

The Southern Environmental Law Center (SELC) is a non-profit organization based in the southeast United States where Drax and other utilities source wood pellets from our regions forests. SELC focuses on addressing the climate and biodiversity crisis and has been working for more than a decade to educate UK and EU officials on the fallacies of relying on forest biomass to address climate and clean energy goals. We have extensive expertise in the adverse forest, climate, biodiversity, and local community impacts of relying on and burning forest derived biomass. southernenvironment.org

We are writing to object to Drax's application to add carbon capture technology to two of its wood-burning units (hereinafter referred to as "the Proposed Project"). SELC objects to this application because it does not comply with the National Planning Policy Framework's (NPPF) requirements that a Proposed Project "meet[] the challenge of climate change" and "conserv[e] and enhanc[e] the natural environment."¹ as further outlined below.

Existing bioenergy does not function without large-scale imports of wood - currently over 8 million tonnes per year by Drax. Drax emits approximately 13 million tons of CO₂ annually mostly from burning wood. Since there is a significant energy penalty for capturing any carbon, Drax power station could need to burn more woody material than it does now to capture carbon and produce power. The current Drax facility is far from carbon neutral, increasing rather than decreasing carbon in the atmosphere.

The only biomass alternative to large-scale imports of forest-derived wood is UK-based production of energy crops. Growing the quantity of crops required to achieve the Government's BECCS objectives may require up to 31% of all the UK's current agricultural land.

With either path, or a combination of imports and domestic production, the implications for land use are substantial. This is all expected to come at significant cost to the public, with the Government proposing to use a Contracts for Difference mechanism to pay for BECCS. The projected strike price for new BECCS is £179/MWh in 2027 (while new offshore wind is already down at £68/MWh today).

Such a cost to the public should at least deliver the claimed benefits. But this project will not. It will not deliver negative emissions, it will harm biodiversity, and it will put communities at risk of harm. Instead of enhancing the environment and alleviating climate change, the Project would contribute to biodiversity loss and exacerbate climate change. For these simple reasons and the reasons outlined below, we request that the Planning Inspectorate reject the Drax application.

The Proposed Project:

-- will not "meet the challenge of climate change" as required by the National Policy Planning Framework (NPPF).

¹ Ministry of Housing, Communities & Local Government. (2021). National Planning Policy Framework, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf.

- will have significant adverse effects on local biodiversity that cannot be avoided, adequately mitigated or compensated for.
- will have significant adverse effects on internationally-designated areas that cannot be adequately mitigated or compensated for.
- will have significant adverse effects on nationally-designated areas that cannot be adequately mitigated or compensated for.
- will undermine the UK's biodiversity goals and further harm the UK's reputation and leadership on nature.
- will have significant adverse impacts on international biodiversity, especially the significant forest harvesting that will be required to provide feedstock for the Proposed Project.
- will harm the UK's ability to achieve net zero because Bioenergy with Carbon Capture and Storage is based on incorrect assumptions about the carbon neutrality of woody biomass.
- will harm the health of communities in the southeast US that live close to the wood pellet mills.
- application relies on outdated species information, including species surveys from 2018, and thus does not properly assess the Proposed Project's impacts.
- application does not pay sufficient attention to the potential for damage to watercourses by sediment and accidental release of chemicals.
- Biodiversity Net Gain proposals do not cover river units.
- application fails to recognize that there may be increased NOx deposition which could impact habitats within the surrounding protected sites.

We will provide more detail on our objections in the next stage of the Planning Inspectorate's review. We briefly summarize our climate related concerns below.

The Proposed Project Will Increase Not Decrease the Impacts of Climate Change

The NPPF states that development should “support the transition to a low carbon future in a changing climate” and “help to . . . shape places in ways that contribute to radical reductions in greenhouse gas emissions . . . and support renewable and low carbon energy and associated infrastructure.”² It further explains that new development should be planned for in a way that “can help to reduce greenhouse gas emissions, such as through its location, orientation and design.”³

However, the Proposed Project will not help reduce greenhouse gas emissions and resulting climate change. While the UK government classifies bioenergy as “low-carbon,” the opposite is true. Instead, biomass energy emits more CO₂ at the smokestack than coal.⁴ Furthermore Drax relies heavily on forest biomass derived from harvesting trees. Drax's own data shows 64% of its U.S. derived pellets come from standing forests. Even under its best case scenario, where Drax sources from thinning pine plantations in MISS and LA, its sourcing and burning of wood pellets increases CO₂ in the atmosphere by more than 4 decades, far beyond the time-scale for reducing emissions. See Buchholz et al published study here. <https://doi.org/10.3389/ffgc.2021.642569>.

² NPPF at 45.

³ Id.

⁴ Tom Harrison. Oct. 8, 2021. *UK Biomass Emits More CO₂ Than Coal*. Ember, <https://ember-climate.org/insights/research/uk-biomass-emits-more-co2-than-coal/>.

An SELC fact sheet on the study is here [Biomass_Factsheet_0719_F.indd \(southernenvironment.org\)](#)

Global demand for wood pellets is degrading forest ecosystems in the Southeast United States, which is where the UK derives the vast majority of its wood pellets. Most of the wood pellet sourcing area in the U.S. is in a global biodiversity hotspot- the North American Coastal Plain. Investigations by media and independent watchdogs over the past decade have exposed the damaging logging practices used by companies – including the world’s largest pellet producer Enviva – to supply the UK biomass industry, especially Drax Power Station. By following logging trucks to the forest and back to an Enviva pellet plant, these investigations have found, among other things, that:

- A high proportion of Enviva’s pellets in Virginia and North Carolina come from standing hardwood trees
- Enviva wood pellets are often sourced from clearcut forests in the US South.

These findings contradict industry claims that it only uses sawmill waste and the “wastes and residues” of logging and thinnings from softwood plantations. These investigations are further bolstered by new research by Clark University using satellite imagery. This research concludes that ecologically valuable hardwood forests in Virginia and North Carolina have been harvested at a higher rate since Enviva’s pellet mills started operating and consuming primarily hardwoods. Moreover, in the time period after Enviva’s three mills started operating (2011-2016), the area’s hardwood forests suffered a net loss, likely contributing to overall declines in carbon stocks in the area’s hardwood forests. See the SELC summary [Biomass-White-Page.pdf \(southernenvironment.org\)](#)

Employing BECCS technology will not make bioenergy carbon negative—or even carbon neutral. According to an analysis by the Natural Resources Defense Council (NRDC), this is because the biomass supply chain contains a high level of lifecycle CO₂ emissions that occur offsite and are thus uncapturable by the addition of CCS at the smokestack. (See Sami Yassa & Nathanael Greene. (2021). A Bad Biomass Bet: Why the Leading Approach to Biomass Energy with Carbon Capture and Storage Isn't Carbon Negative - Issue Brief, <https://www.nrdc.org/resources/bad-biomass-bet>.)

These include emissions created from cutting down trees, transporting trees, drying the wood, turning the wood into pellets, and transporting the pellets.⁵ These offsite and uncapturable emissions equal approximately 60% of the stack emissions at the plant. Far from being carbon negative, NRDC’s analysis indicates that employing BECCS at a power station like Drax, while relying on the biomass supply chains that dominate Drax’s fuel supplies today, would be responsible for roughly 80% as much CO₂ as a coal plant emits per Megawatt-hour (MWh), even after accounting for subsequent forest regrowth and on-site carbon capture at the power plant.⁶ Further, it is important to note that CCS technology both requires additional energy at the power plant (NRDC estimates about 29% more and Drax acknowledges at least 28%) and does not have a 100 percent capture rate (instead, it is 90-95%).⁷ When considering the additional energy required for CCS technology, combined with the 95 percent capture rate, NRDC

⁵ Id. at 3.

⁶ Id. at 3-4.

⁷ Id. at 5.

estimates that generating 1 megawatt-hour at a BECCS power plant leads to 779 kg CO₂e, which is alarmingly close to the amount of pollution that a coal plant emits.⁸

⁸ Id.