Repower

Welcome

Drax Power Ltd is proposing to modify up to two of its remaining coal-fired generating units (known as Units 5 and 6) and construct up to two **gas-powered electricity generating plants.** This will involve Drax re-using certain equipment currently used by Units 5 and 6.

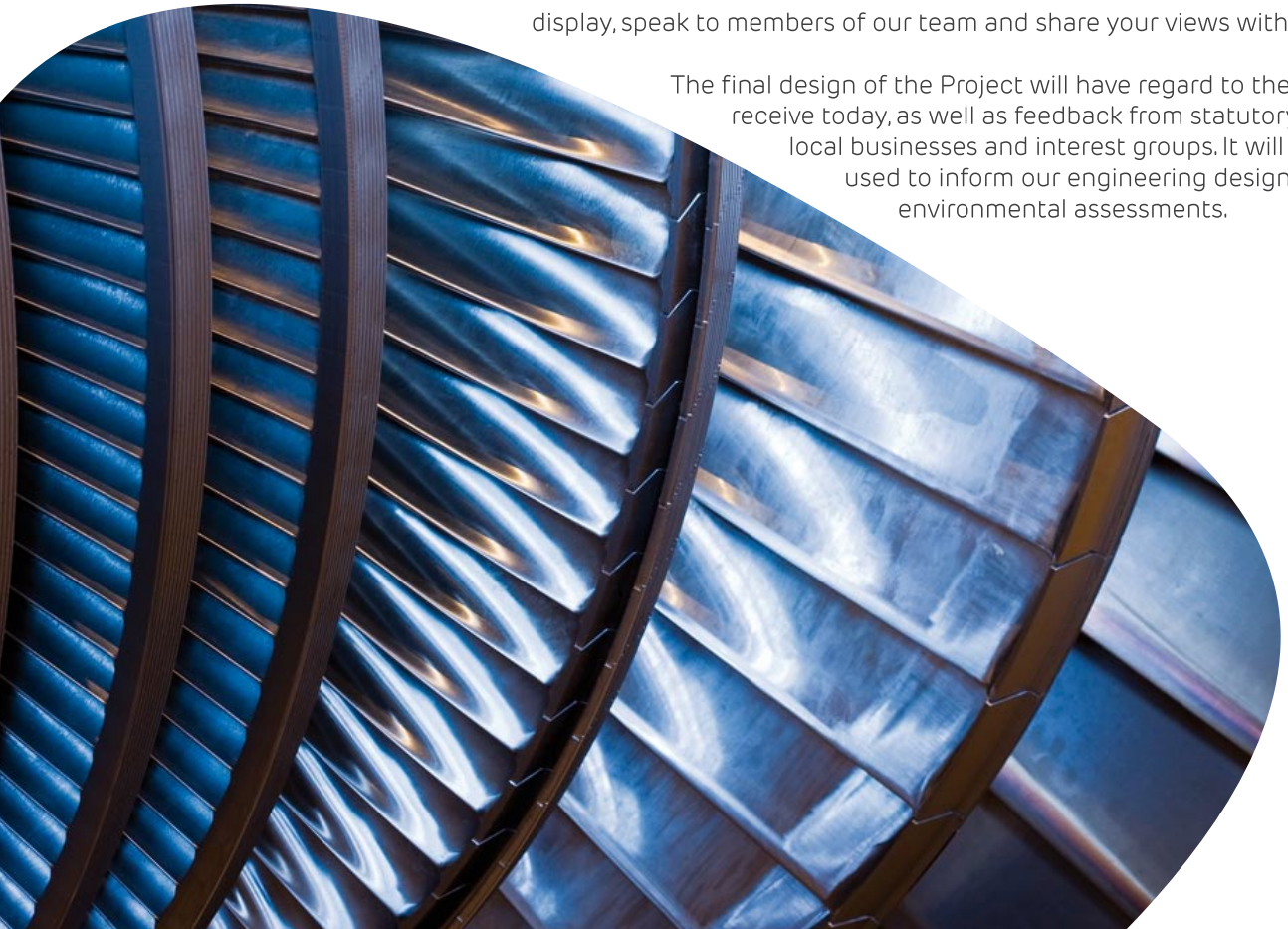
In addition, we are proposing to construct a **battery storage facility**. This equipment will be within the main boundary of our existing power station site.

A new pipeline will provide gas to the new gas-powered generating plants.

The Drax Repower Project would upgrade and enhance Drax's generation capabilities into the 2030s and beyond, make Yorkshire home to large scale battery technology and provide lower carbon generation in line with the Government's plans to phase out coal-fired power stations.

Today's event forms part of a comprehensive consultation programme to engage with and inform our local communities and stakeholders. Please take the time to read the information on display, speak to members of our team and share your views with us.

The final design of the Project will have regard to the comments we receive today, as well as feedback from statutory consultees, local businesses and interest groups. It will also be used to inform our engineering design work and environmental assessments.



A history of innovation

For 50 years, Drax has continued to innovate in response to the UK's energy needs. The Drax Repower Project is the latest pioneering project undertaken by the company:

1967 The Selby coalfield is discovered. The Central Electricity Generating Board begins building Drax Power Station to use its coal.

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.

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.

1986 Drax doubles in size and capacity, becoming the largest power station in the UK.

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.

2003 Drax Power Station starts co-firing biomass, a renewable alternative to coal.

2008 Boosted-over-fire-air (BOFA) technology is retrofitted to all boilers, reducing nitrous oxide (NOX) emissions.

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.

2013 The first of three power generating units is fully converted to use compressed wood pellets in April.

2014 The second power generating unit is upgraded to biomass in May.

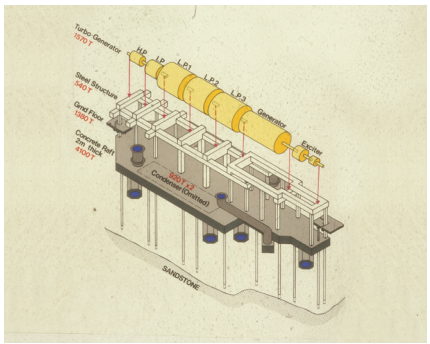
Drax completes construction of four large storage domes used to house the biomass supply. Each dome is bigger than the Royal Albert Hall, can hold 75,000 tonnes of high-density wood pellets and is explosion proof.

2016 The third power generating unit is fully upgraded to biomass.

2017 The Drax Repower Project is announced.

Drax Power Station during construction

Original control room at Drax



Original schematic of turbine

What is the Drax Repower Project?

The Drax Repower Project in summary:

- The construction of up to two gas fired generation plants, with up to 3,600MW capacity
- Up to 200MW of battery storage
- A new gas pipeline; and
- An electrical connection into Drax's existing onsite substation

Drax is proposing to repower up to two existing coal-powered generating units (Units 5 and 6) with new gas turbines. This modification would allow Drax to re-use certain equipment currently used by Units 5 and 6.

The repowered units (gas) would have a combined capacity of up to 3,600 MW, replacing the existing coal units which have a combined capacity to generate up to 1,300 MW. The infrastructure would comprise up to four gas turbines, each powering a generator of up to 600 MW in capacity. The new gas turbines would have the capability to generate steam via a Heat Recovery Steam Generator (HRSG) to the existing steam turbines which would generate up to 1,200 MW.

Gas would be supplied by a new pipeline from the National Gas Transmission System to the power station site. The pipeline would be located outside of the power station site, on land that Drax does not currently own.

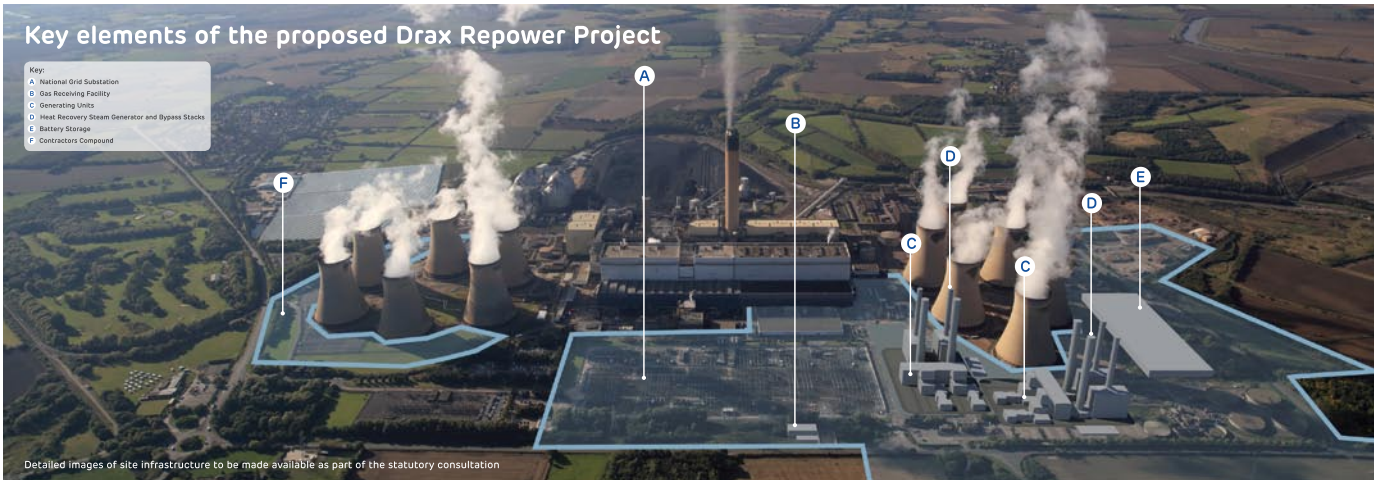
Work to identify and assess the preferred route for the pipeline, including speaking with the owners of the land affected, is underway. We will decide on the final route taking into account various factors including consultation feedback and environmental impacts.

We plan to use the existing electrical infrastructure to export power to the National Grid. Alterations to existing pylons and overhead transmission lines may be required within the existing power station site.

The proposed battery storage facility would have a capacity of up to 200MW and would be located within the boundary of the power station site. It will either be housed in multiple containers like those used in shipping or housed in a dedicated stand-alone building.

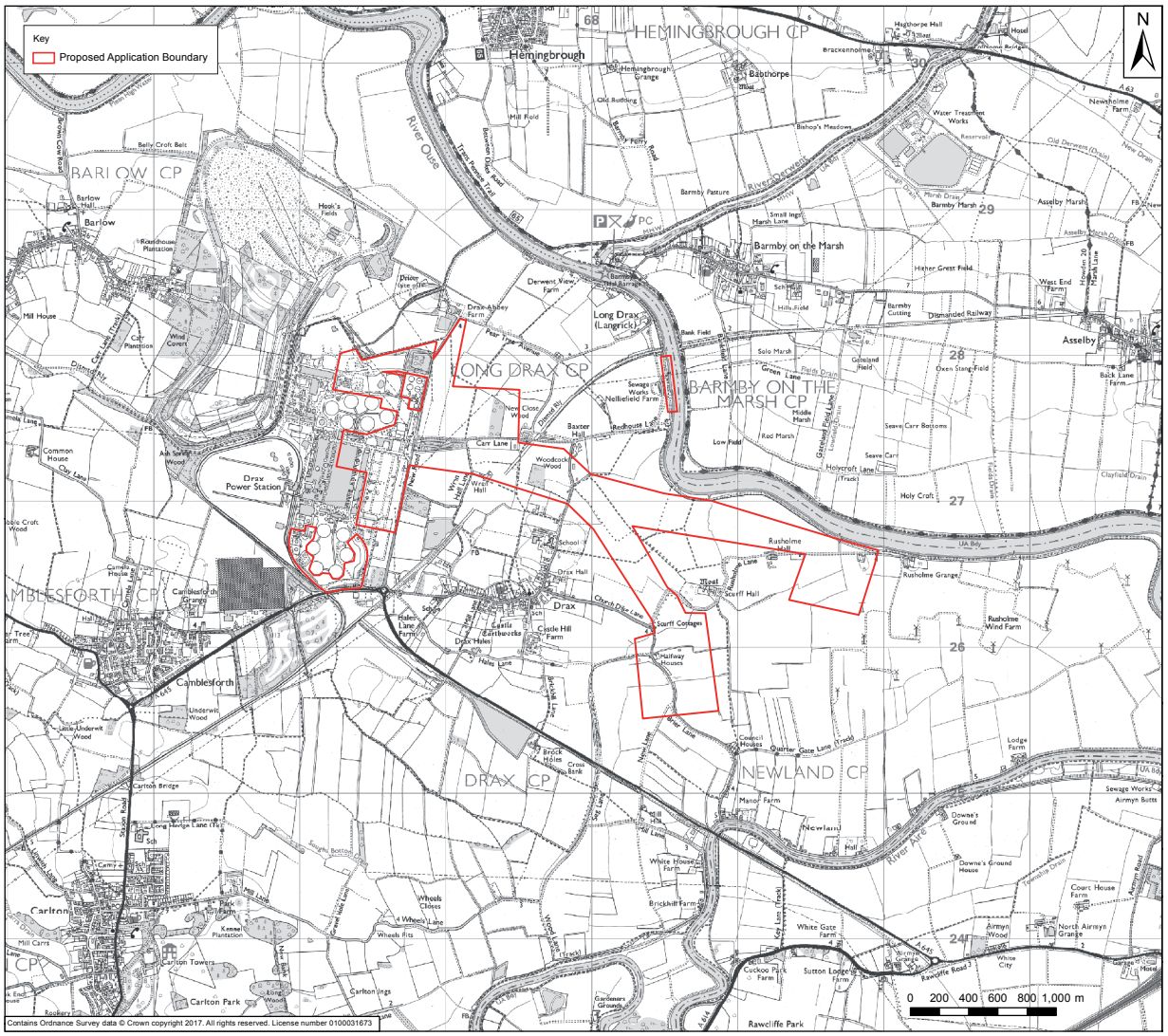
Other elements of the Project are:

- The use of the existing jetty on the River Ouse and the installation of a temporary crane for the movement of heavy loads during the period of construction
- Areas of land to be used as a temporary construction compound and for potential use if a Carbon Capture installation is required in the future



The Project development area

The map below shows the indicative development footprint.



Why Repower?

The Repower Project forms part of Drax's plans to:

- Invest in lower carbon, efficient and flexible power generation
- Support the Government taking coal off the grid
- Reinforce Drax's role as one of the UK's largest energy producers

Plans for gas at Drax Power Station were announced in June 2017, as part of an ongoing research and development project and are part of Drax's strategy to play a vital role in changing the way energy is generated as the UK moves to a low carbon future. The Project would repower up to two of our coal assets and extend their operation into the 2030s.

The Project is a response to the revolution taking place in our energy system. Renewable technologies now account for a larger proportion of Great Britain's electricity sources than ever before, and they're growing.

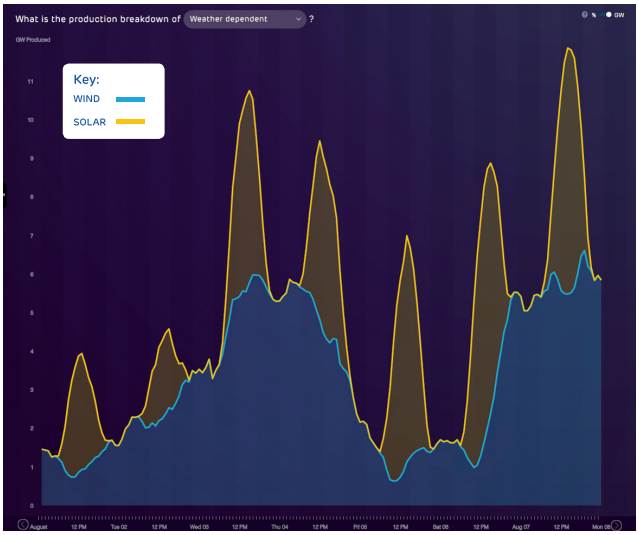
The first quarter of 2017 was a record-breaking one for renewables. Biomass, wind and hydro all registered their highest energy production ever, while solar recorded its highest ever peak output.

However, in a power system increasingly made up of intermittent renewables, it is even more important to have a range of technologies that can respond quickly to spikes in demand and drops in supply – for example, when the sun isn't shining and the wind isn't blowing.

In short, what the power system of today needs is flexibility and security.

The Drax Repower Project would enable Drax to provide even greater flexibility to the national electricity grid. Our proposed new gas units and a battery storage facility, combined with our existing biomass units, would provide low carbon electricity at significant scale at short notice when the system needs it. For example, in response to very low wind speeds affecting wind power productivity, unexpected power station unit outages elsewhere in the country, or times of high energy demand, particularly in the winter. It will also keep us on track to meet our carbon-reduction challenges.

Our plans are also a response to the UK Government's wish to see all coal-fired generation phased-out in this country by 2025.



Case study from electricinsights.co.uk showing weather dependent nature of wind and solar power generation on Great Britain's electricity system, August 1 - 8, 2016

The role of gas in the energy mix

- Gas generation plays a key role in the UK's energy system
- Gas power plants can run 24 hours a day or provide back-up to intermittent renewables, like wind and solar power

Nearly 45% of the country's power already comes from gas, mostly generated by combined cycle gas turbine (CCGT) power plants. CCGT plants can deliver a steady supply of baseload power - just like Drax Power Station does with both coal and biomass. In addition, the gas turbine technology that Drax would be using can generate electricity at short notice, in response to peaks and troughs in demand.

Looking to the future, gas generation will play an increasingly important role supporting the energy grid during periods when the wind isn't blowing and the sun isn't shining.

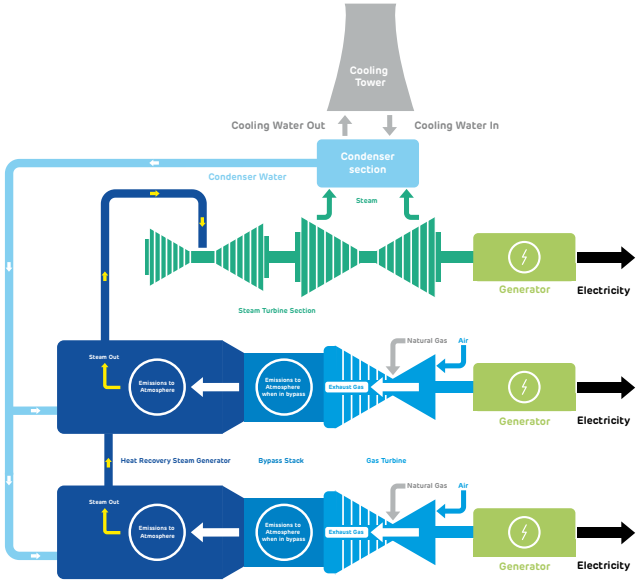
What is a combined cycle gas turbine?

We are proposing to use CCGTs, replacing up to two of our remaining coal-fired units at the power station. They would be located within the existing boundary of the power station site. Modern CCGTS are more efficient (up to 60%) compared to coal-fired plant that are 35-40% efficient.

Subject to further studies, the gas turbine generating units will be designed to operate in both open cycle and combined cycle mode. When operating as an open cycle gas turbine (OCGT), the exhaust gas from the gas turbine will be sent direct to the atmosphere through a bypass stack.

In a CCGT, natural gas is fired into the combustion system in order to drive a power turbine that is connected to an electricity generator. The hot exhaust gases generated by the turbine are passed through a heat recovery boiler before being emitted to the atmosphere through a stack. The steam that is generated by the boiler is used to produce additional electricity, and the steam leaving the steam turbine is condensed and this water is returned to the process for reuse.

Extracting 'excess' energy this way significantly increases the efficiency of the operation.



What is our proposed battery facility?

Battery technology represents an opportunity to use our energy system more efficiently. Historically, electricity has had to be used as soon as it is generated because it has been difficult to store. At times this can be inefficient, such as when wind and solar farms are generating more clean electricity during the summer than what is needed to meet national demand. However, thanks to recent advances in research and innovation, the prospect of storing electricity is now becoming a reality.

We are proposing to construct a battery storage facility with capacity of up to 200MW within the boundary of the power station site. It will either be housed in multiple containers like those used in shipping or housed in a dedicated stand-alone building.

As well as the containers housing the battery storage cells, other ancillary equipment will be required. These include cooling systems, electric control and switchgear containers or cabinets and transformers.

If the battery storage cells are housed inside a building, all ancillary equipment except cooling systems and transformers will also be housed inside the building.

Environmental Impact Assessment

As part of the planning process, we will be undertaking an Environmental Impact Assessment (EIA). The EIA will consider the potential impact of the Project on a range of environmental topics, including:

- Air quality
- Ground conditions and water quality
- Noise and vibration
- Traffic and transport
- Landscape and visual amenity
- Local ecology, archaeology and heritage
- Flood risk
- Socio-economic impacts

In September 2017, we submitted a Scoping Report to the Planning Inspectorate outlining our proposed approach to undertaking the EIA and assessing the Project's potential environmental impacts during its construction and operation.

The Planning Inspectorate – on behalf of the Secretary of State for Business, Energy and Industrial Strategy – has reviewed the Scoping Report and consulted with relevant statutory consultees such as local authorities, Natural England and the Environment Agency. On 23rd October, 2017 the Planning Inspectorate issued its Scoping Opinion, confirming what must be assessed in the EIA.

The Scoping Report and Planning Inspectorate's Scoping Opinion can be downloaded via the Project's dedicated website, the Inspectorate's website, inspected at local libraries and council offices and is available upon request from Drax Power.

Our EIA is being undertaken in accordance with the Scoping Opinion, legislation, guidance and best practice, and is being carried out by WSP, a specialist environmental and engineering consultancy. A Preliminary Environmental Information Report, setting out our preliminary findings regarding environmental impacts and the steps we will take to minimise impacts, will be made available at the next stage of public consultation.

The gas pipeline

The gas turbine generating units will require a new gas connection from the Gas Transmission Network. The connection will comprise:

- A new underground pipeline approximately 3km in length extending eastwards from Drax Power Station and primarily across agricultural land
- An Above Ground Installation (AGI) at the connection to the National Gas Transmission network, likely to be housed in a compound

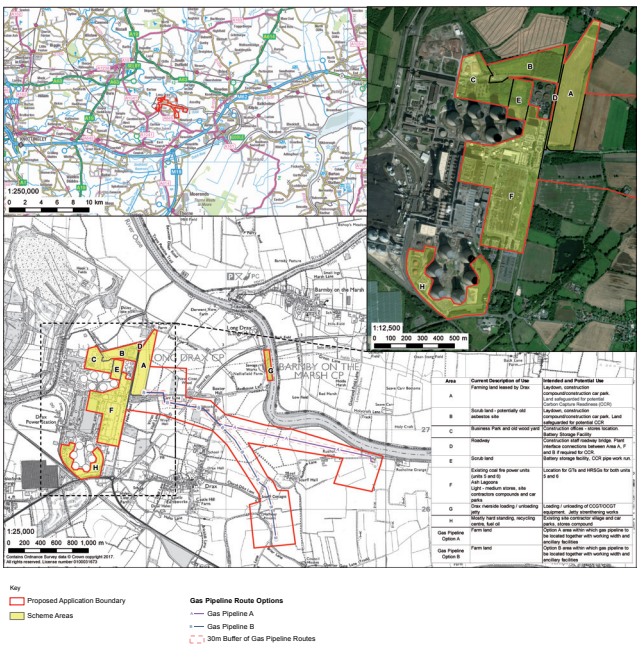
Construction of the pipeline would be confined to a corridor with a working width typically 30m wide, and once installed, the land would be re-instated to its former use and condition. The pipeline itself would be approximately 3km in length, 600mm in diameter and installed at a depth of at least 1.2m.

The pipeline and AGI will be located outside of the main boundary of the Drax Power Station site, on land that Drax does not currently own. In order to lay the pipeline, Drax will therefore need to either reach agreement with relevant landowners to acquire the necessary rights in their land, or seek powers from the Secretary of State to compulsorily acquire the neccessary rights. We are already speaking with the owners of land that might be affected by the pipeline.

Planning permission to construct the pipeline can be secured as part of our Development Consent Order application to the Secretary of State for Business, Energy & Industrial Strategy or a separate application to Selby District Council. At this stage, we anticipate that it will form part of our Development Consent Order.

Route options for the gas pipeline

Two pipeline route options are currently under consideration. Only one pipeline route will be required and the choice of route will follow a detailed route selection exercise, taking into account the potential environmental impacts, engineering considerations, as well as responses received during our consultations.



Environmental assessment

Work to assess the various environmental impacts of the Project is underway. These include:

Air Quality

The potential impacts of the new gas turbines and the decommissioning of the coal fired power units on air quality will be assessed. The gas fired plant would contribute some emissions to the air via the emissions stacks. These emissions would include:

- Nitrogen oxides
- Carbon monoxide
- Carbon dioxide

The power station would be designed to comply with the requirements of the Industrial Emissions Directive (IED) and would be regulated by the Environment Agency through an environmental permit.

The results of the air quality assessment will be used to inform the height of the emissions stacks so as to protect people and wildlife from the effects of emissions. It is currently anticipated that the stacks would be up to 120 metres in height – for comparison, the main stack associated with the existing biomass and coal fired power station is more than 280 metres high.

The air quality assessment will also consider potential impacts arising from construction traffic and the effects on European Union-designated ecological sites.

Noise

The noise assessment will consider the effects of construction and operational noise on residential properties, schools and places of worship within:

- Barlow
- Camblesforth
- Drax
- Long Drax
- Individual properties closer to the site and adjacent to construction traffic routes.

Measures to reduce or control noise will be included in the design of the Project, in order to prevent any unacceptable noise levels at these properties.

All methodology used for measurement of environmental noise and then assessment of changes and effects (through computer modelling) will be in accordance with relevant British Standards for construction and operational noise and vibration.

Traffic and transport

To assess the impacts of the construction phase on the transport network, a Transport Assessment will be produced, in accordance with relevant government guidance.

Based on other similar sized projects it is anticipated that there would be a significant number of construction workers on site at the peak of activity.

There will also be a number of heavy goods vehicle movements to and from the site, reaching up to 330 movements per day for a short peak period of one month during the construction programme.

During operation, the proposed plant is not anticipated to result in a significant increase in the workforce at Drax or require additional deliveries. Therefore, there will be a negligible effect on traffic and transport in the area once the Project is completed.

Landscape and Visual

A Landscape and Visual Impact Assessment will be undertaken to consider the impact of the Project on:

- National and local landscape character areas
- Residential properties
- Users of long distance recreational trails and Public Rights of Way
- Visitors to landscape and heritage resources

We would welcome any feedback on local views to assist these assessments.

Planning and consultation

The planning process

Given its generation capacity (more than 50MW), Drax Repower is classed as a 'Nationally Significant Infrastructure Project'. We are therefore required to submit an application for planning permission known as a Development Consent Order (DCO) to the Planning Inspectorate, a central government office.

We intend to submit our DCO application in 2018. If accepted, an Examining Authority will be appointed, comprised one or more planning inspectors from the Planning Inspectorate. The Examining Authority will undertake an independent examination of the application before making a recommendation to the Secretary of State for Business, Energy & Industrial Strategy, who will make the final decision as to whether to grant permission for the Project.

In advance of submitting the DCO application, we are also considering undertaking some on site reconfiguration works, including relocating some existing facilities within the power station site complex. This work may need to be undertaken during the course of 2018. As these works are not major and would not impact on the environment, Drax may be able to carry them out without planning permission under our existing "permitted development" rights. If the work does not need to be undertaken in 2018, or cannot be undertaken using permitted development rights, then it could form part of our DCO application or a separate planning application to Selby District Council.

Why consult?

The views of the local community and key consultees are very important to us. A Statement of Community Consultation will be published in the coming weeks, outlining our approach to ensuring all relevant stakeholders have an opportunity to comment on the proposals.

Statutory consultation in accordance with the Statement of Community Consultation will be carried out in early 2018.

Feedback from our consultation will help shape the final application. As part of our DCO application we will include a Consultation Report that demonstrates how we have consulted with the public and have had regard to consultation feedback.

If our DCO application is accepted for examination, we will also publish notices in local and national media updating the public and inviting them to make their own representations to the Planning Inspectorate.

Project Timetable/Key Milestones

Autumn 2017	Winter 2017/18	Spring 2018	Summer/Autumn 2018	Autumn 2018	Autumn 2018/ Spring 2019	Autumn 2019	2022/23
Liaison with local councils, landowners and other statutory organisations Environmental Impact Assessment (EIA) Project design & engineering First public exhibitions (non-statutory)	Publication of Statement of Community Consultation Statutory period of consultation, including consultation on the PEIR and public exhibitions	Detail of the Project, including the EIA, finalised Submission of DCO application	Pre-Examination Period	Notice of Preliminary Meeting	Examination Period	Decision from Secretary of State for BEIS	Commercial operation

Your Feedback

We would welcome your views on any aspect of the Drax Repower proposals, such as your understanding of the local environment, the application process and how you can be further involved, your opinions and views on the future of Drax, or the consultation itself.

We have feedback forms that you can fill in today, or if you prefer you can take away and return to us free of charge; or you can provide us with feedback online via our website.

Thank you for coming today

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