



APPLICANT'S RESPONSE TO ISSUES RAISED AT DEADLINE 4

Drax Bioenergy with Carbon Capture and Storage

Infrastructure Planning (Examination Procedure) Rules 2010

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1. INTRODUCTION

1.1. PURPOSE OF THIS DOCUMENT

1.1.1. On 23 May 2022, Drax Power Limited ("the Applicant") made an application ("the Application") for a Development Consent Order (DCO) to the Secretary of State for Business, Energy and Industrial Strategy ("the SoS"). The Application relates to the Drax Bioenergy with Carbon Capture and Storage (BECCS) Project ("the Proposed Scheme") which is described in detail in Chapter 2 (Site and Project Description) of the Environmental Statement (ES) (APP-038). The Application was accepted for Examination on 20 June 2022.

1.1.2. This document, submitted at Deadline 5 of the Examination, contains the Applicant's responses to the representations submitted by the various Interested Parties at Deadline 4.

1.1.3. In this document, the Applicant has focussed on responding to points that have not already been made by Interested Parties and responded to by the Applicant.

In particular, further to its Response to Relevant Representations and submissions at the Hearings, the Applicant has not provided a further response to points raised in relation to the continued operation of biomass at Drax Power Station or the sustainability credentials of these operations. The Applicant's response to these previous points can be found in its Response to Relevant Representations (PDA-002), its Summary of Oral Submissions at ISH1 and OFH1 (REP-028) and ISH2 (REP-029), its response to First Written Questions (REP2-060) and its Response to Issues Raised at Deadline 1 (REP2-067).

2. THE NORTH YORKSHIRE COUNCIL

Table 2.1 – The North Yorkshire Council

Response Ref. (location in original submission)	Comment	Applicant's Response
2.1	<p><u>Landscape Action Point from ISH3</u></p> <p>The Authorities were asked at the hearing to provide a submission as to what it would wish to see in the REAC in terms of the Design Framework principles. The Authorities would recommend that the REAC includes the following provision:</p> <p>That all Works or phasing plans are brought forward with detailed landscape schemes will include the principles set out in the Design Framework. These design principles must include:</p> <ul style="list-style-type: none"> • Siting; • Massing and Appearance; • Colour Palette; • Night-time appearance; • Lighting design; • Incorporation of the Natural England Guidance and Leeds City Region Green and Blue Infrastructure Strategy; • Opportunities to strengthen landscape framework surrounding Drax; • Combined Landscape and ecology benefits of green infrastructure; • Vegetation Retention; • Enhancement Opportunities; • Areas of hard and soft landscape within the Power Station Site; • To create and attractive and positive working environment for site users within the confines of the Power Station; • To provide a landscape structure capable of continuing development of ancillary industry; • Planting measures which seek to enhance any new or modified public realm; • Improving the biodiversity value of amenity planting within the Power Station Site; • The indicative soft landscape palette; • The indicative hard landscape palette. <p>The Authorities consider all of these principles set out in the Design Framework are a requirement of 'good design' that will help reduce and offset the local adverse landscape effects already identified in the EIA. The REAC as currently drafted states that the landscape mitigation and planting will occur in line with the Outline Landscape and Biodiversity Strategy (OLBS) which will be approved by the LPA following</p>	<p>The Applicant has reviewed the principles from the Design Framework that the North Yorkshire Council (NYC) consider must be included in the Register of Environmental Actions and Commitments (REAC) (REP3-007, Rev07 to be submitted at Deadline 5) and which will be secured by Requirement 6 (Detailed Design Approval) of the dDCO (REP4-022). This has been carried out alongside a review of the Outline Landscape and Biodiversity Strategy (OLBS) (AS-094, Rev03, to be submitted at Deadline 5). The Applicant has also reviewed the Design Framework by way of a comparison with those design principles identified by NYC, and updated the OLBS accordingly.</p> <p>The Applicant has reviewed these principles and responded against each one below.</p> <p><u>Siting, massing and appearance, and colour palette</u></p> <p>Aspects in relation to the siting, massing and appearance, and colour of the Scheme are already secured within Requirement 6 of the dDCO (which requires the approval of the detailed design of Work Nos. 1, 2 and 3). These details are required to accord with items in the REAC, including D1. The massing of the buildings and colour of specific elements are identified in item D1(5) of the REAC (REP3-007).</p> <p><u>Night-time appearance and Lighting</u></p> <p>Operational lighting design is included in the Draft Lighting Strategy (APP-184) as recorded in item D4 of the REAC (REP3-007, Rev07 to be submitted at Deadline 5). In terms of the need for lighting and its effect on the night-time appearance, lighting should only be provided within areas where safety or security is a concern, in addition, areas should not be over lit and be specified in line with the minimum requirements of the applicable lighting standards. Requirement 8 (External Lighting during operation) of the dDCO requires the submission (and approval by NYC) of a written scheme for the permanent external lighting considering the night-time appearance and lighting design, which is to be substantially in accordance with principles of the Draft Lighting Strategy. Measures to be adopted with respect to construction lighting design are included in Ref ID G7 of the REAC (REP3-007, Rev07 to be submitted at Deadline 5) and will be included in the CEMP</p>

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	<p>consultation with NYCC. The Authorities must reiterate as it did in the hearings that the OLBS as drafted is currently not sufficient for landscape provision and therefore this clause in the REAC needs to be expanded to include all works areas. At this point the OLBS would not satisfy the Authorities' requirements for the Design Framework to be picked up in all Works or phasing plans.</p>	<p>as a result of being secured through Requirement 14 (Construction environmental management plan) of the DCO. The CEMP (and the measures within it) is required to be approved by NYC.</p> <p><u>Green Infrastructure</u></p> <p>Natural England Green Infrastructure Principles¹ provide a baseline for different organisations to develop stronger green infrastructure policy and delivery. They cover Why, What and How to deliver good green infrastructure. The broad principles contained within the Natural England Green Infrastructure principles are broadly reflected in the priorities contained within the Leeds City Region Green and Blue Infrastructure Strategy. NYC has confirmed that they do not expect the Applicant to deliver improvements to green infrastructure outside of the Order limits (REP3-032). Therefore, the approach to be taken by the Applicant at the detailed design stage will reflect enhancement opportunities to provide a mix of different green infrastructure types, responding to the nature of the site as a large power station site. This is outlined within the Design Framework (APP-195) and the OLBS (AS-094, Rev03 to be submitted at Deadline 5) in paragraph 1.4.10, and secured through Requirement 6 (Detailed Design Approval) and Requirement 7 (Provision of landscape and biodiversity mitigation and enhancement) of the dDCO (REP2-007).</p> <p>In relation to Green Infrastructure the Design Framework (APP-095) outlines how the design of landscape proposals for planting within the Scheme and the surrounding area should be approached. The aim being to retain existing vegetation and strengthen and reinforce areas of planting with new woodland. Item D1 of the REAC requires that, where reasonably practicable, landscape elements should be included that reinforce the original intents of the Weddle Strategy for Drax Power Station, and the detailed design to be approved pursuant to Requirement 6 (Detailed design approval) of the dDCO requires compliance with D1 of the REAC.</p> <p>The Applicant recognises the benefits of green infrastructure for both landscape and ecology. Item D1 within the REAC (REP3-007, Rev07 to be submitted at Deadline 5) identifies opportunities for the biodiversity value of amenity planted areas, and incorporates several measures aimed at improving the biodiversity associated with what is or what would otherwise</p>

¹ <https://designatedsites.naturalengland.org.uk/GreenInfrastructure/Home.aspx>

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		<p>be considered as amenity planting. Measures for the improvements to the landscape within the existing Drax Power Station are outlined in Section 3.3, Outline Measures within each area, of the OLBS (AS-094), and secured through Requirement 7 (Provision of landscape and biodiversity mitigation and enhancement) of the DCO.</p> <p><u>Opportunities to strengthen landscape framework surrounding Drax</u></p> <p>NYC has previously confirmed in their D3 submission – Comments on any other responses received by Deadline 2 (REP3-032) that they do not wish to propose the delivery of any new landscape requirements beyond the Order Limits. The Applicant agrees that landscape mitigation beyond the Order limits is not required and should not be included as part of the Scheme. The REAC (REP3-007, Rev07 to be submitted at Deadline 5) does already include within items D1 and G8 references to the inclusion, where practicable, of landscape elements which reinforce the original intents of the original design. The approach to this is outlined within Section 3 of the OLBS (AS-094) and secured through Requirement 6 (where relevant) and Requirement 7 (Provision of landscape and biodiversity mitigation and enhancement) of the DCO.</p> <p><u>Vegetation Retention</u></p> <p>Vegetation retention is identified within the OLBS and illustrated on Figure 3 (Vegetation Retention) of the OLBS (APP-183). This will be secured through Requirement 7 (Provision of landscape and biodiversity mitigation and enhancement) of the DCO. Vegetation retention is included in section 3.3 of the OLBS, and the OLBS commitments are secured by Requirement 7. Specific measures in relation to the East Construction Laydown Area are included in section 3.3.12 of the OLBS (as recorded in LVIA1 of the REAC) and in item LVIA7 of the REAC with respect to construction (such measures to be included in the CEMP), and are therefore secured via Requirements 7 and 14 respectively of the DCO. The Applicant has specifically identified the area to the north of the main site (the Woodyard area) for vegetation retention subject to detailed design in Figure 3 (Retained Vegetation) of the OLBS (APP-183). At this stage, the detailed design is not fixed therefore no additional commitments to ensuring that vegetation is not removed can be provided. However, the Applicant has acknowledged at ISH3 the importance that existing vegetation can provide in ensuring that lower-level elements are screened and is committed to ensuring that vegetation is only removed</p>

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		<p>where it is absolutely necessary for the construction of the Scheme. This is identified in paragraph 3.3.8 of the OLBS and is secured through Requirement 7 of the Draft DCO.</p> <p><u>Enhancement Opportunities</u></p> <p>Enhancement opportunities will arise through the detail design phase, and the Applicant has committed to landscape and biodiversity enhancement measures, as outlined within Section 1 and Section 3 of the OLBS (AS-094) secured through Requirement 7 (Provision of landscape and biodiversity mitigation and enhancement) of the DCO. This includes providing landscape structure, and a shift from amenity planting to favour habitat creation and replacing aged or over-mature amenity planting.</p> <p><u>Areas of hard and soft landscape within the Power Station Site</u></p> <p>The provision of hard and soft landscape within the Power Station Site is outlined in Section 4.2 of the Design Framework (APP-095) and these measures are included within Section 3 of the OLBS (AS-094); this approach is identified within item D1(1) and G8 of the REAC (REP3-007, Rev07 to be submitted at Deadline 5), and secured through Requirements 6 and 7 of the DCO, design aspects of which are to be submitted and approved by the relevant planning authority.</p> <p><i>“Design principles, described within Section 4 of the Design Framework (APP-195) for soft and hard landscaping within the Drax Power Station Site, that will be followed in the detailed design, are set out below:</i></p> <p style="padding-left: 40px;"><i>(1) The inclusion, where reasonably practicable, of landscape elements which reinforce the original intents of the Weddle Strategy for the Drax Power Station Site, notably: a) To create an attractive and positive working environment for site users within the confines of the Power Station;”</i></p> <p><u>To create an attractive and positive working environment for site users within the confines of the Power Station; and To provide a landscape structure capable of continuing development of ancillary industry</u></p> <p>Item D1(1)(a) of the REAC (REP3-007, Rev07 to be submitted at Deadline 5) specifically states that the Scheme will seek “to create an attractive and positive working environment for the site users within the confines of the Power Station”. It also states that the Scheme will seek to provide a</p>

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		<p>landscape structure capable of incorporating continuing development of ancillary industry (D1(1)(b)). These commitments are also described within the OLBS (AS-094) in paragraph 3.3.8:</p> <p><i>“the detailed design will seek to reinstate those landscape elements that are temporarily lost, or to incorporate new amenity planting measures in-keeping with the original Weddle strategy aspirations for Drax Power Station. These design measures will be progressed in accordance with design principles described within Chapter 9 (Landscape and Visual Amenity) of Volume 1 of the ES and referenced within the Design Framework (document reference 6.9) and will be agreed in consultation with the Planning Authority. All new planting measures would be included as part of the LBS as it is progressed.”</i></p> <p>The detailed design will be undertaken in line with the Landscape and Biodiversity Strategy and secured through Requirement 7 (Provision of landscape and biodiversity mitigation and enhancement) of the DCO.</p> <p><u>Planting measures which seek to enhance any new or modified public realm: and Improving the biodiversity value of amenity planting within the Power Station Site.</u></p> <p>Item D1(2) & (3) of the REAC (REP3-007, Rev07 to be submitted at Deadline 5) commits the Applicant to deliver a planting scheme which seeks to enhance any new or modified public realm and improves the biodiversity value of amenity planting within the Site. This is also referred to in the OLBS (AS-094) in paragraph 3.3.8, proposing amenity planting in-keeping with the original Weddle strategy, and which is secured through Requirement 7 of the dDCO. Within the OLBS (AS-094, Rev03 submitted at Deadline 5), in sections 1.4.11 and 1.4.12, is confirmation that the landscape design within Drax Power Station and specifically planting measures will provide:</p> <p><i>“Clear definition of pedestrian/vehicular circulation; sub-division of larger spaces (such as new parking area provision);</i></p> <p><i>Introducing a “human scale” as a benefit of planting measures; reducing the sense of imposition from adjacent large-scale infrastructure; and</i></p> <p><i>Landscape measures where practicable to screen and soften the effects of installed artificial light sources”</i></p> <p>In relation to improving the biodiversity value of amenity planting:</p> <p><i>“Increasing species-rich grassland areas, with reduced amenity grassed areas (subject to function);</i></p> <p><i>Incorporating species-rich amenity hedges where introduced; and</i></p>

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		<p><i>Reducing the use of ornamental shrub species in favour of species selection for biodiversity and habitat creation, while maintaining an amenity function.</i></p> <p>These commitments are outlined in relation to specific Work areas within the updated OLBS, submitted at Deadline 5, and secured through Requirement 7 (Provision of landscape and biodiversity mitigation and enhancement) of the dDCO.</p> <p><u>The indicative soft landscape palette</u></p> <p>The principles in relation to the soft landscape palette set out in the Design Framework are secured as set out below. The Applicant has, within paragraph 3.3.8 of the OLBS (AS-094), stated:</p> <p><i>“design measures will be progressed in accordance with design principles described within Chapter 9 (Landscape and Visual Amenity) of Volume 1 of the ES and referenced within the Design Framework (document reference 6.9) and will be agreed in consultation with the Planning Authority. All new planting measures would be included as part of the LBS as it is progressed.”</i></p> <p>The Applicant has set out an indicative soft landscape palette within the OLBS including how it relates to specific Work areas which is secured through Requirement 7 of the DCO.</p> <p><u>The indicative hard landscape palette</u></p> <p>The Applicant has included a requirement with respect to the indicative hard landscape palette for Work Nos. 1, 2 and 3 within item G8 of the REAC (REP3-007, Rev07 to be submitted at Deadline 5), and in paragraph 3.3.12 of the OLBS, to be secured through the LBS submitted pursuant to Requirement 7. The details of which will be submitted as part of the detailed LBS, secured through Requirement 7 of the DCO.</p>
2.2	<p><u>OLBS</u></p> <p>The Authorities submitted at the hearing that the Outline Landscape and Biodiversity Strategy is focused on habitat reinstatement measures, Biodiversity Net Gain and the associated Habitat Provision Area, rather than actively demonstrating landscape mitigation and principles of good landscape design. Whilst is appreciated that the OLBS does make provision for reinstatement of vegetation temporarily lost due to the works, the OLBS does not sufficiently consider the landscape principles identified in the Design Framework across the wider Works area.</p>	<p>The OLBS (AS-094) sets out the landscape and ecological strategy for the whole of the Works area, including the Power Station site, the enabling works and laydown areas and the habitat provision area. Reference is made within the updated OLBS submitted at Deadline 5 to specific design principles within the Design Framework (APP-195), in relation to specific Work areas.. Details for the design of the Habitat Provision Area can be provided at this stage and have been set out within Figure 1 of the OLBS, as this will not be impacted by further design work or construction associated activity.</p>

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	<p>The Authorities understand that the Applicant has taken an action to review the OLBS in-line with phasing plans and more accurately reference each phase with the current OLBS.</p> <p>The Authorities will require the OLBS to more actively consider provision of the Landscape Framework across the whole of the Works area as part of this revision.</p>	<p>At the time of detailed design, the Landscape and Biodiversity Strategy will incorporate design principles in relation to specific Work areas, as described within the OLBS updated and submitted at Deadline 5. The strategies are to be prepared and submitted, as required by Requirement 7, to incorporate the aspects of the landscape and biodiversity within the Order Limits as identified with G8 of the REAC (REP3-007, Rev07 to be submitted at Deadline 5).</p>
2.3	<p><u>Long-term Maintenance and Management of Landscape</u></p> <p>The OLBS focuses on establishment and management of the 'Habitat Provision Areas' and reinstatement of the temporary laydown areas with objectives for ecological mitigation secured for 30 years, rather than landscape management objectives secured for the life of the development (see Table 5.1 of the OLBS).</p> <p>The Authorities are concerned about the potential for ongoing erosion and loss of the existing and proposed landscape framework, as evident within parts of the Power Station Site through incremental development on the site.</p> <p>The Authorities will require a Long-term Maintenance and Management Plan of all existing and proposed landscape within all the Works areas, to be secured for the life of the scheme.</p>	<p>As identified within paragraph 2.5.1 of Chapter 2 (Site and Project Description) (APP-038) of the ES, the lifespan of the project is anticipated to be approximately 25 years. The OLBS covers a period of 30 years and therefore extends beyond the anticipated lifespan in relation to landscape and biodiversity management.</p> <p>The Applicant has, within the OLBS provided for the preparation of an annual maintenance and management plan (in Ref ID G8 of the REAC) for the life of the project, which is secured through Requirement 7 of the DCO.</p>
2.4	<p><u>Removal of existing vegetation</u></p> <p>The Authorities raised concern that the DCO as drafted allows for the removal of vegetation to facilitate the works and it is not clear at this stage how this will be controlled, limited and replaced.</p> <p>An example of this DCO provision is Part 6 Clause 32 - Felling or lopping of trees and removal of hedgerows:</p> <p>32. – (1) The undertaker may fell or lop any tree or shrub near any part of the authorised development or cut back its roots, if it reasonably believes it to be necessary to do so to prevent the tree or shrub from-</p> <p>(a) obstructing or interfering with the construction, maintenance or operation of the authorised development or any apparatus used in connection with the authorised development;</p> <p>(b) constituting a danger to persons using the authorised development; or</p> <p>(c) obstructing or interfering with the passage of construction vehicles to the extent necessary for the purposes of construction of the authorised development.</p> <p>The presumption for removal is also set out through the description of the Works at Schedule 1 of the DCO.</p> <p>An example of this is Works No. 3 (m) in Schedule 1 of the DCO:</p>	<p>Article 32 of the dDCO is a standard article, included in many made Orders. It is required as the Applicant must have the capacity to remove vegetation where it is necessary to construct and safely operate the Proposed Scheme. At this stage and in the absence of a detailed design the extent to which vegetation removal is known is limited. However, the Applicant will be required to submit landscape and biodiversity strategies for each phase of the scheme (covering Work Nos. 1, 2, 3, 4 and 7) and Work Numbers 5, 6 and 8, and pursuant to Requirement 7(2)(a), those strategies will identify any hedgerows to be removed, including if and how they are to be replaced. Where enough existing detail is available, this has been completed – see OLBS section 3.3.15 and Table 5.1 (AS-094, Rev03 to be submitted at Deadline 5). The Applicant proposes an alteration to the wording in the OLBS, such that the details LBSs submitted for approval will identify all vegetation where it is to be removed and how this is to be replaced. Trees and their roots that are within or enter the construction areas will be identified through a tree survey and method statement in accordance with British Standard (BS) 5837:2012 trees in relation to design, demolition and construction, and subsequently protected in accordance with BS5837:2012 Trees in relation to design, demolition and construction, and the National Joint Utilities Group (NJUG) Guidelines for the Planning, Installation and</p>

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	<p>Work No. 3— supporting works in connection with and in addition to Work Nos. 1, 2 and 5 including — (m) tree and hedge removal;</p> <p>The Authorities are concerned that whilst the provision of flexibility is required it is not clear at this point how decisions for vegetation removal will be made and justified, recorded and feed through to the detailed design for replacement.</p>	<p>Maintenance of Utility Apparatus in Proximity to Trees (see item G5 of the REAC, to be included in the CEMP). In this way, NYC will have an opportunity to comment on any proposals to remove vegetation with information pertaining to the existing vegetation to be retained or removed.</p> <p>The Applicant is committed to landscape and biodiversity enhancement measures as identified within the OLBS in relation to Work Number 6 and secured through Requirement 7 of the dDCO, and identified within item D1(4) of the REAC (REP3-007, Rev07 to be submitted at Deadline 5) in relation to Work Numbers 1 and 2 and secured through Requirement 6 of the dDCO. This includes providing landscape structure, and a shift from amenity planting to favour habitat creation and replacing aged or over-mature amenity planting within Work Number 1. The Applicant is also committed to vegetation retention as identified within the OLBS and illustrated on Figure 3 (Vegetation Retention) (APP-183). The Applicant has specifically identified the area to the north of the main site (the Woodyard area, Work Number 2) for vegetation retention subject to detailed design, an area that NYC raised at ISH3. At this stage, the detailed design is not fixed therefore no additional commitments to ensuring that vegetation is not removed can be provided. However, the Applicant has acknowledged at the ISH of the importance that existing vegetation can provide in ensuring that lower-level elements are screened and is committed to ensuring that vegetation is only removed where it is absolutely necessary for the construction of the Scheme.</p> <p>The Applicant does not agree that the wording in the dDCO suggests that there is a presumption towards the removal of vegetation. Powers are included in a development consent order to ensure the undertaker has the necessary powers to deliver a national significant infrastructure project without undue delay. This does not necessarily mean there is a presumption that all powers will be needed. The exercise of the power in Article 32 is subject to meeting one of the criteria in sub-paragraph (1)(a)-(c), as well as the restriction in sub-paragraph (2) (no unnecessary damage). This wording is provided to ensure that the Proposed Scheme can be constructed and operated in a safe manner. The proposed amendment to the OLBS, set out above, would ensure NYC is clear about how the justification for the approach to vegetation removal and replacement.</p>
2.5	<p><u>Protection of Existing Trees Vegetation</u></p> <p>The Authorities are concerned that the plans and details in the OLBS and CEMP only secures and identifies vegetation to be retained (OLBS – Figure 3 Retained Vegetation). It does not provide a full</p>	<p>Vegetation retention is identified within the OLBS (AS-094, Rev03 to be submitted at Deadline 5) and illustrated on OLBS Figure 3 (Vegetation Retention) (APP-183). The Applicant has specifically identified the area to</p>

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	<p>picture of the vegetation that is there now and what will be removed. There should be an accurate survey of all existing vegetation, details of protection measures and replacement proposals for all Works areas.</p> <p>The Authorities would wish to see a requirement for a Tree Survey, Arboricultural Impact Assessment and Arboricultural Method Statement to BS 5837:2012 (Trees in relation to design, demolition and construction – Recommendations), for all Works areas; to include an accurate scale plan showing the position of every tree, hedgerow and areas of existing landscape and / or areas of proposed new planting, to be protected from construction operations and the method of protection, a detailed landscape scheme for the replacement of all existing and trees and vegetation to be removed.</p>	<p>the north of the main site (the Woodyard area) for vegetation retention subject to detailed design. At this stage, the detailed design is not fixed therefore no additional commitments to ensuring that vegetation is not retained or removed can be provided. However, the Applicant acknowledged at Issue Specific Hearing 3 (ISH3) (Environmental matters) the importance that existing vegetation can provide in ensuring that lower-level elements are screened and is committed to ensuring that vegetation is only removed where it is absolutely necessary for the construction of the Proposed Scheme.</p> <p>In order to prepare the detailed designs, an accurate survey of the existing vegetation in line with the requirements stated by the LPA will be required and will be used to inform any necessary vegetation removal or retention in line with the wording contained within the DCO. This is identified within the OLBS (paragraph 3.2.6) and this approach is secured through reference to the OLBS within Requirement 7 of the DCO. This will be submitted as part of the Construction Environmental Management Plan, to contain the information outlined in item G5 of the REAC, secured through Requirement 14 Construction environmental management plan) within the DCO, along with the proposals to retain and/or enhance existing vegetation for Works Numbers 1 to 8, in accordance with item G8(1) of the REAC and secured through Requirement 7 (Provision of landscape and biodiversity mitigation and enhancement) of the DCO.</p>
2.6	<p><u>Landscape Mitigation Plan</u></p> <p>The Outline Landscape and Biodiversity Mitigation plan (fig 1 in the OLBS) needs to include the whole of the Works area and not focus on the Habitat Provision Area. It is a concern to the Authorities that these plans imply that landscape mitigation and design will apply only to the habitat areas.</p>	<p>The OLBS (AS-094, updated at Deadline 5) sets out the landscape and ecological strategy for the whole of the Works area, including the Power Station site (Work nos. 1 and 2), the enabling works (Work nos. 3 and 4) and laydown areas (Work no. 5) and the habitat provision area (Work no. 6) – see OLBS Tables 2.1, 2.2, 5.1 and 5.2 for references to specific Work Numbers. Reference is made within the OLBS to the Design Framework (APP-195) in relation to the design principles to be adopted for the Scheme as a whole and specific Work Numbers. At this stage of the development, the detailed design is not sufficiently progressed for the main site (Work Numbers 1 and 2) to enable more detailed recommendations to be made beyond the design principles provided within the Design Framework, referenced within the OLBS. However, details for the design of the habitat provision area can be provided at this stage and have been set out within Figure 1 (Landscape and Biodiversity Mitigation Plan) of the OLBS (APP-181), as this will not be impacted by further design work or construction associated activity.</p>

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		<p>Requirement 6 of the dDCO (REP2-007) requires accordance with item D1 of the REAC (REP3-007, Rev07 to be submitted at Deadline 5) which includes design principles to be adopted for Works Numbers 1, 2 and 3, and as described within Section 4 of the Design Framework (APP-195). These have been reviewed in light of the comments received at D4 from the Authorities in response to item 2.1 above.</p> <p>Requirement 7 of the dDCO requires a strategy to be provided for each phase of the scheme (work nos. 1, 2, 3, 4 and 7) as well as Work Nos. 5, 6 and 8, which is substantially in accordance with the outline landscape and biodiversity strategy. The requirement for a landscape and biodiversity strategy is not specific to numbered work 6.</p>
2.7	<p><u>Residual Operational Noise Impacts & Contextual Considerations</u></p> <p>Following the Hearing, the Authorities' Environmental Health Officer has met with the Applicant's noise consultant. This was positive in terms of understanding how acoustic design formed the basis of the indicative layout. The Council's Environmental Health Officer intends to study the indicative layout, revisit the statistical analysis of background noise levels at LT4, and revisit operational noise assumptions with regard to on-time and mitigation, all of which should provide a better appreciation of good acoustic design in the case for context. It has not been possible to do this and provide further comments for Deadline 4, but continued discussions will progress with the Applicant on this matter.</p>	<p>The Applicant met the Environmental Health Officer (EHO) at North Yorkshire Council on 23 March 2023 to explain the basis of the good acoustic design. The Applicant showed Figure 2.2 (Indicative Plant Equipment Layout) (APP-060) to indicate the location of the equipment included in the noise model and to describe the noise mitigation allowed for in the ES Chapter 7 (Noise and Vibration) (APP-043). The Applicant also referred to Appendix 7.2 (Operational Noise Assumptions) (APP-131) showing the unmitigated and mitigated noise levels for each of the post-combustion technology components included in the assessment. The Applicant also explained the process by which, during the development of the ES, collaboration was made with the Pre-FEED consultant to ensure that the assumed noise attenuation for the various components was realistic.</p> <p>A further call was held with the Environmental Health Officer at North Yorkshire Council on 5 April 2023 to provide further detail. The Officer confirmed that they were reviewing the submitted documents and would provide a formal response to these at Deadline 5.</p>
2.8	<p><u>Construction Compounds & Permitted Preliminary Works</u></p> <p>The Authorities suggested that construction compounds could constitute 'permitted preliminary works' and therefore the siting of such are not subject to scrutiny. The Applicant provided reassurance that the local planning authority would have input into the siting of construction compounds.</p> <p>Following the Hearing, the Authorities' Environmental Health Officer has met with the Applicant's noise consultant which was positive in terms of explaining that "permitted preliminary works" in the context of the DCO means the provision of temporary means of enclosure and site security for construction I. We are currently in discussions with the Applicant and seeking confirmation that the two are not inherently linked and that the local planning authority will have input into the siting of construction compounds.</p>	<p>In relation to "permitted preliminary works" these are detailed in Article 2 of the dDCO (REP4-022) which confirms that permitted preliminary works include (paragraph e) the provision of temporary means of enclosure and site security for construction. As confirmed at ISH3 and as set out in the Applicant's Summary of Oral Case at Issue Specific Hearing 3 (ISH3) (REP4-026), construction laydown areas are captured by Requirement 14 of the dDCO and therefore cannot be created without a CEMP being in place.</p> <p>Temporary means of enclosure would not be caught by the CEMP, hence being excluded from Requirement 14 of the dDCO, but if construction laydown areas require acoustic fencing, this will be covered by the CEMP.</p>

Response Ref. (location in original submission)	Comment	Applicant's Response
		<p>The Applicant had a further call with North Yorkshire Council's EHO on 5 April 2023 to confirm this and also that the only works that could be permitted to take place without a CEMP in place would not be considered 'noisy'. The EHO confirmed they are satisfied with this approach.</p> <p>During the call with North Yorkshire Council's EHO on 5 April 2023 where construction compounds were discussed the Applicant also confirmed that the construction laydown areas are shown on Figure 2.3 (APP-061) of the ES and those areas are reflected in the areas within which Work Number 5 (temporary construction laydown) would be located on the Works Plans (which is a certified document) (AS-073) (this is secured in particular by Article 3(2) which requires that each numbered work must be situated within the corresponding numbered area shown on the Works Plans). Links to the relevant figures were provided to NYC following the meeting. It was explained that the location of these construction compounds would be either within the existing Drax Power Station Site or adjacent to it in the case of the East Construction Laydown. The exceptions to this are the construction compounds that would be used in relation to Work No. 8 which are small and would be in place for a short duration. It is the understanding of the Applicant that the EHO is satisfied with the location of the construction compounds, subject to double checking distances to sensitive receptors. It is the Applicant's view that works undertaken at the construction compounds shown in Figure 2.3 (Construction Laydown Plan) (APP-061) and on the Works Plans would not cause a significant effect at the nearest sensitive receptors.</p>

3. NATURAL ENGLAND

Table 3.1 – Natural England

Response Ref. (location in original submission)	Comment					Applicant's Response
3.1	Topic	Issue summary I – construction phase (O) – operational	Commentary and advice on the further information provided	Comment on the mechanism for securing mitigation/compensation measures in the DCO	Risk	<p>The Applicant welcomes the additional advice from Natural England. The Applicant has discussed this matter with Natural England at a meeting on the 3 April and has agreed to provide additional assessment in relation to Barn Hill Meadows SSSI, as per the Natural England request.</p> <p>The Applicant is seeking to complete fieldwork at Barn Hill Meadows to support this assessment, subject to agreement of land access. The Applicant intends to submit this additional information into the Examination at Deadline 6, subject to land access and completion of the additional assessment work.</p>
	Nationally designated sites	Impacts of acid deposition from aerial emissions on Barn Hill Meadows SSSI (in-combination) (O)	<p>Natural England note that, with the additional mitigation proposed, acid deposition at Barn Hill Meadows SSSI is now 0.9% of the critical load from the project alone. In-combination, with the additional mitigation, acid deposition at the site is modelled to be 1.5% of the critical load and the PEC exceeds 100% of the critical load.</p> <p>It appears that the Applicant has not provided further assessment of whether these exceedances in the PC/PEC in combination for Barn Hill Meadows SSSI are acceptable. Natural England therefore advise that further assessment of the results should be completed. We advise that similar evidence / arguments presented for the Lower Derwent Valley SAC regarding acid deposition may be acceptable for informing the assessment.</p>	<p>As indicated in the comments under Key Issue 19, the monitoring, recording and reporting to the regulator (Environment Agency) is considered appropriate to ensure emissions from the plant itself remain within the assumed emissions used in the assessments.</p> <p>Although monitoring at the protected sites is recommended, for the reasons listed, it is not a required measure to be included in the DCO.</p>	Amber	
3.2	Topic	Issue summary I – construction phase	Commentary and advice on the further information provided	Comment on the mechanism for securing mitigation/compensation measures in the DCO	Risk	<p>The Applicant has discussed this matter with Natural England at a meeting on the 3 April 2023. The Applicant has agreed that a description of how 10% BNG will be secured across the entirety of the Proposed Scheme, will be included in updates to the BNG Report (REP3-010). Following the discussions with Natural England on the 3 April 2023, the Applicant</p>

Response Ref. (location in original submission)	Comment					Applicant's Response
		(O) operational	-			<p>anticipates that provision of this information should address the remaining Natural England concerns over mechanisms for securing 10% BNG.</p> <p>It is anticipated that an updated BNG Report will be submitted into the Examination at Deadline 6. This will allow amendments to Work Number 8 to be captured as part of the proposed Change Application.</p> <p>The delivery of BNG and the commitment to 30 year delivery is contained in the section 106 Agreement (AS-016). Combined with the securing of the OLBS via Requirement 7 of the dDCO (REP4-022), the Applicant continues to consider that 10% BNG is adequately secured for biodiversity units (area-based habitats), linear units (hedgerows), and rivers and streams.</p> <p>The Applicant would also direct the ExA to Row EN1.4 of Table 1.1 in Applicant's Comments on Responses to The Examining Authority's First Written Questions (REP3-021), and the Applicant's comments on the responses from Natural England.</p>
	Biodiversity net gain	Additional information should be provided in order to demonstrate that a 10% biodiversity net gain will be achieved		Natural England welcomes the updates made to the Biodiversity Net Gain (BNG) Report (REP3-010). It is noted that this report confirms that the project can achieve a minimum 10% biodiversity net gain for all habitat types identified on-site. However, Natural England advises that further clarity should be provided on how on-site habitat management and monitoring for 30 years, in order to ensure habitats reach the target condition specified, will be secured. The BNG report states "Habitat creation and enhancement measures included within BM3.1 are set out in further detail in the updated Outline Landscape and Biodiversity Strategy (OLBS) (AS-094)." However, it is noted that the submitted OLBS has not been updated since December 2022. Therefore, we advise that the OLBS and associated mitigation plans (APP-181 and APP-182) should be updated to reflect the updated Biodiversity Net Gain Report. Natural England also welcomes the principles outlined in G8 of the REAC (version 6) in regard to the OLBS, including subjecting all habitat creation and enhancement work to a 30-year management and monitoring regime. However, we note that this is not reflected in Requirement 7 regarding all	Natural England note that the long-term maintenance and monitoring of all on-site habitat is reliant on the submission of a Landscape and Biodiversity Strategy which is 'substantially in accordance with' the OLBS, as detailed by Requirement 7 of the DCO. However, although the REAC specifies the principles which apply to the OLBS, Requirement 7 only compels work no.6 (The habitat provision area) to be in accordance with the REAC. Therefore, further clarity regarding how the future management and monitoring of all on-site habitats created or enhanced post-development (including those delivered as part of numbered works 5, 7 and 8) are to be secured is required. Natural England suggest that an amendment to	Amber

Response Ref. (location in original submission)	Comment				Applicant's Response	
			<p>habitats to be created or enhanced on-site. Natural England note that the Heads of Terms for Section 106 Agreement (AS-016) includes a commitment that the Proposed Scheme will deliver a 10% biodiversity net gain overall and that any off-site habitat "must be maintained and managed for a period of at least 30 years." Therefore, provided the detailed future management, monitoring and remedial measures are submitted in the landscape and biodiversity strategy, Natural England are satisfied that the management of the Off-site Habitat Provision Area is sufficiently secure. Natural England also note that the BNG report states "post-development data obtained through analysis of detailed design information of the Proposed Scheme would be used to update the BM (the most recent BM version at that time) to present a more accurate understanding of the habitat change." We advise that, given the projects advanced stage in the consenting process, it is not a requirement to update the calculations to the latest metric and that subsequent phases of the project should utilise the same version of the metric (3.1) to ensure consistency and comparability between outputs.</p>	<p>Requirement 7 to reflect this could address this outstanding concern.</p>		

4. ROBERT PALGRAVE

Table 4.1 – Robert Palgrave

Response Ref. (location in original submission)	Comment	Applicant's Response
4.1 (Doc 8.8, Point 1)	<p>Financial Viability</p> <p>At pages 9-11 of the National Policy Statement Compliance Tracker (REP3-018), the Applicant addresses the requirement in adopted EN-1 to make an assessment of the Financial Viability and Technical Viability of the proposal.</p> <p>On 21 March 2023, The Applicant published a press release which included a quote from the Drax CEO, Will Gardiner, who said Drax needs a firm commitment to BECCS from the Government before committing to investing £2bn into installing this technology at Drax Power Station, and that, until the Government provides this clarity, Drax is pausing its multi-million pound investment programme.</p> <p>The implication in the press release is that the Proposed Scheme cannot proceed for financial reasons unless public money is committed. This is at odds with the previously declared position – that the Applicant can fund the development and compulsory purchase and that the Applicant “has taken commercial and financial matters into consideration and decided to proceed with the Proposed Scheme”.</p>	<p>The position set out in the National Policy Statement Compliance Tracker (REP3-018), that the Applicant has taken commercial and financial matters into consideration and is proceeding with the Proposed Scheme, remains unaltered.</p> <p>The press release referred to was a request for clarity over the mechanism and timetable by which the Power BECCS contract would be enacted and installed by the Government to enable investor and Drax confidence that it is right to invest its own money in BECCS. It did not seek to imply that the Proposed Scheme ‘cannot proceed for financial reasons unless public money is committed’, and this is in fact not the case as the project is intended to be delivered using private investment secured by Drax. This position is set out in Section 5 (<i>‘Project Funding’</i>) of the Funding Statement (AS-082).</p> <p>The Applicant’s commitment to the Proposed Scheme is clear and unaltered, as confirmed in the Project Updates Arising from Government Publications on Energy Matters in March 2023 report submitted at Deadline 5 (document reference 8.14).</p>
4.2 (Doc 8.8, Point 2, Part 1)	<p>Economic Viability</p> <p>In National Policy Statement Compliance Tracker (REP3-018), the Applicant does not comment on paragraphs 3.6.4 and 3.6.5 from EN-1, regarding Carbon Capture and Storage.</p> <p>Here EN-1 states that at the time, little was known about the impacts of CCS on the economics of power station operation, and consequently there was uncertainty about the future deployment of CCS in the UK. It is made clear that to resolve this uncertainty, commercial scale demonstrations had to be undertaken. In 3.6.5, the scope of the demonstration projects required was defined to include: “the full chain of CCS involving the capture, transport and storage of carbon dioxide”.</p> <p>The CCS demonstration projects undertaken to date in the UK have not demonstrated successful operation of the full chain of CCS and have not provided evidence to resolve uncertainties about the economics of CCS at commercial scale. The economic position is still unclear in 2023 – something the Applicant has acknowledged by signalling its intention to ‘pause’ the development.</p>	<p>The potential for Carbon Capture and Storage to reduce carbon emissions is specifically confirmed at Paragraph 3.6.4 of the NPS EN-1:</p> <p><i>‘As explained in paragraph 2.2.23 above, to meet emissions targets, dependency on unabated fossil fuel generating stations must be reduced. To help achieve this reduction but maintain security of supply, it is necessary to reduce carbon emissions particularly from coal-fired generating stations. Carbon Capture and Storage (CCS). Carbon Capture and Storage (CCS) has the potential to reduce carbon emissions by up to 90%, although the process of capturing, transporting and storing carbon dioxide also means that more fuel is used in producing a given amount of electricity than would be the case without CCS.’</i></p> <p>The recently published draft National Policy Statement goes further, confirming at Paragraph 3.5.2 that the Committee on Climate Change Committee states: ‘CCS is a necessity not an option’.</p> <p>The Overarching National Policy Statement for Energy (NPS EN-1) specifically accepts that the CCS chain has three links – capture of carbon; transport; and storage – but does not contain a requirement that CCS</p>

Response Ref. (location in original submission)	Comment	Applicant's Response
		<p>schemes should only be approved where the entire chain has been consented.</p> <p>Indeed the recently published revised National Policy Statement, notes at paragraph 4.8.20 that <i>"The chain of CCS has three links: capture of carbon, transport, and storage. Due to the approach of deploying CCS in clusters in the UK with shared transport and storage infrastructure, it is likely that development consent applications for power CCS projects may not include an application for consent for the full CCS chain (including the onward transportation and storage of CO2)."</i></p> <p>As discussed at the Hearings, the Government is considering the CCS chain in full in developing its commercial and regulatory models for CCS over the coming years. It is also noted that in EIA terms, there are no cumulative impacts of the Proposed Scheme and the storage facility, given the distance involved and the very different receptors involved. Furthermore, the Applicant has considered the cumulative impacts with the proposed transportation elements. This is consistent with the approach advocated by paragraph 4.8.21 of the latest published revised NPS.</p> <p>The successful delivery of a working CCS plant is a desirable objective in its own right, consistent with the aim of the NPS.</p> <p>As set out at 4.1, above, the Applicant's commitment to the Proposed Scheme remains unaltered.</p>
<p>4.3 (Doc 8.8, Point 2, Part 2)</p>	<p>The Applicant has declined to make any reference to EN-1 paragraphs 4.7.10 to 4.7.14 in National Policy Statement Compliance Tracker (REP3-018).</p> <p>Para 4.7.13 requires applicants to provide evidence of reasonable scenarios, "taking into account the cost of the capture technology and transport option chosen for the technical CCR assessments and the estimated costs of CO₂ storage, which make operational CCS economically feasible for the proposed development."</p> <p>The Applicant has not presented any information on the costs of the transport option nor has it put forward any estimation of the costs of CO₂ storage.</p>	<p>Part 4.7 of the NPS EN-1, which includes paragraphs 4.7.10 – 4.7.14, relates to economic assessments for making proposed new combustion stations 'carbon capture ready', for later adaptation to include carbon capture. This reflected the position in 2011, where carbon capture was a nascent technology and the Government did not want to prevent new energy generation facilities coming on board whilst that technology developed.</p> <p>As such these paragraphs, including 4.7.13, are not relevant to the determination of the Proposed Scheme which comprises specifically the installation of Carbon Capture and Storage technology, rather than options for how CCS could be brought forward at a later stage.</p>
<p>4.4 (Doc 8.10.2)</p>	<p>In Table 3.1, the Applicant confirms that the proposed emissions from PCC at Drax would be significantly lower than those given in the Environmental Statement for the proposed CCS development at Keadby. It is unfortunate then that the Applicant then effectively dismisses the possibility that there is something worth investigating, simply stating that they "understand that the technology used at Keadby is different".</p>	<p>Chapter 6 (Air Quality) of the ES (APP-042) sets out that additional model sensitivity has been carried out based on published data in the public domain; and in line with methodology and work undertaken on this topic by the Environment Agency (EA).</p>

Response Ref. (location in original submission)	Comment	Applicant's Response
	<p>The modelling used by the Applicant to predict the emissions of amines and nitrosamines are acknowledged to be uncertain, especially since a novel mixture of amines is being used in a novel system burning biomass untested at this scale. The Applicant claims that the proposed emissions for Drax are "robust". The comparison with Keadby suggests they may not however be accurate, and, given the possible human health implications, it is surely incumbent on the Applicant to research this further and make a report.</p>	<p>Drax are working closely with the EA to provide required information to gain the Environmental Permit and will be monitored against that permit, including in relation to amines. This includes consideration of the different operating profiles of Drax as an existing power station with an existing permit, as against Keadby 3, which is a proposed new build facility.</p> <p>This is ultimately a matter for the Environment Agency to consider in determining the permit. Please refer to previous Response Reference 16.1 of the Applicant's Relevant Representations Response Document (PDA-002) and previous answers (5.3 and 5.4) in relation to uncertainty around impacts of nitrosamines.</p>

5. CLIMATE EMERGENCY POLICY AND PLANNING (CEPP)

Table 5.1 – Climate Emergency Policy and Planning (CEPP)

Response Ref. (location in original submission)	Comment	Applicant's Response
5.1 (Page 1)	<p>The key principle area of difference between Climate Emergency Planning and Policy (CEPP), and the Applicant, is the zero rating of the biomass combustion GHG emissions from the scheme in the Environmental Impact Assessment.</p> <p>The IPCC guidance cannot be applied under the Planning Act 2008 regime. It is not within the required statutory framework, and is not in any case a statutory document for any jurisdiction.</p> <p>Under the IPCC guidance, CO₂ from biomass combustion is treated as part of the AFOLU1 carbon stock for a country, for national greenhouse gas inventory purposes. That does not mean that there is not a real quantity of GHG emissions that is generated into the atmosphere when biomass is combusted. Carbon payback issues mean that these emissions not sequestered “instantly” (as the Applicant’s approach suggests) but over centuries timescales by forest regrowth.</p> <p>For Environmental Impact Assessment, biomass combustion emissions are a direct effect generated by the development itself. Under the 2017 regulations, as a direct effect, they should be calculated and assessed as part of the GHG assessment. The relevance of the Finch case on the scope of EIA assessment is stronger given this is a direct effect (not an upstream or downstream effect).</p> <p>I provide such a calculation finding that the power plant with the proposed scheme will emit an additional 331,983,143 tCO₂e over 25 years (at 90% CCS rate). As the power plant is only financially viable with the proposed scheme much of these emissions would not occur without the scheme being implemented. These emissions are approximately 1/1000th of the entire remaining global carbon from 2020 for a 50% likelihood of limiting global heating to 1.5°C, the Paris temperature target.</p> <p>The Secretary of State must consider the Information in this submission, including these additional emissions from the scheme, as part of his/her process in reaching a reasoned conclusion on the significant effects of the development on the environment under the 2017 regulations.</p> <p>I have provided new material to the examination on the emissions in a science-based presentation.</p> <p>This must form part of the material before the Secretary of State in any reasoned decision making on the proposed scheme.</p>	<p>The Applicant’s position remains that combustion of biomass is rated as zero for CO₂ at the point of combustion. This is not only the case within the IPCC guidance, but also within an array of applicable legislation including the UK Renewables Obligation Order 2015 (as amended), UK Emissions Trading Scheme (UK ETS) and the UK Environmental Reporting Guidelines, as previously reported within Table 11.1, Response Ref 11.2 of The Applicant’s Responses to Issues Raised at Deadline 2 (REP3-020), and as explained in Appendix 1 of its Summary of Case at ISH1 (REP-028). It is also the approach recognised by the Government, the CCC, and IPCC in supporting BECCS as part of the Government’s strategy for Greenhouse Gas removal, and ultimately the delivery of Net Zero.</p> <p>This means that the Applicant’s submission doesn’t exclusively rely on the IPCC guidance. However, the rules remain material on the basis they provide the origin of carbon accounting rules and conventions that have been widely adopted within renewable support policies and emission trading systems for the UK, EU and globally</p> <p>Furthermore, the Applicant notes that in its previous submissions, and in submissions to other Examinations, CEPP frequently make reference to the IEMA Guidance being the relevant consideration in undertaking GHG assessments. That Guidance states that: <i>“The specific context for an individual project and the contribution it makes must be established through the professional judgment of an appropriately qualified practitioner drawing on the available guidance, policy and scientific evidence”</i>; and, <i>“It is down to the practitioner’s professional judgement how best to contextualise a projects GHG impact”</i>.</p> <p>This is exactly what the Applicant has done, utilising the available guidance, policy and scientific evidence set by the national and international community in carrying out the overall assessment, including the approach to the contextual assessment.</p> <p>The methodology used for the Chapter 15 (Greenhouse Gases) of the ES (APP-051) aligns with current industry guidance and best practice for assessing GHGs, namely the 2022 IEMA guide: Assessing Greenhouse Gas Emissions and Evaluating their Significance and the 2016 PAS 2080: Carbon Management in Infrastructure.</p>

Response Ref. (location in original submission)	Comment	Applicant's Response
		<p>The Applicant has responded with regard to the Finch case in The Applicant's Responses to Issues Raised at Deadline 2 (REP3-020) (see Table 11.1, Response Ref 11.2). In terms of the calculation of emissions presented by CEPP, these do not take account of international guidance, UK Guidelines or UK policy with regards to the zero rating of biomass.</p> <p>Fundamentally, CEPP fail to recognise that the Application is not for the combustion of biomass, which is already consented and operational, but for the addition of carbon capture technology to the existing plant. The Proposed Scheme does <u>not</u> seek to consent the continuation of biomass operation.</p> <p>As such, there can be no realistic or legal argument to state that biomass combustion emissions are a <u>direct</u> effect generated by the Proposed Scheme.</p> <p>On this basis the calculations presented do not reflect the impact of the Proposed Scheme but have been presented to help contextualise the GHG savings arising from the Scheme. They provide context to the impacts of the Scheme, which is what the EIA Regulations seek to be considered – an assessment of the impacts of the Scheme itself. That assessment has been undertaken against UK carbon budgets, which account for the predictions of cumulative carbon emissions, including accounting for Drax Power Station.</p>
<p>5.3 (Para 4 to 10)</p>	<p><i>Can the IPCC guidance be applied under the Planning Act 2008 regime?</i></p> <p>The applicant justifies zero rating of biomass combustion emissions on the basis of IPCC guidance and UK Environmental Reporting guidelines [REP3-020/page 61 in response to CEPP]. I show below that this is not guidance on how to comply with the requirements of EIA Assessment and the 2017 regulations, and the Applicant misapplies it in attempting to use it for EIA purposes.</p> <p>In brief, at this stage, the IPCC guidance relates to how national inventories of GHG gas emissions are required to be prepared at the international level, and the UK Environmental Reporting guidelines relates to how inventories of GHG gas emissions are prepared at the UK national level.</p> <p>Neither of these Guidance purport to show how to meet the statutory requirements of the EIA regulations.</p> <p>[See PDF for full text]</p>	<p>As stated in its Deadline 3 submissions responding to CEPP, the Applicant's position is that biomass is zero rated at the point of combustion, not that it is carbon neutral. This aligns to guidance from the IPCC, the UK Renewables Obligation, UK Emissions Trading Scheme and the UK Environmental Reporting Guidelines for quantifying emissions of GHG from biogenic sources, such as biomass, where emissions are rated as zero.</p> <p>The IPCC guidance is material on the basis it provides the origin of carbon accounting rules and conventions that have been widely adopted within renewable support policies and emission trading systems for the UK, EU and globally, not least the UK Renewables Obligation Order 2015 (as amended) and UK Emissions Trading Scheme.</p>
<p>5.4 (Para 11 to 15)</p>	<p><i>Applicant's response to the ExA's ISH Action Point</i></p> <p>Even though, the IPCC guidance has no statutory relevance anyway, I now explain how the Applicant misinterprets it in its response to the ExA.</p> <p>The 2006 IPCC guidance which the Applicant quotes in REP-028 is entitled "2006 IPCC Guidelines for National Greenhouse Gas Inventories". It is, therefore, clear from the outset that the guidance relates to how the IPCC and the UN calculate and report national GHG emissions.</p>	<p>In order for the IPCC Guidelines to report on a national inventory, the assumptions have to be applied for all installations that would be reporting against that inventory. As such, the emissions are not broken down to an individual installation, as an approach is taken for all of them, that can therefore be applied to each installation, including at Drax.</p>

Response Ref. (location in original submission)	Comment	Applicant's Response
	<p>It does not pertain to address how to calculate, report and assess GHG emissions from individual installations for the purposes of planning under individual national regimes. Nor is the guidance in any sense regulatory guidance that is statutory applicable in the UK.</p> <p>The IPCC guidance quotes selected by the Applicant do not explain how CO₂ at the point of combustion is calculated as requested by the ExA. The quotes, instead, are concerned how the calculated figure is accounted for, at a national level, once it has been derived.</p>	<p>In any event it is noted that this discussion is limited only to changes in land use, emissions (kgCO₂e/MWh), from each stage of the biomass supply chain from processing at origin to combustion have been quantified, including upstream logging and transport emissions from feedstock production are included within the assessment (See Plate 15.1 within ES Chapter 15 (Greenhouse Gases (APP-051))).</p>
<p>5.5 (Para 16 to 18)</p>	<p><i>What the IPCC guidance is concerned with</i></p> <p>Effectively CO₂ from combustion is treated as part of the Agriculture, Forestry and Other Land Use (AFOLU) carbon stock for a country, for accounting purposes. That does not mean that there is not a real quantity of emissions that is generated when biomass is combusted. Indeed, the guidance states that it should be included an information item in the Energy sector inventory. It is not accounted for under Energy so as not to double count as it has already been accounted for under AFOLU.</p>	
<p>5.6 (Para 19 to 20)</p>	<p><i>Applicant's conflicting position on carbon neutrality</i></p> <p>The Applicant claims that the combustion of biomass is carbon neutral in Environmental Statement, chapter 15 [APP-051] at Table 15.12 for PAS2080 B6 CO₂ data type – “the process is carbon neutral”.</p> <p>Subsequently, the Applicant has subsequently retracted that position:</p> <p>A. [REP-028] / 2.4.26; and</p> <p>B. [REP3-020/11.1] that its position is “that biomass is zero rated at the point of combustion, not that it is carbon neutral”.</p>	<p>The full quote is “<i>Electricity generated from biomass boilers is used for the Carbon Capture process. Under IPCC guidelines (IPCC, 2019) GHG emissions from the combustion of biomass for energy generation are “zero” (i.e., the process is carbon neutral)</i>”. When presented in full it is clear that the quote reiterates the Applicant's position that combustion of biomass is rated as zero for CO₂ at the point of combustion, and that the use of the term carbon neutral is presented to explain emissions source B6 to the lay reader in terms that are recognisable to the broadest audience.</p>
<p>5.7 (Para 22 to 24)</p>	<p><i>GHG data</i></p> <p>The Applicant has presented GHG data across a number of documents in tables with a confusing array of data. I have aggregated the key GHG data from the various documents and tables to consider two further aspects:</p> <p>(1) including the biomass combustion emissions at the source of production (i.e. not zero-rating the combustion emissions);</p> <p>(2) including a more realistic 90% CCS rate. This is consistent with cautious scientific warnings about the possible delivery of a greater than 90% CO₂ capture rate.</p>	<p>For point (1) – see above.</p> <p>For point (2) - the Applicant is currently pursuing an Environmental Permit that will be issued by the Environment Agency. Under the terms of any permit that is granted, Drax will be required to use Best Available Techniques in order to prevent or minimise emissions and impacts on the environment.</p> <p>Ultimately the achievement of the 95% figure is a matter not for this DCO Application but is rather a matter that the Environment Agency will control under the terms of the Environmental Permit. Nevertheless the Applicant considers that the figure of 95% is achievable.</p>
<p>5.8 (Para 25 to 36)</p>	<p><i>Treatment of combustion emissions and forest regrowth</i></p> <p>The Applicant's approach is to assume that loss of forest carbon stock for fuel stock and combustion is instantly replaced with forest carbon stock elsewhere in the global carbon cycle. This is the “carbon neutral” principle which the Applicant agrees is not true (“The Applicant's position is that biomass is zero rated at the point of combustion, not carbon neutral”, [REP3-020/PDF page 61]).</p>	<p>As noted above and in the Applicant's Deadline 3 submissions, this is fundamentally misconceived– combustion emissions are not a direct effect of the Proposed Scheme. As set out in its Deadline 4 submissions, at the moment Drax Power station can and does run at ‘full merit’ with a biomass supply. The existence of the Proposed Scheme, by itself, will not change the nature of extent of that biomass supply to the Power Station. As such, even if it was included within scope, there is no land use change at the point of</p>

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	<p>The problem is that the forest carbon stock for fuel stock and combustion is not instantly replaced with forest carbon stock elsewhere in the global AFOLU system.</p> <p>For this reason, I have separated out forest regrowth from the combustion emissions.</p> <p>Paragraph 5 of Schedule 4 to the 2017 Regulations requires the environmental statement to include:</p> <p>The description of the likely significant effects on the factors specified in regulation 5(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development ...”.</p> <p>Where this includes “the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions)” and climate is a factor.</p> <p>For the purposes of environmental assessment (as opposed to reporting national carbon inventories under the UN regime), the combustion emissions at the proposed scheme are a direct effect of the development. Therefore, the question is whether the combustion emissions may be treated as an internality or an externality of the EIA assessment.</p> <p>I submit, as above, that the IPCC guidelines (and UK Environmental Reporting guidelines) for the construction of national accounting and international inventories in the UN climate regime have no implications, nor statutory binding, on how the EIA assessment for an individual assessment is done. Methods agreed a long time ago (in 1995) for the national-level reporting and accounting of GHG emissions were never intended to provide methodologies for sound environmental assessment and decision-making for individual schemes.</p> <p>The EIA regulations need to be read in their own context, their own time and with their own guidance.</p> <p>Further to the Applicant's response to this point in REP3-020, the first point to note is that the combustion emissions from the plant are direct emissions, and not upstream, or downstream, emissions. There is therefore a stronger case that the direct combustion emissions are included in the EIA Assessment than the downstream emissions being considered in the Finch case. The Finch case is relevant for these reasons:</p> <p>(A) It explores the scope of the EIA regulations. This is relevant to the Drax schemes, first on where the line is drawn relating to the direct emissions from the scheme. Given the emerging science in this area, it is entirely reasonable and rational to expect that very large scale combustion emissions directly from operation of the plant should be included in the environmental assessment.</p> <p>(B) Second, there are downstream (and significantly later ie on a long cycle) emissions in terms so the forest regrowth and carbon payback: the science papers appended to my Written Representation showed the carbon payback for biomass systems takes place on a centuries timescale. As in Table CEPP.Drax.Tab-1, these can realistically treated as zero for at least the first 25 years, but when considered over a longer cycle can provide negative sequestration emissions.</p>	<p>conversion to commercial forestry that is a direct result of the Proposed Scheme, and therefore impacts to forestry growth cannot be an upstream effect or implication of the Proposed Scheme.</p> <p>The matter of upstream and downstream effects is a matter of planning judgement, but Finch was clear that there must be a link between the scheme in question, and the effect sought to be associated with it. The Proposed Scheme is not a new biomass plant, and it does not change the existing parameters of operation of the plant – it would be able to run at full capacity without the Proposed Scheme.</p> <p>The assessment that has been presented of the biomass supply has provided context to the GHG savings arising, but is not the impact of the Proposed Scheme itself.</p> <p>Chapter 15 (Greenhouse Gases) of the ES (APP-051) aligns with current industry guidance and best practice for assessing GHGs, namely the 2022 IEMA guide: Assessing Greenhouse Gas Emissions and Evaluating their Significance and the 2016 PAS 2080: Carbon Management in Infrastructure, and is consistent with the PINS Scoping Opinion (APP-116).</p>

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	<p>Where is the EIA line drawn on these downstream emissions? The rational and scientifically reasonable approach is to include these (negative) emissions in EIA but to properly represent their timescale of their creation. This is what I have done in scenarios 2, 4 and 5 in Table CEPP.Drax.Tab-1.</p> <p>The IPCC guidance, as quoted by the Applicant, is not “relevant and appropriate Guidance” to the Planning Act 2008 and DCO regime.</p>	
<p>5.9 (Para 37 to 41)</p>	<p><i>The context of the combustion emissions in the scheme</i></p> <p>The applicant submits that the “existence of the Proposed Scheme, by itself, will not change the nature of extent of that biomass supply to the Power Station”. However, this is not true. The unabated power station is unlikely to continue to operate for the same time into the future as the proposed abated power station, including the proposed scheme, as the generated electricity will no longer accrue subsidies, and without subsidies Drax’s operating financial model collapses. Even if this does not happen in 2027, it will inevitably happen as energy decarbonisation progresses in the UK.</p> <p>This means that the power station with the proposed scheme will have a longer lifetime and will lock-in combustion emissions over a longer time that the existing unabated power station would.</p> <p>Scenario 4 in Table CEPP.Drax.Tab-1 calculates the carbon figures when the combustion emissions are not zero rated. With the more realistic 90% CCS rate, the power station emits 13,279,326 tCO₂e/yr at a carbon intensity of 685 gCO₂/kWh. Over the 25 years life-time of the project, this equates to an additional 331,983,143 tCO₂e. (It should be noted that the long period of carbon payback associated with each year’s combustion starts at that year’s combustion. So assuming no net carbon payback for 25 years (Sherman paper graph as above), combustion in 2050 will not start to payback until around 2075.</p> <p>331 MtCO₂e (million tonnes) is additional emissions on a very large scale. It is approximately 1/1000th of the entire remaining global carbon from 2020 for a 50% likelihood of limiting global heating to 1.5°C, the Paris temperature target.</p> <p>1/1000th of the entire remaining global carbon on one power station is a hugely disproportionate, and inequitable, expenditure of the carbon budgets when the UN and IPCC are shouting that emissions need to be rapidly reduced this decade, and that the “choices and actions implemented in this decade will have impacts now and for thousands of years”.</p> <p>This argues strongly against the scheme.</p>	<p>CEPP are here trying to make judgements and assumptions that are not consistent with the EIA Regulations and Guidance. The EIA Regulations, as CEPP state themselves, are focussed on the assessment of the <u>development</u> in question.</p> <p>The development in question is the application of CCS to an existing power station. Whatever the commercial realities of the situation, the CCS is not seeking to extend the design life of the power station nor to change its operating profile – it has just chosen assumptions for the purposes of seeking to develop a reasonable worst-case scenario for assessment.</p> <p>Nobody can yet predict the future of UK power generation and supply over the coming years, including the operation of Drax Power Station, as the war in Ukraine has demonstrated, and the Proposed Scheme, nor the assessment of it, or the EIA Regulations themselves seek to do this, or ask a promoter to do this. The focus is simply on what is the development in question and the effects from that development.</p> <p>The UN, CCC and IPCC all recognise that in order to meet the climate emergency we cannot simply wait for renewable power generation to come on stream – greenhouse gas removal is needed at the same time, and BECCS is a key part of ensuring that happens.</p>
<p>5.10 (Para 42 to 49)</p>	<p><i>Obligations on the Secretary of State</i></p> <p>The starting places is that the Secretary of State is obliged to make a decision which complies with the 2017 Regulations and section 104 (4), (5) and (8) require that this obligation is discharged before accordance with the relevant NPSs is considered.</p> <p>Therefore, it is for the Secretary of State to ensure that the EIA Regulations have been legitimately applied.</p>	<p>In summary, the Applicant considers that CEPP are misapplying the EIA Regulations to the Proposed Scheme, and that ultimately, in applying all parts of sections 104 (or indeed section 105), the Proposed Scheme, in its true role as a carbon capture scheme that is sought to be consented, will be delivering a huge amount of GHG savings to the UK which ensures that it is able to meet its net zero commitments thus:</p> <ul style="list-style-type: none"> • helping ensure the UK meet its international obligations (s.104(4));

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	<p>Should the scheme go ahead, it will extend the life-time of the power plant for at least 25 years from now (whereas it might be forced to close due to failure of the Drax financial model based on subsidies if the scheme does not go ahead). As argued above, this will be a longer life-time than if the scheme does not go ahead and the power plant remains unabated.</p> <p>I submit that with a carbon footprint of 331MtCO₂e over 25 years that the scheme would lead to the UK being in breach of its international obligations as the footprint is approximately 1/1000th of the remaining global carbon budget for the Paris agreement. The scheme would also certainly breach most, if not all, of the remaining carbon budgets until 2050 (ie the 5th to 9th carbon budgets).</p> <p>I submit that the Secretary of State must also consider the information in this submission as part of his/her process in reaching a reasoned conclusion on the significant effects of the development on the environment under the 2017 regulations.</p>	<ul style="list-style-type: none"> • helping ensure the Secretary of State will not be in breach of its duties under the Climate Change Act 2008 (as amended) (s.104(5)); and • ensuring that the scheme benefits greatly outweigh the overall minimal impacts of the Proposed Scheme itself (s.104(9) – it is assumed this is what is meant, rather than (8), which refers to prescribed exceptions which do not yet exist).
<p>5.11 (Para 50 to 51)</p>	<p><i>Probable errors in Applicant's data</i></p> <p>In compiling the aggregate table, these probable errors were noted in the Applicant's presentation:</p> <p>(A) Table 15.12 [APP-051] and Table 1.1 [APP-169] give the "Operational Supply chain GHG Emissions – D" as 1,223,723 tCO₂e/yr. Plate 1.1 [APP-169] provides numbers for the elements of the supply chain which sum to this value. • However, Table 15.8 "GHG Emissions Generated Per Annum in the Baseline Scenario" [APP-051] gives "Biomass supply chain GHG Emissions (baseline) D" as 558,778 tCO₂e with the associated Plate 15.1. These figures do not tally at all. I note that the Applicant expresses one value as tCO₂e/yr and the other as tCO₂e, but do see that this explains the very marked difference as the table is "per annum".</p> <p>(B) LULUCF B8 emissions are given as -10,863 tC "per annum" in Table 15.8 [APP-051] for "existing baseline". LULUCF "Baseline scenario potential carbon storage (tC)" are given as -8,760 tC in Table 15.12 [APP-051]. These figures do not tally at all. • Table 1.2 [APP-169] gives construction LULUCF emissions as -2,102 tC and operation LULUCF emissions as -8,760 tC for the baseline scenario which does sum to -10,862 tC. There appear to be two errors here. First, it is not clear how construction phase emissions apply to the plant running in the baseline scenario (where construction is not taking place). Second, the Applicant appears to have added construction emissions (one-off) to operation emissions (annual).</p> <p>(C) LULUCF emissions are expressed as tC but included in the calculations with tCO₂e data in Table 15.8 [APP-051], Table 15.11 [APP-051], Table 15.12 [APP-051], Table 1.1 [APP-169], and the table under ISH1-AP1 in [REP-028]. Checking the numbers in the these table shows that tC units have been added tCO₂e with being converted first to generate the totals. This introduces a small error (as the LULUCF emissions are relatively small by comparison to other figures). As noted in my Table above, I have reproduced this error but only so that there is consistency in the data presentations. I have tried to clarify the data in the aggregated data and correcting this error would make my table harder for the reader to compare with the Applicant's tables.</p>	<p>Para 50, Point (A),</p> <p>1,223,723 tCO₂e are the emissions from the biomass supply chain with the Proposed Scheme in place (and operating at full capacity), per year. 558,778 tCO₂e are the emissions from the biomass supply chain without the Proposed Scheme in place (and operating at mid merit), per year. These figures are correct.</p> <p>Para 50, Point (B),</p> <p>10,863 tC is the total carbon stored on site in the baseline within the LULUCF assessment boundary (not per annum but total stored as stated in the table). Therefore, this figure is correct.</p> <p>To explain this further; during construction a portion of the site is affected with site laydowns and other construction activities and therefore the use of the land changes. In the baseline this land stores -2,102 tC with construction in progress this land stores -1,890 tC. This means for every year construction takes place 212 tC are not stored in the land that would have been and therefore this carbon is present in the atmosphere. During operation, some of the site will now be given over to the carbon capture plant. In the baseline this land stores -8,760 tC and with the plant operating this land stores -8,053 tC. This means for every year the plan is in operation 707 tC are not stored in the land that would have been and therefore this carbon is present in the atmosphere.</p> <p>The impact of the scheme during construction is therefore 212 tC and during operation 707 tC. These are the figures used in the impact assessment and these figures are correct.</p> <p>The total carbon stored on site in the baseline within the LULUCF assessment boundary is provided within the baseline information as it is</p>

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	<p>(D) Construction emissions are referred to PAS Modules "A1-A5" in Table 15.12 [APP051], Table 1.1 [APP-169] and the table under ISH1-AP1 in [REP-028]. However, the annual construction figures are incorrectly referred to PAS Modules "C1-C5" in the table under ISH1-AP1 in [REP-028]. PAS Modules "C1-C5" are for "Boundary of end of life stage" emissions in the PAS 2080 guidance.</p> <p>The applicant should respond and correct the Environmental Statement where necessary.</p>	<p>important baseline information but in of itself, it is not used for the assessment, as the change in storage capacity of the land is what is important from quantifying land use emissions from the site of the proposed development.</p> <p>Para 50, Point (C),</p> <p>It is correct that the conversion from tC to tCO₂e has been omitted from the assessment. If this was included the Net total operational emissions (as per table 12.11 of the ES) would change from -7,975,620 tCO₂e / year to -7,973,735 tCO₂e / year. As stated by CEPP this is a small change. It does not materially affect the assessment or the determination of significance.</p> <p>Para 50, Point (D),</p> <p>It is correct that the PAS2080 lifecycle references have been applied incorrectly in this instance. These are only provided for context. This means this does not affect the figures presented in the assessment or the determination of significance.</p>
<p>5.12 (Para 52 to 56)</p>	<p>Conclusions</p> <p>I have provided a calculation finding that the power plant with the proposed scheme will emit an additional 331,983,143 tCO₂e over 25 years (at 90% CCS rate). As the power plant is only financially viable with the proposed scheme much of these emissions would not occur without the scheme being implemented. These emissions are approximately 1/1000th of the entire remaining global carbon from 2020 for a 50% likelihood of limiting global heating to 1.5°C, the Paris temperature target.</p> <p>The scheme would also certainly breach most, if not all, of the remaining carbon budgets until 2050 (ie the 5th to 9th carbon budgets).</p> <p>The Secretary of State must consider the information in this submission, including these additional emissions from the scheme, as part of his/her process in reaching a reasoned conclusion on the significant effects of the development on the environment under the 2017 regulations.</p> <p>I have provided new material to the examination on the emissions in a science-based presentation. This must form part of the material before the Secretary of State in any reasoned decision making on the proposed scheme.</p> <p>When the very large emissions from the scheme are considered under the scope of the 2017 regulations, I submit that the project should be recommended for refusal.</p>	<p>The calculation of emissions presented by CEPP, do not take account of international guidance, UK Guidelines or UK policy with regards to the zero rating of biomass. They fail to recognise that the Applicant's assessment is consistent with the Guidance that CEPP itself relies upon (the IEMA Guidance).</p> <p>They also fail to recognise that the application is not for the combustion of biomass, which is already consented and operational, but for the addition of carbon capture technology to the existing plant. The financial subsidy position does not change what is the subject of this application (CCS equipment) and what is not (the continued operation of the biomass plant).</p> <p>On this basis the calculations presented do not reflect the impact of the Proposed Scheme.</p> <p>As such, CEPP's representations are fundamentally misconceived and incorrect.</p>