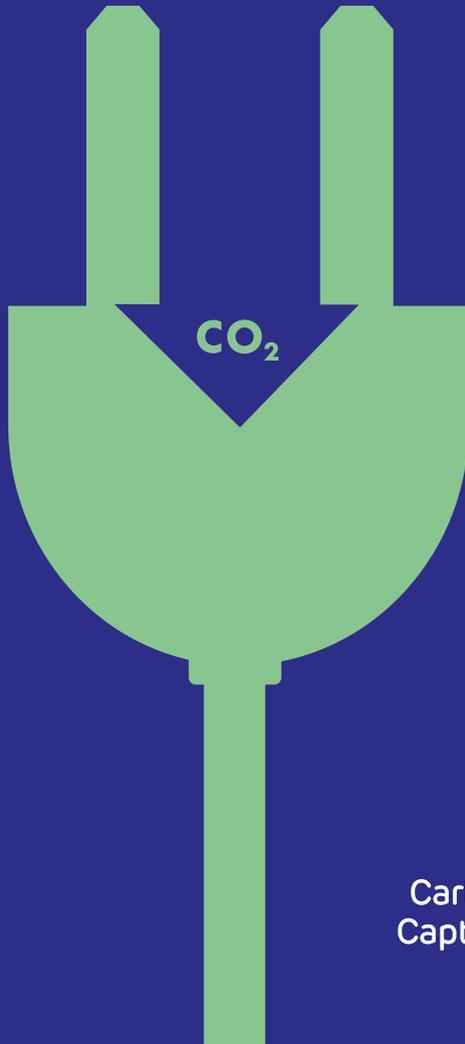


Power up, carbon down

BECCS at Drax will keep the lights on, create jobs and growth and lead the world in carbon removal



Carbon  
Capture | by drax

Drax plays a critical role in supporting UK energy security, providing more renewable power for the country than the next two generators combined. We're investing £2.5bn in enhancing grid stability, boosting energy resilience and positioning the UK as a global leader in carbon capture and pumped storage hydro. Through pioneering green technology and innovation, we're helping the UK decarbonise, creating a path to net zero and beyond.

## At this critical time for the UK, Drax is supporting the country by:

-  Bolstering UK security of supply
-  Creating and supporting thousands of jobs across the UK
-  Pioneering bioenergy with carbon capture and storage (BECCS) to help the UK decarbonise
-  Making the UK a global leader in climate-saving technologies
-  Sustaining healthy, growing forests across the world



Discover more

[drax.com/pledges](https://drax.com/pledges)

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# The Challenge Ahead

Global events of 2022 have necessitated stark warnings to governments and economies the world over. The war in Ukraine has highlighted the volatility of the global energy supply and the importance of generating reliable and renewable power for British homes and businesses.

Now more than ever, the UK must invest in renewables to ensure security of supply and energy resilience. Producing energy domestically is the best way to support energy security – with the additional benefits of creating jobs and boosting opportunities across the country.

Which is why it is encouraging to see Government making progress on a solution to support security of supply and achieve net zero targets – while, at the same time, presenting an opportunity for the UK to lead the world in pioneering, climate-saving technology.

Drax is ready to invest £2.5bn in renewable energy technologies, including bioenergy with carbon capture and storage (BECCS) – the only carbon removal technology that generates renewable electricity. This means BECCS supports energy security, while also removing millions of tonnes of CO<sub>2</sub> from the atmosphere.

In July 2022, after two consultations and ongoing community engagement, Drax submitted its planning application for BECCS – an important delivery milestone. If approved, the BECCS project at our North Yorkshire power station could start capturing millions of tonnes of CO<sub>2</sub> as soon as 2027, permanently storing those emissions in geological formations under the North Sea.

We're ready to deliver; we have already started building our supply chain with two

supplier engagements in 2022 attracting 600 businesses from the Humber and Teesside. Drax has also signed a landmark MOU with British Steel to explore opportunities to supply UK steel for the project.

Government is also making encouraging progress on BECCS, with the launch of a business model consultation and project submission process for BECCS technology.

BECCS is the most cost-effective carbon removal technology. It will also sustain and create over 10,000 green jobs in the North and put the UK at the forefront of a climate solution that will be needed globally to decarbonise economies and support energy security.

Deploying BECCS at Drax could save the UK over £26bn to reach its net zero target. Half of that saving – £13bn – will come this decade<sup>1</sup>. And with the right government support and investment framework, Drax will capture eight million tonnes of CO<sub>2</sub> with BECCS – delivering the world's biggest carbon capture project in power and a significant proportion of carbon removals that the UK needs to reach net zero.

With the right policies to unlock investment, Britain can lead the world in a technology which is urgently needed to prevent catastrophic climate change and deliver clean, secure, lower-cost energy.

We're asking for your support in making BECCS at Drax a reality. Back BECCS at Drax to support energy security; create jobs and opportunities for the North and make the UK a world leader in fighting the climate crisis.



## Securing the UK's Energy Supply

Today, Drax is proud to generate 11% of the UK's renewable electricity – more than any other generator – across our UK sites including Drax Power Station in Selby, Yorkshire and Cruachan Power Station in Scotland. We play a critical role in ensuring the country's security of supply while supporting almost 18,000 jobs across the UK directly and through our supply chain.

Drax helps keep the lights on when the wind doesn't blow and the sun doesn't shine.

Unlike wind or solar, our sites provide clean, dispatchable power whatever the weather – supporting grid stability and flexibility.

Now more than ever, the UK needs to invest in domestic security of supply, while also decarbonising the grid and meeting climate targets. There is only one technology which can generate reliable and renewable electricity, all while removing carbon dioxide from the earth's atmosphere – it is called Bioenergy

with Carbon Capture and Storage (BECCS). This technology has already been trialed and proven at Drax. Now, we're ready to go further and begin our next chapter – through delivering BECCS at scale at our North Yorkshire site. BECCS is proven technology which will remove millions of tonnes of carbon from the atmosphere and create local, national and global opportunities.

Scaling up BECCS will get the UK to net zero faster and at least cost. BECCS kickstarts a new green economy in the Humber, supporting 10,000 jobs and creating opportunities across the North. BECCS allows the UK to get ahead in the global race to lead in carbon removals. Crucially, it's shovel ready and will start delivering jobs and growth before the next election.



# The importance of negative emissions

According to the United Nations Intergovernmental Panel on Climate Change, negative emissions technologies such as BECCS – which remove carbon from the atmosphere – could be required to capture 10 billion tonnes of carbon dioxide annually to help prevent catastrophic changes in the climate between now and 2050<sup>2</sup>. A combination of negative emissions solutions, including BECCS, DACS and natural climate solutions is vital to achieving net zero<sup>3</sup>. According to the experts, it is BECCS that will be the major negative emissions solution capable of being deployed to help reach net zero by 2050.

## Negative emissions solutions are crucial in order to:

- ✓ Neutralise residual, hard-to-abate emissions, supporting industries and jobs whose path to decarbonisation will take longer than other sectors, such as agriculture, aviation and heavy industry.
- ✓ Reduce carbon dioxide if emissions reductions are not delivered quickly enough – giving us security and resilience on the path to net zero.
- ✓ Ensure efforts to achieve net zero are affordable.
- ✓ Ensure that achieving net zero does not disadvantage or hold back developed and developing economies around the world, which will become ever more dependent on access to affordable, reliable power.
- ✓ Remove historic emissions already in the atmosphere.

## Different negative emissions solutions that exist today

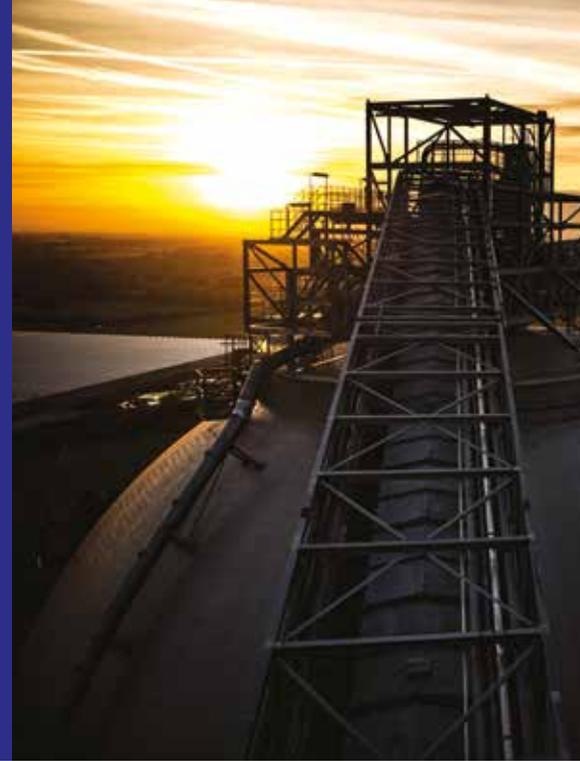
- BECCS** Bioenergy with carbon capture and storage is the process of capturing and permanently storing carbon dioxide (CO<sub>2</sub>) that is generated during the production of electricity from sustainable biomass. This is the only carbon removal technology that also generates low carbon renewable power.
- DACS** Direct air capture (DAC) technologies extract CO<sub>2</sub> directly from the atmosphere using either liquid or solid sorbents. While this could offer huge potential, the technology is currently in its infancy and requires substantial investment to make it a more widespread practice. It also requires vast amounts of zero carbon power to operate.
- NCS** Natural climate solutions use natural processes and carbon sinks to remove CO<sub>2</sub>. Examples include reforestation, where new trees absorb and store carbon as they grow and seagrasses (vegetation underwater) which can store up to twice as much carbon dioxide as forests on land.

<sup>2</sup> Coalition for Negative Emissions – The Case for Negative Emissions (June 2021, p.9).  
<sup>3</sup> Coalition for Negative Emissions – The Case for Negative Emissions (June 2021, p.6).

# Pioneering BECCS to help the UK decarbonise

## What is BECCS?

Bioenergy with carbon capture and storage (BECCS) is the process of capturing and permanently storing carbon dioxide (CO<sub>2</sub>) from biomass (organic matter) energy generation. Using BECCS, Drax aims to be a carbon negative company by 2030.



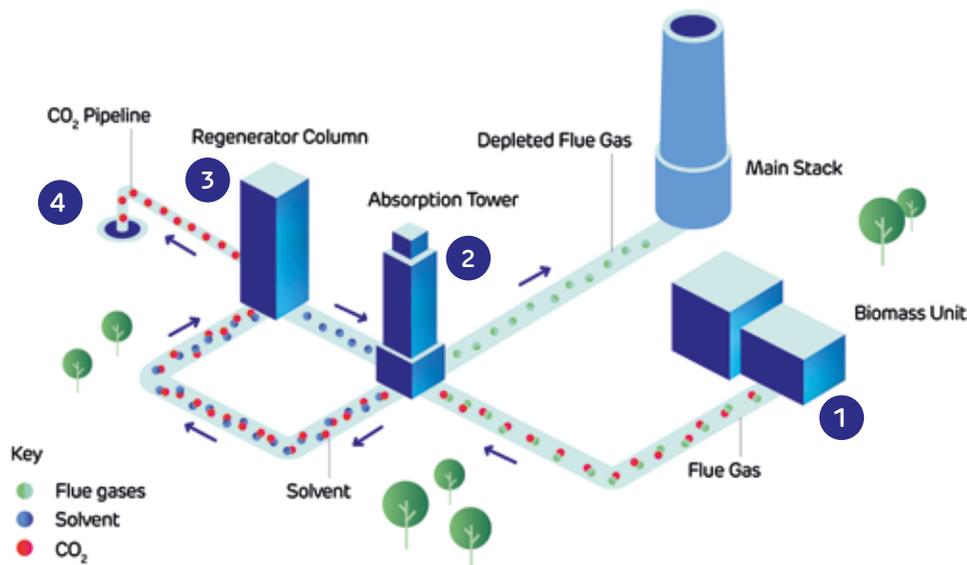
## ✔ Negative emissions

The process of actively removing CO<sub>2</sub> from the earth's atmosphere.

## ✔ 40%

The first unit of BECCS at Drax will deliver 40% of the negative emissions which are required to reach net zero in the UK, according to the CCC.

Drax's BECCS project uses carbon capture technology. Some of the key components used for BECCS are:



- 1 Sustainably sourced wood biomass pellets are burned, producing high-pressure steam that drives electricity-generating turbines.
- 2 The flue gases, which would ordinarily be released into the atmosphere, are treated to remove any harmful pollutants.
- 3 The CO<sub>2</sub> produced is then captured – solvents, which are re-used, isolate the CO<sub>2</sub> from the remaining flue gases.
- 4 The captured CO<sub>2</sub> is pressurised and turned into a liquid-like substance that can then be transported by pipeline. At least eight million tonnes of CO<sub>2</sub> can be captured and stored every year using this technology.

This liquified CO<sub>2</sub> can then be safely and permanently injected into naturally occurring porous rock formations (unused natural gas reservoirs, coal beds or saline aquifers), in a process known as sequestration. The UK has the capacity to potentially hold 70 billion tonnes of CO<sub>2</sub> under its seabed. <sup>4</sup>

# Timeline of BECCS

BECCS at Drax has seen significant milestones in 2022, most notably submitting our Development Consent Order (DCO) in July for this crucial project. Take a look at our progress and what's still to come.



# Deliver jobs and opportunities across the North

Developing BECCS at Drax will deliver significant advantages for local communities and the local economy across the Humber, boosting suppliers and helping revitalise the North <sup>6</sup>. The technology will support 10,000 jobs and make the region a global centre for excellence in green skills.

Drax already proudly supports 9,500 supply chain jobs in the North and generates £600m for the region's economy. Scaling up BECCS is an opportunity to go even further. We are committed to ensuring that local people living close to our operations are equipped with the skills to take advantage of these opportunities.

During the BECCS construction phase, Drax will spend hundreds of millions of pounds across our supply chain – with an ambition that 80% of construction spend will go to UK companies. This will generate transformational supply chain opportunities for local businesses – from large multi-nationals to the smallest SME.

Drax has hosted a series of nationwide events throughout 2022 in partnership with the West & North Yorkshire and Hull & Humber Chambers of Commerce.

These events gave new and prospective suppliers the opportunity to learn more about the BECCS project and how they can be involved in delivering this vital negative emissions technology. Drax will hold further supplier engagement activity in 2023.

In June 2022, Drax signed an MoU with British Steel to explore opportunities to produce 13,000 tonnes of steel that will be used in the fitting of BECCS technology at Drax Power Station. This partnership will not only provide the construction materials required, but also contribute to the development of skills in the steel industry relating to carbon capture technology.

Additionally, Drax has agreed with the National Farmers Union to develop a roadmap that could provide opportunities for diversification and innovation in the farming industry.

600 businesses attended our supplier events in Humber and Teesside.

“There are real synergies between what we’re trying to achieve and Drax’s ambitions with BECCS, which we hope to build on through this partnership, putting the UK and the North of England on the world map.”

Allan Bell  
Chief Commercial and Procurement Officer, British Steel

✓ 80%

During the BECCS construction phase, Drax will spend £100 million across our supply chain – with an ambition that 80% of construction spend will go to UK companies.

“BECCS at Drax will bring a lot more jobs to the area and will future proof the company and hopefully for people like myself, give us jobs for the next 40 years.”

Lewis Marran  
Engineering Apprentice, Drax



# Prospective suppliers for BECCS all across the UK

2022 has been a milestone year for BECCS supplier engagement. We've held two events in the Humber and Teesside for prospective businesses who want to help deliver BECCS and signed an MOU with British Steel for BECCS sourcing. We'll continue to prepare our supply chain for BECCS in 2023 working with councils, Chambers of Commerce and industry.

1 Such an important project for the UK, environmentally, commercially and technically

Paul Hopkinson  
Kelvion Simple Solutions, Fareham

2 What we're all trying to achieve here is to make sure that the UK supply chain in the energy sector is embracing energy transition, bringing home cleaner, greener energy

Joanne Lengn  
NOF, Durham

3 We need to look to the future, support green industry and create jobs within that arena

Helen Utley  
Bilfinger UK, Wokingham

4 BECCS at Drax has a really important role to play in the Humber's decarbonisation story

Diana Taylor  
Marketing Humber, Hull

5 This is yet another example of how our local businesses are benefitting not just from the transformative low carbon projects taking place on Teesside, but from across the north more widely as they seek our expertise and know-how. British Steel is already embracing the cleaner, healthier and safer industries of the future in our region, after launching a study into the use of green hydrogen in its operations on Teesside.

Ben Houchen  
Teess Valley Mayor

“ Drax is ensuring BECCS delivers growth and opportunities for the North, creating jobs and opportunities for local businesses and people. This is all part of our 80% domestic supply chain ambition for BECCS at Drax. Our supplier events across the Humber and Teesside have demonstrated the appetite to be involved in this project. We are ready to deliver and we're creating opportunities for businesses large and small.

”  
Graham Backhouse  
Drax

✓ **600m**  
Drax is proud to support 9,500 jobs in the North and generate £600m for the region's economy.

## Key

● Businesses registering for BECCS supplier engagement events in 2022



In June 2022, Drax signed an MoU with British Steel to explore opportunities to supply c.13,000 tonnes of steel that will be used in the fitting of BECCS technology at Drax power station.

# Helping the UK lead the way in negative emissions

Developing BECCS at Drax would put the UK at the forefront of developing and exporting a vital technology needed to combat climate change.

The UK can seize this unique opportunity to lead the world in BECCS technology and tackle the climate crisis – as long as we move quickly. In backing BECCS, the UK government will be prioritising decarbonisation, keeping the costs of net zero down for hardworking families and backing new British technology which can be exported worldwide.

BECCS is increasingly being explored and deployed around the world at heat and power stations, factories and waste-to-energy plants as countries and organisations aim to achieve net zero through negative emissions.

The US is ramping up their research and development of BECCS; the landmark Inflation Reduction Act demonstrated the vital need for biomass and BECCS in the view of the US Government.

Other countries have recognised the importance and scalability of this

technology and are either piloting or developing BECCS. If the UK wants to gain first mover advantage and be seen as leading the world in negative emissions, there must be bold and urgent action to get behind this crucial technology.

We want to play our part. At Drax, we stand ready to invest to scale up BECCS and put the UK at the forefront of global efforts to reach net zero emissions.

**“Incredibly powerful for our network to have a business like Drax that can lead in the technology of bioenergy and carbon capture and make such a significant difference to our impact on climate change and the carbon emissions.”**

**Diana Taylor**  
Marketing Humber



# Driving up standards with the right biomass

Drax is taking bold action and making significant investment around the world to realise a positive future.

The right biomass, as used at Drax Power Station, is a critical tool in the fight against climate change, in ensuring energy security and in achieving net zero:

✓ The **right biomass** protects and creates jobs in communities across the world most at risk in the green transition, while keeping the lights on for households and businesses.

✓ The **right biomass** supports healthy, growing forests.

✓ The **right biomass** helps get the world off coal and enables the removal of carbon from the atmosphere. All while helping the world to get to net zero faster and while supporting energy security.

The world needs biomass, but only in the right way. That's why we have rigorous monitoring, scrutiny and transparency to ensure our biomass meets the highest standards.

In 2019, an Independent Advisory Board was established. It comprises scientists and forestry experts led by former UK Chief Scientific Adviser Sir John Beddington to peer review Drax's transition to net zero and our use of sustainable biomass. The IAB scrutinised Drax's biomass sustainability and found that its sourcing policy is in line with the UK Forest Research report recommendations.

We have gone further, also. Alongside the Earthworm Foundation, we have developed the Healthy Forest Landscape, a data and evidence-led approach that evaluates forest health, carbon stock, biodiversity and community wellbeing.

Drax stands ready to help raise standards across the sector, around the world because we know the right biomass can deliver climate, people and nature positive outcomes.

# Backing BECCS at Drax

As BECCS at Drax reaches a crucial phase, we still need your support. We have already received significant backing from businesses of all sizes, local and national, who have supported our supplier engagement programme.

We are also proud to have the support of local councils, MPs, Chambers of Commerce and educational institutions such as Selby College, as well as c.2000 local residents, who have pledged their support to the project.

Businesses, residents and local authorities alike recognise the positive impact that BECCS at Drax will have.

Backing BECCS at Drax will not only contribute towards the UK's energy

security and net zero ambitions, but also create jobs and growth in the local area, helping revitalise the North and decarbonise the Humber.

BECCS is the only carbon removal technology that also generates low carbon renewable power. By 2027, the technology could be removing millions of tonnes of CO<sub>2</sub> from the earth's atmosphere.

With your support, we can make this happen.

Back BECCS at Drax to keep the lights on, create jobs and growth and remove carbon.



**It was great to be able to visit Drax Power Station today to learn more about their ambitious decarbonisation project, which will help the UK achieve its aim of being Net Zero by 2050 and help make Yorkshire and the Humber a global leader for green investment and innovation.**



Graham Stuart MP  
Beverly and Holderness



**Net Zero is achievable and using our science and technology there is every reason to be confident about the future.**



Nick Fletcher MP  
Don Valley  
(on a visit to Drax Power Station)

Thanks to our supporters and partners



# Carbon Capture | by drax



Back BECCS at Drax to  
keep the lights on, create jobs  
and growth and remove carbon

[drax.com/BECCS](https://drax.com/BECCS)