

Stop Burning Trees Coalition. Final Submission, Deadline 10. 17/07/23

Interested Party Number: 20032288

Drax Bioenergy with Carbon Capture and Storage, PINS Reference: EN01012

Submission Summary

The vast majority of our initial concerns with Drax's application to retrofit BECCS at its power plant in Yorkshire remain.

We have concerns regarding the technological feasibility of BECCS, with no working real world examples of BECCS for woody biomass.

Delays to development of up to seven years mean there are likely to be significant changes to climate science and governmental energy policy, which is highly likely to impact the role of biomass and BECCS within UK energy policy. The UK Government's Net Zero Strategy requires significant emissions reductions by 2030, and again by 2035. A seven year delay is not in line with this. Additionally, delays in construction further cause issues with the already outdated biodiversity surveys.

The Biomass Strategy is due to be published on the 20th of July, after this application has closed, so we request that all Interested Parties are given the opportunity to submit comments related to this to the application.

We echo concerns highlighted by Biofuelwatch and Just Transition Wakefield regarding amines, their carcinogenic degradation products and the potential issues of cumulative impacts within the Low Carbon Humber Cluster.

It is our view that this application cannot be considered adequately without consideration of the Humber Low Carbon Pipeline and storage capabilities in the North Sea. We point to recently released studies which highlight the multitude of issues with carbon storage under the sea.

We continue to hold our concerns relating to greenhouse gas (GHG) emissions. Adding BECCS will not make the energy produced by Drax 'carbon negative', that claim is based on false assumptions and ignores issues of supply chain emissions. We endorse submissions made by others regarding the technological infeasibility of a 95% capture rate and the energy penalty, potentially leading to increases in GHG emissions.

It is our view that this application for the development consent order should not be recommended for permission.

Submission

Throughout the last six months of this planning enquiry, we have not read or heard anything to change our minds that this application for the development consent order is not justified.

In our initial representation we set out concerns relating to:

- Technical issues relating to BECCS not being developed at scale
- The energy penalty - leading to potential increases of fossil fuel usage
- Concerns regarding the interdependency between North Sea pipeline and storage being scoped out of this application
- The lack of Government policy to support this (Net Zero Strategy ruled unlawful, Biomass Strategy still unpublished)
- Biodiversity loss domestically and internationally due to continued biomass burning
- Risks of air pollution and harm from amines and their degradation products
- Misleading nature of the Applicant's claims for job creation
- The high financial cost of BECCS
- Flood risks to the site
- Outdated biodiversity surveys
- Increase of GHG emissions, and the flaws of 'carbon negative' claims
- Continued harm to communities living near Drax's pellet production sites
- Reduced capability of forests to absorb and sequester carbon through continued harvesting for biomass

The vast majority of our initial concerns regarding Drax's BECCS application remain. We would like to state our agreement with submissions made throughout this enquiry by Biofuelwatch, Just Transition Wakefield and Leeds Trades Union Council.

Technological concerns

Our concerns regarding the technical issues relating to BECCS being deployed at scale remain, nothing provided by the Applicant has satisfied us that the BECCS technology is in line with BAT or feasible to be deployed at scale within the timescale required by government policy (emissions cut by 68% 2030 from 1990 levels, Net Zero by 2050). Currently, there are still no working examples of large scale BECCS for woody biomass. The applicant has many stages of technological development to progress through before their project is viable, if it ever is.

Delays to development

We note that the applicant has signalled there are likely to be delays, initially of two years, and now have announced that it is 'seeking that it has seven years within which to commence the authorised development and exercise its compulsory acquisition powers'.

We hold multiple issues with this. Firstly, within the next seven years there are likely to be considerable changes to both climate science and government energy policy. This is likely to have an impact on the role of biomass and BECCS within UK energy policy. Granting consent at this point, may well contradict with future policy.

Secondly, current UK Government policy has enshrined in law that by 2030, UK emissions must be cut by 68% from 1990 levels, followed by further cuts to 78% by 2035. In these circumstances, any alleged reductions in emissions from BECCS will be irrelevant to meeting those targets. The Climate Change Committee has found that the UK's progress towards each of these goals is lacking on almost every front, implying that rapid measures

must be implemented to meet those legal requirements. Urgent emissions reductions, using proven technology and forms of climate action, must be undertaken within those seven years. Given that Drax is the single largest source of emissions in the UK, it is unclear as to how unabated biomass burning within that seven year period is in line with Government policy.

Thirdly, the delays to construction, call into further question issues with the biodiversity surveys conducted by the applicant. As noted in our initial submission, many of these surveys occurred in 2018, which we already believe are out of date. With further delays of up to seven years, we do not believe these surveys are at all satisfactory, and there is risk to multiple protected species such as Great Crested Newts and sites of national importance. There is further the risk of potential damage to watercourses by sediment and accidental release of chemicals upon construction. To accurately measure these impacts, updated surveys before construction would be required. This application cannot be considered a sustainable development as it fails to protect the natural environment and enhance biodiversity.

Biomass strategy

We echo arguments submitted by other Interested Parties that the Examining Authority cannot be expected to make a fully-informed recommendation to the Secretary of State without an up-to-date policy framework. The long awaited Biomass Strategy is due to be published on July 20th, after the enquiry has closed. We ask that all Interested Parties be given the opportunity to submit comments on the Biomass Strategy and its relation to this application in writing once it is published.

Amines

Biofuelwatch and others have highlighted the potential impact of amines and their degradation products emitted from the CCS process, and as we noted in our initial submission, we agree with their concerns. We further echo the submission by Just Transition Wakefield regarding the fact that this is likely to be one of multiple CCS projects in the region, potentially leading to cumulative impacts of amines and their degradation products. We agree with the view that potential cumulative impacts should be taken into consideration when consenting to the project, as the public and environment are at risk of serious degradation from toxins and carcinogens. This risk and regulatory oversight must be raised with the Secretary of State before any CCS application can be granted within the region. We further believe that the precautionary principle must be held here, due to the serious risk of harm to the health of the public and the environment.

Pipeline and Storage

Whilst this application is being considered separately to applications for both the pipeline and storage, we maintain our previous submissions that this is a technical oversight and that this application cannot be considered in isolation from these aspects due to its fundamental reliance upon them. As noted in others previous submissions, National Grid has pulled out from the Humber Low Carbon Pipeline, and as far as we are aware, no party has yet purchased the project from them. This leaves significant doubt as to when the application for this will be submitted, let alone commencement of construction. Without the pipeline and storage being constructed, the applicant will be unable to fulfil its obligations to capture and transport any captured carbon.

There are further issues regarding the storage that we believe are material to the decision to grant consent to this application. Other Interested Parties have provided evidence previously that historically, CCS installations have consistently failed to deliver claimed capture rates or sustain operations over time. Many have failed to make it to construction, and the vast majority that have been built have closed early due to financial and technical issues. Furthermore, in June 2023 the Institute for Energy Economics and Financial Analysis published a report titled 'Norway's Sleipner and Snøhvit CCS: Industry Models or Cautionary Tales?'.

Key findings from this report demonstrate that CCS is not without material ongoing risk; that each project site has unique geology requiring field operators to expect the unexpected, making detailed plans that are regularly updated and prepare contingencies; ensuring storage is securely maintained requires high levels of proactive oversight which governments may not be adequately equipped to do; finally, Sleipner and Snøhvit cast doubt on whether the world has the technical ability, strength of regulatory oversight, and unwavering multi-decade commitment of capital and resources needed to keep carbon dioxide sequestered below the sea – as the Earth needs – permanently.

Greenhouse Gas Emissions (GHG)

In our initial submission, we raised concerns regarding claims made by the applicant of their ability to produce 'carbon negative' energy. We appreciate the applicant acknowledging that woody biomass is 'zero rated' opposed to actually zero carbon, but this therefore calls into question 'carbon negative' claims made by the applicant, which rely upon a base of 'zero carbon' energy. The atmosphere does not care about legal classifications, but the amount of carbon actually being emitted. We believe that this requires material consideration, and needs careful consideration by the Examining Authority.

Drax itself recognises that BECCS is the only remaining rationale for continuing large-scale biomass burning, as is in line with current government policy to end subsidies for all unabated biomass burning post-2027. The life-cycle emissions of unabated biomass (44-104 years) are now widely recognised to be incompatible with reducing carbon emissions within the legal deadlines. There are also significant emissions related to the supply chain, which will remain unaffected by adding BECCS to two of the biomass burning units.

We endorse submissions made by others, such as Biofuelwatch, regarding the feasibility of a 95% capture rate of carbon and the weakness of the applicant's evidence regarding their ability to achieve this. The applicant has pointed to projects and scientific review papers which in fact demonstrate the absence of successful real world capture rates close to the 95% they are claiming to be able to achieve.

As mentioned in our initial submission, there is a significant chance of there being a severe energy penalty for running BECCS, requiring fossil fuels to be used to replace this drop in 'renewable' energy. This is at odds with UK energy policy (EN-1), which is clear that permits are for new or increased generational capacity as well as low carbon generation. Nothing the applicant has provided has assuaged these concerns.

A low capture rate, the energy penalty, and the risk of carbon dioxide leaking from underground storage increase the likelihood that the addition of BECCS to Drax will lead to greater carbon emissions than without adding BECCS.

Conclusions

It is our view that the applicant is highly unlikely to achieve the carbon capture rates it aspires to. The continuation of biomass burning has severe impacts on forests, on international biodiversity hotspots, and on communities living near Drax's wood pellet production sites who are exposed to their toxic pollution.

Given that Drax has repeatedly been fined in the US for failing to limit air pollution levels, causing severe health impacts to local communities in the Southern US, and are failing to provide adequate reassurances regarding monitoring of amines and their degradation products, we are highly concerned about the potential impacts upon communities living near the site in Yorkshire.

The current slow trajectory of the technology development regarding the capturing, transportation and storage of carbon, suggests that it is highly unlikely that BECCS at Drax will be able to make any meaningful contribution to cutting emissions and reaching Net Zero within the UK policy timescale.

We have seen nothing from the applicant that contradicts our view that large-scale burning of woody biomass is unsustainable, and in fact, contributes to carbon emissions through the loss of forests, supply chain emissions, and the eventual burning. This negates the possibility of producing 'negative emissions', let alone contributing to what is legally required under the Net Zero Strategy.

Doubts amongst the scientific community of the viability of CCS, other than for relatively marginal industrial applications, have increased during this application period, and there is no real world evidence to support any of the applicant's claims regarding its proposed capture rate. Based upon the subsidy model (dual CfDs) the applicant is asking for, and bearing in mind their current subsidies are due to expire in 2027, it is our view that the applicant is more interested in capturing subsidies than carbon.

We are currently seeing the devastating impacts of climate change, with record temperatures around the world, crop failures, wildfires, floods and deadly extreme weather events occurring with increasing regularity. The need to cut carbon emissions could not be greater, and this application offers little substance to suggest it is possible to achieve a reduction in carbon emissions.

The application for the Development Consent Order to retrofit Carbon Capture and Storage to (up to) two out of four units at Drax Power Station should not be recommended for permission.