



kellas

MIDSTREAM

H2NorthEast

Producing Low Carbon Hydrogen
at Scale on Teesside

Agenda



1. Introductions
2. Why Clean Growth / Net Zero?
3. H2NorthEast overview
4. Why Teesside?
5. Why H2 and regional impact?
6. Cluster Sequencing
7. The Way Forward and our vision for the future
8. Decarbonization at CATS

Kellas Midstream's Role in the UK Energy Industry



Positioned to be a key infrastructure player in the transition to Net Zero

We own and operate critical North Sea midstream infrastructure that delivers over 40% of UK's gas production

We don't own the gas molecules or undertake exploration or retail activities

We have the capability and capital to invest in new infrastructure

UPSTREAM

MIDSTREAM

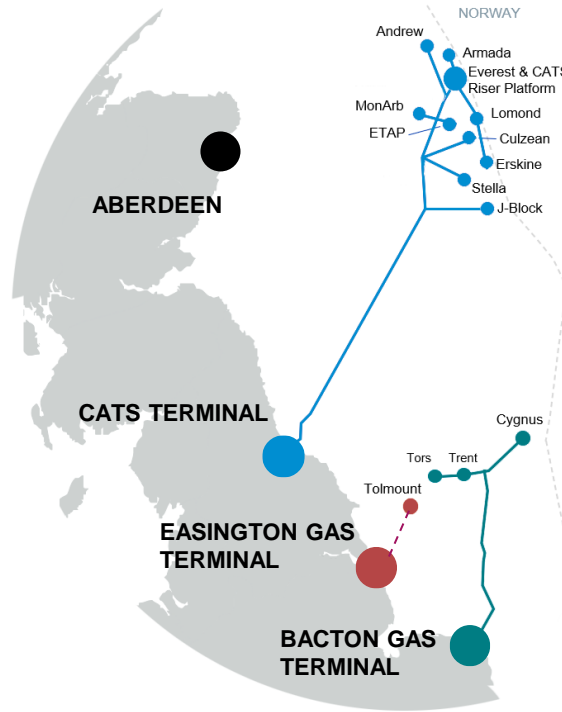
DOWNSTREAM



Our Assets



Portfolio of quality assets with significant potential



- | Central Area Transmission System (CATS)
- | Humber Gathering System (HGS)
- | Esmond Transportation System (ETS)



ASSET

Riser platform
36" 404km gas pipeline
reception and processing
terminal in Teesside

UK GAS PRODUCTION c.26%

CAPACITY Pipeline: 1,700 MMscf/d

Processing: 1,200 MMscf/d

OPERATOR Pipeline/Terminal: Wood
Riser platform: Harbour Energy



ASSET

Minimum facilities
platform
20" 48km gas pipeline,
landfall at Easington

UK GAS PRODUCTION c.8%

CAPACITY c.300 MMscf/d

OPERATOR ODE AM



ASSET

24" 165km gas
pipeline, landfall
at Bacton

UK GAS PRODUCTION

c.10%

CAPACITY c.300 MMscf/d

OPERATOR Perenco





H2NorthEast Overview

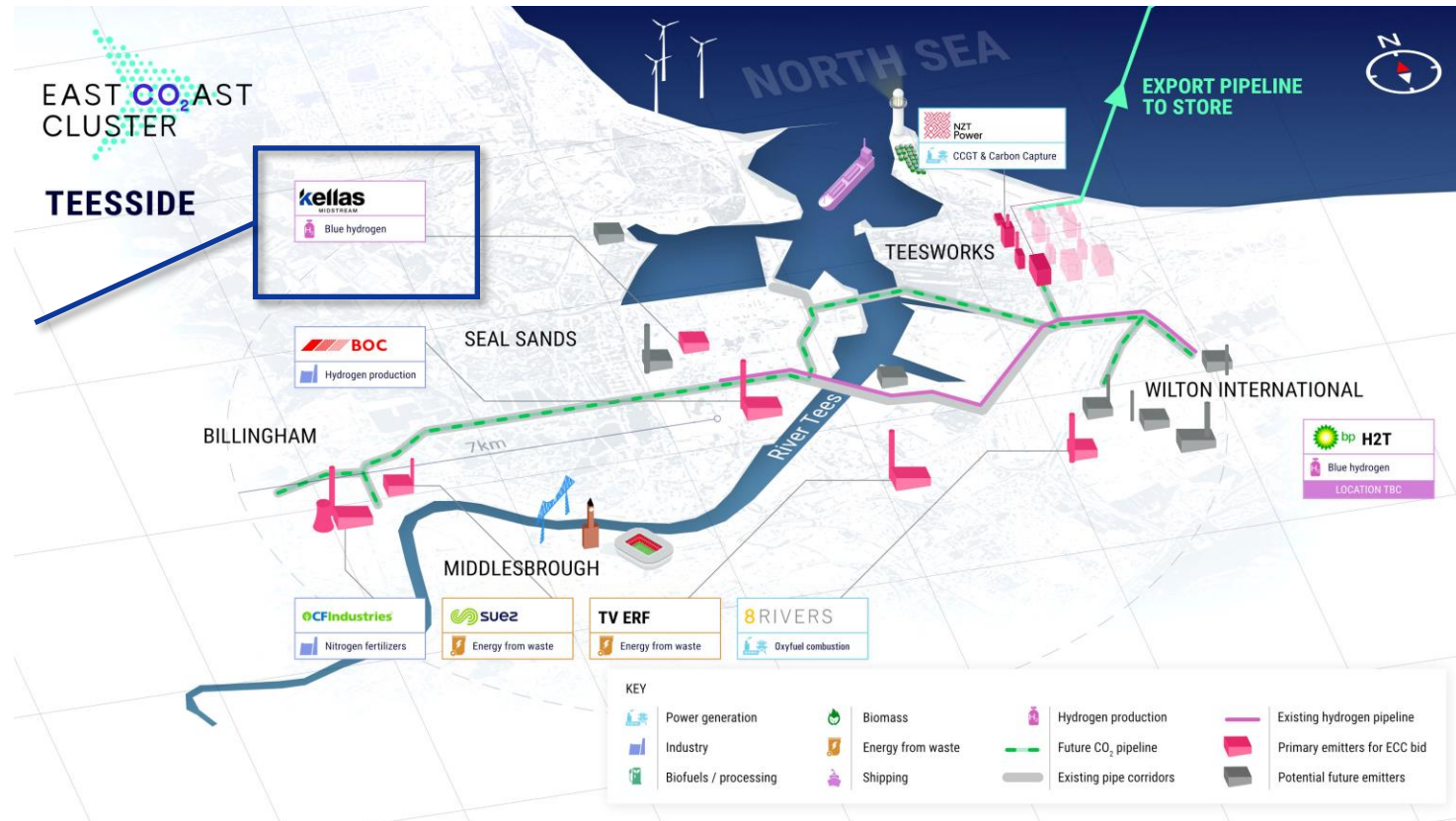
Kellas Midstream – H2NorthEast Project



Investing in a major blue hydrogen production facility on Teesside, linked to the Central Area Transmission System (CATS)

1 GW Blue Hydrogen Plant






- Located at the CATS terminal
- Adequate land available
- Connection to National Gas Transmission System
- Enables local industry to decarbonize
- Phase 1 online by 2027
- Long term investment
- Skilled local team



H2NorthEast – Benefits



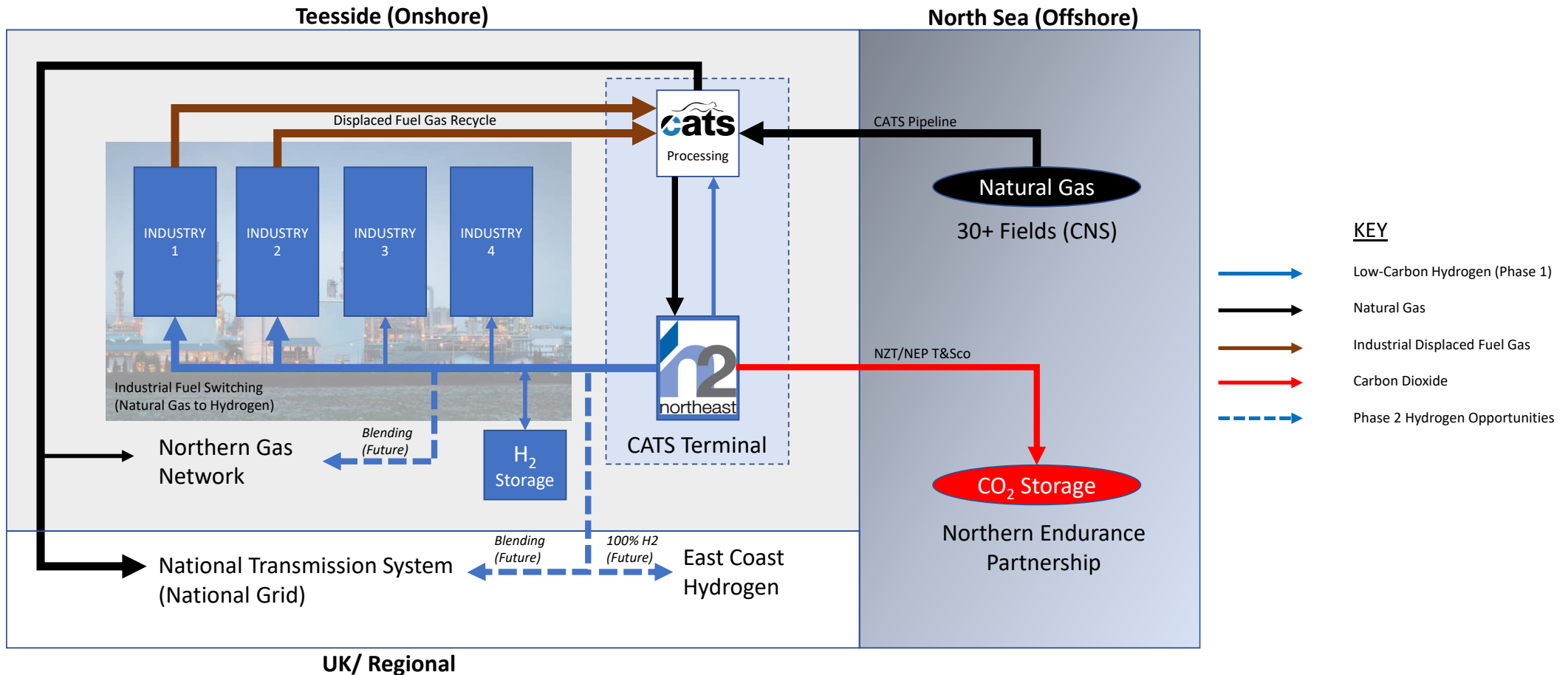
Teesside excellence and world class investors delivering low carbon hydrogen

-  **Deliverability**
Unique combination of highly successful operation at CATS, industrial process synergies with key H2 customers & backing of world class investors
-  **Emissions reduction**
H2NorthEast will have very low emissions intensity through CATS' excellent emissions track record & low emissions from UK domestic gas supply
-  **Economic benefits**
Up-skill 90 existing jobs & create over 100 new operational jobs by 2030, contributing an additional £200-300m to the local economy
-  **Cost considerations**
Deliver blue hydrogen at lower cost through synergies with CATS terminal and industrial customers, UK domestic sourced gas feedstock and reuse of existing distribution & storage infrastructure
-  **Market development & learning**
Future plans to scale up hydrogen production at H2NorthEast to over 1GW by 2030 & commitment to investing in local people through high quality training, apprenticeships and university scholarships

Why Teesside?



Integration with CATS, infrastructure and Cluster





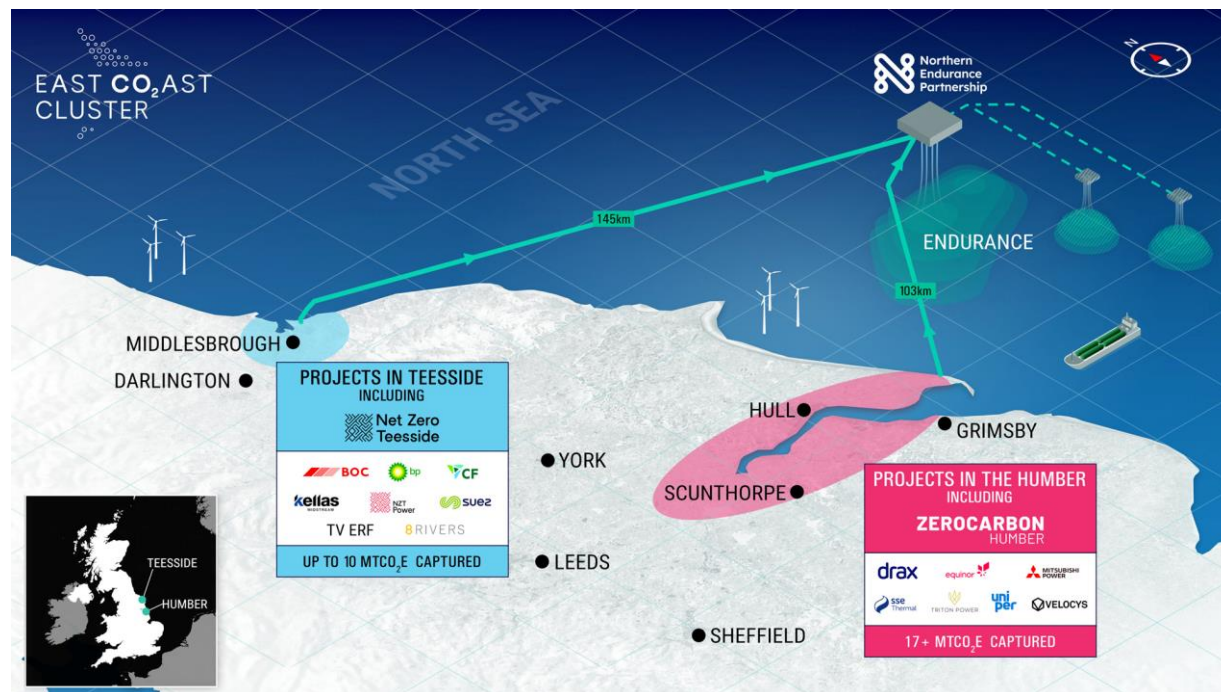
Why H2 and what does it mean for the region?

- Phase 1 provides a cost-efficient solution for energy intensive industries to decarbonize
- Essentially a centralized CCUS facility bringing economies of scale to a range of users
- Phase 2(+) generates further H2 volumes and enables greater impact:
 - Further volumes for local industry and inward investment projects
 - Ability to tie into 100% H2 distribution projects and decarbonize industries further afield
 - Blending into the Gas Grid – ability to decarbonize nationally including smaller consumers such as domestic
- Generates significant regional economic benefits:
 - 100 direct, new operational jobs on H2NorthEast by 2030 contributing an additional £200-300m to local economy
 - Safeguarding existing jobs in sector
 - Attract additional projects
- In line with local and national industrial strategies
- **H2Vision Study** supported by TVCA, bp, NGN and Kellas to be launched shortly outlining a vision for the future of the region

Phase 2 Cluster Sequencing



- East Coast Cluster selected as Track 1 Carbon Capture & Storage cluster
- Phase 2 Emitter process commenced 8 November 2021
 - H2NorthEast project submitted 21 January 2022
 - H2NorthEast confirmed as eligible project 18 March 2022
 - BEIS confirmed shortlisting for due diligence stage 14 August 2022 – 1 of 4 blue H2 projects



- Based on the **UK Energy Security Strategy** recently published by BEIS, we see that more projects are likely to be taken forward than originally envisaged – 2GW of blue hydrogen by 2027 as opposed to 1GW
- Successful projects are eligible to enter negotiations with BEIS around the 'Business Model' and funding
- Projects to be operational by end 2027

The Way Forward and Our Vision for the Future



Phasing

Phase 1 – 355MW

Customers

Cluster Sequencing

- Phase 1 – East Coast Cluster successful
- **Phase 2 – H2NorthEast shortlisted**
- Business models
- Regulatory issues
- Permitting
- FEL 2 commenced August 2022
- FEED study – commences Q1 2023
- **FID 2024**
- Construction
- Transport & Storage Network – Northern Endurance Partnership
- **Operational 2027, design life 25 years**

Phase 2

Customers / 100% distribution / blending

Feasibility – commences imminently

FEL 1

FEL 2

FEED

Timelines partially dictated by follow on rounds of BEIS NZHF and HBM

Planned to be operational by 2030

Sizing to be confirmed

Future

Distribution re planned 100% H2 network schemes

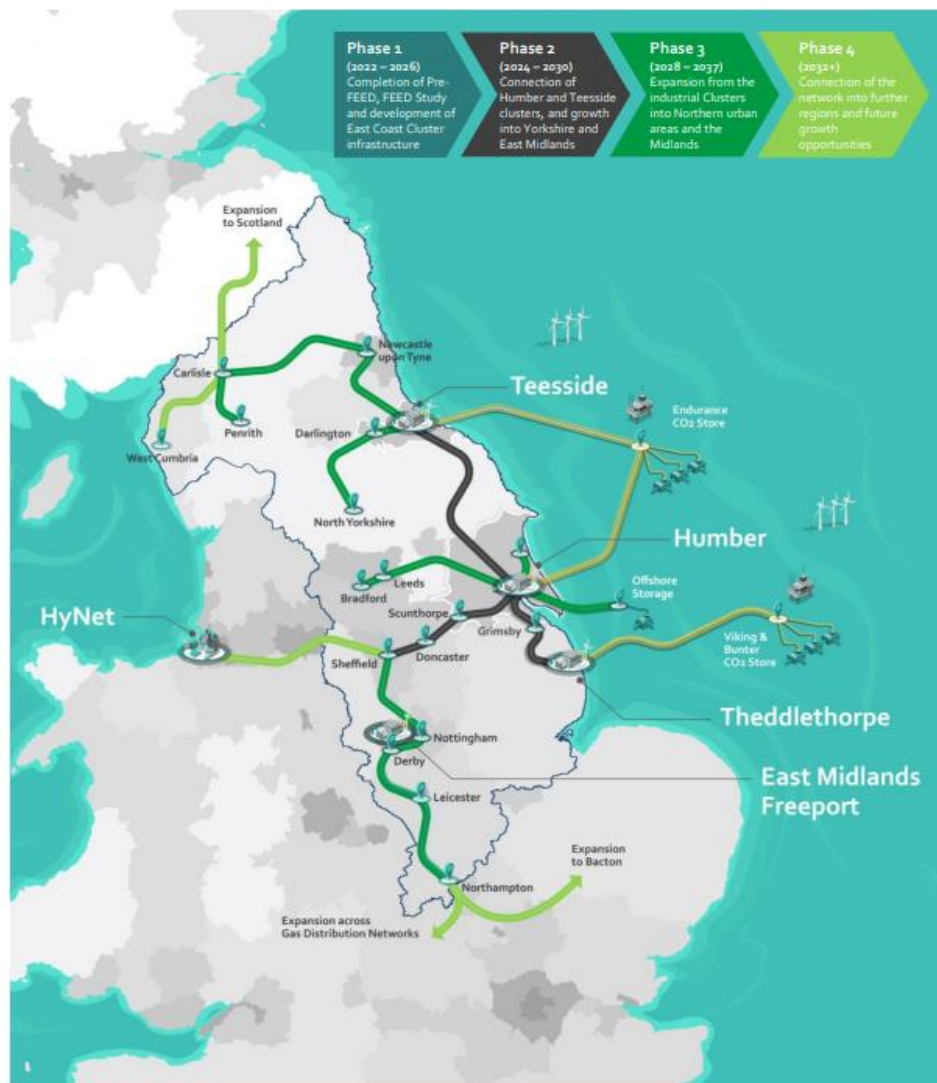
Blending into grid

Significant storage development nationally

Teesside's National Importance for H2



East Coast Hydrogen is a 15 year programme that will be carried out in multiple discrete phases to decarbonise industrial processes and domestic heating in the East Coast region.



The East Coast Hydrogen Feasibility Report is the first step in the decarbonisation of industrial, commercial and domestic demand across the East Coast Hydrogen region and beyond

Teesside has a key strategic place in the UK's development of an H2 economy

Both Blue and Green H2 will be essential going forward

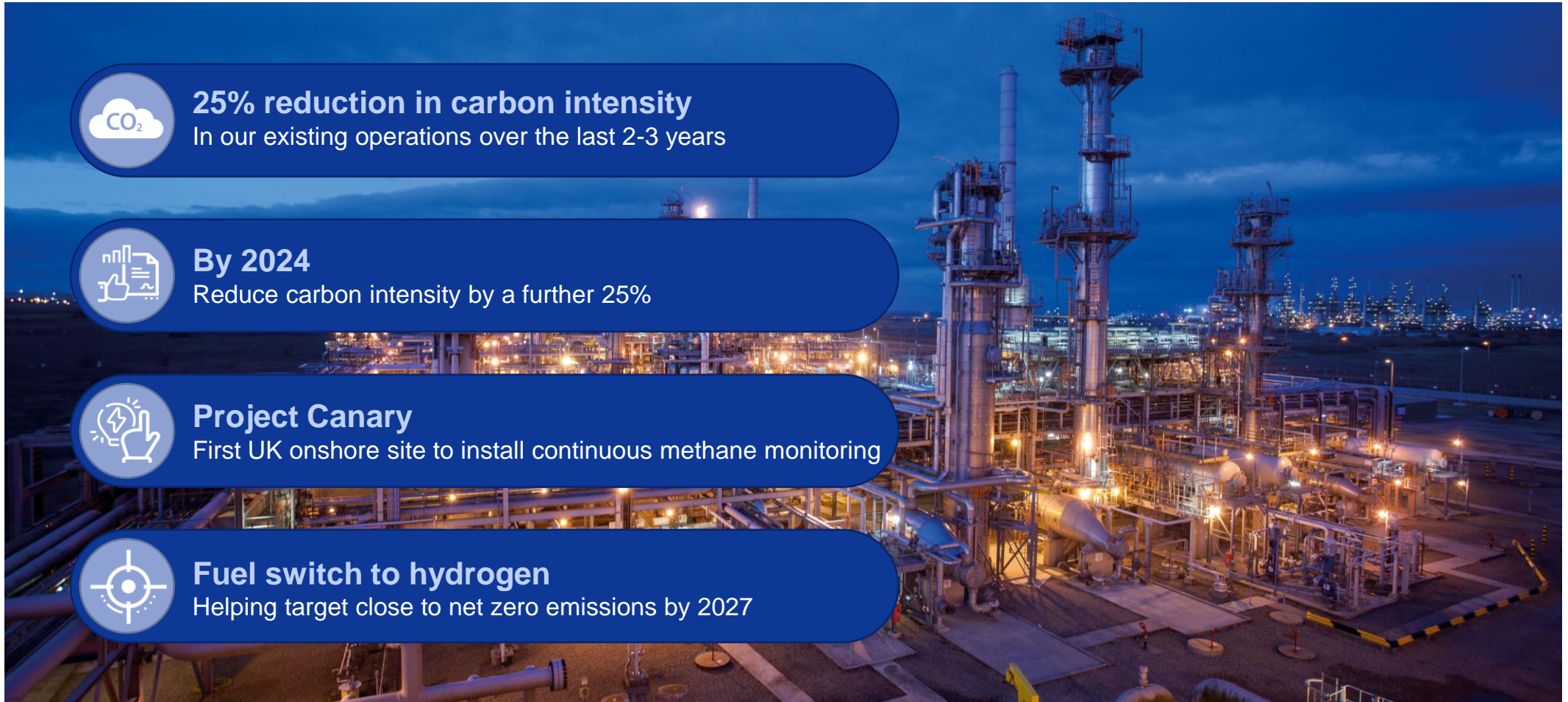
We have the necessary infrastructure, resources, skills and opportunities

H2 is nothing new in Teesside but H2 at scale for a multitude of uses is

Teesside has a history of industrial innovation and delivery

At Kellas, we believe our existing Teesside presence is a key differentiator and we're keen to build on this

Decarbonising Our Teesside Operations – Action Now



25% reduction in carbon intensity

In our existing operations over the last 2-3 years



By 2024

Reduce carbon intensity by a further 25%



Project Canary

First UK onshore site to install continuous methane monitoring



Fuel switch to hydrogen

Helping target close to net zero emissions by 2027

Contact us



H2NorthEast@kellasmidstream.com



www.kellasmidstream.com



www.linkedin.com/company/kellasmidstream

