THE CHEAP ENERGY CAMPAIGN

DRAX WOOD BURNING POWER PLANTS

Drax wood burning power stations emit more CO2 than gas or coal but have received over £7bn in subsidies by end 2023. The annual cost of subsidies is set to rise and could be as much as £1.7bn per year. Drax currently receives a price of £132/MWh for the electricity it produces which is substantially more than the price for wind or solar

The Drax wood power station is treated as non-carbon emitting due to international carbon accounting rules, despite emitting significant amounts of CO2. This classification is based on two main factors:

Carbon accounting methodology: Under international rules, greenhouse gas emissions from burning wood are counted in the country where the trees are felled, not where they are burned[1]. This means that the UK doesn't have to count these emissions in its national carbon accounting.

Theoretical carbon neutrality: The company claims that the emissions released by burning wood are offset by the planting of new trees[2]. This assumption is based on the idea that new trees will eventually recapture the carbon released during burning.

However, this treatment is controversial for several reasons:

Actual emissions: Drax Power Station emits about 12 million tonnes of carbon dioxide per year from burning wood pellets[3].

Time lag: It takes decades for newly planted trees to grow and capture the amount of carbon released by burning mature trees[4].

Forest impact: The company has been found to source wood from rare and old-growth forests, contradicting its previous sustainability claims[5].

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[1] https://www.bbc.co.uk/news/science-environment-68381160
[2] ibid
[3] ibid
[4] ibid
[5] ibid

Emission intensity: Due to wood's lower energy density, it has to be burned in higher volumes than fossil fuels to produce the same amount of energy, resulting in higher CO2 emissions per kWh of electricity than coal or gas[6]

Critics argue that this accounting method masks the true environmental impact of biomass burning and may be hindering rather than helping efforts to combat climate change.

In 2023 Drax earned £539m (2022: £586m) in direct government subsidies for burning forest biomass. This brings the total public subsidy the company has received for biomass to around £7 billion, even as concerns grow over the climate impacts of wood burning. The cost of subsidies could rise to £1.7bn per year[7] because of the cost of installing carbon capture and storage and the rising cost of wood pellets.

On 16th January 2024 it was announced[8] that the Government had approved the Drax post combustion carbon capture and storage (CCS) project. No details were given of the estimated costs. Such projects in the USA have been tried in the USA and have never succeeded either technically or financially. A report found that CCS 'may reduce the net efficiency of a plant by up to 14 per cent and increase the cost of electricity by 30%-70%'[9]. For further information on CCS download our data sheet.

[6] https://ember-energy.org/latest-updates/the-uks-largest-single-source-of-co2-emissions-is-a-wood-burning-power-station/
[7] https://ember-energy.org/latest-insights/draxs-beccs-project-climbs-in-cost-to-the-uk-public
[8] https://www.gov.uk/government/news/drax-bioenergy-with-carbon-capture-and-storage-project-development-consent-decision-announced
[9] https://www.sciencedirect.com/science/article/pii/S1876610214018189