



# **APPLICANT'S RESPONSES TO ISSUES RAISED AT DEADLINE 7**

## **Drax Bioenergy with Carbon Capture and Storage**

**Infrastructure Planning (Examination Procedure) Rules 2010**

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# 1. INTRODUCTION

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## 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).
- 1.1.2. The Application was accepted for Examination on 20 June 2022.
- 1.1.3. Representations from Natural England and Biofuelwatch were received by PINS at Deadline 7.
- 1.1.4. This document, submitted at Deadline 8 of the Examination, contains the Applicant's responses to the representations from Biofuelwatch and Natural England at Deadline 7. The Applicant has focussed on responding to points that have not already been made and responded to by the Applicant.
- 1.1.5. The Applicant's response to the Deadline 7 representation by Natural England is summarised in the Cover Letter (document reference 8.2.25) submitted at Deadline 8 of the Examination.

## 2. BIOFUELWATCH

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- 2.1.1. The Applicant has not provided misleading responses to questions relating to the quantification of baseline air quality and the need for additional survey data. If anything, the Applicant has been conservative in calculating total pollutant concentrations i.e. the Predicted Environmental Concentration (PEC), since the contribution of Drax power station has likely been double counted as set out below.
- 2.1.2. The PEC is calculated as follows  $PEC = Process\ Contribution + Background\ Concentration$ , where the Process Contribution is the modelled contribution from the power station to ground level pollutant concentrations (without carbon capture in the baseline, with carbon capture for the Proposed Scheme) and the background concentration is the contribution to pollutant concentrations from all other sources.
- 2.1.3. For the Proposed Scheme, background concentrations have been taken from a combination of national mapping (1km x 1km resolution) and monitoring undertaken by Local Authorities. Both data sources implicitly include a contribution, albeit small and unquantifiable from Drax Power Station. In the case of the national mapping, large point sources, such as Drax, are explicitly included in the pollution climate mapping (PCM) modelling and the monitoring undertaken by Local Authorities in the vicinity of Drax cannot fail to include the local, spatially varying, contribution from the power station.
- 2.1.4. In both the PCM modelled and measured background, the contribution of Drax is low and significantly outweighed by the contribution from other local sources such as road traffic and the regional transport of pollution from more distant sources. Nevertheless, since the PEC is calculated by adding the project-specific modelled contribution from the power station to the background concentration, it contains an element of double counting of the contribution of Drax to pollutant concentrations.
- 2.1.5. As noted in the Applicant's previous responses to Biofuelwatch, where the monitored background concentration is well above the PCM modelled background concentration, as in the Selby AQMA, the monitored concentration has been used in the assessment of the PEC. Such variations in monitored concentrations in comparison to the PCM modelled concentrations arise primarily as a result of variations in the contribution from road transport. They are not related to spatial variations in the contribution from Drax since these are, as noted above, a small proportion of the total pollutant concentration.
- 2.1.6. In summary, therefore, the Applicant's responses are consistent and not misleading. The reported PEC concentrations are robust and conservative.
- 2.1.7. The Applicant has acknowledged that there are no background concentrations available for the amines and degradation products and has taken this limitation into account in the assessment.
- 2.1.8. The Applicant has addressed the issue of the precautionary nature of their assessment on numerous occasions, not least in responses presented in Table 5-1 of

Applicant's Responses to Issues Raised at Deadline1, Table 5-1 of the Applicant's Responses to Issues Raised at Deadline 6 (REP7-017); and has also considered the ExA's queries on these issues in its response to the ExA's Rule 17 request also submitted at this deadline.

- 2.1.9. In summary, specifically in relation to impacts on ecological receptors, the Applicant has:
- a. Used a well validated dispersion model;
  - b. Used conservative assumptions in the modelling, including;
    - i. Taking impacts from the worst year of 5 years of meteorological data modelled;
    - ii. Accounting for potentially increased operating hours via the use of a mid-merit scenario;
    - iii. Assuming emissions are at their permitted limits (ELVs) at all times; and
    - iv. Including amines and degradation products in the assessment of nitrogen and acid deposition.
  - c. Considered the impacts of the Proposed Scheme alone and in combination with other plans and processes; and
  - d. Undertaken extensive sensitivity tests to understand the potential variability in impacts and the sensitivity of the model results to the model input data.
- 2.1.10. The principles underpinning the Applicant's modelling are all consistent with the guidelines set out by ADMLC (Guidelines for the Preparation of Short Range Dispersion Modelling Assessments for Compliance with Regulatory Requirements – An Update to the ADMLC 2004 Guidance, ADMLC-R12, 2021). Specifically, the Applicant notes that Section 4.5 of the guidelines (Presenting Uncertainty) states that “The use of conservative modelling assumptions, such as emission rates of ELVs and worst-case meteorological data, will not reduce this uncertainty but will shift the range of possible values to a more conservative position. A discussion of these considerations will help to put the predicted value into context”. This is precisely the approach taken by the Applicant and discussed in Chapter 6 (Air Quality) of the ES (APP-042) and Appendix 6.3 (Dispersion Modelling) (APP-127).
- 2.1.11. Having undertaken robust and conservative dispersion modelling of the impacts of the Proposed Scheme, the Applicant has then undertaken a detailed assessment of potential effects on ecological receptors. This has taken into account the spatial distribution of the impacts over each designated site and the likely interannual variability in both background and process contributions to pollutant concentrations and deposition. The conclusions reached by the Applicant in relation to there being no likely significant effects have been scrutinised by Natural England and found to be appropriate and justified.
- 2.1.12. On a final note, the Applicant disagrees with Biofuelwatch's assertion that “When the expected increase exceeds the significance criteria (1% of the load/level), the expected harm can be expected to be significant”. This is a mis-representation of the Applicant's use of the criterion. The Applicant has considered the specific modelled

impacts over each site and considered the potential for significant effects on a case by case basis taking into account the protected features and their sensitivity to increased pollutant concentrations and deposition.

### 3. NATURAL ENGLAND

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- 3.1.1. The Applicant notes that Natural England (NE) has confirmed that the issue of achieving a 10% BNG arising from the Proposed Scheme has been resolved, subject to the requirements being adequately secured for all relevant issues. The Applicant confirms that the BNG is being secured via the s106 agreement and suggests that this matter is now 'green' (not 'amber' as stated in the NE response submitted at D7).
- 3.1.2. The Applicant has prepared the Barn Hill Meadows Habitats and Soil Analysis Technical Note. This updates the acid deposition critical load class for Barn Hill Meadows SSSI to use the 'calcareous grassland' critical load rather than the 'acid grassland' critical load. This is based on evidence gathered during soil pH surveys completed in May 2023.
- 3.1.3. With use of the calcareous grassland acid deposition critical load class, the Proposed Scheme alone leads to a maximum impact of up to 0.21% of critical load. The cumulative impact with other plans and projects is modelled to be up to 0.29% of critical load. With use of the calcareous grassland critical load the impacts of the Proposed Scheme, including cumulatively, are therefore below the 1% significance screening threshold. Significant effects on Barn Hill Meadows due to acid deposition are therefore not predicted.
- 3.1.4. The Applicant has provided the Barn Hill Meadows Habitats and Soil Analysis Technical Note to NE in advance of Deadline 8 for their consideration and has subsequently received their agreement to the findings of that note. The Applicant has submitted this Technical Note into the Examination at Deadline 8. This agreement with Natural England is also reflected in the updated SoCG between Natural England and the Applicant (REP5-017, Rev04 being submitted at Deadline 8).
- 3.1.5. The Applicant notes the response from NE in relation to updates to HRA Appendix 7 and ES Appendix 6.5 and has prepared an update of HRA Appendix 7 (REP2-107, Rev02 being submitted at Deadline 8) and Appendix 6.5 (Operational Phase Air Quality Results Tables: Ecological Receptors) of the ES (REP2-035, Rev04 being submitted at Deadline 8).