



North Sea
Transition
Authority

North Sea Transition Authority

Policy and regulations for UK oil and gas transition

London SPE Net Zero Programme

11 April 2023

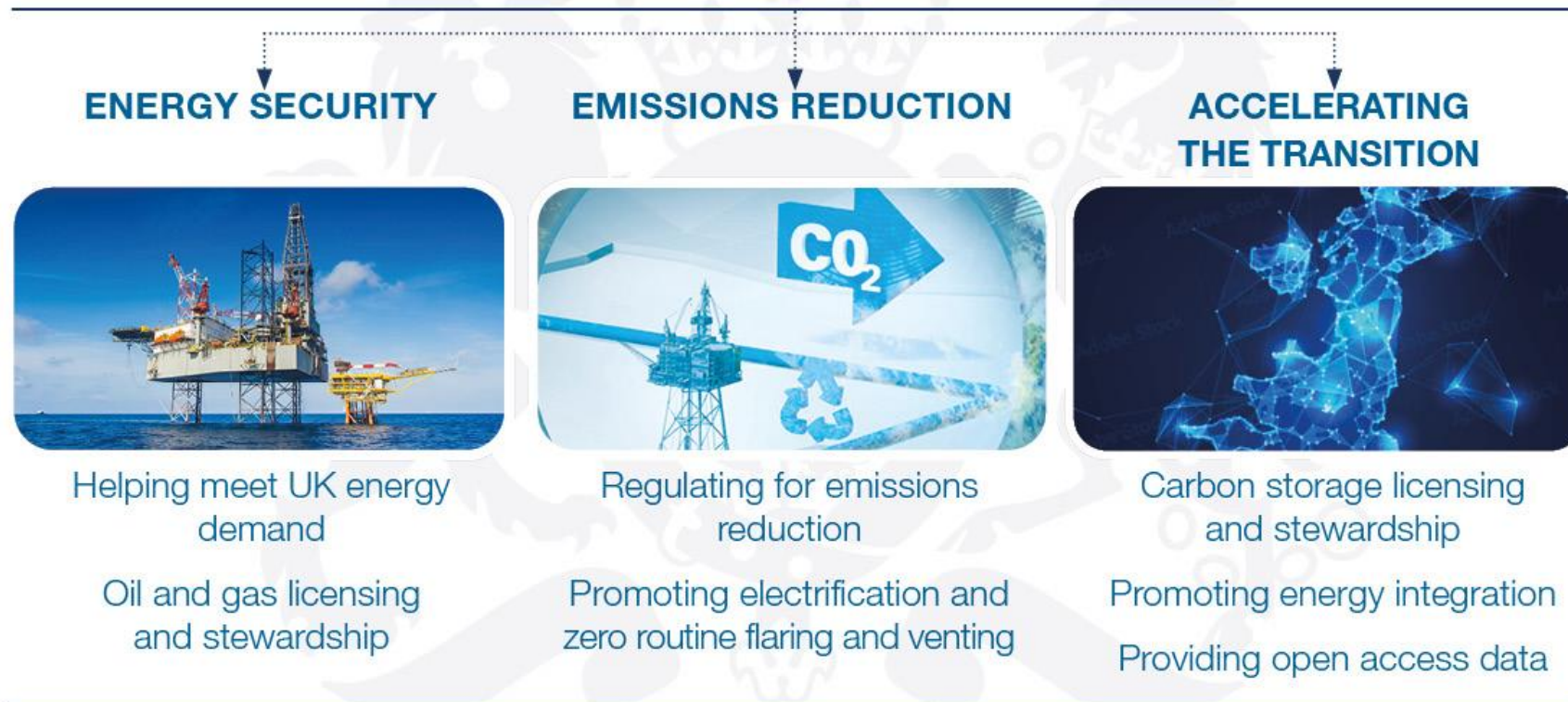
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The North Sea Transition Authority is the business name for the Oil & Gas Authority, a limited company registered in England and Wales with registered number 09666504 and VAT registered number 249433979. Our registered office is at 21 Bloomsbury Street, London, United Kingdom, WC1B 3HF.

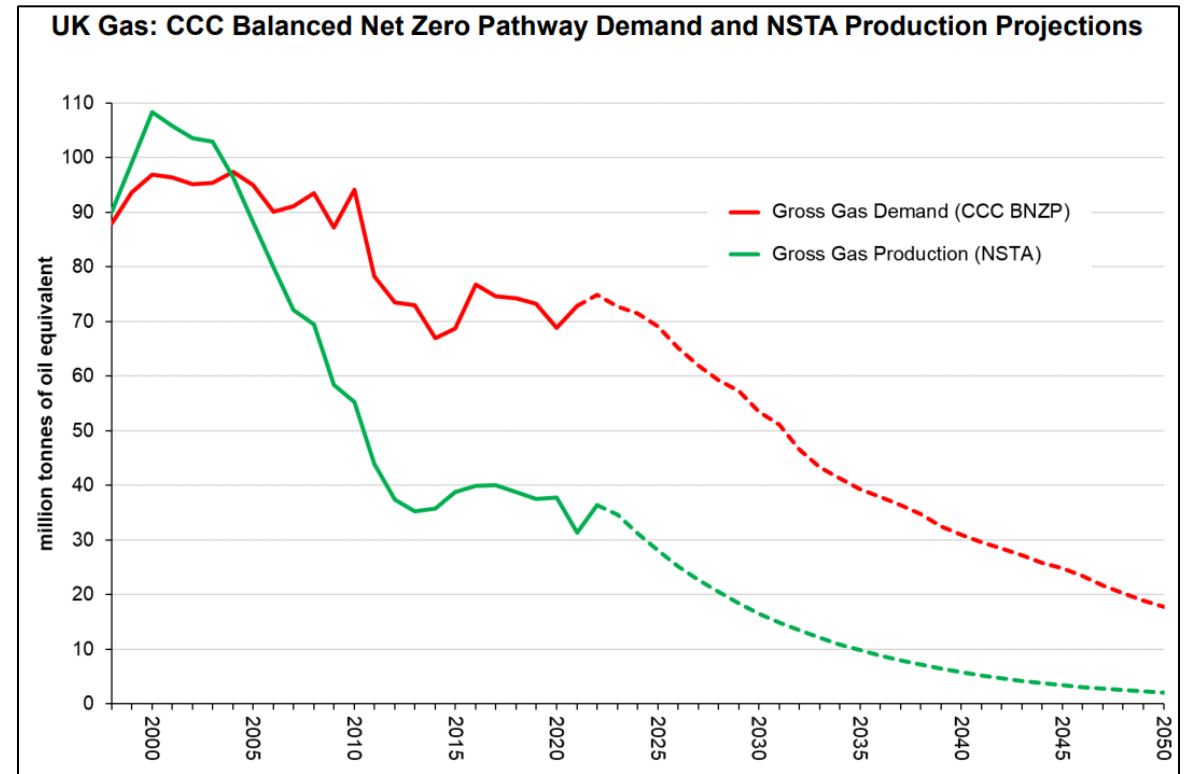
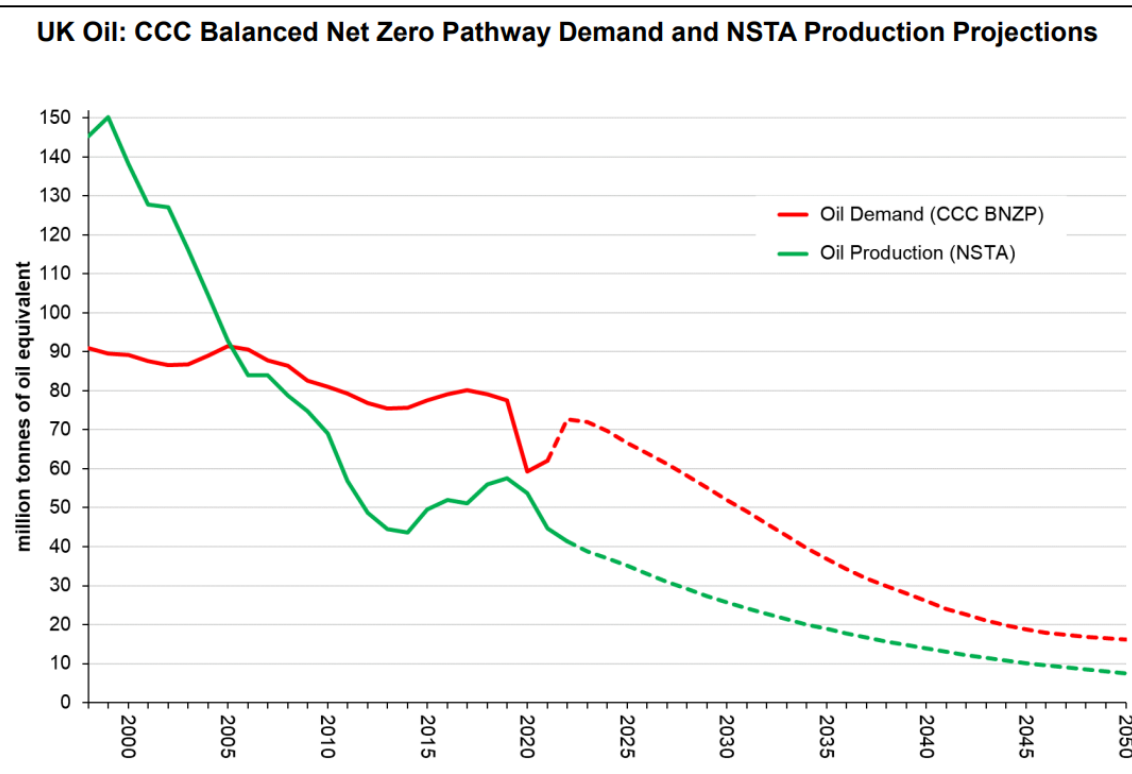
We regulate and influence the oil, gas and carbon storage industries. We help **drive North Sea energy transition**, realising the significant potential of the UK Continental Shelf as a critical energy and carbon abatement resource.

We hold industry to account on **halving upstream emissions by 2030**.



We aim to be an **integrating force in the UKCS**, helping realise its **full economic potential**.

We champion **the supply chain** and **job creation** across the UK.

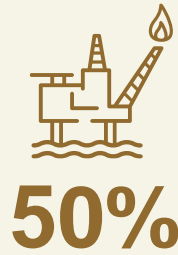


- UK projected to still have demand for oil and gas even in a net zero by 2050 pathway
- Projected to remain a net importer of oil and gas in the decades ahead
- UK production projections decline to 2050 broadly in line with global 1.5°C and a range of net zero pathways for both oil and gas

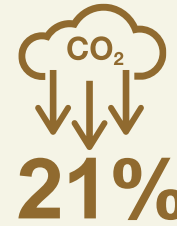


- First of its kind in G7 country
- Transition creating massive opportunities
- NSTA tracking progress

Early successes



Reduction
flaring
since 2018



Reduction
GHG
emissions
since 2018



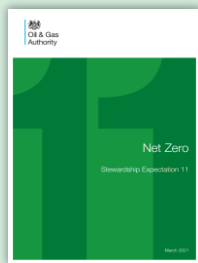
Tonnes
avoided
from NSTA
intervention

NSTA Net Zero Guidance

2021



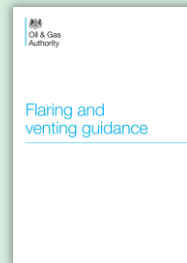
OGA
Strategy



Net zero
expectation



New fields



Flaring
& venting

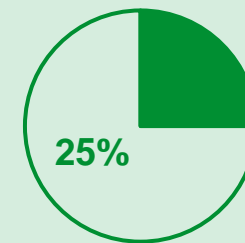
On track

2025



10%

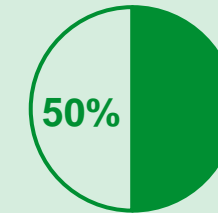
2027



25%

Electrification required

2030



50%

2050



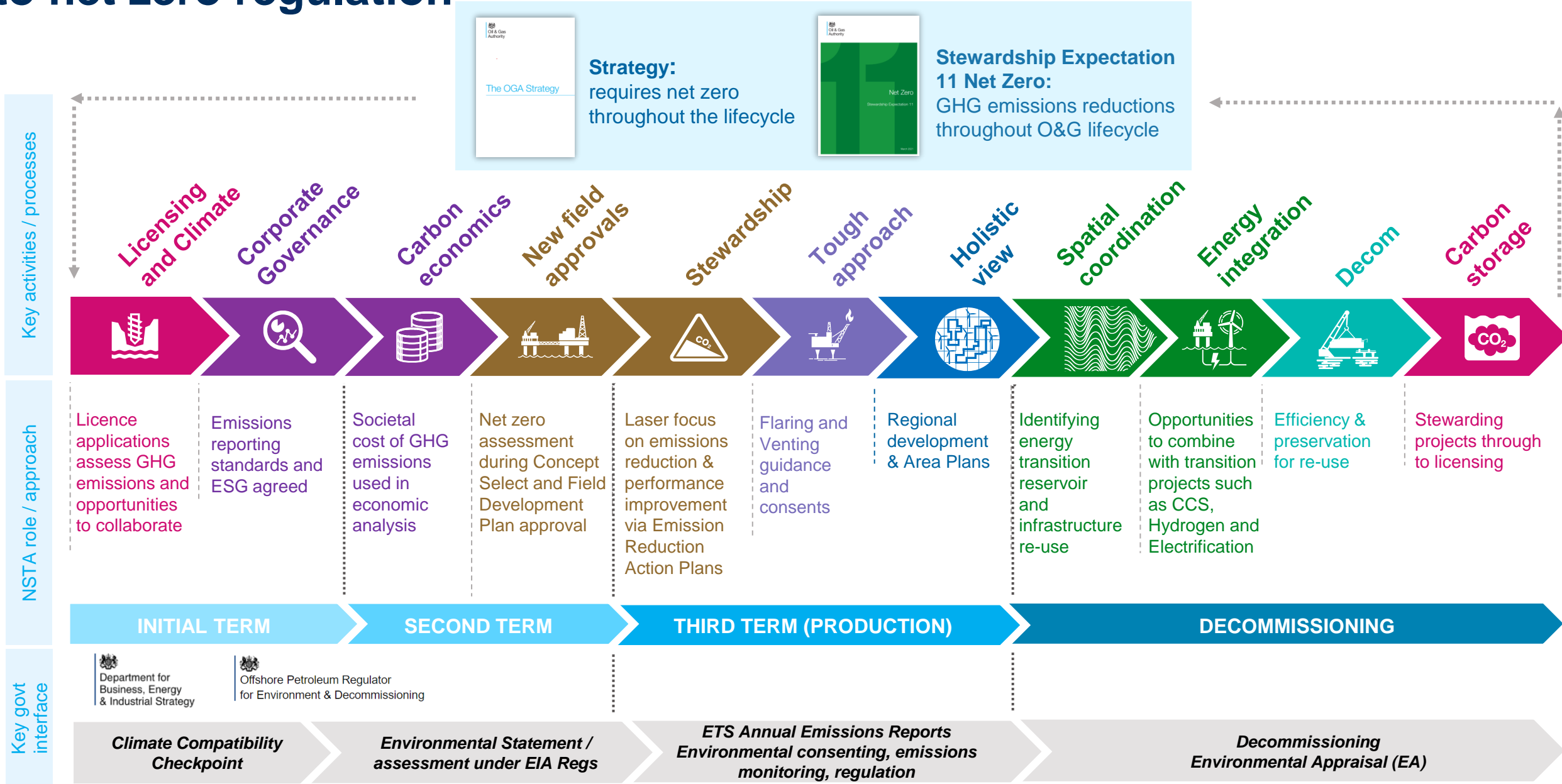
Net Zero
basin



Revised Strategy features for the first time an obligation on oil and gas industry to support the UK net zero target:

“take appropriate steps to assist the Secretary of State in meeting the Net Zero Target, including by reducing as far as reasonable in the circumstances greenhouse gas emissions from sources such as flaring and venting and power generation, and supporting carbon capture and storage projects”

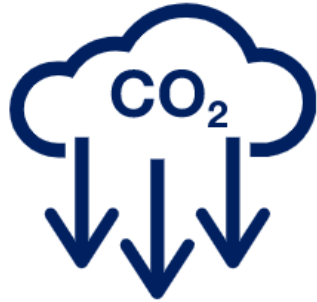
NSTA life cycle approach to net zero regulation



Future Developments



Energy security



CO2 reduction



Platform
electrification



Infrastructure reuse



Energy hub (2D)



Area solutions

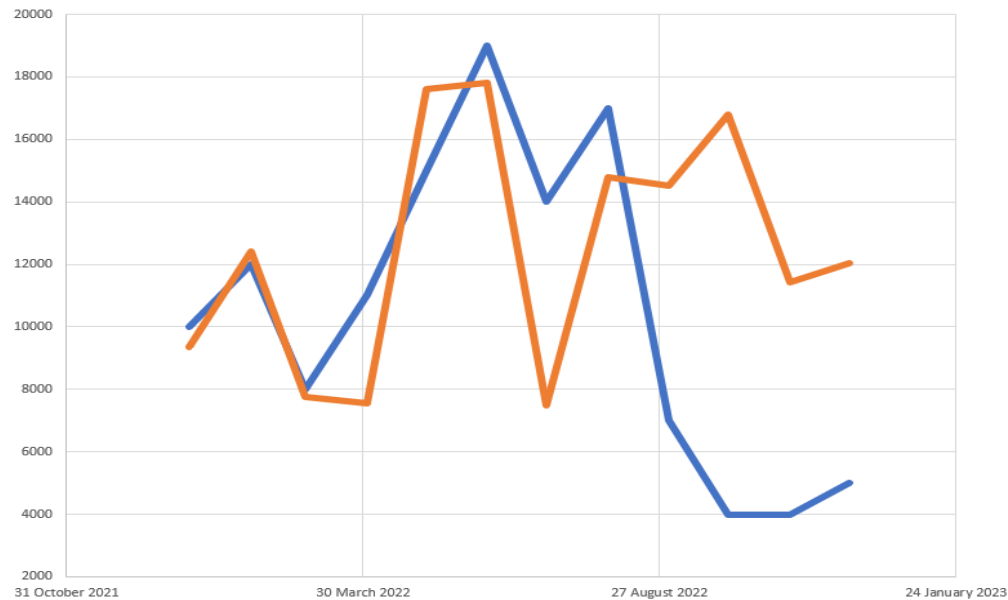


Net Zero 2050

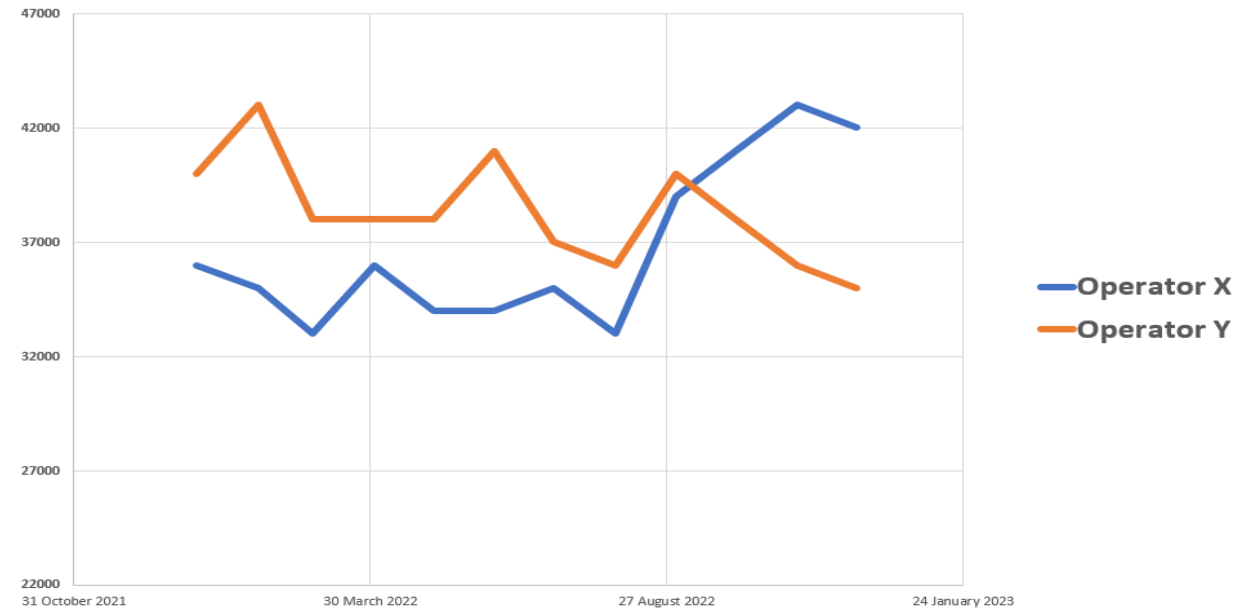
Stewardship – flare and venting

- Through effective asset stewardship we aim to optimise efficiency and ensure economic recovery and the drive to net zero by 2050, while maintaining high standards of safety and environmental management.
- The Petroleum Production Reporting System (PPRS) is used to monitor flair and vent

Operators Vent Comparison 2022



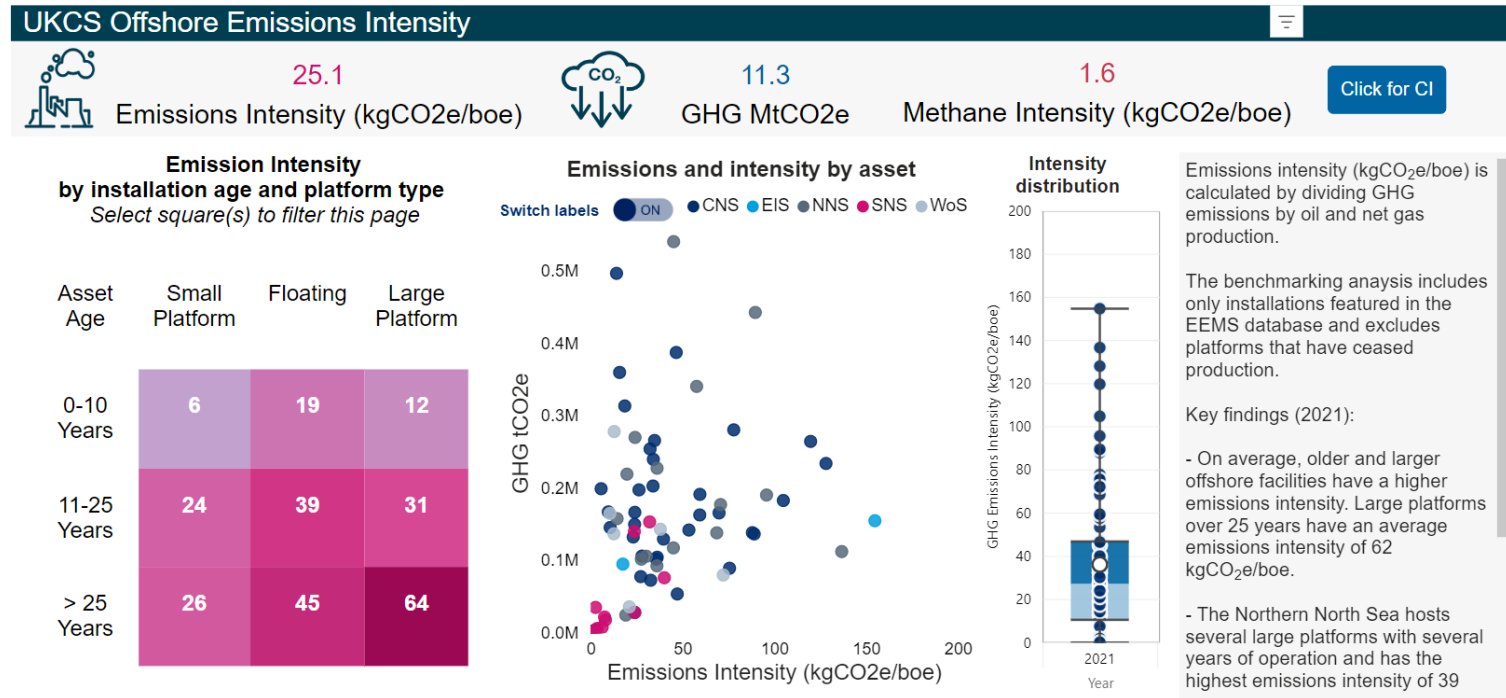
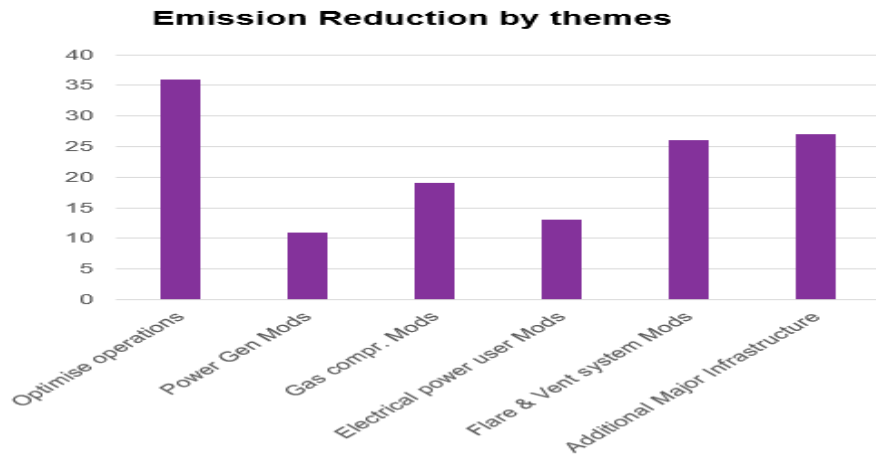
Operators Flare Comparison 2022



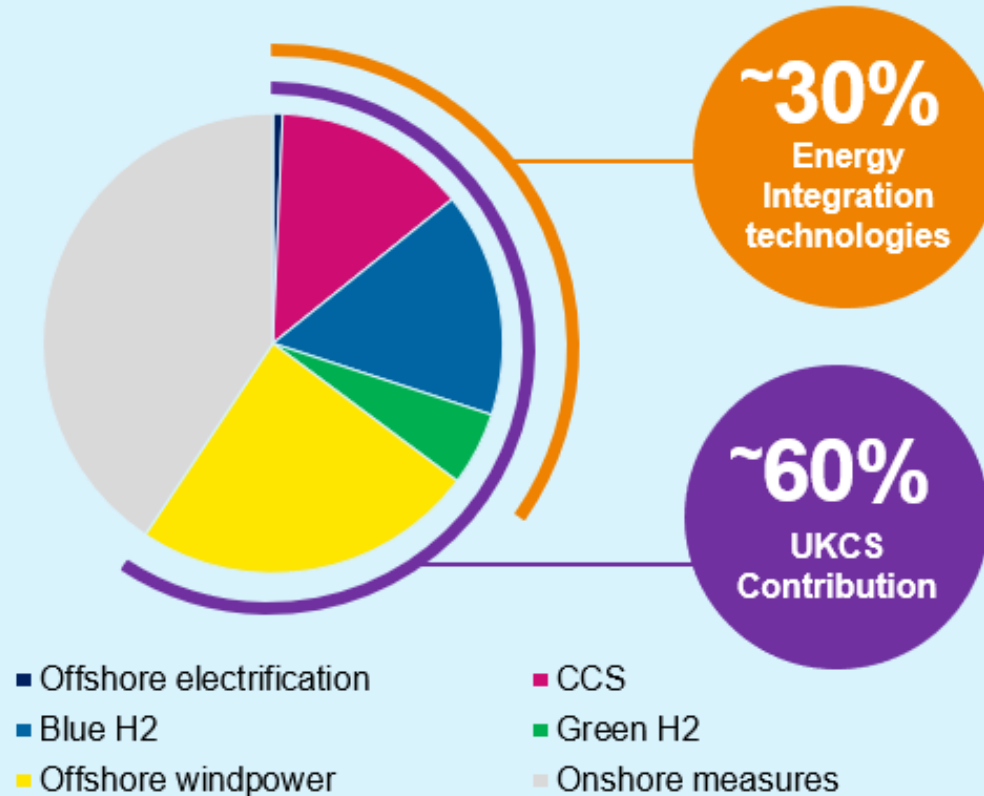
- Operator X was a high flare asset, but changed the design to the off gas system so the vented off gas was rerouted to the flair. The vent rate was reduced by 70% this gave a total net GHG reduction of over 25'000 tonnes of CO2e per annum.

Stewardship – ERAP and Emissions Intensity Dashboard

- Emission Reduction Action Plan – Create awareness of the key reduction opportunities planned by Operator, by Hub/Asset, and share best practice, Develop an emission reduction Hopper, by Operator/theme/function/technology
- Understanding ERAP impact and visibility in forward emissions forecasts, and NSTD targets



2050 UK net zero emission abatement vs. 2018



- Estimated £120bn to be invested in energy transition projects offshore by 2030
- ~90% oil and gas workforce have med - high skill transferability to CCS, hydrogen and offshore wind
- Offshore energy jobs forecast to grow to more than 211,000 by 2030

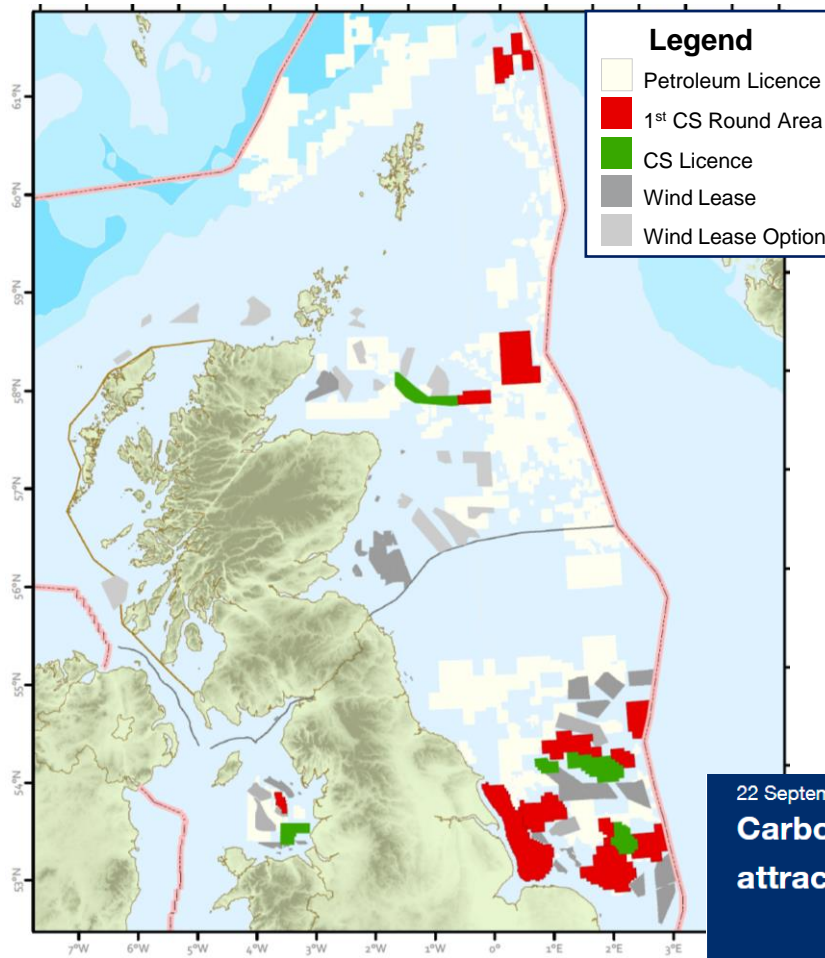
Offshore technologies could contribute ~60% of UK net zero targets

UKCS Carbon Storage Potential

100s yrs
of UK's storage needs in the UKCS

75-180 MtCO₂pa
storage required by 2050
(full range of CCC scenarios)

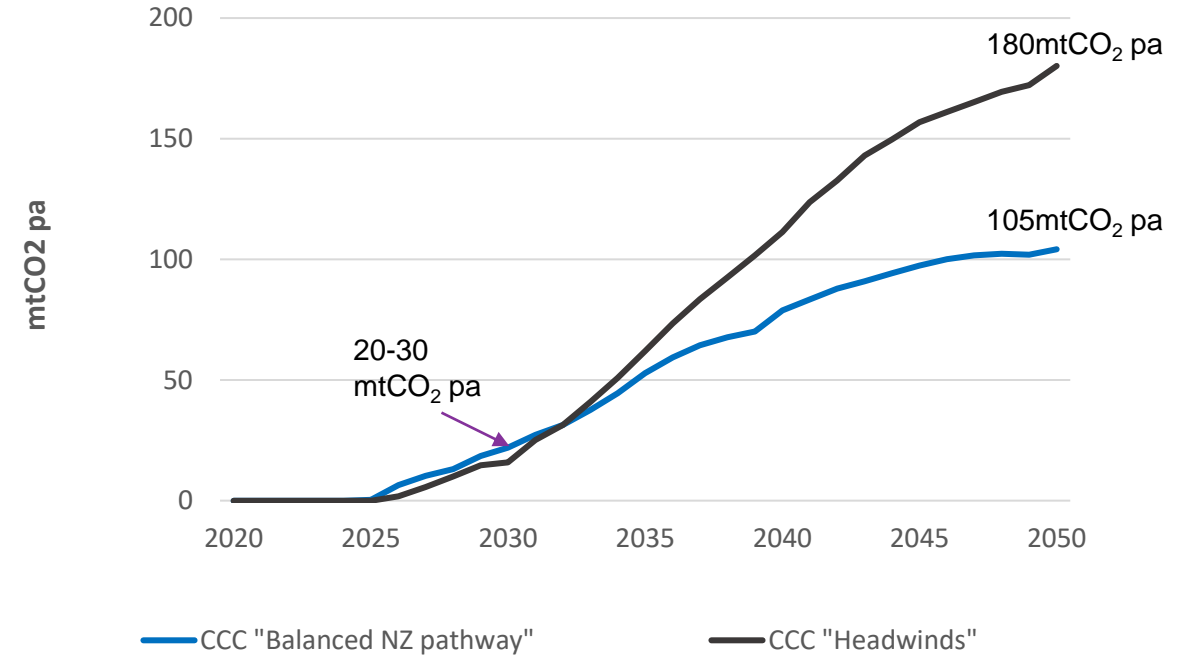
Licensing
NSTA held first carbon storage licensing round in Summer 2022 – 26 bids received



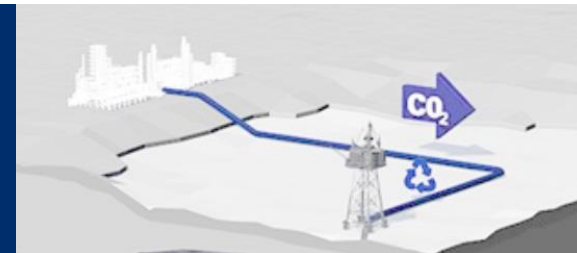
22 September 2022 - Press release

Carbon storage licensing round attracts 26 bids

CCS growth scenarios¹



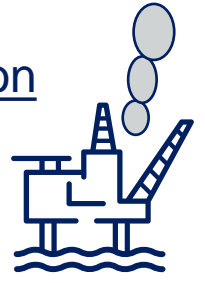
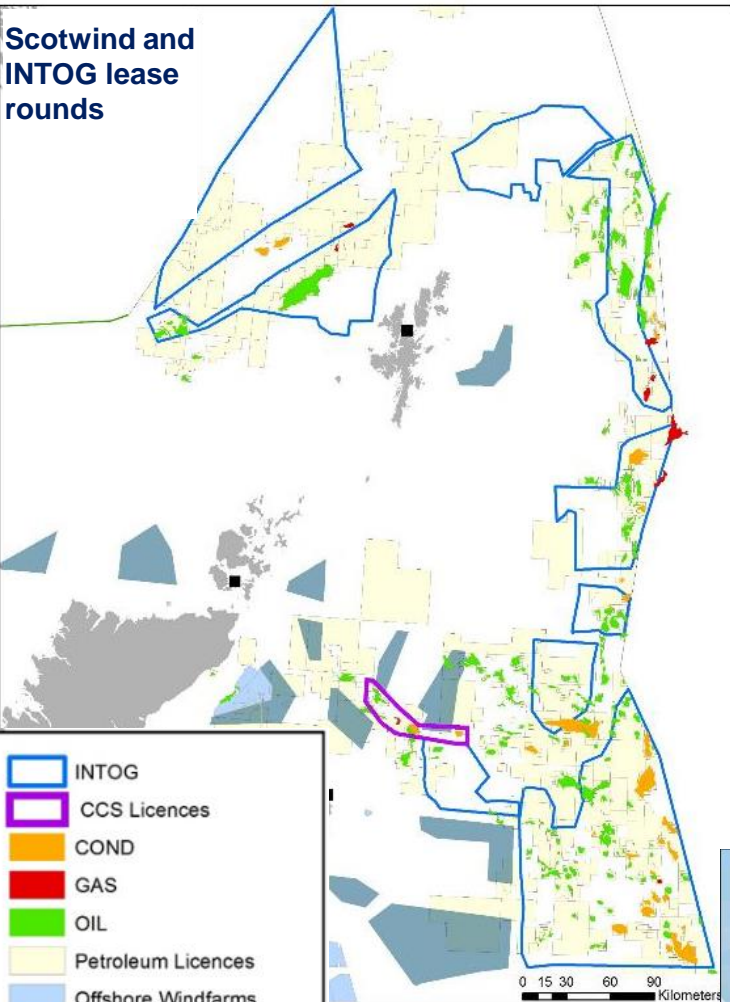
1) Climate Change Committee: Net zero pathways (2021) "Balanced" and "Headwinds" cases



Accelerate investment and grow CCS to scale

Integration Opportunities

Windpower growth and electrification



~70% O&G offshore emissions from power generation



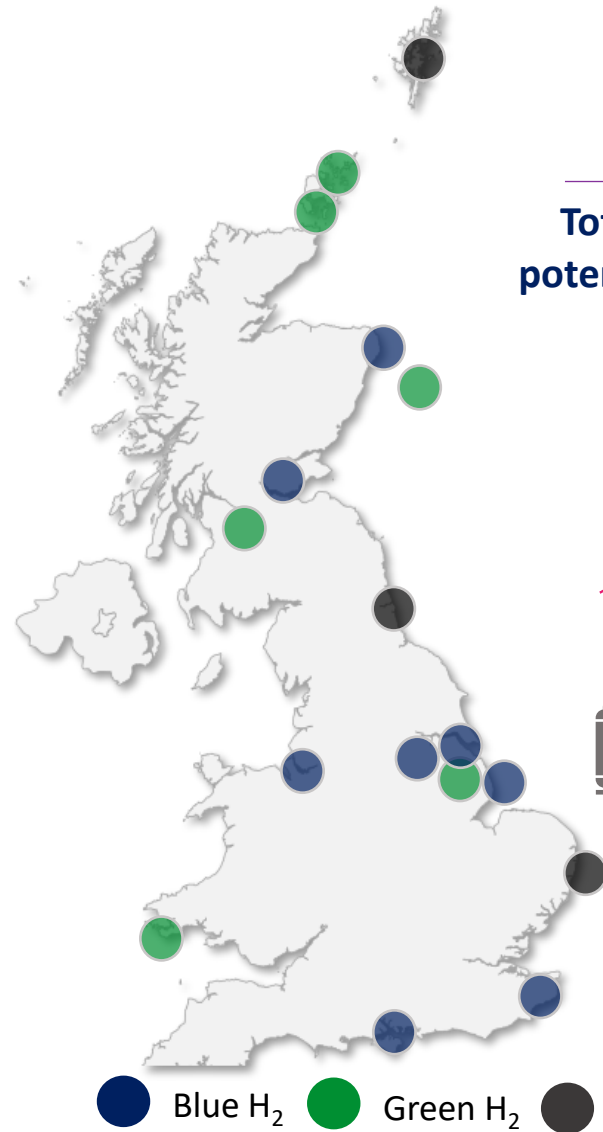
~2.5 GW O&G power demand



Windpower growth near O&G areas to supply clean energy

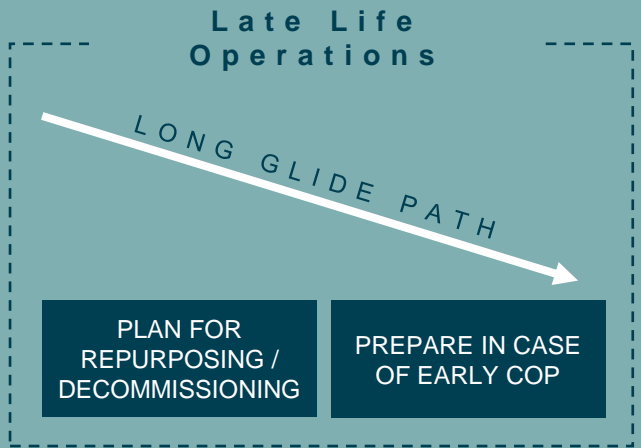


Hydrogen and systemic approach



Synergies realise net zero delivery and emission abatement at reduced Capex

Planning for Decommissioning



Commercial Transformation

Collaborative Culture



Data Transparency



Decommissioning at scale



Support Energy Transition

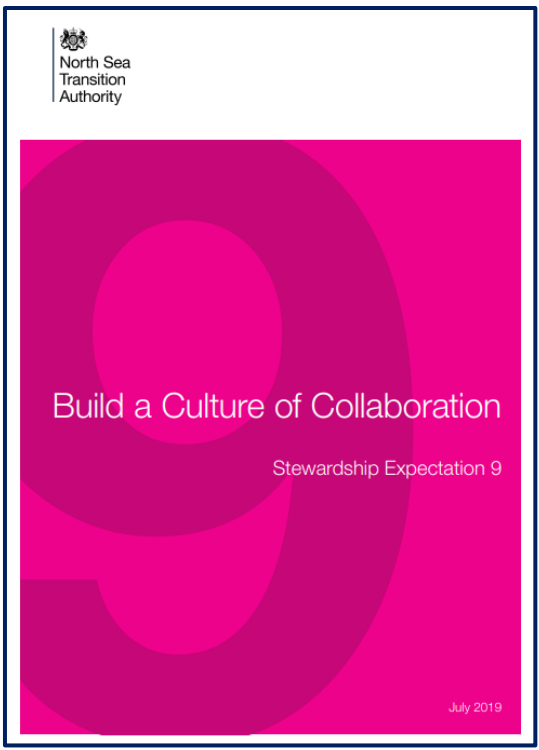
Reduce decommissioning emissions

Capitalise on re-use/re-purposing opportunities

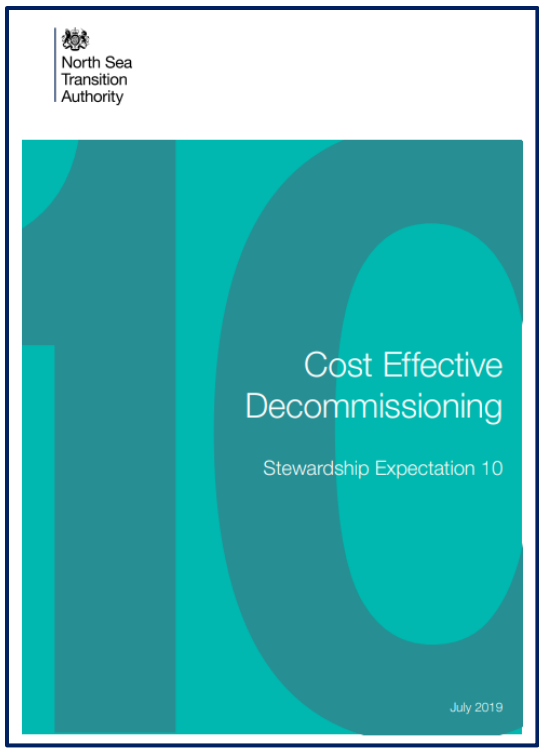


Technology, Processes and Guidance

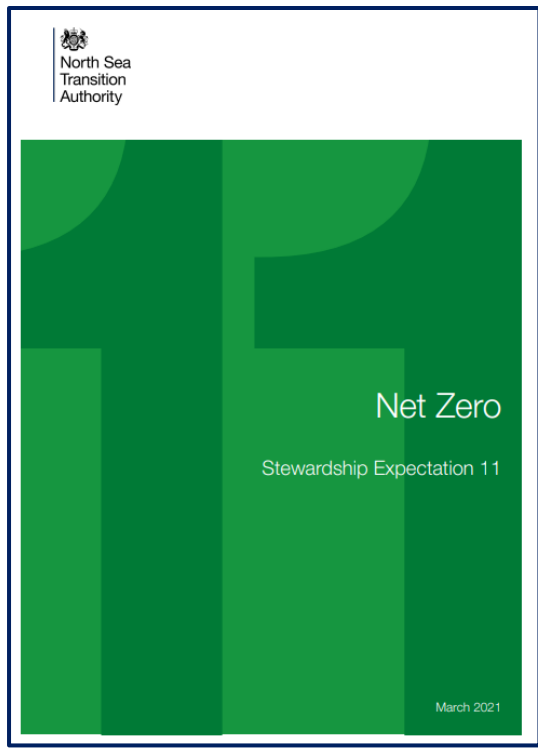
Stewardship Expectations (SE9-11)



- Commitment to collaborative culture
- Proactive involvement in collaboration

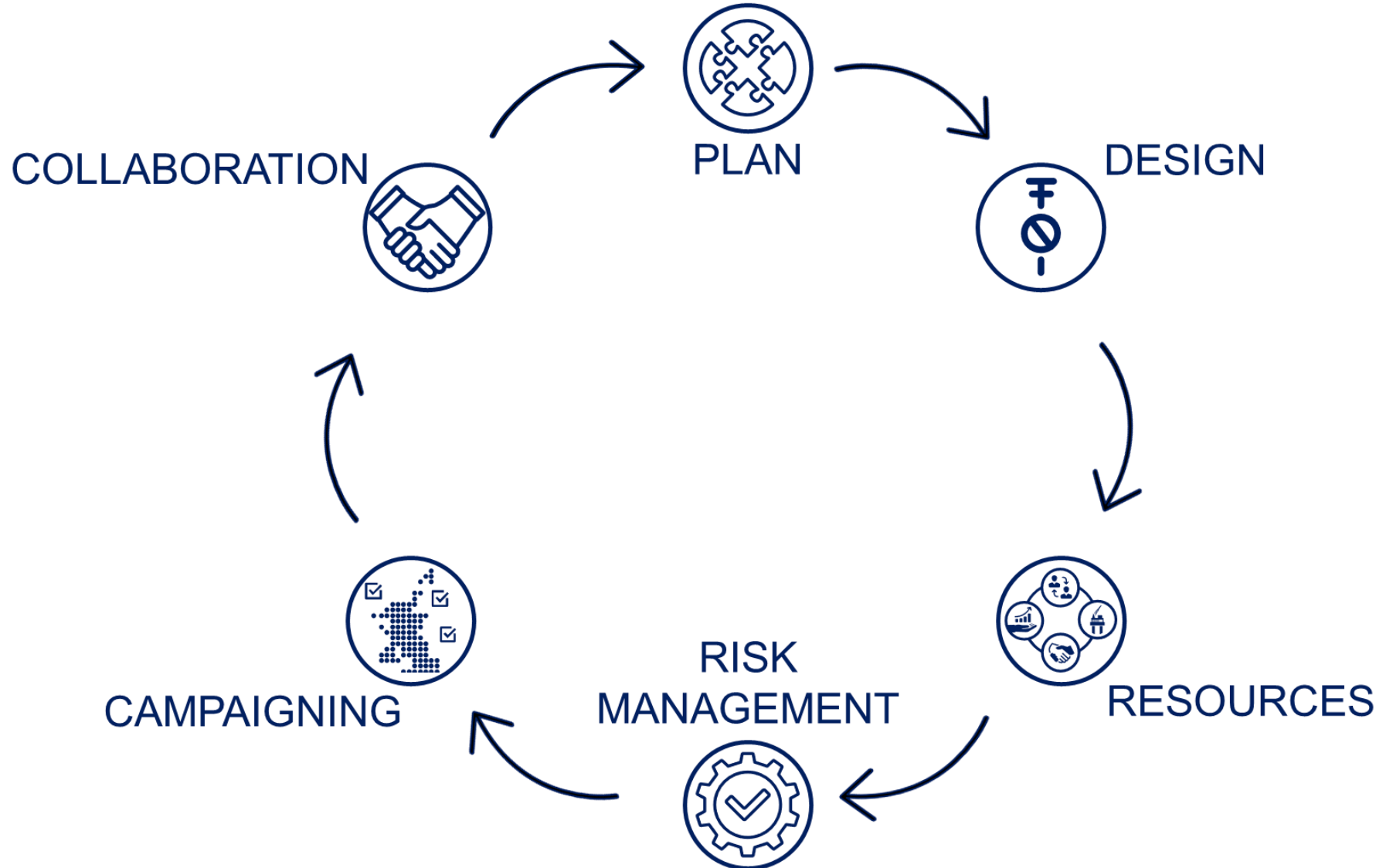


- A Decommissioning Strategy
- A Plan for Decommissioning



- Create a culture of GHG emission reduction
- Ensure GHG emission reduction across all lifecycle phases

Optimising Decommissioning Emissions



Early and effective planning, contracting and collaboration are key to emissions optimisation



- Executing multiple scopes in series using the same rig or vessel
- Avoid extra mob/demob and inefficient transit costs and emissions
- Operator portfolio wide campaigns – multi-field decom/combine with drilling or construct scopes



- Collaboration essential to ensure all parties benefit from campaigning
- Both Operator/Operator and Operator/Supply Chain collaboration required
- Multiple ways to campaign both collaboration and transparency at the core of all

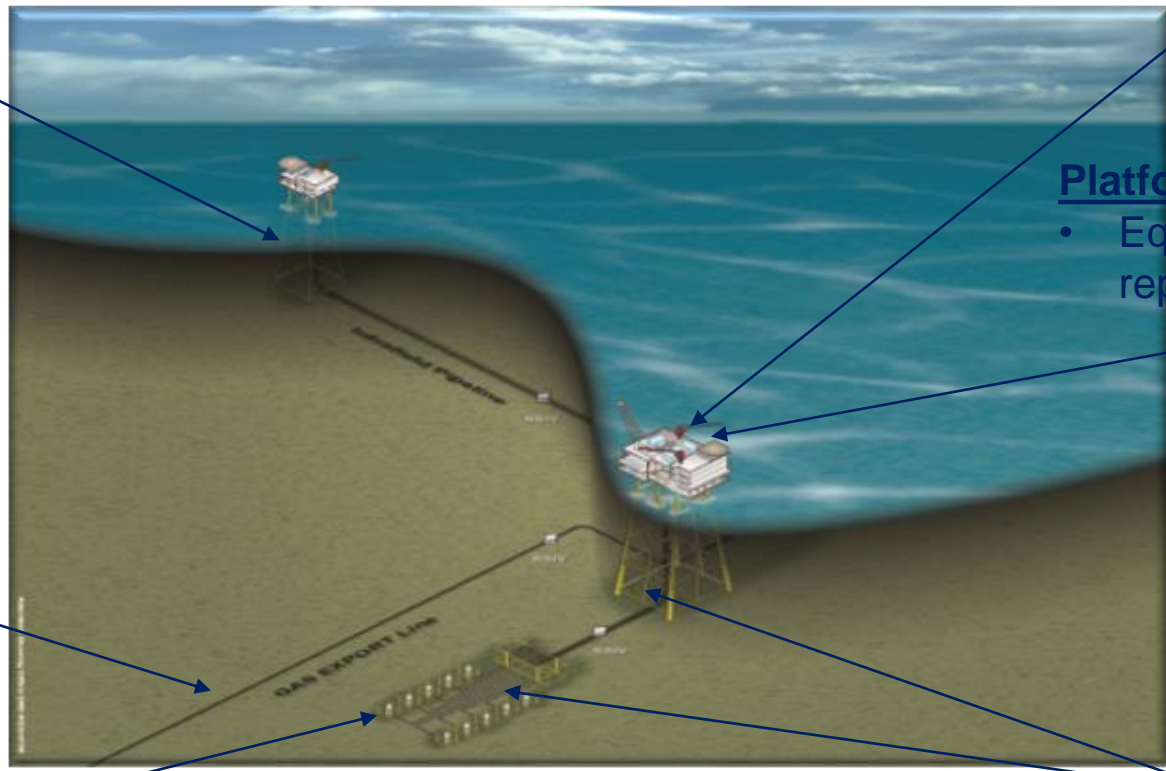
Reuse & Repurposing Opportunity

Platform Substructure

- To support new renewables/Net Zero topsides

Platform Superstructure

- Equipment & spares can be reused on other oil/gas developments



Platform Superstructure

- Equipment & spares can be repurposed for non-oil and gas uses

Trunklines

- CO2 transmission to offshore
- H2 to shore/offshore

Subsea Infrastructure

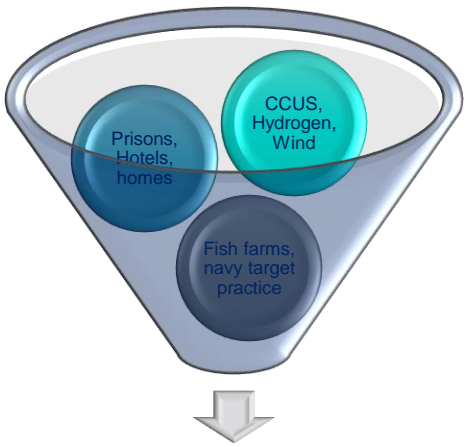
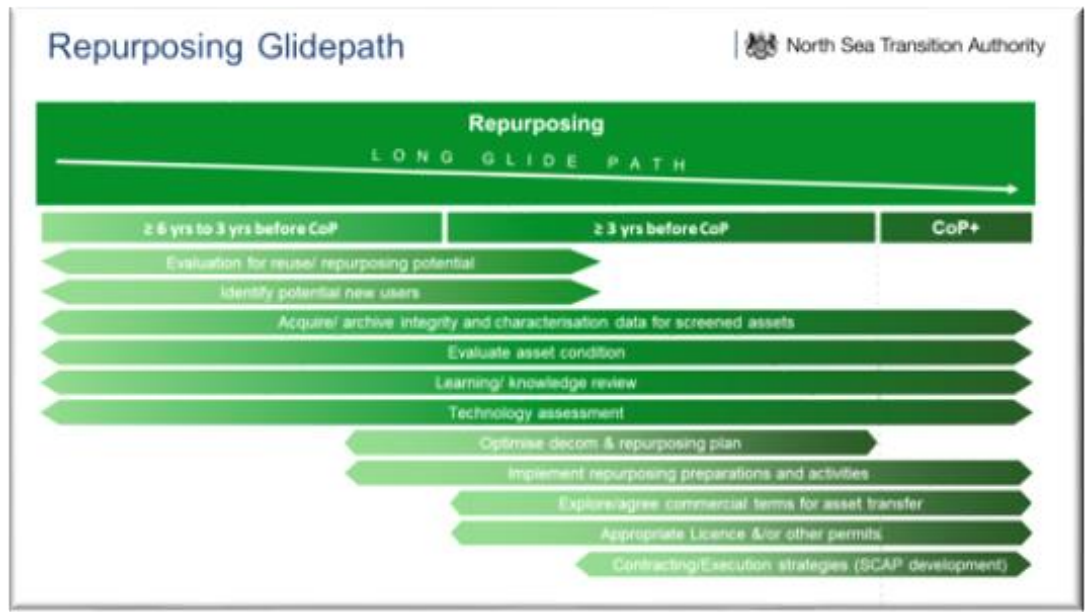
- Equipment & spares can be reused on other oil/gas developments

Development Wells

- To preserve CCUS potential
- To inject CO2/H2 for underground storage
- Tubulars used in onshore construction

Vast potential for reuse/repurposing of offshore oil and gas infrastructure

Repurposing Screening



NSTA's Screening principles

- Energy transition priority
- Materiality
- Avoiding value erosion

Priority infrastructure identified for repurposing (or preservation)

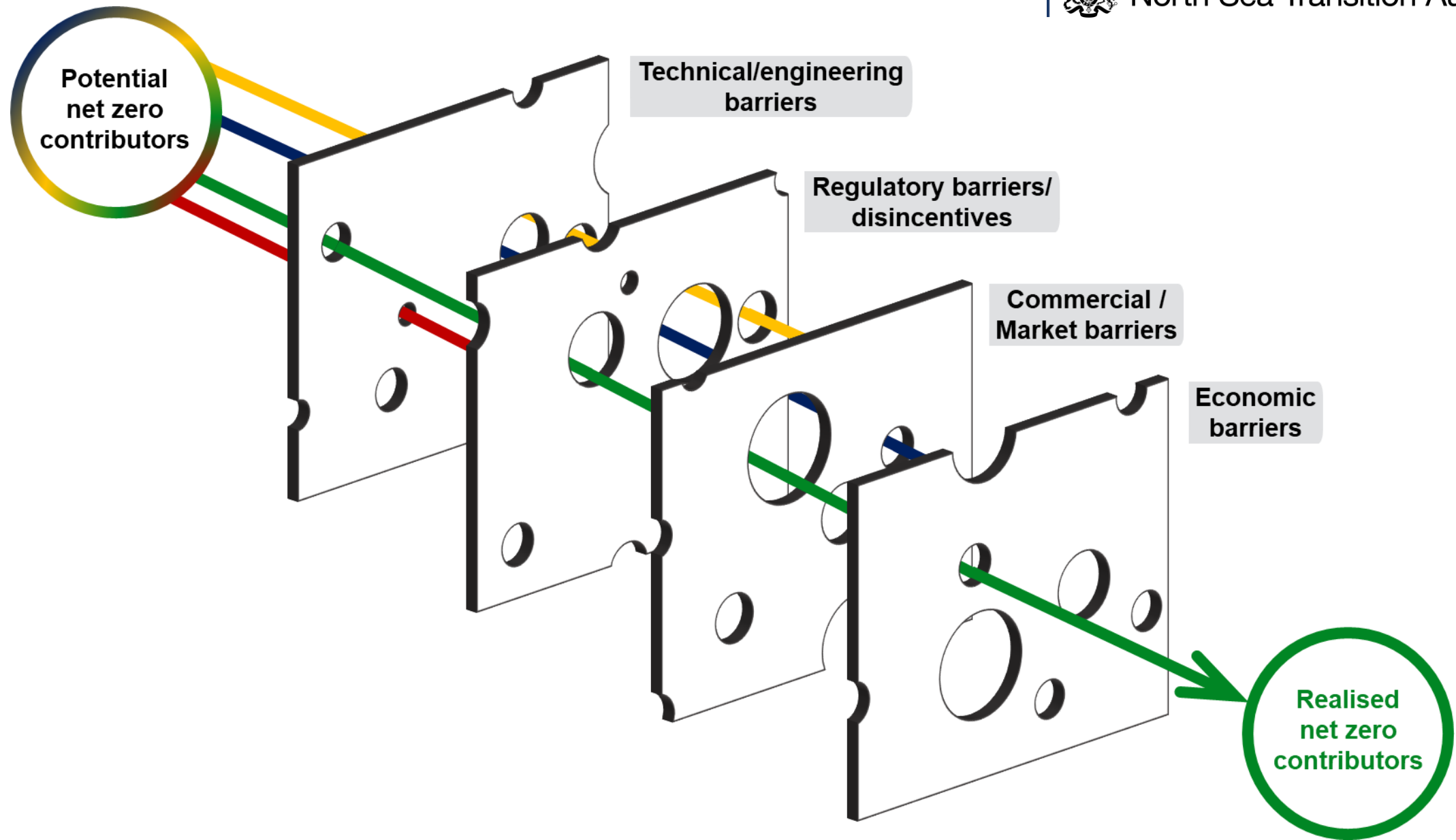


Pipeline availability 2060, UKCS

Use of data to enable repurposing

- ✓ Collect and archive data
 - ✓ to benefit new users screening and engineering
- ✓ Increase data transparency
- ✓ Bring relevant data into GIS
 - ✓ incl. renewable, CCUS & hydrogen opportunities
 - ✓ When infrastructure is available
 - ✓ To allow spatial planning

Enabling Infrastructure Repurposing



Realising the opportunity dependent on overcoming various challenges

1. Complete analysis of Operator feedback
 - close feedback gaps
 - communicate high-level conclusions
2. Engage with stakeholders to mature or discount the opportunities, incl.:
 - Operators
 - Developers
 - Regulators
3. Implement framework to share relevant engineering information/data
 - to allow developers to evaluate

