North Sea Transition Authority

Driving an effective North Sea transition: challenges and opportunities

North Sea Transition Authority perspective

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18 March 2026

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NSTA role

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The NSTA regulates and influences the oil, gas, offshore hydrogen and carbon storage industries.

We work with government, industry and other regulators to achieve our three main objectives.

Emissions reduction

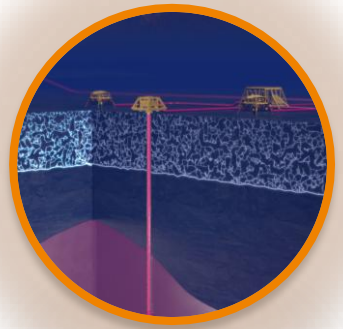
Low-carbon power generation
Flaring and venting
Technology and efficiencies

Capital
Licence to operate

Energy production and security

Economic recovery of oil and gas
Storage: Natural gas and H_2

Capital, skills
Infrastructure reuse, integration



Accelerating the energy transition

Carbon storage and hydrogen
Co-location and spatial
Cost-effective decommissioning
Digital and data

Integration, floating wind

Skills, supply chain

DESNZ sets UK energy ***policy***, including oil and gas, CCS, hydrogen, renewable energy, legislation

Measuring success

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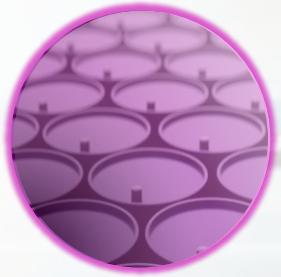
The NSTA worked closely with industry to deliver 233 success stories between February 2021– when our revised Strategy came into force – and December 2025.

4.5 $MtCO_2e$
lifetime emissions prevented

£531m
cost mitigated



552m boe
tripartite barrels

£367m
decom cost savings

£4.4bn
value of investments

433 days
time saved to industry (fast tracked consents days)

North Sea transition – UK's growth opportunity

Industrial potential

£125bn+
expenditure on oil, gas, offshore wind, CCS and H_2 to 2030

150,000+
good jobs supported by offshore energies[2]

Existing **world class energy supply chain** from oil and gas sector

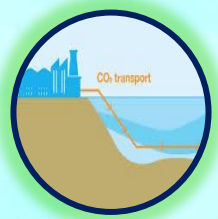
Infrastructure

30+ fields have infrastructure with repurposing potential

250+
subsea installations

Integration of multiple energy systems

Natural resources



up to **78GT** of CO_2 storage potential[4]

~3.3bn
barrels of oil equivalent projected to be produced 2026-50

50GW
fixed and floating offshore wind[3]

Sources:
1 NSTA 2 OEUK, RGU, OWIC 3 UK Government target 4 ETI, BGS, et al. UK Storage Appraisal Project (2011)

North Sea Future Plan

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The UK government's plan to foster an internationally leading offshore clean energy industry which ensures good, long-term jobs, growth and investment in communities across the North Sea. Published in November in response to the Building the North Sea's Energy Future consultation.

Vision

Alongside oil and gas production from existing fields, the North Sea's energy future will be focused on **key clean energy sectors**:

offshore wind **CCUS** **hydrogen**

Primary objectives

We will have a **balancing requirement** set out in law to weigh up and balance our three primary objectives as *we best see fit:*

1 **Economic**
Maximise societal economic value of relevant activity

2 **Net Zero**
Assist the government in meeting the net zero target and carbon budget

3 **Transition**
Enhance the long-term benefits of the transition to clean energy technologies in the UKCS by considering workers, communities and supply chains

NSTA powers

NSTA powers for offshore petroleum will be strengthened / clarified, including:

Financial penalties **Fit and proper person test** **Withholding consents** **Decommissioning powers**

Support for the **OGA Plan and electrification**

Introduction of **Transitional Energy Certificates** that will enable some oil and gas production such as in areas adjacent to already licensed fields, linked via a tieback

A new **North Sea Future Board** to deliver elements of the plans

Commitments will be implemented through legislation, where appropriate

Supporting energy production and security

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North Sea oil and gas production – though declining – will continue to play an important role in the energy mix for decades to come, supporting communities as the UK transitions.

3.3bn
barrels of oil equivalent projected to be produced between 2026 and 2050

~50%
Domestic gas production equated to about half of UK demand in 2025

14 projects
being stewarded towards consenting decisions, with **£10bn** of investment and **800m** barrels under assessment

47.7bn
barrels of oil and gas produced from UKCS by end of 2024

£58bn+
to be spent on exploration and production activities, 2026-30

Transitional Energy Certificates – expected to be introduced

- Support management of existing fields for their full lifespans
- Will be issued by NSTA on out-of-round basis
- Are for blocks or part-blocks adjacent to an existing field, to be linked by tieback
    - Could be used to manage incidental oil and gas production from geological storage activities, e.g. CO_2 or hydrogen storage
- *Existing arrangements for current licence holders will remain in place*

Driving emissions reduction

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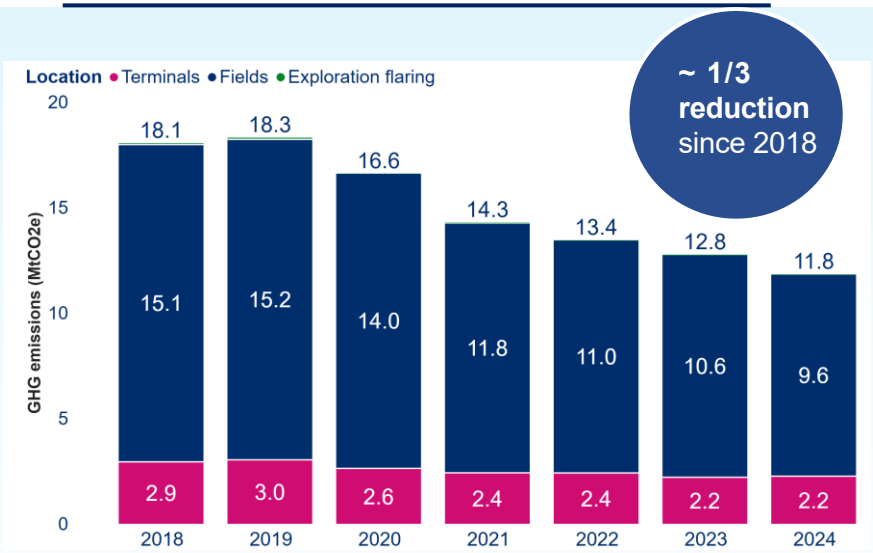
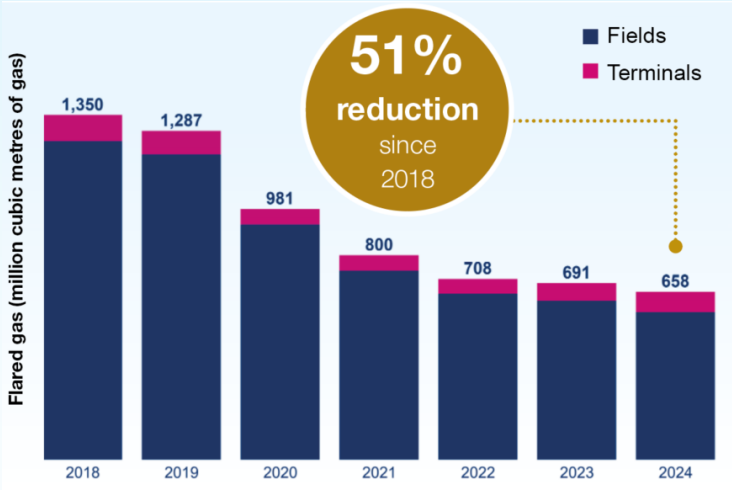
The oil and gas industry has made progress lowering its production emissions, but more work is needed to meet key targets on the way to net zero by 2050, including a 90% reduction by 2040

GHG emissions reductions



Declining gas flaring



Offshore emissions intensity

24 $kgCO_2e$

per barrel

in 2024, unchanged from 2023

Emissions Monitoring Report 2025

OGA Plan to reduce UKCS GHG emissions

Investment and efficiency

- Investment in **GHG emissions reduction** should be made by industry
- Includes **investment in specific technology** to improve efficiency and reduce emissions

Electrification and low carbon power

- Power generation is **largest contributor** to oil and gas production emissions
- **Electrification required for existing assets**, where reasonable to do so, with other low carbon power options also considered

Inventory

- More focus on **planned decommissioning**
- Scrutiny of **high emissions intensity assets**

Flaring and venting

- **A fifth** of production emissions from flaring, venting
- Operators must deliver **continuous improvements** in flaring and venting
- **Zero routine flaring and venting** for all by 2030

Integrated energy hubs

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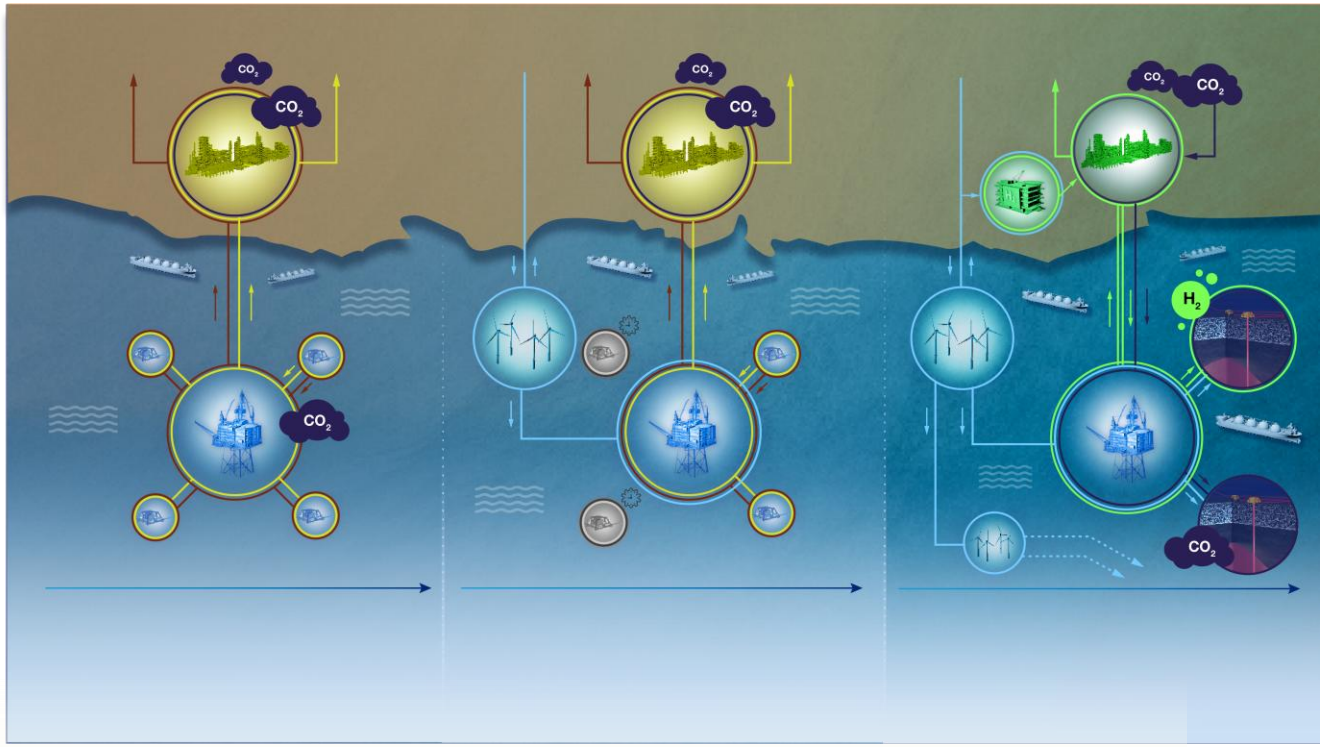
The North Sea has abundant wind, carbon storage and hydrogen resources. Integrating these assets, including with repurposed oil and gas infrastructure, will help them reach their full potential.



Now

Oil and gas hub

~2030

Decarbonised hub

Out to 2050

Integrated energy hub

Now – Oil and gas hub

Producing oil and gas with offshore emissions from gas/diesel-powered equipment.

Out to 2050 – Integrated energy hub

Repurposed and shared infrastructure linking oil and gas, clean energy technologies and carbon storage.

~2030 – Decarbonised hub

Tied into grid and offshore wind, minimising offshore emissions and enable floating wind.

Key:

Oil | Gas | Electricity | To offshore grid | Hydrogen | Carbon dioxide

Accelerating the energy transition: carbon storage

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The NSTA is the licensing and permitting authority for offshore carbon storage

Progress

- NSTA has awarded **4 carbon storage permits**
  - UK's first ever carbon storage permit to NEP 2024
  - Three permits to Eni for Liverpool Bay CCS 2025
- Issued first consent for a **carbon storage appraisal well**
- Stewarding over **20 carbon storage licences** towards permit application and carbon dioxide injection on UKCS
- Produced maps showing **regional UK carbon storage potential**
- Published **carbon storage stewardship expectations** - risk, appraisal, data, technology, stakeholders
- Launched **2nd carbon storage licensing round** – closes 24 March

Endurance

- Up to 100m tonnes of CO_2 from industries in Teesside and Humberside to be stored in Endurance aquifer
- 2028 start-up expected, 25 year lifespan
- £1bn worth of contracts awarded in first year since FID
- 2,000 construction jobs to be created

HyNet

- 5 priority projects selected to tie into HyNet, including gas power, cement and energy-from waste
- 109m tonnes of CO_2 to be stored over lifespan – from 2028
- £2bn of supply chain contracts unlocked
- 90 miles of existing pipeline being repurposed
- 1,500 jobs committed – early hiring under way

Energy Pathfinder

Subcontracts for Endurance and HyNet advertised on NSTA site

Spatial planning and co-location

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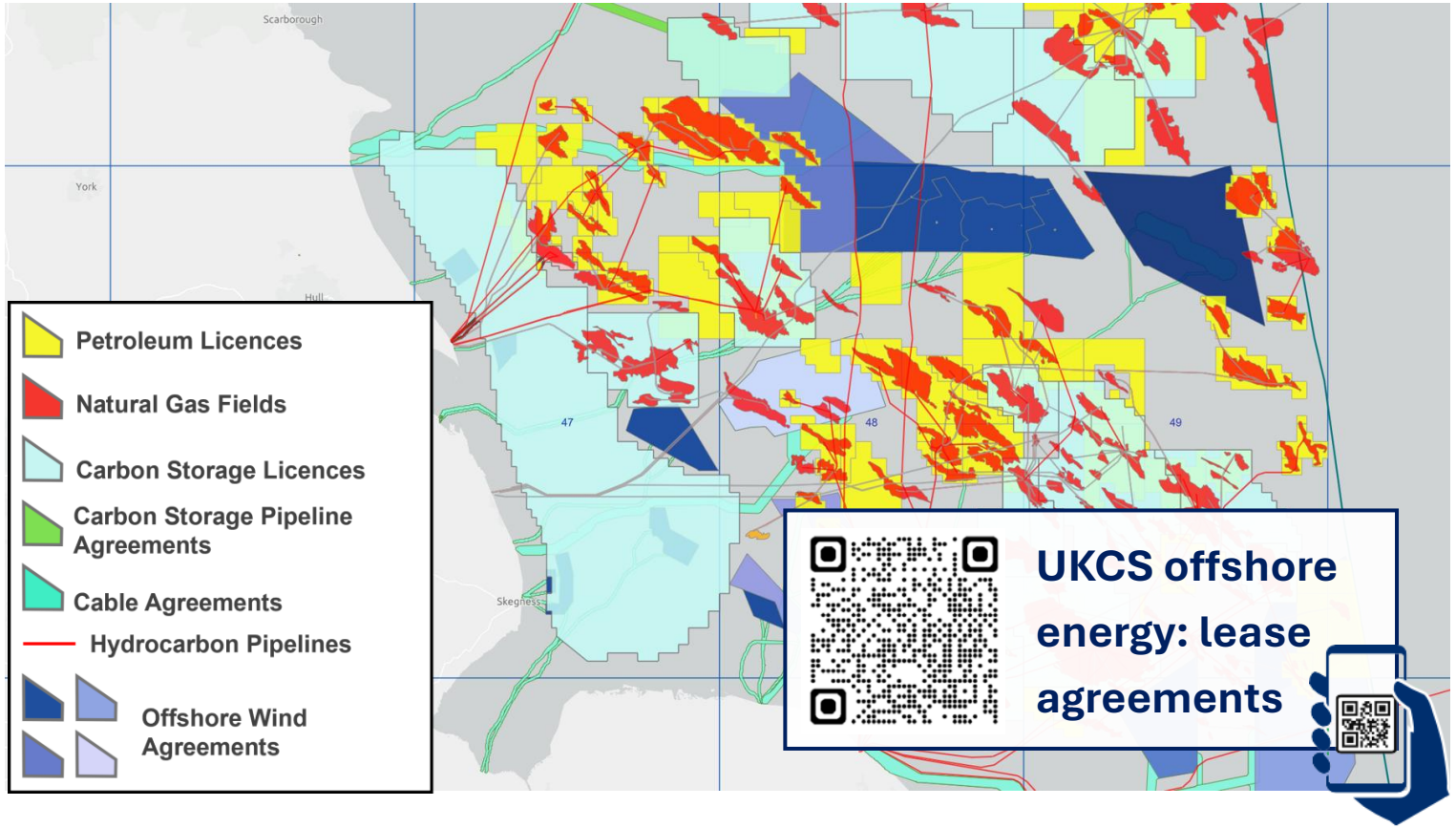
Collaboration and proactive planning will be required to enable energy and decarbonisation systems to share space in an increasingly busy UKCS, alongside other marine sectors

- NSTA works with others – The Crown Estate, Crown Estate Scotland, UK and Scottish governments, NESO – to drive a co-ordinated approach to managing the seabed
- NSTA, industry and offshore bodies are using data sharing and novel technologies, including CS monitoring tools, to spatially optimise current and future projects
- NSTA Digital Energy Platform has range of data visibility tools and maps – 1.7 petabytes of geoscience & engineering data

Oil and gas, carbon storage and offshore wind licences, leases and projects already co-exist in the North Sea and East Irish Sea



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Thank you