EN010120: Drax Bioenergy with Carbon Capture and Storage Project Development Consent Examination	Robert Palgrave, Interested Party No. 20031751 Comments on Deadline 3 documents 28 March 2023

Comments on Document Reference Number: 8.8

NATIONAL POLICY STATEMENT COMPLIANCE TRACKER (CLEAN)

1. Financial Viability

At pages 9-11 of this document, the Applicant addresses the requirement in adopted EN-1 to make an assessment of the Financial Viability and Technical Viability of the proposal.

The Applicant states:

> *"Paragraph 4.1.9 of EN-1 requires applicants to have made a judgement as to the financial and technical feasibility of their proposed development, within the market framework and taking account of Government interventions. Where financial and technical feasibility have been properly assessed by the applicant, these are unlikely to be relevant to the SoS's decision-making. Any exceptions to this principle are dealt with where they arise in EN-1 or other energy NPSs and the reasons why financial viability or technical feasibility is likely to be of relevance are explained.*
> *In this case the Applicant has taken commercial and financial matters into consideration and decided to proceed with the Proposed Scheme, as set out in the Funding Statement (AS-082) submitted to support the DCO Application. The Funding Statement demonstrates that the Applicant can fund the construction of the Proposed Scheme and any compulsory acquisitions necessary.*
> *It is therefore considered that the Proposed Scheme, and its objectives, satisfy the policy set out in paragraph 4.1.9 of EN-1."*

On 21 March 2023, The Applicant published a press release which included this comment:

> ***"Drax CEO Will Gardiner said,***
>
> *"Whilst we welcome the Government's ambition to invest billions in carbon capture and storage, we need a firm commitment to BECCS before we commit to investing £2bn into installing this technology at Drax Power Station.*
>
> *"Until we have this clarity, we are pausing our multi-million pound investment programme in the UK BECCS project and urge Government to use the planned announcement at the end of the month to outline their support for this. Any further delays to this project could*

impact the UK's security of supply, net zero and levelling-up ambitions and the viability of Drax Power Station."

(Sourced from Drax.com website on 22 March 2023)

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".*

2. Economic viability

In Document 8.8, the Applicant does not comment on the following paragraphs from EN-1:

Carbon Capture and Storage

. *3.6.4 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) 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. The complete chain of CCS has yet to be demonstrated at commercial scale on a power station. Whilst there is a high level of confidence that the technology involved in CCS will be effective, less is known about the impact of CCS on the economics of power station operation. There is therefore uncertainty about the future deployment of CCS in the economy, which in the Government's view cannot be resolved without first demonstrating CCS at commercial scale.*

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. *3.6.5 The Government is leading international efforts to develop CCS. This includes supporting the cost of four commercial scale demonstration projects at UK power stations. The intention is that each of the projects will demonstrate the full chain of CCS involving the capture, transport and storage of carbon dioxide in the UK. These demonstration projects are therefore a priority for UK energy policy. The demonstration programme will also require the construction of essential infrastructure (such as pipelines and storage sites) that are sized and located both for the purpose of the demonstration programme and to take account of future demand beyond the demonstration phase. The IPC should take account of the importance the Government places on demonstrating CCS, and the potential deployment of this technology beyond the demonstration stage, in*

considering applications for consent of CCS projects and associated infrastructure.

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".*

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 signaling its intention to 'pause' the development.

EN-1 further states:

4.7.10 To ensure that no foreseeable barriers exist to retrofitting carbon capture and storage (CCS) equipment on combustion generating stations, all applications for new combustion plant which are of generating capacity at or over 300 MW87 and of a type covered by the EU's Large Combustion Plant Directive (LCPD)88 should demonstrate that the plant is "Carbon Capture Ready" (CCR) before consent may be given. The IPC must not grant consent unless this is the case. In order to assure the IPC that a proposed development is CCR, applicants will need to demonstrate that their proposal complies with guidance issued by the Secretary of State in November 200989 or any successor to it. The guidance requires:

- *that sufficient space is available on or near the site to accommodate carbon capture equipment in the future;*
- *the technical feasibility of retrofitting their chosen carbon capture technology;*
- *that a suitable area of deep geological storage offshore exists for the storage of captured CO2 from the proposed combustion station;*
- *the technical feasibility of transporting the captured CO2 to the proposed storage area; and*
- *the economic feasibility within the combustion station's lifetime of the full CCS chain, covering retrofitting, transport and storage.*

4.7.11 Government envisages that the technical feasibility study for retrofitting CCS equipment will take the form of a written report and accompanying plant designs which:

- *make clear which capture technology is currently considered most appropriate for retrofit in the future to the power station; and*

- *provide sufficient detail to enable the EA to advise the Secretary of State on whether the applicant has sufficiently demonstrated there are no currently known technical barriers to subsequent retrofit of the declared capture technology.*

4.7.12 The assessment of technological feasibility could be against either:

- *an appropriate reference document; or*
- *by the provision of sufficient technical detail by the applicant in their submitted plans and discussions with the advisory body.*

4.7.13 Applicants should conduct a single economic assessment which encompasses retrofitting of capture equipment, CO2 transport and the storage of CO2. Applicants should 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.

4.7.14 The preparation of an economic assessment will involve a wide range of assumptions on each of a number of factors, and Government recognises the inherent uncertainties about each of these factors. There can be no guarantee that an assessment which is carried out now will predict with complete accuracy either in what circumstances it will be feasible to fit CCS to a proposed power station or when those circumstances will arise, but it can indicate the circumstances which would need to be the case to allow operational CCS to be economically feasible during the lifetime of the proposed new station.

Again, the Applicant has declined to make any reference to these points in the National Policy Compliance Tracker.

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."*

The Applicant has not presented any information on the costs of the transport option nor has it has it put forward any estimation of the costs of CO2 storage.

Comments on Document Reference Number: 8.10.2
APPLICANT'S RESPONSES TO ISSUES RAISED AT DEADLINE 2

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". 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.