From sustainable bioenergy production to the potential for negative emissions electricity generation at Drax

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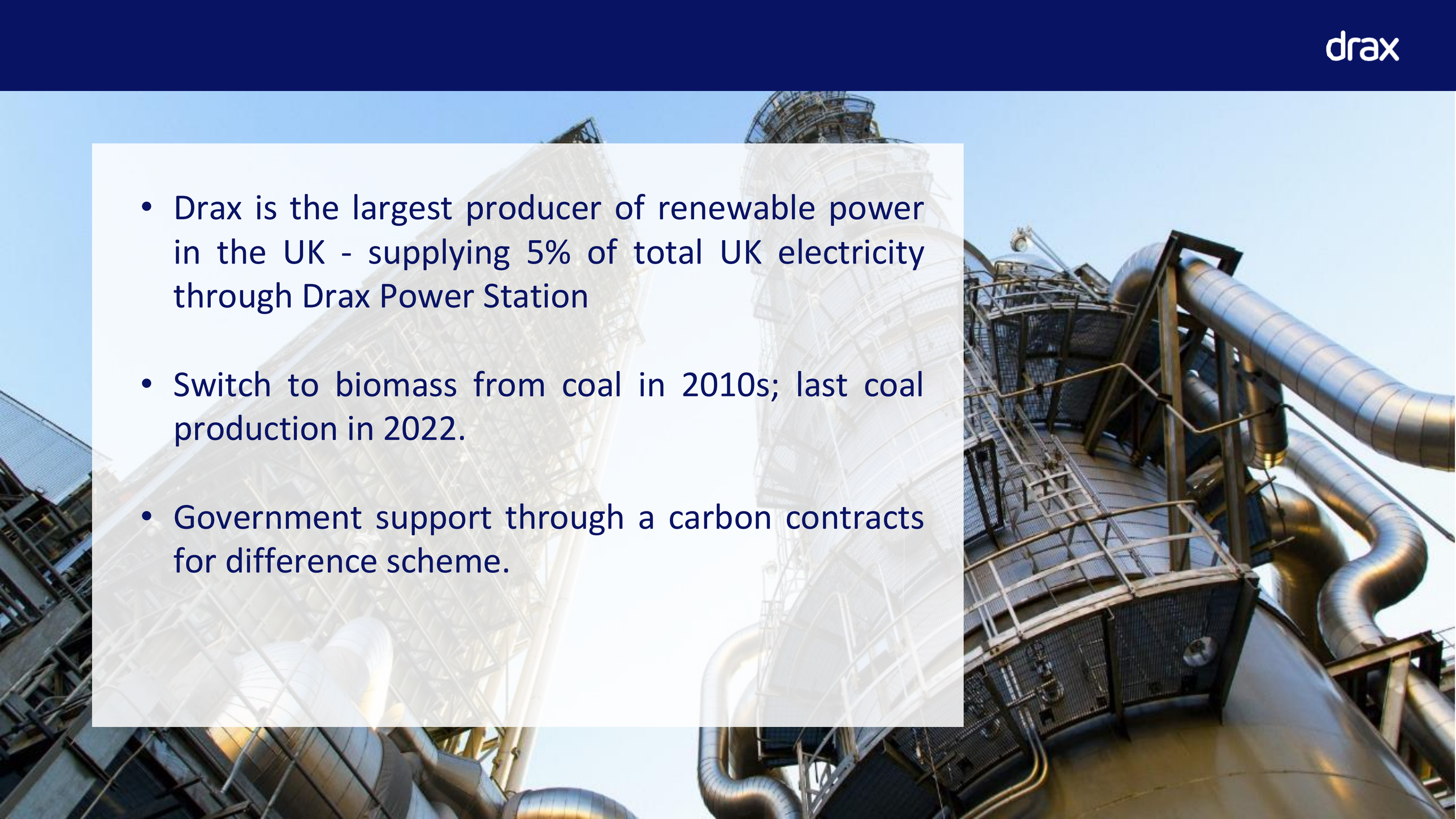


- Drax is the largest producer of renewable power in the UK - supplying 5% of total UK electricity through Drax Power Station
- Switch to biomass from coal in 2010s; last coal production in 2022.
- Government support through a carbon contracts for difference scheme.

Total tonnage at DPS: 7.5 m
%SBP: 98.6%

Types of feedstock (global)

Sawmill and other wood industry residues

Woody material produced during the processing of wood at the sawmill, such as sawdust, shavings, chips, and offcuts.

Low-grade roundwood

Low-grade roundwood is material which does not satisfy the quality standards set by the timber industry and is unsuitable for use in a sawmill.

Thinnings

Wood from a silvicultural operation where the main objective is to reduce the density of trees in a stand, improve the quality and growth of the remaining trees and produce a saleable product.

Agricultural residues

Non-woody processing residues, that are not the end product that a production process directly seeks to produce.

Branches and tops

Tops, bark and limbs of trees that have been left behind post harvest.

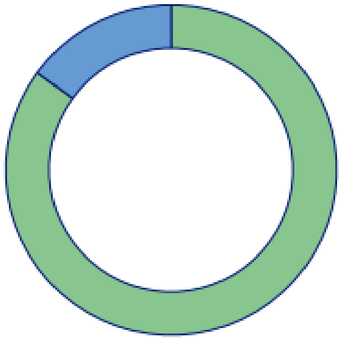
End-of-life trees

Trees that are felled because they have defective stems, are ill or damaged or trees that are removed from a plantation because they have reached the end of their productive lifetime or trees that must be removed for the permitted construction of infrastructures.

Drax Group sourced a total of 9 million tonnes of fibre in 2024 from 13 sourcing regions

9m
tonnes of fibre sourced

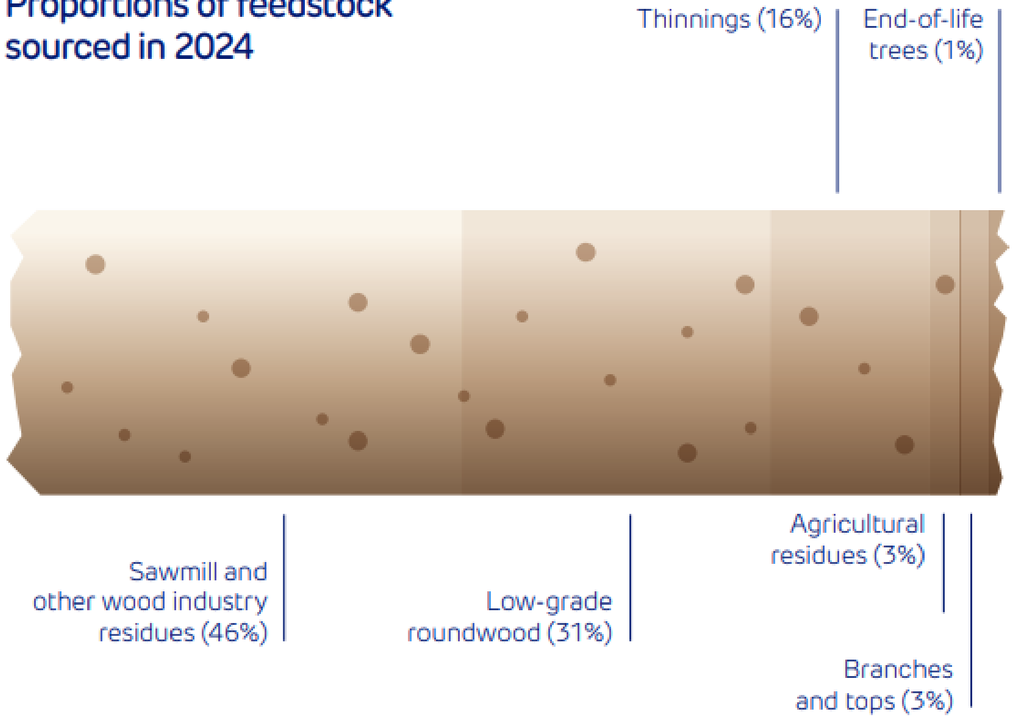
13
regions



How we use our sourced fibre

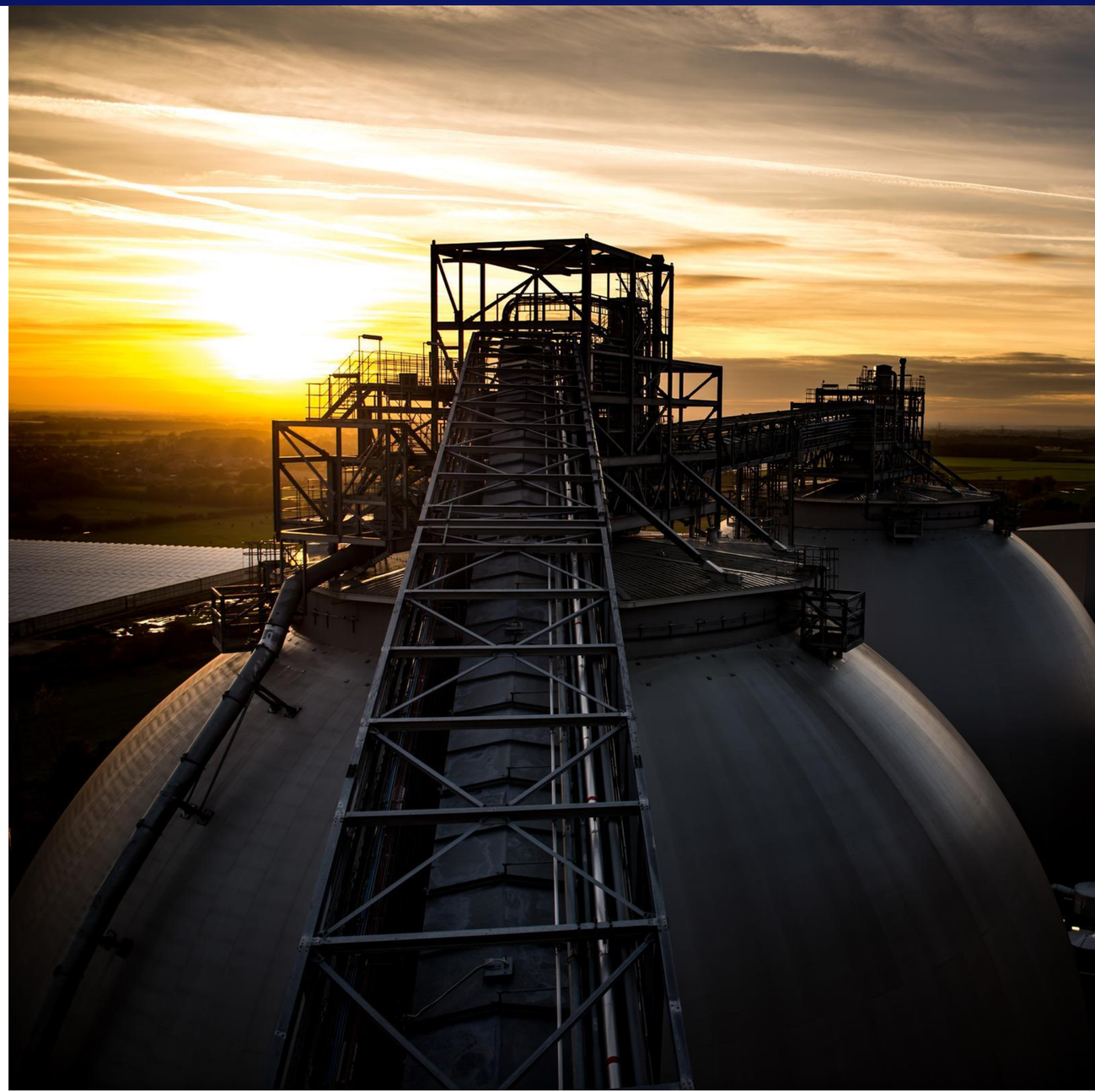
- Fuel for Drax Power Station: **85%**
- Third-party pellet sales: **15%**

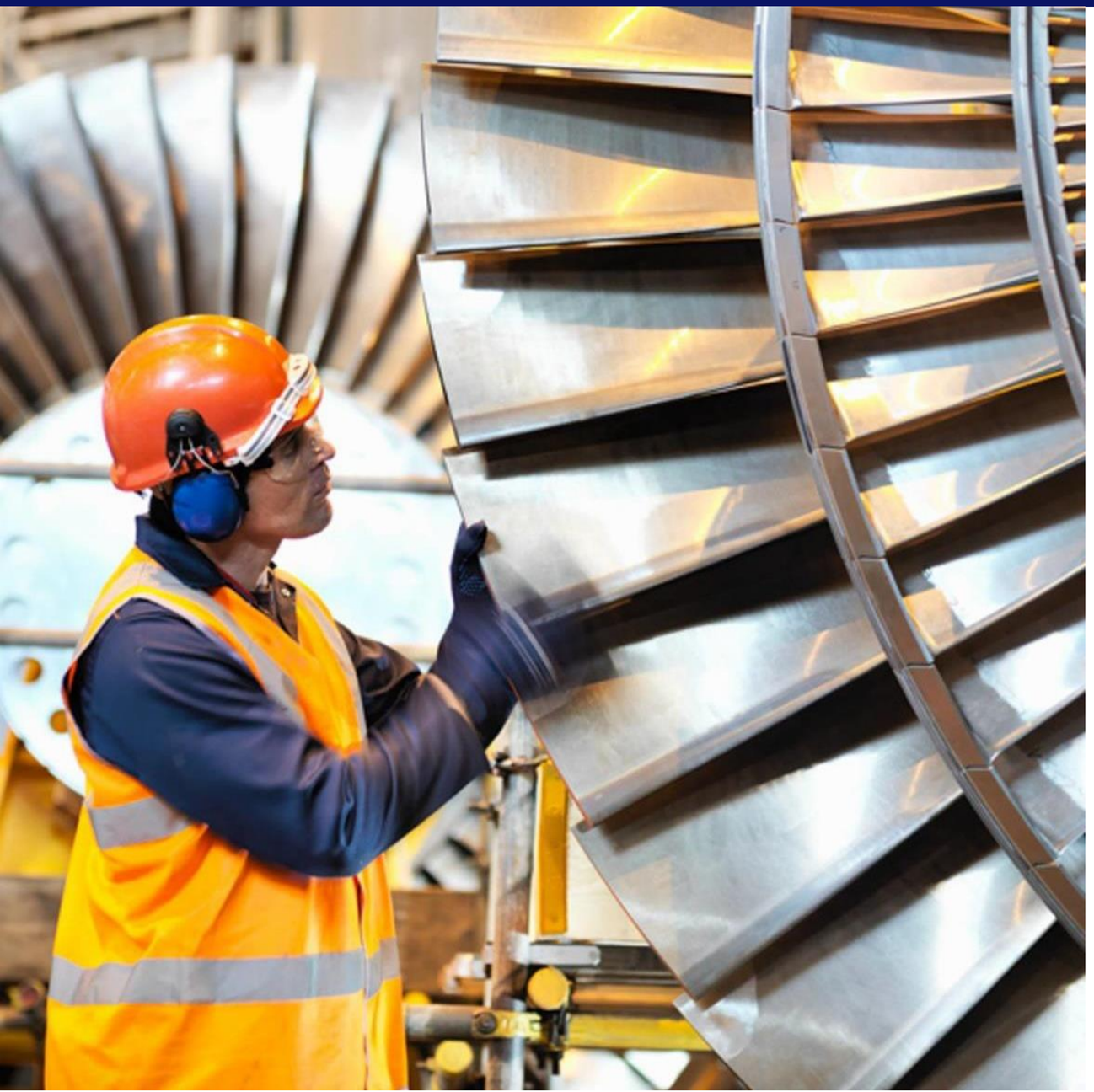
Proportions of feedstock sourced in 2024



Sustainability beyond certification – the BECCS Done Well process

“To what extent, and under what conditions, can BECCS be scaled to make a material contribution toward fighting the global climate crisis whilst not having unintended consequences”





- In 2022 Drax commissioned Forum for the Future to carry out an **independent 6-month inquiry** into what conditions for ‘BECCS Done Well’ might look like.

- Forum for the Future convened a **High-Level Panel**, Chaired by Jonathan Porritt and made up of a small number of individuals with significant experience and expertise in different aspects of the BECCS value chain.

- The Panel agreed on a number of **Expert Witnesses** (reflecting views from academia and key stakeholder organisations across the spectrum of opinions regarding BECCS) with whom they would engage, inviting each to contribute a written statement and/or to join a verbal discussion.

- The Inquiry looked at **four critical questions** (sourcing + processing, energy generation, contribution to net zero and verification) and resulted in **30 conditions**.

- **Drax** has released an interim response in 2023 and a final response in April 2024

Six themes of sustainability conditions:

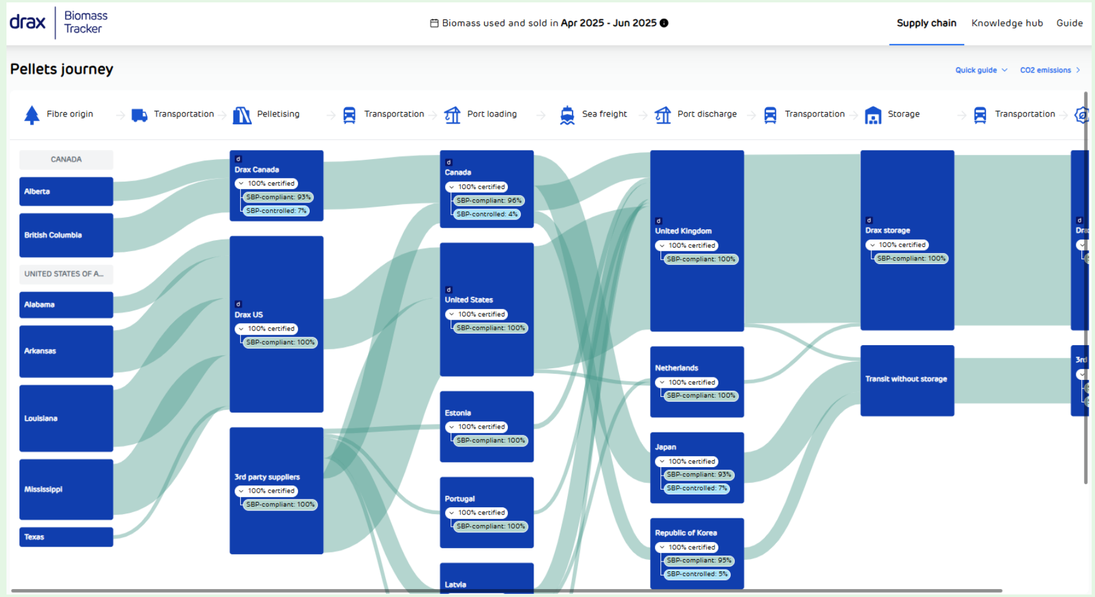
1. Biomass – ensuring sourcing is transparent and backed by science
2. Climate – maximise the removals offered by BECCS
3. Nature – contribute to nature positive outcomes at our assets and in our supply chain
4. People – work with communities to realise the positive impacts of biomass and BECCS
5. Transparency & Governance – verification of our operations
6. Science – proactively seek research and evidence

Full response here: https://www.drax.com/wp-content/uploads/2024/04/DR1908_Final-response-to-BECCS-DONE-WELL-Porritt-report_BF_V014.1.pdf

Increasing proof points for biomass sustainability

Biomass Tracker

We've launched the biomass tracker – a new tool to enhance transparency and traceability of our biomass, showing the journey from the forests to DPS.



Immersive US Forest Tour

We've launched a new virtual reality (VR) experience which takes users into the US South forests where we source biomass from. This is available via VR headsets and the Igloo 360 immersive space at DPS.

POSITIVE ACTION

Sustainability Framework

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CLIMATE POSITIVE

- We will reach net zero by the end of 2040 across our value chain.
- We will deliver evidence on forest carbon stocks in all principal biomass feedstock sourcing areas by the end of 2026, using rigorous science-based approaches.
- We will further address the global climate crisis with positive contributions to climate change mitigation and adaptation by the end of 2030.

NATURE POSITIVE

- We will mitigate harm and promote circular resource use across our operations by the end of 2030.
- We will deliver biodiversity enhancements across all our sites by the end of 2030.
- We will support biodiversity and ecosystem resilience in our value chain, contributing to measurable restoration and conservation outcomes by the end of 2030.

PEOPLE POSITIVE

- We will keep building a fair, safe and inclusive workplace.
- We will continue to collaborate with our supply chain to promote fundamental human and labour rights, including those covered by the UN Global Compact and the UN Declaration on the Rights of Indigenous Peoples.
- We will partner with the communities we operate in, seeking to make a positive contribution to their lives and livelihoods.

SUSTAINABLE BIOMASS

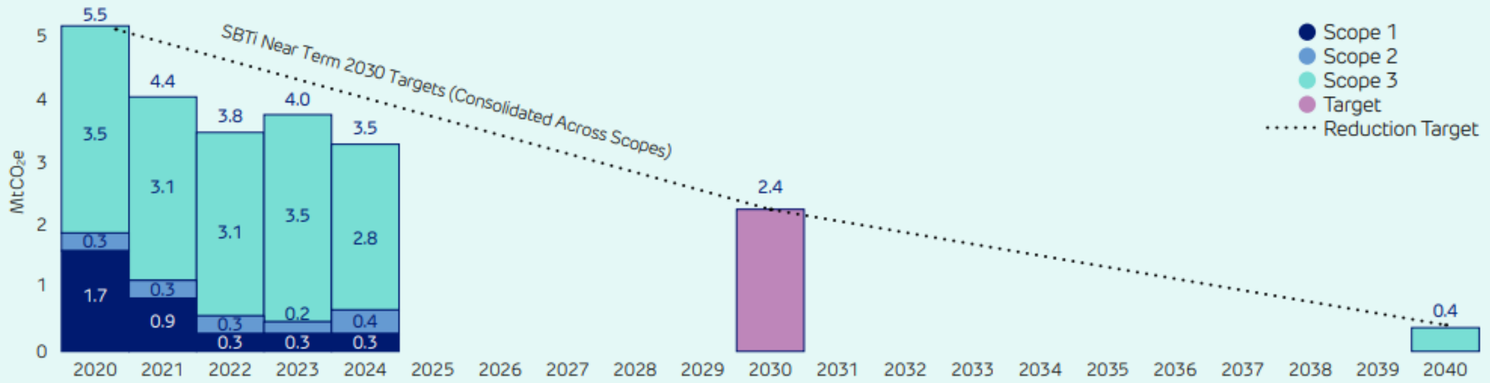
We commit to sourcing biomass that delivers climate, nature and people positive outcomes, adhering to strict compliance, traceability, and third-party certification standards.

POSITIVE ACTION

- We will perform comprehensive cradle to grave carbon life cycle analysis (LCA) to establish carbon footprint baselines and to identify potential improvements of our facilities.
- By the end of 2026, we will have evaluated forest carbon stocks in all principal sourcing areas and will monitor trends using a pioneering science-based approach.
- We will continue to conduct comprehensive forest carbon risk and resilience assessments in all sourcing regions that supply our pellet mills and future BECCS facilities.
- We will publish a white paper on opportunities to adopt circular economy principles within Drax, with a particular focus on the circular bioeconomy, by the end of 2025.
- We will develop Nature Positive Action Plans for priority biomass sourcing regions aligned to TNFD guidance by the end of 2030.
- We commit to being deforestation, degradation and conversion free by taking actions in collaboration with our suppliers and other partners. We will develop our evidencing using leading technology by the end of 2026 and will report on progress.

Decarbonising our operations

Our carbon reduction pathway (Absolute Emissions: $MtCO_2e$)



Pellet Production

Pellets energy optimisation: Expanded our portfolio of energy optimisation initiatives that target a reduction of energy consumption between 4-8% across our US and Canadian sites.

Natural gas feedstock dryers in Canada: Feasibility studies into the impacts of replacing gas burning dryers with electric or biomass-fuelled units.

Source a Renewable PPA deal in Canada: Exploring types of Renewable Energy Certificates to apply to high GHG intensive grids in our operations.

FlexGen & Energy Solutions

Hydro assets: Drax aim to create and publish a time-based carbon accounting methodology to estimate the avoided emissions from grid balancing technologies.

Solar Hydro Installation Project: Considering the use of solar panels on our run-of-river hydro sites to reduce Scope 2 emissions.

Biomass Generation

Hydrotreated vegetable oil (HVO) fuel train project: Following the success of HVO to replace diesel in our rail freight route from Immingham to Drax Power Station, we are now looking to expand our commercial supply to apply to all our UK train routes.

Heavy fuel oil (HFO) alternatives: Exploring options to use alternative renewable fuel sources to replace HFO for start-up and boiler stabilisation operations at Drax Power Station.

Engaging with science and evidence

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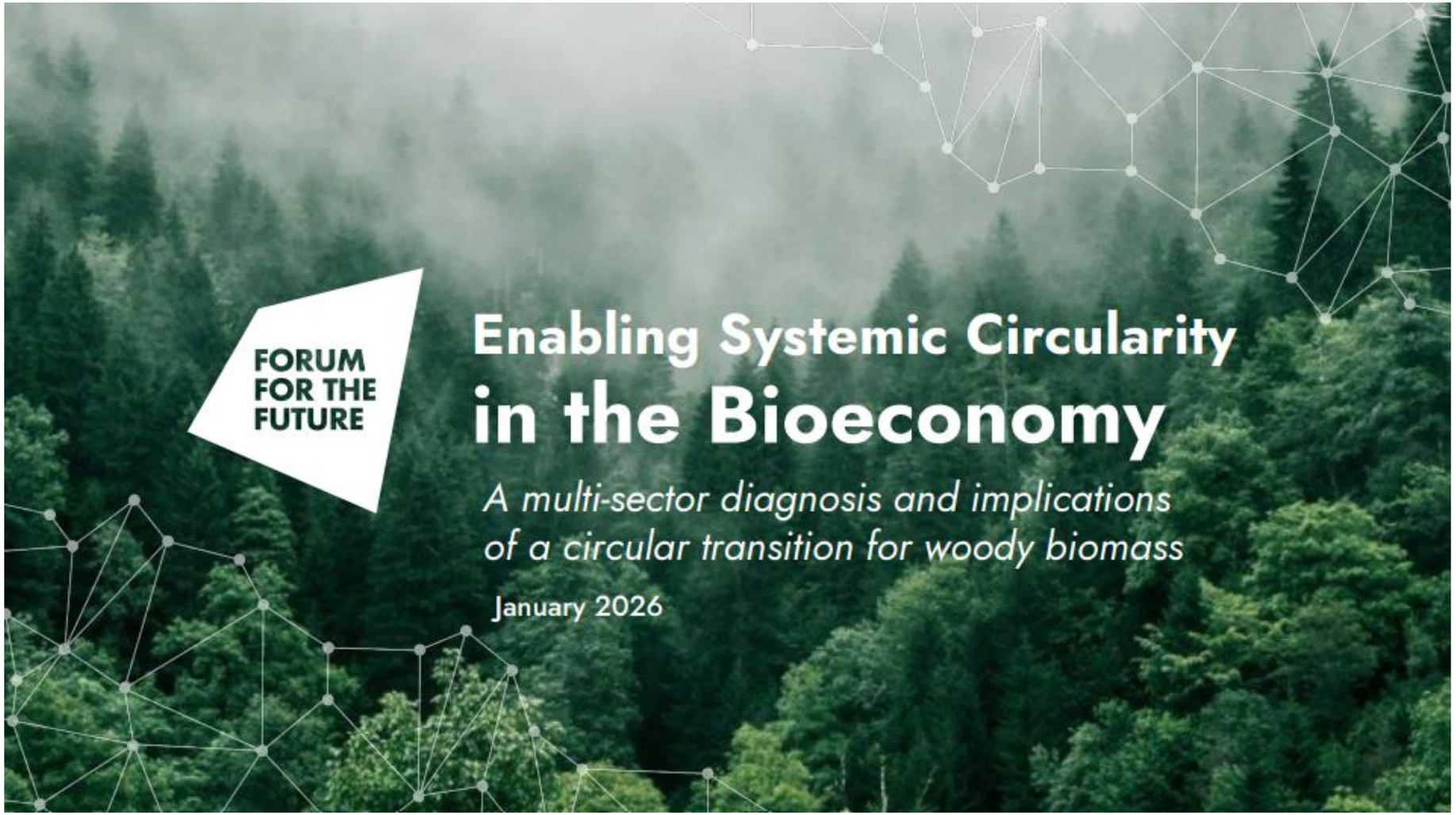
Home » Sustainability » Evidence hub

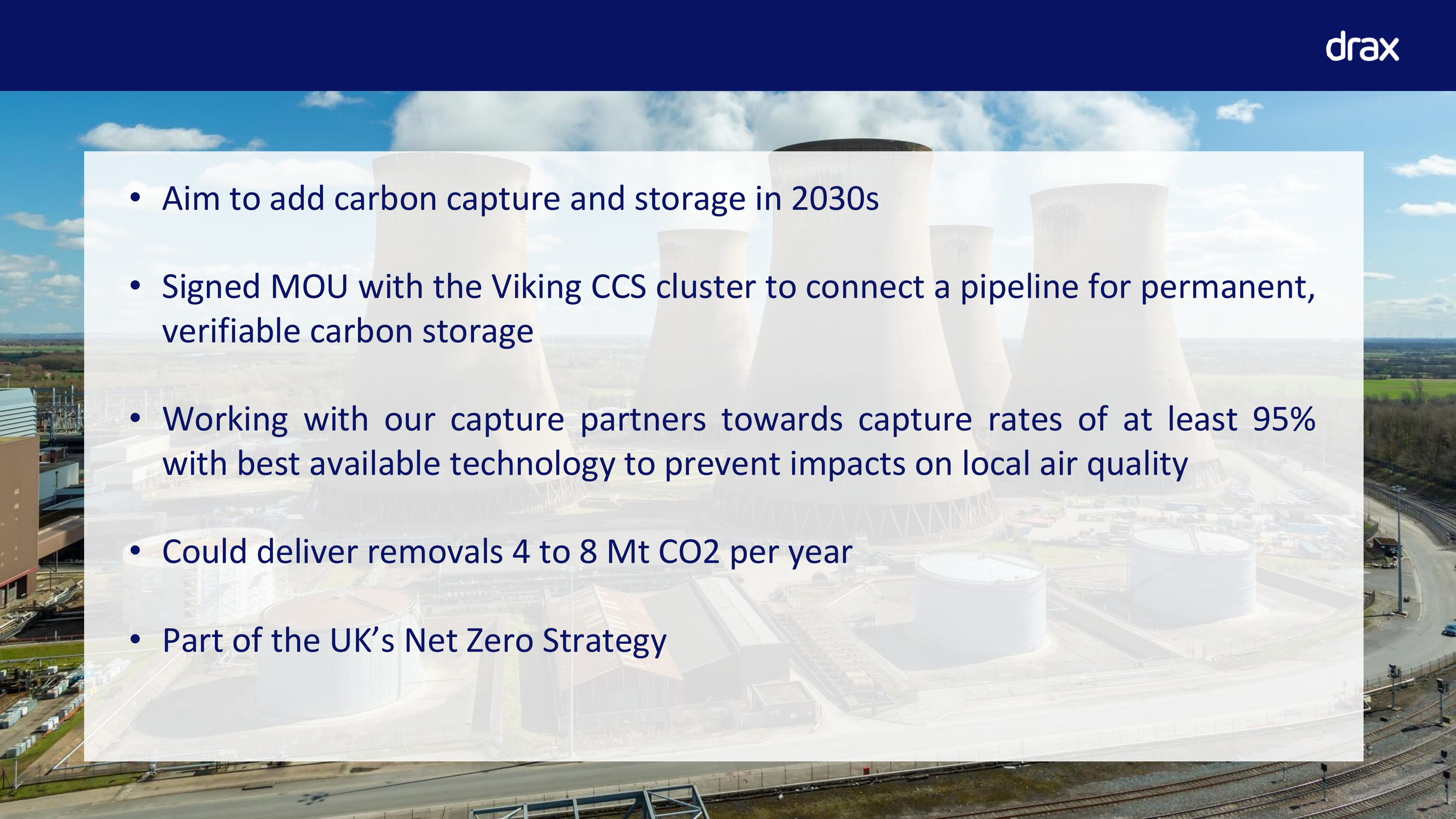
Evidence hub

Promoting circularity in the bioeconomy



Power station operations post 2027

- Government contract for difference through 2031
- Greater focus on dispatchable power, weighted towards winter
- Capped at ~1/3 total capacity
- Ability to sell to market



- Aim to add carbon capture and storage in 2030s
- Signed MOU with the Viking CCS cluster to connect a pipeline for permanent, verifiable carbon storage
- Working with our capture partners towards capture rates of at least 95% with best available technology to prevent impacts on local air quality
- Could deliver removals 4 to 8 Mt CO2 per year
- Part of the UK's Net Zero Strategy

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Be future positive

BECCS at Drax offers the potential to unlock billions in investment, create jobs across the Humber and throughout our supply chain, and remove carbon whilst providing a constant baseload of power – **delivering positive futures for climate, nature and people**

Thank you

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