Carbon Capture | by drax

BECCS at Drax: Supporting clean growth, levelling up and climate leadership

CSLF CDR Workshop

28 June 2022

Introduction to Drax Group

Our new corporate strategy

Pellet Production

Objective 1: to be a global leader in sustainable biomass pellets

- Pellet sales, self-supply, cost reduction, fibre sourcing and technology

Negative Emissions

Objective 2: to be a global leader in negative emissions

- Development of projects in UK and internationally
- Carbon negative by 2030

Dispatchable, Renewable Power

Objective 3: to be a leader in UK dispatchable, renewable power

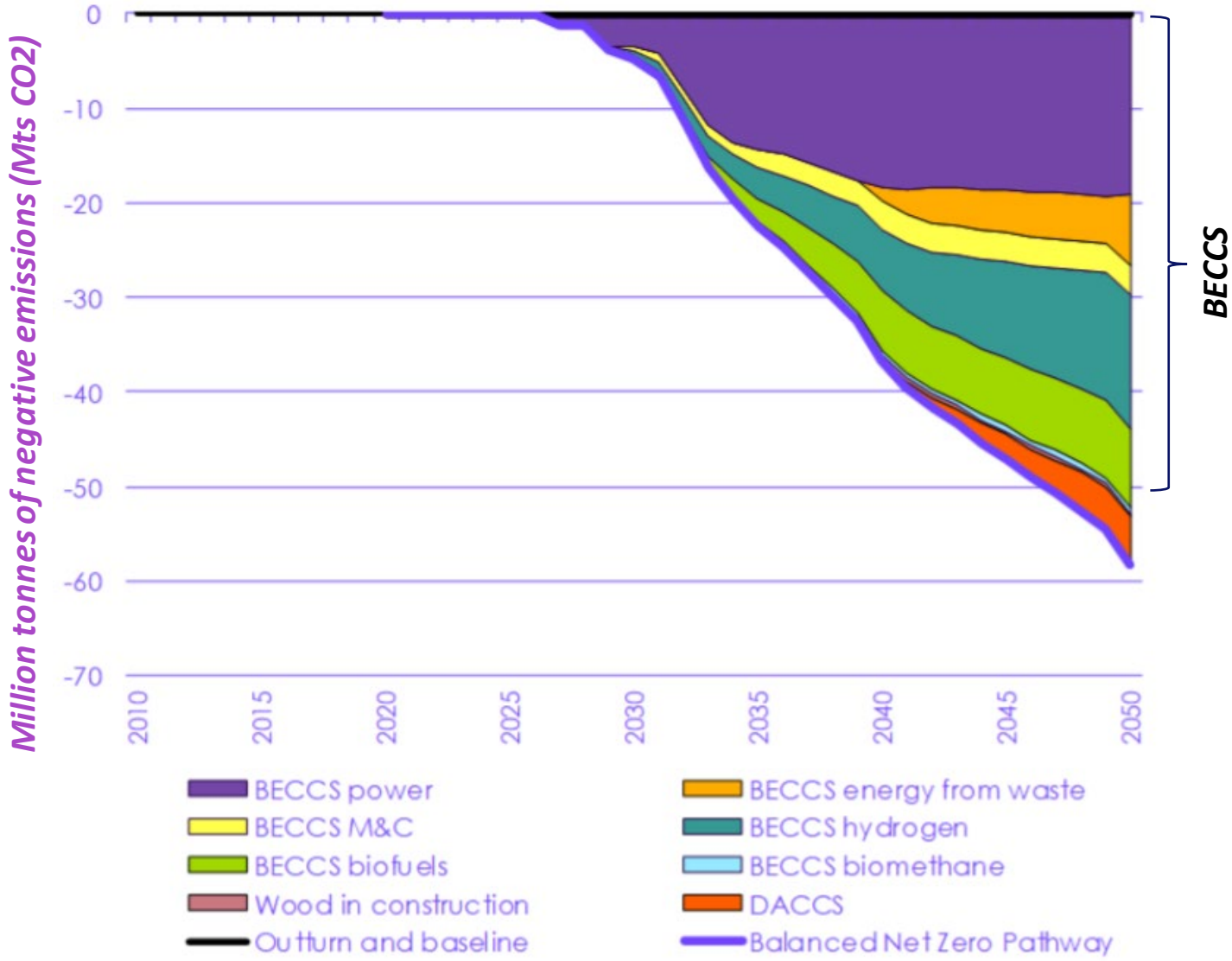
- Flexible, renewable power – biomass, pumped storage and hydro
- Renewable power and energy services to strategic customers

UK: BECCS is now central to achieving Net Zero, at least cost

- The UK Government's Net Zero Strategy (2021) set out an ambition for the UK to **deploy at least 5 million tonnes of negative emissions per year by 2030** from BECCS and/or Direct Air Capture projects (*one Drax BECCS unit = ~4 Mts CO2 p.a.*).

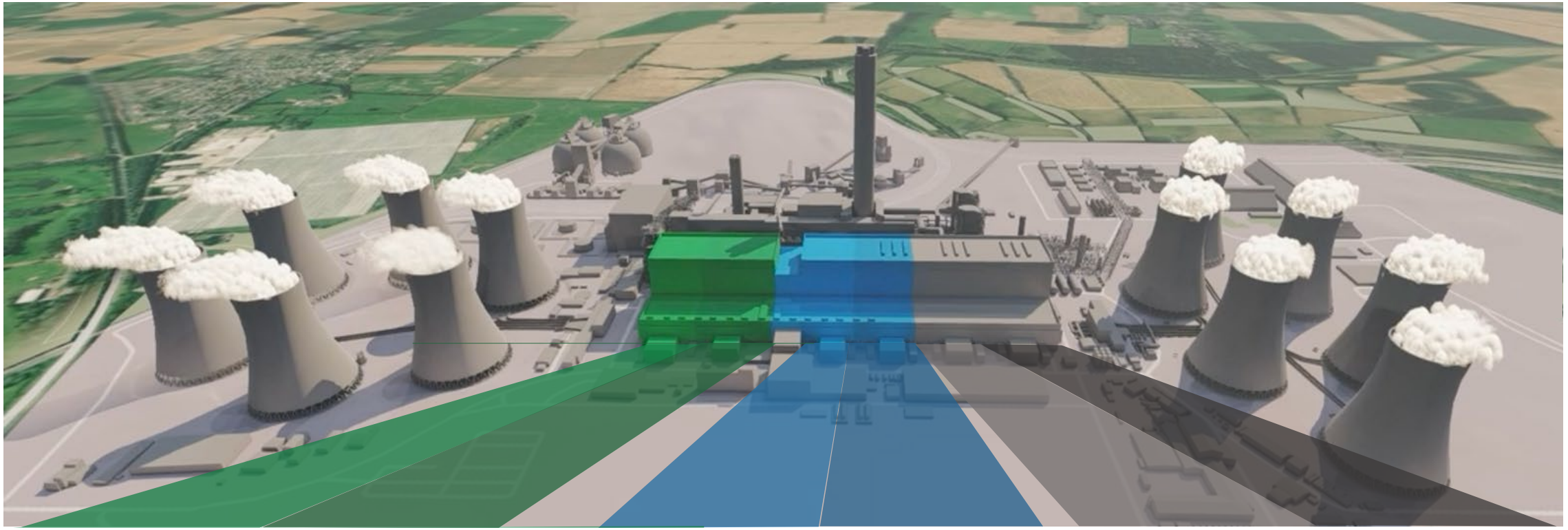
- The UK Climate Change Committee, National Infrastructure Commission and National Grid's Future Energy Scenarios **all agree that the UK cannot achieve a net zero carbon economy without BECCS.**

- **BECCS would save the UK billions**: £13bn in meeting its 5th Carbon Budget (2028-32) and £25bn in achieving Net Zero by 2050.



Source: Climate Change Committee 6 Carbon Budget Advice to Government

Drax Power Station has six generating units: 4 biomass units (2 earmarked for BECCS conversion by 2030) and 2 coal units that will close later this year



Biomass Units
to be Converted to BECCS
880MW Renewable Baseload Power
8mpta Negative Emissions

Biomass Units
1,260MW Renewable Dispatchable Power
Post-2027 operation to be determined

Coal Units
Sync-Comp Units
Due to close in October 2022

Drax BECCS is amongst the UK's most advanced CCS projects

- We have the most technically advanced CCS project in the UK, building on an extensive engineering programme:
  - **Solvent piloting** at our power station since 2019
  - **Pre-FEED work completed** by Worley in Q1 2021
  - **First CCS project in the UK to announce a capture technology licence agreement** with Mitsubishi Heavy Industries in June 2021
  - **EPC partner announced as Worley** in December 2021
  - **FEED study** commenced January 2022

- **We will spend over £40m in 2022** to progress the BECCS project, from balance sheet.

- We are targeting commissioning of **our first BECCS unit in 2027**, our second by 2029.

- We have started **supply chain engagement** and have already committed to 80% UK content in our construction phase.

EAST CO_2AST CLUSTER

Northern Endurance Partnership

NORTH SEA

145km

85km

ENDURANCE

MIDDLESBROUGH

DARLINGTON

YORK

LEEDS

SHEFFIELD

HULL

GRIMSBY

SCUNTHORPE

PROJECTS IN TEESSIDE
INCLUDING

Net Zero Teesside

BOC · bp · CF Industries · Kellas Midstream · NZT Power · SUEZ · TV ERF · 8 RIVERS

UP TO 10 $MTCO_2E$ CAPTURED

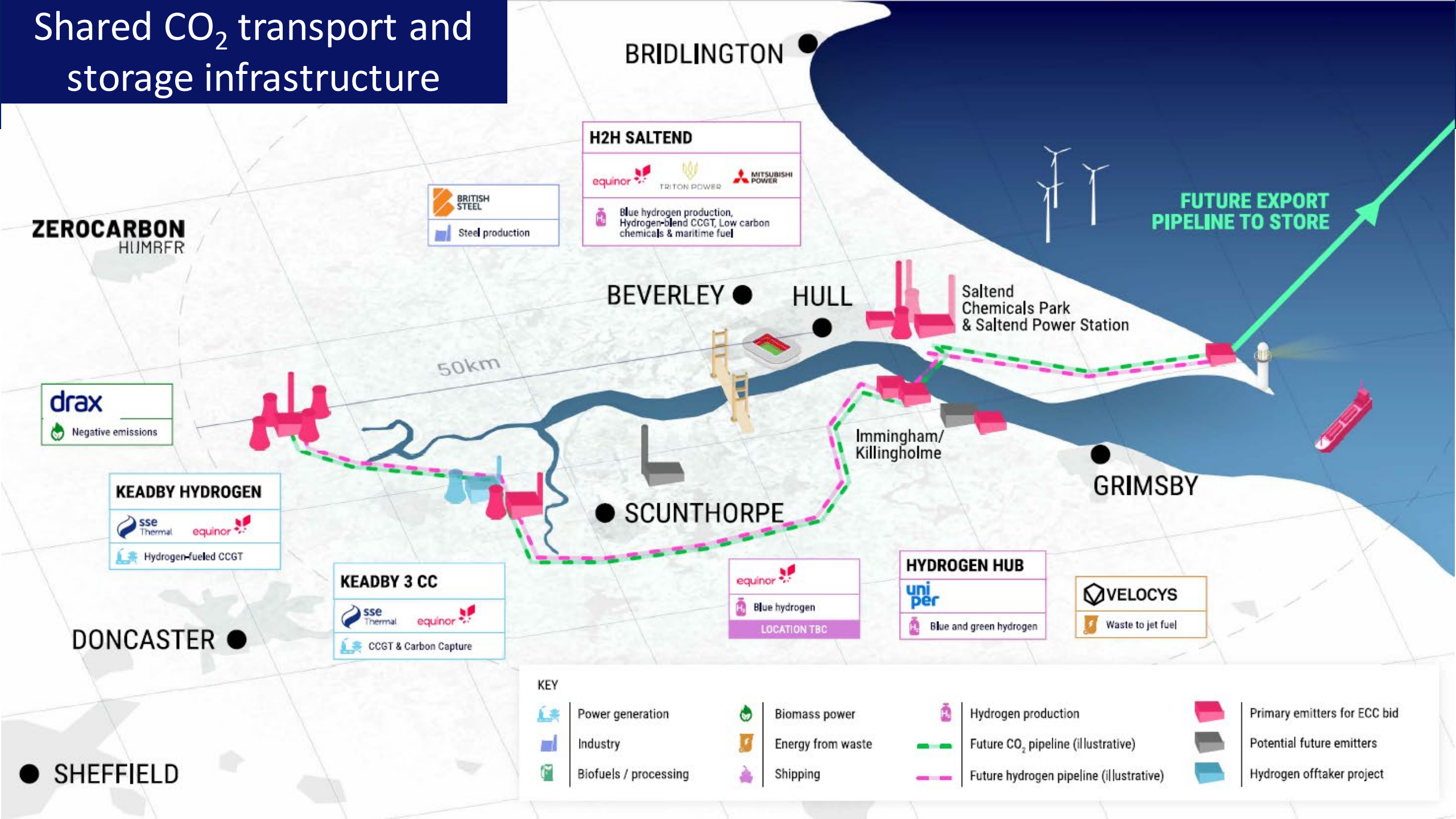
PROJECTS IN THE HUMBER
INCLUDING

ZEROCARBON HUMBER

drax · equinor · Mitsubishi Power · sse Thermal · Triton Power · uniper · Velocys

17+ $MTCO_2E$ CAPTURED

Shared CO_2 transport and storage infrastructure



US BECCS: A flexible package of baseload renewable power and carbon removal

drax

Renewable power

Up to 300MW (2TWh) of affordable 24/7 renewable, baseload power to **lower power emissions, complement intermittent wind and solar, enable time-matched renewable power consumption, and catalyze green products**

Carbon Removal

Up to 2Mt of negative emissions from Carbon Dioxide Removal to **rapidly decarbonize supply chains, tackle hard to abate process emissions and offset historic emissions –** without offsetting

Renewable power + Carbon Removal

A bundled package of carbon removal and renewable power: carbon negative power

Investment

Unlocking $2bn of investment in vital CDR technology

Power Security

Reliability & Price stability

Healthier forests

Forest fire prevention & Utilization of excess residuals

Made in America

End-to-end U.S. supply chain & Mobilization of U.S. resources

thank
you