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Introduction to the FGD demolition consultation

Drax Power Station was originally designed and built to burn coal from the local coalfields in and around Selby. As environmental legislation developed, more stringent limits were placed on the emissions from coal-fired power stations like Drax. As part of the Large Combustion Plant Directive, limits on NOx (oxides of Nitrogen) and Sulphur Dioxide resulted in significant changes to the way in which power stations operated and led to the development of more advanced combustion and abatement technology.

This technology included Flue Gas Desulphurisation or 'FGD'. FGD technology in the UK was designed to use limestone (Calcium Carbonate) which is ground up and dissolved to form a concentrated solution. This solution is then fed into spray towers within which the flue gas is also passed through.

The Sulphur Dioxide within the flue gas reacts with the calcium carbonate forming calcium sulphate (CaSO_4) which is also known as gypsum and can then be recovered and collected from the FGD system. Gypsum as a byproduct can subsequently be used in the construction industry for making plasterboard. Since its construction, the FGD system has performed efficiently and effectively at the power station and has significantly reduced the Sulphur Dioxide emissions that would otherwise have been emitted.

As Drax gradually moved toward full conversion from coal to biomass, lower levels of sulphur were produced, resulting in far lower emissions of Sulphur Dioxide. By 2023 all of Drax's coal generating units had closed, meaning the FGD systems and common plant became redundant, along with much of the common coal handling equipment and the plant that served the final two coal generating units.

For this reason, Drax is proposing to demolish much of the FGD system, as well as coal handling equipment and a section of ancillary plant areas predominantly associated with the two final coal generating units (including Boiler Fuel Oil Tanks and Precipitators). Some work would also be carried out to re-purpose elements of the materials handling infrastructure that remain onsite.

Gathering your feedback for the planning application

Drax plans to submit a planning application, under the Town and Country Planning Act 1990, to North Yorkshire Council in summer 2024, to gain consent to carry out the demolition work.

Before submitting the planning application, Drax is giving local people and stakeholders the chance to share their feedback on the proposals by holding a 28-day public consultation between Tuesday 11 June and Monday 8 July 2024. To provide your feedback on the proposals outlined in this document please either email

DraxConsultation@wsp.com or write to Drax FGD Demolition Consultation, Drax Power Station, New Rd, Drax, Selby YO8 8PH.

In addition, Drax has generated a series of frequently asked questions and answers about the proposed development, which can be viewed at <https://www.drax.com/uk/drax-fgd-demolition/>

Drax Power Station – history and development

At Drax we're enabling a zero carbon, lower-cost energy future, with an ambition to become carbon negative by 2030.

Drax provides the single largest source of renewable power in the UK, generating reliable, flexible and dispatchable power even when the wind doesn't blow and the sun doesn't shine.

With a £2.5bn UK investment plan to enhance grid stability and boost energy security, our next chapter will ensure Drax plays a crucial role in reaching net zero and supporting jobs and industries nationwide.

<https://www.drax.com/about-us/>

Our history

1967	The Selby coalfield is discovered. The Central Electricity Generating Board begins building Drax Power Station to use its coal.	2013	The first of three power generating units is fully converted to use compressed wood pellets in April.	2020	Drax announces an end to commercial coal operation in 2021.
1974	Drax Power Station starts generating electricity after its first 660MW unit is commissioned. It is the most advanced and efficient coal-fired power station ever built in the UK.	2014	The second power generating unit is upgraded to biomass in May. Drax completes construction of four large storage domes used to house the biomass supply. Each dome is bigger than the Royal Albert Hall, can hold 75,000 tonnes of high-density wood pellets and is explosion proof.	2021	Drax and Mitsubishi Heavy Industries sign pioneering deal to deliver the world's largest carbon capture power project at Drax Power Station. Drax acquires Pinnacle Renewable Energy Inc, positioning Drax as the world's leading sustainable biomass generation and supply business.
1975	Drax Power Station is officially opened with three generators and a total generating capacity of just under 2,000MW. It has the capability to power around two million homes.	2016	The third power generating unit is fully upgraded to biomass.	2022	Drax submits its DCO to deploy BECCS at Drax Power Station, marking a major milestone in the project.
1986	Drax doubles in size and capacity, becoming the largest power station in the UK.	2017	Drax acquires Opus Energy, the UK's largest non-domestic energy supplier outside of the Big 6.	2023	In April, Drax announced the official end of coal-fired generation at Drax Power Station in North Yorkshire, marking a historic milestone in both the company and the UK's transformation to a zero-carbon energy future.
1988	Drax becomes the first power station to invest in retrofitted flue gas desulphurisation (FGD) equipment. Once fully operational in 1995, it removes 90% of Sulphur Dioxide emissions, making it the cleanest coal-fired power station in the UK.	2018	A fourth coal-fired power generating unit is taken offline at Drax. Over the summer it is upgraded to run on biomass.		UK Government publishes its Biomass Strategy, outlining the role of biomass in delivering net zero and giving BECCS a priority role in this.
2003	Drax Power Station starts co-firing biomass, a renewable alternative to coal.		Drax submitted an application to the Planning Inspectorate for a Development Consent Order (DCO) for its Repower project.	2024	The Secretary of State for Energy Security and Net Zero, Claire Coutinho, approved the Development Consent Order (the DCO) for Drax's BECCS project.
2008	Boosted-over-fire-air (BOFA) technology is retrofitted to all boilers, reducing nitrous oxide (NOX) emissions.		In May, Drax announced that it is to pilot the first bioenergy carbon capture storage (BECCS) project of its kind in Europe.		UK Government continues to develop power-BECCS business model and runs a selection process for eligible projects.
2012	Drax Power Station completes a five-year project, worth over £100m - the largest steam turbine modernisation programme in UK history - to upgrade its high and low-pressure turbines. This saves around one million tonnes of carbon dioxide emissions, equivalent to taking 275,000 cars off the UK's roads. Drax commits to transforming the business into a mainly biomass-fuelled generator using compressed wood pellets in place of coal. It plans to upgrade the three generating units that came online in the early 1970s.	2019	Drax records a 52% reduction in its carbon emissions in the first half of this year, compared to the same period in 2018. It uses its half-year financial results to announce that 94% of the electricity generated at Drax Power Station is now renewable. CEO Will Gardiner announced that Drax's ambition is to become the world's first carbon negative company by 2030.		



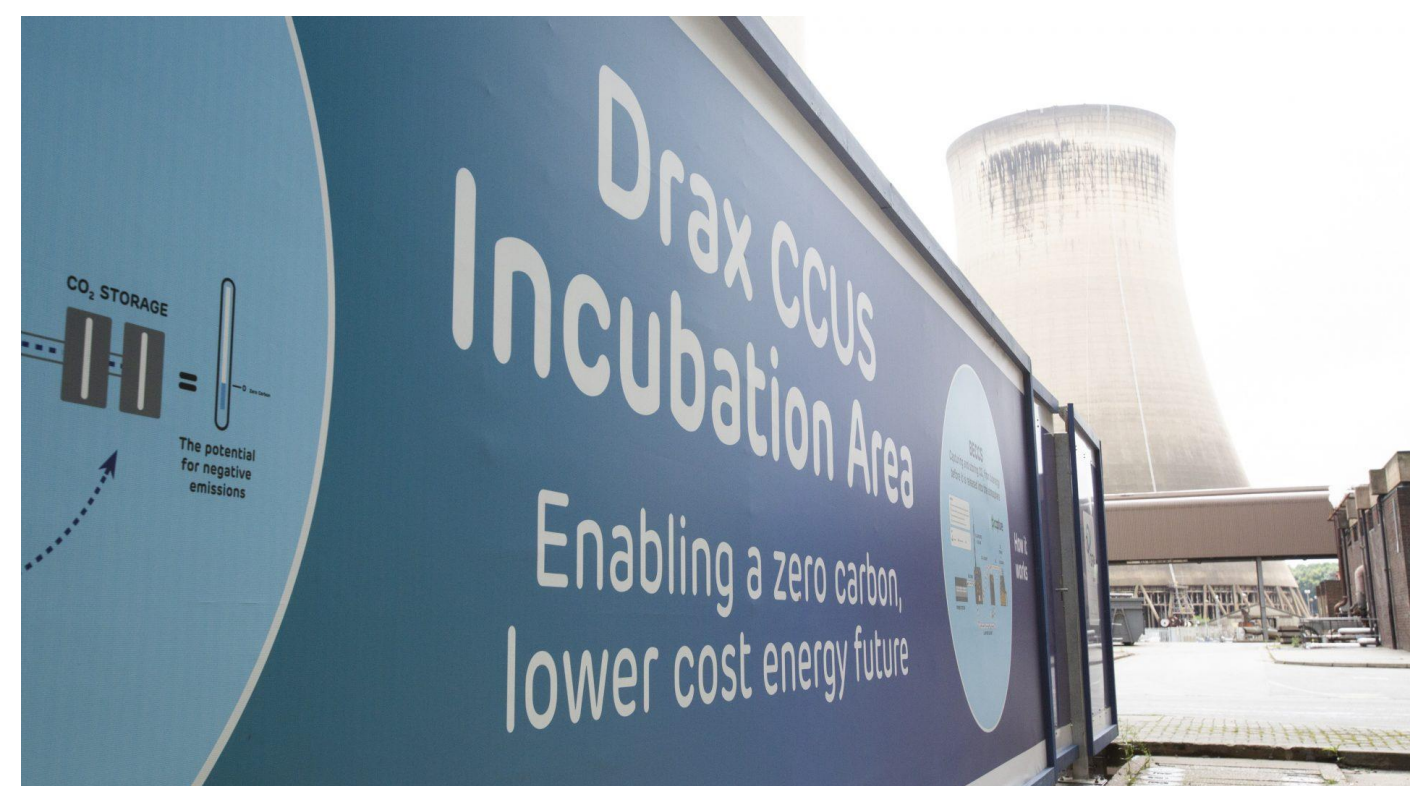
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How do the proposals link to other projects at Drax Power Station?

Earlier this year, the Secretary of State for Energy Security and Net Zero, Claire Coutinho, approved the Development Consent Order (the DCO) for Drax's plans to convert two of its biomass units at Drax Power Station to the carbon removals technology bioenergy with carbon capture and storage (BECCS).

The DCO was a milestone for the project, providing planning consent for its development. BECCS is currently the only credible large-scale technology that can both deliver carbon removals and generate renewable power. Drax's BECCS plans will enable Drax Power Station to continue to play a critical role in supporting UK energy security and would enable it to remove approximately 8 million tonnes of carbon dioxide per year when both units are fully operational.

Drax's BECCS project will work hand in hand with the FGD demolition: the proposed demolition of the FGD systems would create the space needed for the BECCS related construction to take place.





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Why is the FGD demolition important and how will it be carried out?

Following the conversion of generating units 1-4 from coal to biomass and the closure of the remaining coal units, the FGD system is no longer needed. This is because of the significantly lower sulphur content in wood pellets compared with coal resulting in far lower concentrations of Sulphur Dioxide emissions. For this reason, a planning application to decommission and demolish the FGD and Coal Plant systems is being prepared.

Since the power station will continue to generate electricity, it is important that infrastructure that has become obsolete is dealt with safely and does not become a potential constraint to efficient operation or indeed development of future projects onsite at Drax Power Station. It is expected that the FGD Absorbers 4,5 and 6 building, FGD pipe bridge, FGD common plant and conveyors, Boiler Fuel Oil tanks, Unit 5 and 6 Precipitators would be demolished first. Further assessments on the remaining phases of demolition and timings will follow.

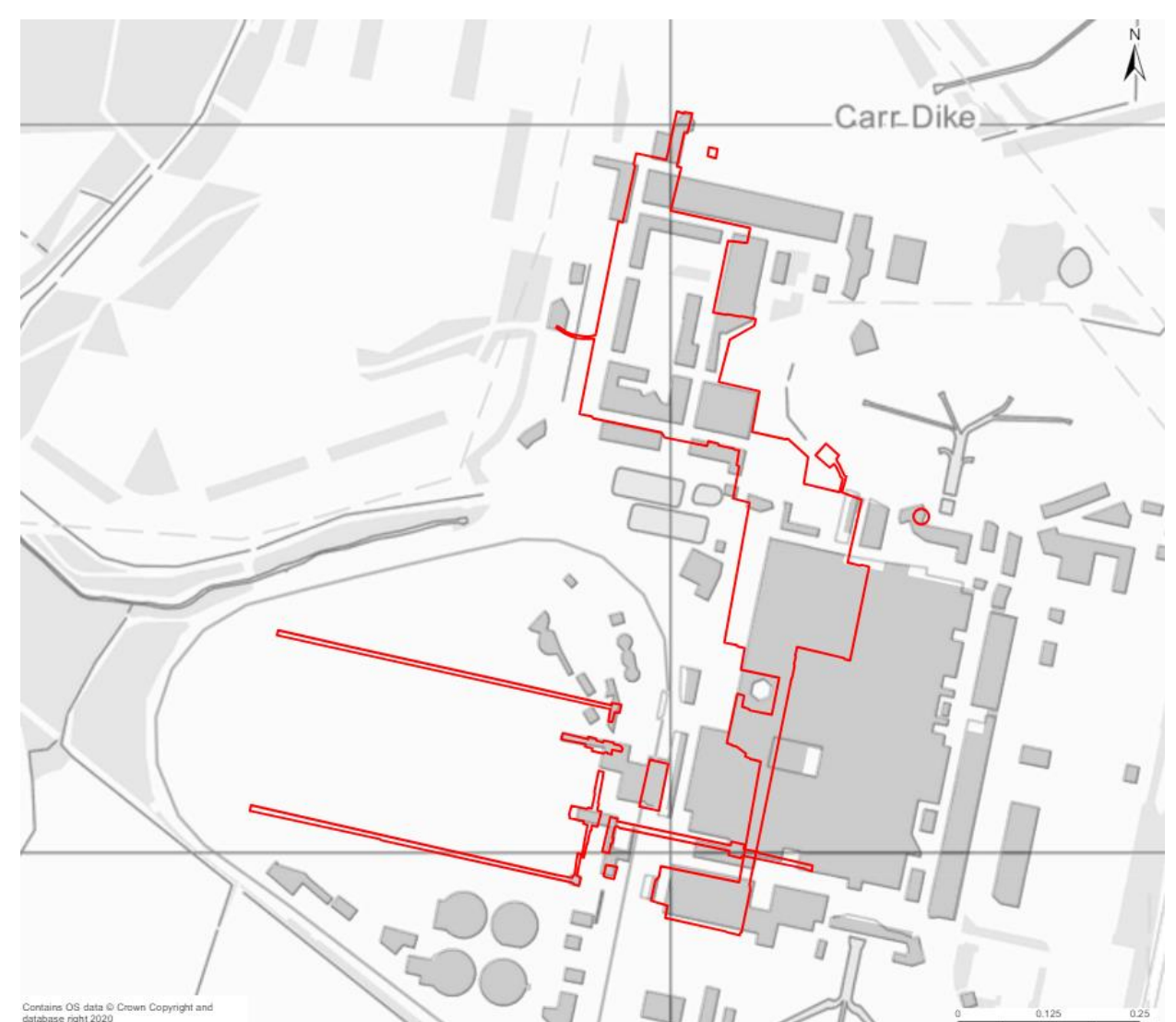
The materials used to construct the FGD and Coal Plant systems will be assessed prior to demolition and wherever practicable, these materials will be segregated so that they can be recycled at suitable facilities offsite. It is likely that these materials will be moved by road to these recycling facilities. Some materials will not be suitable for recycling and will have to be disposed of, again at the appropriate facilities.

Due to the age of the FGD components and following a preliminary assessment, it is believed that there are negligible amounts of asbestos associated with the construction materials of the FGD systems. Where the FGD systems interface with older elements of the Power Station, there is a possibility of asbestos being part of the materials located here, hence the correct safety precautions will always be taken.

The entire development for which the application is being made is all within the curtilage of the existing power station.

In order to support the planning application, which will be made to North Yorkshire Council, various environmental assessments will be carried out and documents produced. This will include traffic and transport, waste management, noise, ecology and flood risk. A Demolition Environmental Management Plan will also be produced. Discussions have been ongoing with North Yorkshire Council and the relevant officers associated with those technical disciplines in advance of the submission.

Once submitted, the application will be available to view on the North Yorkshire Council website <https://www.northyorks.gov.uk/>



Anticipated red line boundary for the project



5 Proposed timeline and next steps

