Change Act 2008, as amended in 2019, increases the target emissions reductions of 80% against 1990 levels by 2050 to 100% – a target now commonly referred to as achieving 'net zero' emissions.

This net zero target has been included in the draft EN-1, at section 2, along with its intermediary target of achieving a 78% reduction in emissions by 2035.

The Department for Business, Energy and Industrial Strategy (BEIS) objectives for the energy system are to ensure the supply of energy always remains secure, reliable, affordable, and consistent with meeting the target to cut GHG emissions to net zero by 2050, including through delivery of carbon budgets and nationally determined contributions.

Draft EN-1 states that meeting these objectives necessitates a significant amount of energy infrastructure, both large and small-scale. This includes the infrastructure needed to convert primary sources of energy (e.g. wind) into energy carriers (e.g. electricity or hydrogen), and to store and transport them into and around the country. It also includes the infrastructure needed to capture, transport and store carbon dioxide. The requirement for new energy infrastructure will present opportunities for the UK and contributes towards the ambition to support jobs in the UK's clean energy industry and local supply chains.

The sources of energy used will also need to change. Today, the energy system is dominated by fossil fuels. Although representing a record low, fossil fuels still accounted for just over 79 per cent of energy supply in 2019. BEIS emphasise the need to dramatically increase the volume of energy supplied from low carbon sources and reduce the amount provided by fossil fuels.

The draft EN-1 provides a level of support for emerging technologies, such as small modular reactors and also acknowledged that much of its plans to decarbonise the UK's economy involves electrification, such as in the areas of transport, heat and industry, and that this in itself would likely result in more than half of the UK's energy demand being met by electricity by 2050, up from just 17% in 2019. It said low carbon hydrogen would also be "likely to play an increasingly significant role" in ensuring the UK's energy demands are met.

Applicant's Comments

The Applicant has prioritised supporting net zero throughout the development of the Proposed Facility and has included an assessment of how the Proposed Development supports the net zero objectives in Chapter 21 Climate Change of the Environmental Statement (document reference 6.2.21, APP-059). The results of the greenhouse gas (GHG) assessment, detailed in the chapter at 21.9.1, highlighted that the operation of the Facility would be likely to result in a decrease in GHG emissions compared to existing waste treatment routes, and the net contribution to national emissions was not considered to be a material impact on the UK's ability to meet its Carbon Budgets or the requirements of the Climate Change Act 2008. Evidence that shows that the Facility offers a low carbon source of energy, when compared to fossil fuels, and is therefore supported by BEIS, as set out in the draft EN-1. The greater the difference, the larger the support from the draft EN-1. The Applicant already considers net zero and is consistent with this aspect of the draft EN-1.

Decarbonising the power sector

Government is developing business models to incentivise the deployment of Carbon, Capture, Utilisation and Storage (CCUS) facilities and hydrogen in the UK. BEIS will put in place a commercial framework which will enable developers to finance the construction and operation of power and Industrial CCUS facilities, stimulating a pipeline of projects and building a UK supply chain.

For Industrial CCUS, BEIS will incentivise the deployment of carbon capture technology through the Industrial Carbon Capture Business Model for industrial users who often have no viable alternatives available to achieve deep decarbonisation, this could include Energy from Waste facilities.

BEIS will be providing updates on CCUS business models throughout 2021, consultation seeking views on the preferred design of a low carbon hydrogen business model closed on 25 October 2021. The Applicant has reviewed the latest update (May 2021) and summarised the current intended look of the model, and in particular how it relates to (new) Energy from Waste (EfW) facilities, like the Proposed Development.

Industrial Carbon Capture Business Model - May 2021 update re. the minded-to position in Dec 2020:

1 Up to 15-year contract providing the emitter with payment per tonne of captured CO2, intended to cover operational expenses, Transport and Storage (T&S) fees, and repayment of and a rate of return on, capital investments in carbon capture equipment; and

2 Capital grant co-funding for a portion of the capital cost of capture projects, available for initial projects only and intended to mitigate against certain risks associated with these funded.

In relation to EfW facilities specifically, the current minded-to position is to support the application of CCUS at EfW facilities, including waste incineration facilities with readiness and/or plans to implement energy recovery, via the industrial carbon capture (ICC) business model.

This includes existing EfW facilities where the majority of energy output will be used by an eligible industrial facility and/or facilities where the energy output will be sold offsite to heat networks or the electricity grid.

It is intended that support will be provided to only the most energy efficient facilities - those with energy recovery included.

BEIS state that the deployment of CCUS at EfW facilities is essential for meeting net zero and deep decarbonisation of industry critical assets[1]. The Climate Change Committee (CCC) have recommended that all new EfW plants should be built as 'CCUS ready', encouraging the application of CCUS to all EfW plants by 2050.

Some EfW facilities are located at industrial clusters, providing an opportunity to decarbonise assets with a long lifetime, support the potential diversity of emitters for T&S networks, whilst providing an opportunity for the energy produced from an EfW facility to be used or sold.

[1] *Department for Business, Energy & Industrial Strategy, May 2021. Carbon Capture, Usage and Storage - An update on the business model for Industrial Carbon Capture*

Applicant's Comments

The Proposed Development incorporates two carbon dioxide recovery plants. The process of carbon recovery within the Facility is set out within Chapter 5 Project Description of the ES (document reference 6.2.5, APP-043). The Facility will include the connection of the flue-gas system from the two outer thermal treatment plant lines to carbon dioxide (CO2) recovery plants, which will recover CO2 (to food grade) for off-site reuse in various industries. Some of the CO2 will also be retained on-site for use in fire prevention.

The two CO2 plants will be fully automatic systems designed for constant operation (24 hours per day, 7 days per week). Each CO2 plant will draw the exhaust flue gas from one thermal treatment line, where thereafter the gas is cooled and scrubbed and treated to remove impurities. Once compressed, purified and dried, CO2 is stored for distribution.

The final product quality will meet standards prescribed by the International Society of Beverage Technologists (ISBT) 2001 quality guidelines for liquid carbon dioxide (CO2). This ensures the final liquid CO2 quality is acceptable to international markets.

The Facility has a generating capacity of 102MWe, some way below the threshold to identify as 'carbon capture ready', but nevertheless makes provision for this important requirement.

The Proposed Development already includes CCUS and therefore, benefits from NPS support and accords with this aspect of draft NPS EN-1.

Assessment of New Infrastructure

With respect to the assessment of new infrastructure, and the government's "general policies for the submission and assessment of applications relating to energy infrastructure" set out in the draft EN-1, changes have been made which align with the proposed Environment Bill currently progressing through parliament. New sections have been added on marine considerations and biodiversity net gain and further detail added on environmental principles.

Habitat Regulation Assessment

If, during the pre-application stage, the Statutory Nature Conservation Bodies (SNCB) indicate that the proposed development is likely to adversely impact the integrity of HRA sites, the applicant must include with their application such information as may reasonably be required to assess a potential derogation under the Habitats Regulations. If the SNCB gives such an indication at a later stage in the development consent process, the applicant must provide this information as soon as is reasonably possible and before the close of the examination. This information must include assessment of alternative solutions, a case for Imperative Reasons of Overriding Public Interest (IROPI) and appropriate environmental compensation. Applicants must have discussed with SNCB whether any proposed compensation is appropriate, and the compensation must be secured, or an indication given as to how it can be secured. Provision of such information will not be taken as an acceptance of adverse impacts and if an applicant disputes the likelihood of adverse impacts, it can provide this information without prejudice to the Secretary of State's final decision on the impacts of the potential development. If, in these circumstances, an applicant does not supply information required for the assessment of a potential derogation, there will be no expectation that the Secretary of State will allow the applicant the opportunity to provide such information following the examination.

Applicant's Comments

This differs to the existing NPS as there is explicitly more focus on discussions with the SNCB. The Proposed Development accords with draft NPS EN-1 in that a derogation case has been submitted at Deadline 2 (document references 9.28, 9.29 and 9.30). This assessment will include alternative solutions and a case for IROPI and compensation packages. The Applicant is committed to ensuring that the EA remains involved in the evolution of the Proposed Development and discussions are regular and ongoing.

Marine considerations

Applicants for a development consent order will need to take account of any relevant Marine Plans. There is an expectation that applicants will complete a Marine Plan assessment as part of their project development and this information should be used to support an application for development consent. Applicants are encouraged to refer to Marine Plans at an early stage, such as in advance of pre-application stage, to inform project planning, for example to avoid less favourable locations as a result of other uses or environmental constraints.

Applicant's Comments

The East Inshore and East Offshore Marine Plan is considered to be relevant to the Proposed Development. Policy is supportive of proposals which provide additional economic productivity benefits (EIMP Policy EC1) and employment benefits ((EIMP Policy EC2). The Applicant has considered these marine plans in the Planning Statement (document reference 5.2, APP-031) and the East Marine Policy Checklist (document reference 9.19, REP1-032). The assessment demonstrates compliance with the relevant policies of the Plan.

Biodiversity Net Gain

Although achieving biodiversity net gain is not an obligation for projects under the Planning Act 2008, energy NSIP proposals should seek opportunities to contribute to and enhance the natural environment by providing net gains for biodiversity where possible. Applicants are encouraged to use the most current version of the Defra biodiversity metric to calculate their biodiversity baseline and inform their biodiversity net gain outcomes and to present this data as part of their application. Biodiversity net gain should be applied in conjunction with the mitigation hierarchy and does not change or replace existing environmental obligations.

Developments may also deliver wider environmental gains relevant to the local area, and to national policy priorities, such as reductions in GHG emissions, reduced flood risk, improvements to air or water quality, or increased access to natural greenspace. The scope of potential gains will be dependent on the type, scale, and location of specific projects. Applications for development consent should be accompanied by a statement demonstrating how opportunities for delivering wider environmental net gains have been considered, and where appropriate, incorporated into the design (including any relevant operational aspects) of the project.

Applicant's Comments

An indicative biodiversity metric calculation has been completed to determine the requirement for net gain and this is included within the submitted outline Landscape and Ecological Mitigation Scheme (OLEMS) (document reference 7.4, APP-123). Opportunities for net gain will be added to an updated version of the OLEMS, to be submitted at Deadline 3.

A baseline biodiversity unit and post development biodiversity unit calculation (using the Defra 2.0 metric) has been undertaken using the information available at the time of preparing this document. Since the OLEMS document (document reference 7.4, APP-123) was published there has been a revision to the Defra metric to produce Metric 3.0. However, guidance for the new Metric[2] states that if a project is in the process of, or has already been assessed by V2.0, it can still be used. Therefore, for the updated OLEMS, submitted at Deadline 2 Metric 2.0 was used. The result of the biodiversity net gain calculation is provided in Section 8 of the updated OLEMS for terrestrial ecology. Discussions are still ongoing to develop net gain plans in relation to marine ecology. The relevant biodiversity net gain calculation for marine ecology will be summitted into examination, via an updated OLEMS, when finalised.

Good Design

Given the benefits of "good design" in mitigating the adverse impacts of a project, applicants should consider how "good design" can be applied to a project during the early stages of the project lifecycle. Design principles should be established from the outset of the project to guide the development from conception to operation.

[2] TylerGrange, Oct 2021. Defra Metric 3.0: What is it and how does it impact you?

Applicant's Comments

The Applicant has considered good design since the inception of the Proposed Development and this is conveyed in the Planning Statement (document reference 5.2, APP-031) and the Design and Access Statement (document reference 5.3, APP-032).

Consideration of Combined Heat and Power

Given the importance which government attaches to CHP, if an application does not demonstrate that CHP has been considered the Secretary of State should seek further information from the applicant. The Secretary of State should not give development consent unless satisfied that the applicant has provided appropriate evidence that CHP is included or that the opportunities for CHP have been fully explored. For non-CHP stations, where there is reason to believe that opportunities to supply heat through CHP may arise in the future, the Secretary of State may also require that developers ensure that their stations are 'CHP ready' and are designed in order to allow heat supply at a later date.

Applicant's Comments

The Applicant has considered the use of combined heat and power in the Planning Statement (document reference 5.2, APP-031). A Combined Heat and Power Assessment accompanies this application (document reference 5.7, APP-036). The Assessment concludes (paragraph 5.14) "based on the low heat demand in the surrounding area and taking into account the distance and sparse nature of heat users resulting in technical and commercial challenges for proposed routes, the Facility will be designed as CHP Ready and will not be developed as a CHP scheme until such loads become available that running with CHP is considered economically feasible".

A detailed CHP-Ready Guidance assessment of the Facility will be carried out as part of the Environmental Permit application. This will include the establishment of any opportunities to supply heat. Requirement 21 of Schedule 2 of the draft DCO (document reference 2.1(1), REP1-003) sets out the requirement to submit to the relevant planning authority for its approval a report ("the CHP review") updating the combined heat and power assessment within 12 months of final commissioning.

Climate Change Adaptions

In preparing measures to support climate change adaptation applicants should consider whether nature-based solutions could provide a basis for such adaptation. In addition to avoiding further GHG emissions when compared with some more traditional adaptation approaches, nature based solutions can also result in biodiversity benefits as well as increasing absorption of carbon dioxide from the atmosphere

Applicants should assess the impacts on and from their proposed energy project across a range of climate change scenarios, in line with appropriate expert advice and guidance available at the time. Applicants should be able to demonstrate that proposals have a high level of climate resilience built-in from the outset. They should also be able to demonstrate how proposals can be adapted over their predicted lifetimes to remain resilient to a credible maximum climate change scenario.

Applicant's Comments

The DCO application for the Proposed Development includes a climate change resilience assessment in Chapter 21 Climate Change of the ES (document reference 6.2.21, APP-059). The assessment concludes that it is "likely that GHG emissions from the Facility would be lower or similar when compared to landfilled waste streams". This was further tested (document reference 9.6 REP1 -019): Climate Change - Further Greenhouse Gas Emissions Analysis and Consideration of Waste Composition Scenarios which considered the effect of a range of carbon compositions on GHG emissions arising from the thermal treatment process for RDF waste at the Facility when compared to landfilling waste. This concluded that the conclusions of Chapter 21 of the ES remain valid according to differing waste compositions.

A key climate change effect relates to flood risk from The Haven and the Facility has been subject to a flood risk assessment as set out in Environmental Statement Appendix 13.2 - Flood Risk Assessment (document

reference 6.4.13, APP-106). The Facility incorporates the creation of new formal flood defences, which shall be tied into the wider flood defences in the area and, following consultation with the Environment Agency (EA), has been designed with an effective crest level of 7.2 m Above Ordnance Datum (AOD). Based on the information presented in the flood risk assessment, it is considered that the Facility is in accordance with both the first and second part of the Exception Test and therefore is appropriate in terms of the type of development and its proposed location. Therefore, it is considered to meet the requirements of the NPPF. Additionally, appropriate allowance has also been made for climate change within the Outline Surface Water Drainage Strategy (document reference 9.4, REP1-017).

Pollution, Control and Other Environmental Regulatory Regimes

Pollution from industrial sources in England and Wales is controlled through the Environmental Permitting (England and Wales) Regulations 2016 (EPR). The EPR requires industrial facilities to have an EP and meet limits on allowable emissions to operate.

Larger industrial facilities undertaking specific types of activity are also required to use Best Available Techniques (BAT) to reduce emissions to air, water, and land. Agreement on what sector specific BAT standards are, will now be determined through a new UK-specific BAT process.

The definition of BAT has also been amended, from "Best Available Technique; should normally be used and, if not, reasons for not using BAT given", to simply "Best Available Technique".

Applicant's Comments

The Outline of Code of Construction Practice (document reference 7.1, APP-120) specifies standards that the Applicant intends to use. The Planning Statement (document reference 5.2, APP-031) commits to best practice generally. The update requires BAT standards to be used by removing the express ability to deviate from BAT where there are reasons to do so. The Applicant does not intend to deviate from BAT.

No part of the authorised development may commence until a Code of Construction Practice has been approved by the relevant planning authority, following consultation with the EA and the relevant statutory nature conservation body, by virtue of Requirement 10, Schedule 2 of the draft DCO. This will be substantially in accordance with the outline Code of Construction Practice (document reference, 7.1, APP-120).

Air Quality

In particular, where a project is located within, or in close proximity to, a Local Air Quality Management Area (AQMA) or Clean Air Zone, applicants should engage with the relevant local authority to ensure the project is compatible with the local air quality plan.

Applicant's Comments

The Applicant is committed to engaging the local authorities and continue to discuss Air Quality with Boston Borough Council, however, there have been no concerns raised by Lincolnshire County Council in Relevant or Written Representations with relation to Air Quality. There are two statutory designated AQMAs in Boston, both were declared by Boston Borough Council for exceedances of the annual mean air quality Objective for NO2. These are considered in Chapter 14 of the ES (document reference 6.2.14, APP-052). The monitoring data show that there were exceedances of the NO2 annual mean air quality Objective at six diffusion tube locations from 2015 – 2019. These locations are situated within, or on the boundary of the Haven Bridge or Bargate Bridge AQMAs, where elevated pollutant concentrations are anticipated. Chapter 14 Air Quality has concluded no significant residual effects on the AQMAs.

Air quality compliance will also be considered by the EA through the Environmental Permitting regime. The Facility would not be able to operate until an Environmental Permit has been granted by the EA.

Greenhouse Gas Emissions

All proposals for energy infrastructure projects should include a carbon assessment as part of their ES. This should include:

1 A whole life carbon assessment showing construction, operational and decommissioning carbon impacts

2 An explanation of the steps that have been taken to drive down the climate change impacts at each of those stages

3 Measurement of embodied carbon impact from the construction stage

4 How reduction in energy demand and consumption during operation has been prioritised in comparison with other measures

5 How operational emissions have been reduced as much as possible through the application of best available technology for that type of technology

6 Calculation of operational energy consumption and associated carbon emissions

7 Whether and how any residual carbon emissions will be (voluntarily) offset or removed using a recognised framework

Where there are residual emissions, the level of emissions and the impact of those on national and international efforts to limit climate change, both alone and where relevant in combination with other developments at a regional or national level, or sector level, if sectoral targets are developed.

The Secretary of State should be content that the applicant has taken all reasonable steps to reduce the GHG emissions of the construction and decommissioning stage of the development. The Secretary of State should also give positive weight to projects that embed nature-based or technological processes to mitigate or offset the emissions of construction and decommissioning within the proposed development. However, in light of the vital role energy infrastructure plays in the process of economy wide decarbonisation, the Secretary of State accepts that there are likely to be some residual emissions from construction and decommissioning of energy infrastructure.

Applicant's Comments

The application includes a greenhouse gas assessment in Chapter 21 of the ES (document reference 6.2.21, APP-059). The assessment quantified emissions from sources arising from the construction and operational phases of the Facility where data were available at the time of assessment. This did not include the calculation of embodied carbon emissions from materials to be used during construction. Although embodied greenhouse gas emissions in materials could be a large contributor to the overall greenhouse gas footprint during construction, they are considered to be an unavoidable one-off emission source over a time limited period, and therefore will not materially affect the outcome of the greenhouse gas assessment. Emissions from decommissioning were not included in the assessment, but are considered likely to form a minor source of emissions in terms of the life cycle of the Facility.

Emissions during the construction phase will be minimised by reducing quantities of materials required during construction though efficient design and use of materials with a lower embodied GHG intensity where possible. In terms of operational emissions, CO2 recovery plants will be initially implemented on two of the lines at the Facility. The CO2 Recovery plants will capture 5,000 kg CO2 per hour, a total of 80,000 tonnes per year, as described in Chapter 21 of the Environmental Statement (Climate Change) (document reference 6.2.21, APP-059). Further consideration will be given to adding further CO2 recovery capacity once further studies into the potential market has been carried out. In addition, the Applicant has committed to delivering RDF feedstock to the site via marine vessel rather than by road vehicles. The greenhouse gas savings from this commitment are provided in 'Comparative Analysis of Greenhouse Gas Emissions from Road and Marine Vessel Transport Options to the Site' (document reference 9.7, REP1-020), submitted at Deadline 1. The analysis shows that transporting the RDF waste to the Facility by vessel releases 50% less greenhouse gas emissions, assuming the waste is supplied equally from 12 ports situated around the UK.

In terms of energy demand, the Facility will generate 102 megawatts electric (MWe) (gross) of renewable electricity. A proportion of this will supply the Facility (parasitic load), including the feedstock management and lightweight aggregate (LWA) facilities (see paragraph 5.6.48 of Chapter 5 of the ES (document reference 6.2.5). Therefore, energy demand in terms of consumption from the National Grid has been minimised as far as is practicable.

With respect to Best Available Technology (BAT), the Environmental Permit for the Facility, issued and regulated by the EA, will contain a set of emission limit values (ELVs) which the emissions from the Facility must not exceed. This is set in Statute through the Environmental Permitting Regulations 2016 (as amended), which transposed the EU Industrial Emissions Directive (IED) into UK law. In setting the ELVs, the EA will have regard to the Best Available Techniques Associated Emission Levels (BAT-AELs) contained within the EU Best Available Techniques Reference (BREF) document that covers waste incineration.

Biodiversity

Proposals should also consider any opportunities to maximise the restoration, creation, and enhancement of wider biodiversity. Consideration should be given to improvements to, and impacts on, habitats and species in, around and beyond developments, for wider ecosystem services and natural capital benefits, beyond those under protection and identified as being of principal importance. This may include considerations and opportunities identified through Local Nature Recovery Strategies, and national goals and targets set through the government's strategy for nature for example.

Applicant's Comments

The Outline Landscape and Ecological Mitigation Strategy (OLEMS) (document reference 7.4, APP-123) details measures proposed and this document is being updated for Deadline 3 of the Examination to provide further details on Biodiversity Net Gain (BNG) measures. By virtue of Requirement 5, Schedule 2 of the draft DCO (document reference, 2.1(1), REP1-003), no part of the authorised development may commence until a Landscape and Ecological Mitigation Strategy (LEMS) (including BNG measures) for that part has been submitted to and approved by the relevant planning authority, following consultation by the undertaker with the EA, the relevant statutory nature conservation body, Lincolnshire Wildlife Trust and the Royal Society for the Protection of Birds.

Flood Risk

A site-specific flood risk assessment should be provided for all energy projects in Flood Zones 2 and 3 in England. In Flood Zone 1 in England, an assessment should accompany all proposals involving:

1 sites of 1 hectare or more

2 land which has been identified by the EA or NRW as having critical drainage problems

3 land identified (for example in a local authority strategic flood risk assessment) as being at increased flood risk in future

4 land that may be subject to other sources of flooding (for example surface water)

5 where the EA or NRW, Lead Local Flood Authority, Internal Drainage Board or other body have indicated that there may be drainage problems. This should identify and assess the risks of all forms of flooding to and from the project and demonstrate how these flood risks will be managed, taking climate change into account.

Applicant should consider how the ability of water to soak into the ground may change with development, along with how the proposed layout of the project may affect drainage systems. Information should include:

1 Describe the existing surface water drainage arrangements for the site

2 Set out (approximately) the existing rates and volumes of surface water run-off generated by the site.

3 Set out proposals for managing and discharging surface water from the site using sustainable drainage systems and accounting for the predicted impacts of climate change. If sustainable drainage systems have been rejected, present clear evidence of why their inclusion would be inappropriate

4 Demonstrate how the hierarchy of drainage options (refer to PPG Sustainable Drainage Systems section) has been followed. Explain and justify why the types of Sustainable Drainage Systems and method of discharge have been selected and why they are considered appropriate. Where cost is a reason for not including Sustainable Drainage Systems, provide information to enable comparison with the lifetime costs of a conventional public sewer connection

5 Explain how sustainable drainage systems have been integrated with other aspects of the development such as open space or green infrastructure, so as to ensure an efficient use of the site

6 Describe the multifunctional benefits the sustainable drainage system will provide

7 Set out which opportunities to reduce the causes and impacts of flooding have been identified and included as part of the proposed sustainable drainage system

8 Explain how run-off from the completed development will be prevented from causing an impact elsewhere

9 Explain how the sustainable drainage system been designed to facilitate maintenance and, where relevant, adoption. Set out plans for ensuring an acceptable standard of operation and maintenance throughout the lifetime of the development

10 detail those measures that will be included to ensure the development will be safe and remain operational during a flooding event throughout the development's lifetime without increasing flood risk elsewhere

Energy projects should not normally be consented within Flood Zone 3b the Functional Floodplain (where water has to flow or be stored in times of flood), or Zone C2 in Wales, or on land expected to fall within these zones within its predicted lifetime. However, where essential energy infrastructure has to be located in such areas, for operational reasons, they should only be consented if the development will not result in a net loss of floodplain storage and will not impede water flows.

Applicant's Comments

The Flood Risk Assessment (Appendix 13.2, document reference 6.4.13, APP-106) that accompanies this application confirms that the Principal Application Site is located in Flood Zone 3a, and based on flood risk management techniques, the risk of flooding is considered low, and the Principal Application Site is appropriate for development. As part of this assessment a sequential and exceptions test has been carried out. In the context of the Principal Application Site being assessed as a suitable location for industrial, energy and waste facilities and the locational requirements of the Facility, it is concluded that these tests have been appropriately demonstrated.

Historic Environment

The Secretary of State should consider the impacts on other non-designated heritage assets (as identified either through the development plan making process by local authorities, including 'local listing', or through the application, examination and decision making process). This is on the basis of clear evidence that such heritage assets have a significance that merits consideration in that process, even though those assets are of lesser significance than designated heritage assets.

The applicant is encouraged, where opportunities exist, to prepare proposals which can make a positive contribution to the historic environment, and to consider how their scheme takes account of the significance of heritage assets affected. This can include, where possible:

1 enhancing, through a range of measures such a sensitive design, the significance of heritage assets or setting affected

2 considering how visual or noise impacts can affect heritage assets, and whether there may be opportunities to enhance access to, or interpretation, understanding and appreciation of, the heritage assets affected by the scheme

Careful consideration in preparing the scheme will be required on whether the impacts on the historic environment will be direct or indirect, temporary or permanent.

Where the proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset the Secretary of State should refuse consent unless it can be demonstrated that the substantial harm to or loss of significance is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:

1 the nature of the heritage asset prevents all reasonable uses of the site

2 no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation

3 conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible

4 the harm or loss is outweighed by the benefit of bringing the site back into use

Applicant's Comments

The assessment of Heritage considerations has been carried out to ascertain the potential impacts of the Facility and is at Chapter 8 of the ES (document reference 6.2.8, APP-046). Through the planned mitigation strategies, none of the heritage assets were identified as likely to be caused substantial harm. Consultation has been undertaken with Historic England, Lincolnshire County Council and Heritage Lincolnshire on the Cultural Heritage assessment and updates have been made to the Outline Written Scheme of Investigation (OWSI) based on the comments received (submitted at Deadline 1, document reference 7.3(1), REP1-011). In addition, following consultation, a programme of targeted geoarchaeological investigation has been brought forward to further inform the understanding of sub-surface deposits and the potential for buried archaeological and paleoenvironmental remains.

Landscape and Visual

The landscape and visual assessment should include reference to any landscape character assessment and associated studies as a means of assessing landscape impacts relevant to the proposed project. The applicant's assessment should also take account of any relevant policies based on these assessments in local development documents in England. For seascapes, applicants should consult the Seascape Character Assessment and the Marine Plan Seascape Character Assessments, and any successors to them. In view of the location of the Facility, there is no need to undertake either a Seascape Character Assessment and the Marine Plan Seascape Character Assessments

The assessment should also demonstrate how noise and light pollution from construction and operational activities on residential amenity and on sensitive locations, receptors and views, will be minimised.

Applicants should consider how landscapes can be enhanced using landscape management plans, as this will help to enhance environmental assets where they contribute to landscape and townscape quality.

Applicant's Comments

With respect to lighting this is described as embedded mitigation in Chapter 5 Project Description (paragraph 5.5.39 to 5.5.41 and 5.6.113) (document reference 6.2.5, APP-043) and Chapter 9 Landscape and Visual (document reference 6.2.9, APP-047) paragraphs 9.8.30 and 9.8.52. With respect to noise, this is described in Chapter 5 Project Description (paragraph 5.6.44).

The Illustrative Landscape Plan (document reference 4.4, APP-014) includes how the landscape will be enhanced. The Applicant has committed to producing a landscape and ecological mitigation strategy via requirement 5, Schedule 2 of the draft DCO. No part of the authorised development may commence until a

landscape and ecological mitigation strategy for that part has been submitted to and approved by the relevant planning authority, following consultation with the EA, the relevant statutory nature conservation body, Lincolnshire Wildlife Trust and the Royal Society for the Protection of Birds.

The Landscape and Visual Impact Assessment (LVIA) (document reference 6.2.9, APP-047) supports the DCO application identifies predicted landscape and visual effects that would arise from the construction stage of the development and at both the early and long-term operational stages of the facility.

Land use including open space, green infrastructure &Use, Including Open Space, Green Infrastructure, and Green Belt

Well designed and managed green infrastructure in particular, provides multiple benefits at a range of scales. It can contribute to health, wellbeing, biodiversity recovery, absorb surface water, cleanse pollutants and absorb noise and reduce high temperatures. It will also play an increasingly important role in mitigating or adapting to the impacts of climate change. The provision and enhancement of green infrastructure can improve air quality, particularly in urban areas. Applicants are therefore encouraged to consider how new green infrastructure can be provided, or how existing green infrastructure can be enhanced, as part of their application.

Applicant's Comments

The Principal Application Site is located within an area of existing large scale industry and infrastructure. The area is designated as Existing Main Employment Area, Proposed Main Employment Area and an Allocated Waste Area. The perceived magnitude of effect upon both the landscape and visual resource is considerably reduced by the existing industrial context. Certain local significant adverse effects were identified; however, these would be localised, and, in context of the existing environment, effects are not considered to introduce substantial harm to the overall amenities of other nearby land users. Existing landscape features will be retained within the site wherever possible and proposed mitigation measures would include planting of appropriate tree and shrub species. The Landscape and Visual Impact Assessment (LVIA) (document reference 6.2.9, APP-047) and climate change resilience assessment in Chapter 21 of the ES (document reference 6.2.21, APP-059) further addresses this.

Noise and Vibration

Noise resulting from a proposed development can also have adverse impacts on wildlife and biodiversity. Noise effects of the proposed development on ecological receptors should be assessed by the Secretary of State in accordance with the Biodiversity and Geological Conservation section of this NPS. This should consider underwater noise and vibration especially for marine developments.

Applicant's Comments

A Noise and Vibration Assessment (Chapter 10, document reference 6.2.10, APP-048) addresses the impact of the Facility in relation to road and vessel traffic and vehicle trips, vibration and piling associated with temporary and permanent plant equipment during the construction, operation and decommissioning of the Facility. Mitigation measures included in Chapter 10 are secured by DCO requirement 10, Schedule 2 Code of Construction Practice and DCO requirement 19, Schedule 2 Control of operational noise. In addition, the Environmental Permit(s) for the Facility will require operational noise limits.

Within Chapter 17 Marine and Coastal Ecology (document reference 6.2.17, APP-055) and the HRA and ES addendums (document references 6.13, REP1-026, 6.14, REP1-027, and 6.15 REP1-028) noise impacts on birds, marine mammals and fish were assessed. Activities assessed included: underwater noise effects from piling and dredging activities; noise impacts due to increased human activity (airborne noise) and noise associated with changes in vessel traffic and movement.

Mitigation measures are proposed for the avoidance of noise impacts on birds using the intertidal area for feeding and roosting and for avoidance of impacts on marine mammals and fish. These mitigation measures are secured via the Deemed Marine Licence (DML), set out in Schedule 9 of the draft DCO (document reference

2.1(1), REP1-003) and the Marine Mammal Mitigation Protocol and Navigation Management Plan (which are secured within the DML).

Socio-Economic Impacts

This assessment should consider all relevant socio-economic impacts, which the draft ENPS states should now also include:

1 the creation of jobs and training opportunities. Applicants may wish to provide information on the sustainability of the jobs created, including where they will help to develop the skills needed for the UK's transition to Net Zero;

2 the contribution to the development of low-carbon industries at the local and regional level as well as nationally; and

3 any indirect beneficial impacts for the region hosting the infrastructure, in particular in relation to use of local support services and supply chains.

Applicant's Comments

A Socio-Economic Assessment supports this application, the findings of which are included within Chapter 20 of the ES (document reference 6.2.20, APP-058).

Traffic and Transport

Where appropriate, the applicant should prepare a travel plan including demand management measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by public transport, walking and cycling, to reduce the need for parking associated with the proposal and to mitigate transport impacts. The assessment should also consider any possible disruption to services and infrastructure (such as road, rail and airports).

The Secretary of State should only consider preventing or refusing development on highways grounds if there would be an unacceptable impact on highway safety, or residual cumulative impacts on the road network would be severe.

Water-borne or rail transport is preferred over road transport at all stages of the project, where cost-effective. Applicants should consider the DfT policy guidance "Water Preferred Policy Guidelines for the movement of abnormal indivisible loads" when preparing their Application.

Applicant's Comments

The Traffic Assessment (Chapter 19, document reference 6.2.19, APP-057) identifies the traffic movements associated with construction, operation and decommissioning and assesses their impact on local road links and junctions, traffic flows and pedestrian amenity. Additionally, it assesses the impact of the Facility to divert the Public Right of Way (PRoW) network that passes through the Principal Application Site.

The decision to locate the Facility at the Riverside Industrial Estate was based on development plan allocation, availability and its location in proximity to The Haven. Location next to the Haven enables refuse-derived fuel to be transported to the site by water and allows aggregate material generated by the power generation process to be transported from site by boat. The ability to transport materials by water will significantly reduce the potential impact of the facility upon the local road network. The Applicant has also committed to adhering to a Construction Traffic Management Plan (secured by requirement 12 of the draft DCO, document reference, 2.1(1), REP1-003) and Operational Traffic Management Plan (secured by requirement 17 of the draft DCO).

Resource and Waste Management

The applicant is encouraged to refer to the Waste Prevention Programme for England and should seek to minimise the volume of waste produced and the volume of waste sent for disposal unless it can be demonstrated that this is the best overall environmental outcome.

Applicant's Comments

A waste assessment (document reference 5.8, APP-037) supports this application. It identifies several embedded mitigation measures to both reduce potential impacts of waste and the measures that can be implemented to eliminate or reduce the anticipated quantity of waste sent to landfill by implementing the Waste Hierarchy.

Water Quality and Resources

Where possible, applicants are encouraged to manage surface water during construction by treating surface water runoff from exposed topsoil prior to discharging and to limit the discharge of suspended solids e.g. from car parks or other areas of hard standing, during operation.

Applicants are encouraged to consider protective measures to control the risk of pollution to groundwater beyond those outlined in Water Resource Management Plans - this could include, for example, the use of protective barriers.

Existing water resources affected by the proposed project and the impacts of the proposed project on water resources, noting any relevant existing abstraction rates, proposed new abstraction rates and proposed changes to abstraction rates (including any impact on or use of mains supplies and reference to Catchment Abstraction Management Strategies) and also demonstrate how proposals minimise the use of water resources and water consumption in the first instance.

In terms of Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 compliance, the overall aim of development should be to prevent deterioration in status of water bodies to support the achievement of the objectives in the River Basin Management Plans and not to jeopardise the future achievement of good status for any affected water bodies.

The impact on local water resources can be minimised through planning and design for the efficient use of water, including water recycling. If an applicant needs new water infrastructure, significant supplies or impacts other water supplies, the applicant should consult with the local water company and the EA or NRW.

Applicant's Comments

The Facility has the potential to impact on The Haven, as a nearby waterbody, on the existing surface water and on the water courses at the Application Site. With respect to onshore development, the potential impacts of the construction and operation of the Facility on water resources and flood risk receptors have been identified and their significance is assessed (document reference 6.2.13, APP-051). The following key potential impacts addressed for the construction stage were: Direct impacts on drainage systems; Increased sediment supply; Accidental release of contaminants; Changes to surface water runoff and flood risk. In addition, the following impacts were addressed for the operation stage: Changes to surface water runoff and flood risk and supply of fine sediment and other contaminants.

Following the application of embedded measures to manage sediment, pollution and drainage, none of these potential effects were determined to be significant.

DRAFT NATIONAL POLICY STATEMENT FOR RENEWABLE ENERGY INFRASTRUCTURE (Draft NPS EN-3) – where relevant to waste to energy facilities

Introduction

Draft NPS EN-3 provides specific support for biomass and waste combustion. It states that the combustion of biomass for electricity generation plays an increasingly important role in meeting the UK's energy needs and supports the decarbonisation of the sector. It also has a potentially significant role in supporting delivery towards the UK's net zero target when combined with carbon capture and storage. The Proposed Development incorporates two carbon dioxide recovery plants.

EN-3 provides slightly more detail of the areas mentioned in EN-1, specifically in relation to biomass and waste combustion. The following summary of changes that the draft EN-3 has proposed, which go further or provide more clarity than the existing EN-3 provides is set out hereafter.

Biomass and waste combustion impacts: factors influencing site selection by applicants

As the primary function of EfW plants is to treat waste, applicants must demonstrate that proposed EfW plants are in line with Defra's policy position on the role of energy from waste in treating municipal waste.

In accordance with draft NPS EN-3, new facilities must not result in over-capacity of EfW waste treatment capacity at a national or local level.

Applicant's Comment

The Proposed Development is a national infrastructure scheme not looking to directly take local waste or meet local waste management capacity requirements, but to take waste from UK ports that would normally be exported overseas or landfilled. The available capacity of refuse derived fuel (RDF) which could be transported to the Facility is assessed within the Addendum to Fuel Availability and Waste Hierarchy Assessment (document reference 9.5, REP1-018).

Biomass/Waste Impacts – Air and waste combustion impacts: air quality and greenhouse gas emissions

Generic air emissions impacts other than CO2 are covered in Section 5.2 of draft EN-1. In addition, there are specific considerations which apply to biomass and Energy from Waste (EfW) combustion plant as set out below.

Operational CO2 emissions may be a significant adverse impact of biomass and EfW electricity generating stations. Although a carbon assessment will be provided as part the ES, the policies set out in Part 2 of EN-1 will apply. As set out in Section 5.3 of EN-1, the Secretary of State does not, therefore, need to assess individual applications for planning consent against operational carbon emissions and their contribution to carbon budgets, net zero and our international climate commitments.

In addition to the air quality legislation referred to in EN-1 (including the Environmental Permitting (England and Wales) Regulations 2016 (EPR) and the Air Quality Standards Regulations) the Waste Incineration Best Available Techniques (BAT) conclusions[3] are also relevant to waste combustion plant. This sets out specific emission limit values for waste combustion plants.

Compliance with the EPR is enforced through the environmental permitting regime regulated by the EA. Plants not meeting the requirements of the EPR would not be granted a permit to operate.

The pollutants of concern arising from the combustion of waste and biomass may include NOx1, SOx, NMVOCs particulates. In addition, emissions of heavy metals, dioxins and furans are a consideration for waste combustion generating stations, but limited by the EPR and waste incineration BAT conclusions and regulated by the EA.

Where a proposed waste combustion generating station meets the requirements of the EPR and BAT conclusions and will not exceed the local air quality standards, the Secretary of State should not regard the proposed waste generating station as having adverse impacts on health.

Similarly, where a proposed biomass combustion generating station meets the requirements of the EPR and relevant BAT conclusions and will not exceed the local air quality standards, the Secretary of State should not regard the proposed biomass infrastructure as having adverse impacts on health.

[3] Guidance for Best available techniques: environmental permits https://www.gov.uk/guidance/best-available-techniques-environmental-permits

Applicant's Comments

The Environmental Permit for the Facility, issued and regulated by the EA, will contain a set of emission limit values (ELVs) which the emissions from the Facility must not exceed. This is set in Statute through the Environmental Permitting Regulations 2016 (as amended), which transposed the EU Industrial Emissions Directive (IED) into UK law.

In addition, in setting the ELVs, the EA will have regard to the Best Available Techniques Associated Emission Levels (BAT-AELs) contained within the EU Best Available Techniques Reference (BREF) document that covers waste incineration.

The emissions from the Facility will be monitored using a Continuous Emissions Monitoring System, which will be a statutory requirement of the Environmental Permit, to ensure that the emissions are met, and the system will adjust the pollution abatement equipment for some pollutants in real time to respond to changes in pollutant levels from the thermal process.

The Facility will not be able to operate unless it adheres to the Environmental Permit issued by the EA. Biomass/Waste Impacts – Landscape and waste combustion impacts: noise and vibration

The Secretary of State should consider the noise and vibration impacts according to Section 5.12 in EN-1. It should be satisfied that noise and vibration will be adequately mitigated through requirements attached to the consent. The Secretary of State will need to take into consideration the extent to which operational noise will be separately controlled by the EA.

The Secretary of State should not grant development consent unless it is satisfied that the proposals will meet the aims set out in paragraph 5.12.10 of EN-1.

Applicant's Comments

The Applicant confirms that the Proposed Development meets the aims set out in paragraph 5.12.10 of EN-1.

Biomass and waste combustion impacts: odour, insect and vermin infestation

The Secretary of State should satisfy itself that the proposal sets out appropriate measures to minimise impacts on local amenity from odour, insect and vermin infestation.

Applicant's Comments

These issues will be considered by the EA through the Environmental Permitting regime. The Facility would not be able to operate until an Environmental Permit has been granted by the EA.

Biomass/ Waste Impacts – Residue Management

Draft NPS EN-3 (paragraph 2.10.5) notes the environmental burdens associated with the management of combustion residues can be mitigated through recovery of secondary products, for example aggregate or fertiliser, rather than disposal to landfill. The Secretary of State should give substantial positive weight to development proposals that have a realistic prospect of recovering these materials. The primary management route for fly ash is hazardous waste landfill; however, there may be opportunities to reuse this material for example in the stabilisation of industrial waste. The management of hazardous waste will be considered by the EA through the Environmental Permitting regime.

Applicant's Comments

Residual Ash and Air Pollution Control Residues (APCr) would be processed on site to produce a marketable lightweight construction product as described in document reference 6.2.5, APP-043 (ES Chapter 5, paragraph 5.6.75), therefore the Secretary of State should give substantial positive weight to this general approach.