# Briefing: Power-BECCS

Bioenergy with Carbon Capture and Storage (BECCS) would involve capturing CO2 from a biomass power station such as Drax, transporting it via a new CO2 pipeline and then pumping it beneath the North Sea. However, BECCS is unproven, and a dangerous distraction from the urgent task of reducing emissions at source. The UK government is risking spending billions on unproven technology which is environmentally damaging, to continue support for the inefficient and harmful biomass industry.

## Key issues with BECCS:

- BECCS is not inherently carbon-neutral or carbon-negative.
- There are no known examples of functioning or scalable BECCS projects involving woody biomass combustion.
- The dual-CfD subsidies currently being proposed by the UK government risk Drax and other biomass companies receiving subsidies without actually needing to capture any carbon.
- Neither Drax nor anyone else has the technical know-how to capture carbon from woody biomass burning at scale, nor does the infrastructure for transporting and storing CO2 exist in the UK.
- Stop Burning Trees view is that such false promises of BECCS are being used to try and get more public subsidies for business-as-usual dirty biomass burning.

## What is BECCS?

BECCS is the idea that we could burn biomass such as wood to generate electricity, capture most of the carbon dioxide that gets emitted and store it underground, so that it never gets released into the atmosphere. However this premise does not take into account that burning biomass emits carbon dioxide, just like burning coal. Even if new trees are planted to replace ones that have been burnt, they can take decades to grow and reabsorb the CO2. It also does not take account of greenhouse gases that are emitted when the trees are cut down, when they're converted into wood pellets, or when they're transported to the power station - often thousands of miles by ship.

## More subsidies to continue business as usual dirty biomass burning

It is estimated that, from 2012 until 2027, Drax will have collected more than £11bn in subsidies from the UK government. Drax is now calling for "a dual power CfD and negative emissions payment" for BECCS. This means that they would be paid per unit of biomass electricity supplied to the grid as they are under the current subsidy regime, then receive an additional subsidy for injecting captured CO2 into a future CO2 pipeline.

The Government has just extended Drax's subsidies from 2027-2031. These subsidies require no commitments to build BECCS, and the Government is currently undertaking a comprehensive review of negative emissions technologies. This follows two PAC inquiries into carbon capture and storage and biomass, both of which produced highly damning results relating to BECCS and biomass.

## Why do we believe Drax won't be able to capture carbon at scale any time soon?

Neither **Drax nor anyone else** has the technical know-how to capture carbon from biomass burning at scale. Currently there's no infrastructure for transporting and storing CO2 in the UK either.

- No company has captured CO2 at scale from burning woody biomass anywhere in the world.
- Drax has only captured a total of 27 tonnes of CO2 so far, all of which was released back into the atmosphere.
- The planning application for the CO2 pipeline which Drax would be dependent on for BECCS to succeed has not even been submitted yet.
- Drax's carbon capture partner C-Capture recently made nearly all their staff redundant, while Drax paused BECCS investment until subsidies are agreed.
- It is therefore very unlikely that Drax will be able to capture carbon within the timeframe it is claiming it will be able to.
- This suggests that the claims Drax is making are designed to allow them to capture subsidies, rather than carbon.

In addition, carbon capture wouldn't make the logging of biodiverse forests in the USA, Canada and the Baltic States, from where the UK's biggest biomass burner Drax sources most of the wood pellets it burns, sustainable.

## Bioenergy is not carbon neutral

Proponents of BECCS claim that biomass can be a carbon neutral substitute for fossil fuels. However, BECCS can only be carbon negative if bioenergy is carbon neutral or at least very low carbon. This proposition is based on the net transfer of CO2 from the atmosphere into the growing biomass that takes place during photosynthesis.

When biomass is burned in large quantities in a short time this no longer holds true, and bioenergy becomes a net contributor of CO2 emissions on a scale comparable to fossil fuels. Studies have shown that biomass energy generated from forestry residues is not compatible with the timescale for greenhouse gas emission reductions required to meet the Paris Agreement goal of keeping global warming to 1.5 degrees. These studies demonstrate that it takes 44-104 years to reabsorb the carbon emitted, which is wholly incompatible with the Paris Agreement. A recent study found that even if BECCS were to work, it would not help the UK reach zero carbon by 2050.

## We need to focus on reducing fossil fuels and forest restoration

The majority of biomass energy production in Europe involves burning wood, and the scale of demand for wood for energy means that much of it is met by cutting down trees. New trees take decades to sequester as much carbon as a mature one that is felled. Rapidly phasing out fossil fuel burning is vital, but climate science shows that we do need to reduce CO2 already in the atmosphere now. Leaving forest ecosystems to grow and restoring peatlands and wetlands are the most effective proven ways of actually sequestering carbon from the atmosphere.