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Drax trialling carbon-capture to make biomass carbon negative

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Biomass domes at a Drax facility (via Drax)

The company, which operates three biomass units in the UK (with a fourth on the way), says it is piloting 'Europe's first' carbon capture storage project.

Bioenergy carbon capture and storage (BECCS) stores the carbon that's produced when biomass is burned to produce energy. Coupled with the carbon- absorption that takes place while the biomass is growing, biomass power generation could contribute to the removal of carbon collecting in the atmosphere.

The power company is partnering with Leeds-based C-Capture and investing £400,000 in what it says could be the first of many BECCS pilot projects. C-Capture was spun-out from the Department of Chemistry at the University of Leeds

The first phase of the project will evaluate the solvent developed by C-Capture for use on the flue gas produced by Drax Power Station. This is scheduled to begin in May. Lab tests are also planned to assess flue gas desulphurisation (FGD) absorbers for carbon capture. Installed to curb sulphur emissions from coal, FGDs became redundant on units converted to use biomass, as wood pellets produce lower levels of sulphur.



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Depending on the outcome of a feasibility study, the C-Capture team will begin the second phase of the pilot in autumn, when a demonstration unit will be installed to isolate the carbon dioxide produced by the biomass combustion.

Chris Rayner, founder of C-Capture and professor of organic chemistry at the University of Leeds, said: “We have developed fundamentally new chemistry to capture CO₂ and have shown that it should be suitable for capturing the carbon produced from bioenergy processes.

“The key part is now to move it from our own facilities and into the real world at Drax. Through the pilot scheme we aim to demonstrate that the technology we’ve developed is a cost-effective way to achieve one of the holy grails of CO₂ emissions strategies—negative emissions in power production, which is where we believe the potential CO₂ emissions reductions are likely to be the greatest.”

Drax has previously [withdrawn](#) from a carbon capture project called White Rose. The partners in White Rose sought to capture up to 90% of the emissions from a coal plant and store the carbon under the North Sea. Drax left citing “a drastically different financial and regulatory environment”.

A Committee on Climate Change [report](#) on the Government’s [Clean Growth Strategy](#) impressed the need for conventional emissions-reducing and carbon capture and storage (CCS). It found that the deep cuts needed to reach targets would be ‘highly challenging and likely to be much more costly to achieve’ without CCS.

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