Living the Energy Transition, the greening of the North Sea

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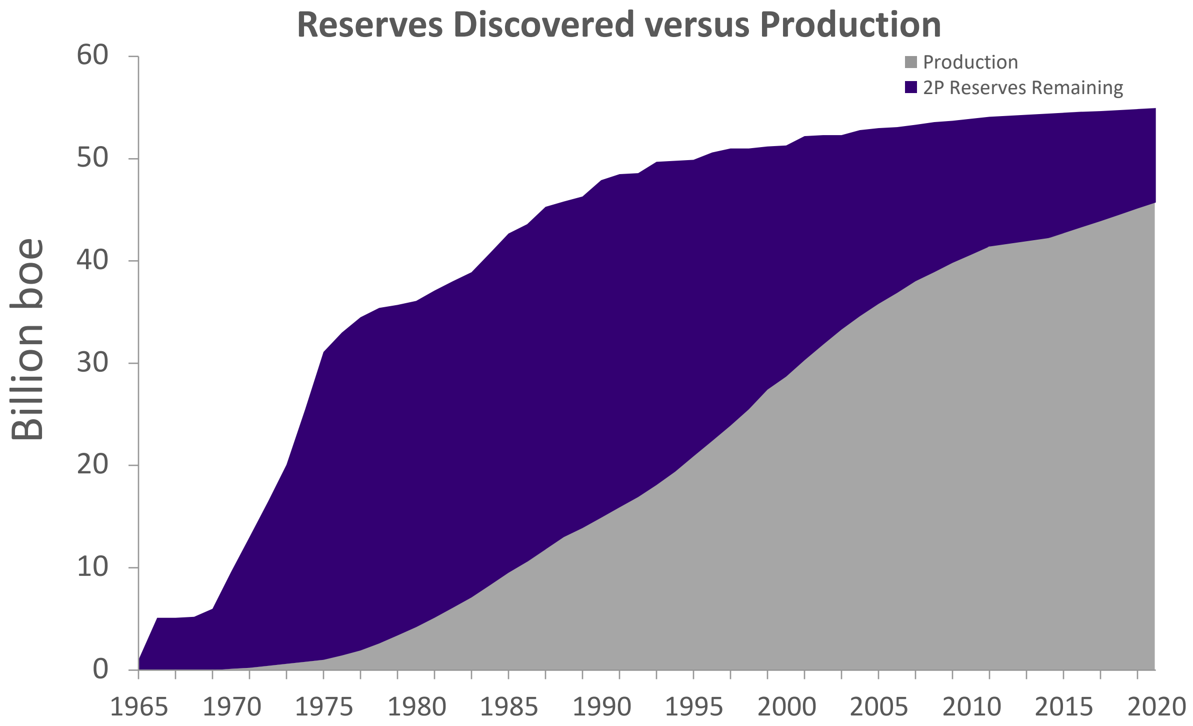
The future of the UKCS?

0.9 bln boe
Consumption
pa (UK)

0.57 bln boe
Production
UKCS in 2020

£14 bln
Opportunities
Awaiting
Investment



Ref: Wood Mac, OGA, BEIS

46 bln boe
Produced
to-date

4.4 bln boe
2P Reserves
(1.1.21)

6.8 bln boe
Contingent
Resources
(1.1.21)

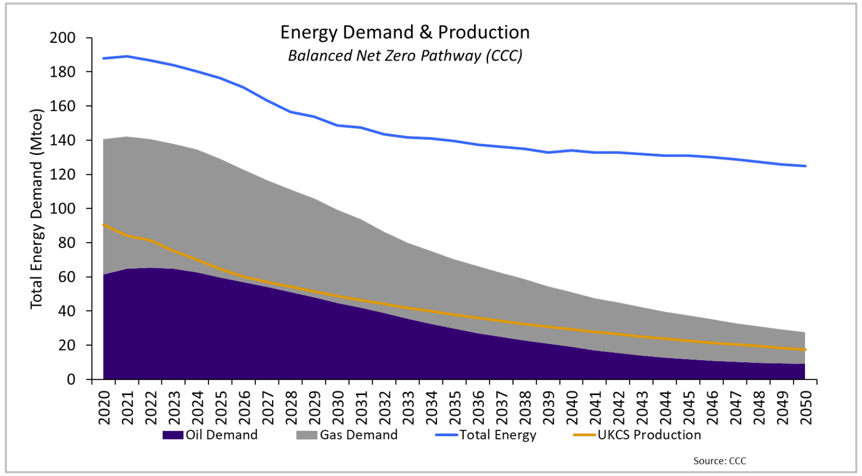
3.7 bln
(mean)
Yet to Find

Role of oil and gas in the UK's future

Polarised debate

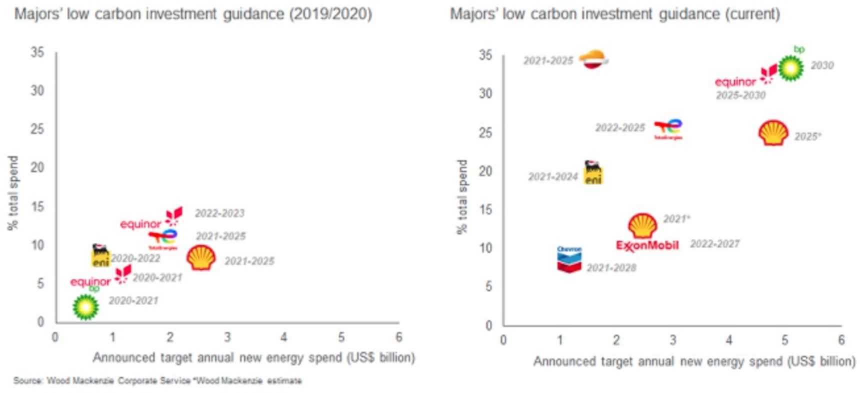
UK is in unique position

Production forecasts are aligned to net-zero plans



Majors expanding into new energy opportunities

Majors' spend on new energy has doubled in two years



Source: Wood Mackenzie

Industry acting to deliver transition

NSTD is a comprehensive plan of action, with Government support

The sector is important to:

Jobs and skills

Investment in transition

Security of energy supply

Economy

OGUK

The North Sea Transition Deal - five commitments, that together align to create a transformative deal

OGUK

The North Sea Transition Deal *is at the heart of UK energy policy. It will accelerate the energy transition, reduce UK emissions, and create new jobs across the UK*

- *60Mt reduction in UK GHG emissions by 2030*
- *£14-16 bln investment*
- *40,000 new energy jobs*
- *+50% UK content inc. 30% local technology*

The Deal will require an internationally competitive and level playing field as part of a broader energy framework

Supply Decarbonisation

cutting upstream Oil and Gas industry emissions through an ambitious production emissions reduction programme

Carbon Capture & Storage

enabling large parts of UK industry and society to eliminate emissions

Hydrogen

providing a realistic alternative for heating, heavy industry, and transport

The above activities will be made reality by focussing on capabilities that underpin the growth of the UK economy

Supply Chain Transformation

Developing engineering, manufacturing, services and technology expertise to support the energy transition and create a globally competitive energy supply chain of international repute

People & Skills

securing, stimulating, and creating tens of thousands of high quality jobs in industrial heartlands

The UK oil and gas sector is acting to reduce emissions and is on track to meet ambitious targets

Methane Action Plan

6. **50% methane emission reduction by 2030**
Industry will halve methane emissions by 2030 (against a 2018 baseline) in accordance with overall emission reduction targets.

5. **UKCS methane intensity below 0.20% by 2025**
Industry will adopt the 'stretch' OGCI methane intensity target of 0.20% by 2025 to drive short-term operational efficiency.

4. **Zero Routine Flaring before 2030**
Industry will aim to meet the World Bank 'Zero Routine Flaring by 2030' initiative, with individual assets seeking to accelerate compliance where possible before 2030.

3. **Asset MAP**
Operators will develop a Methane Action Plan for each individual asset by Q4 2022, including measurements and quantifications, flare and vent management plans, and abatement plans.

2. **Measuring methane**
Operators will seek to validate methane quantification wherever practicable.

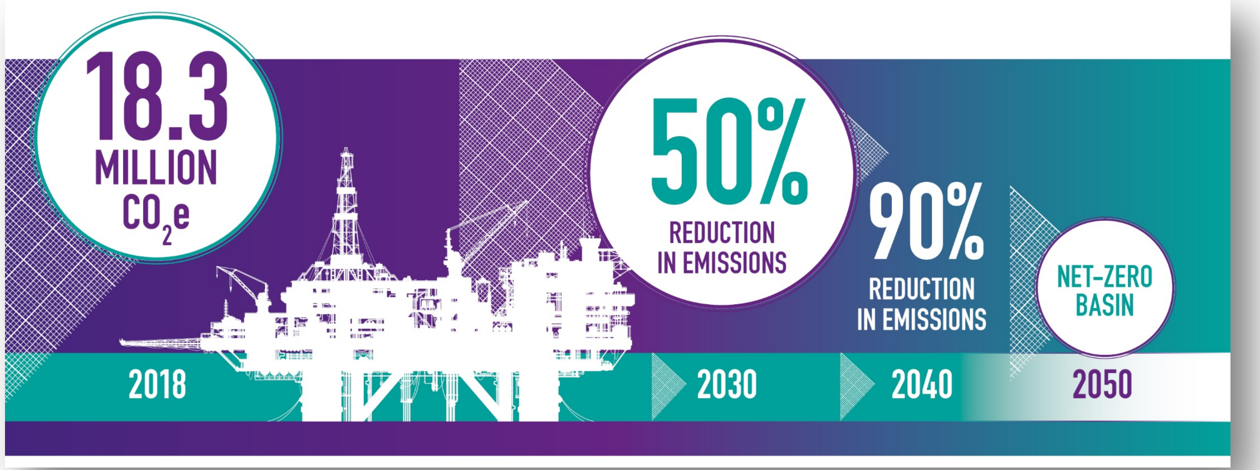
1. **International alignment**
The industry will seek to align to international standards and reporting principles.

Emissions Reductions Progress

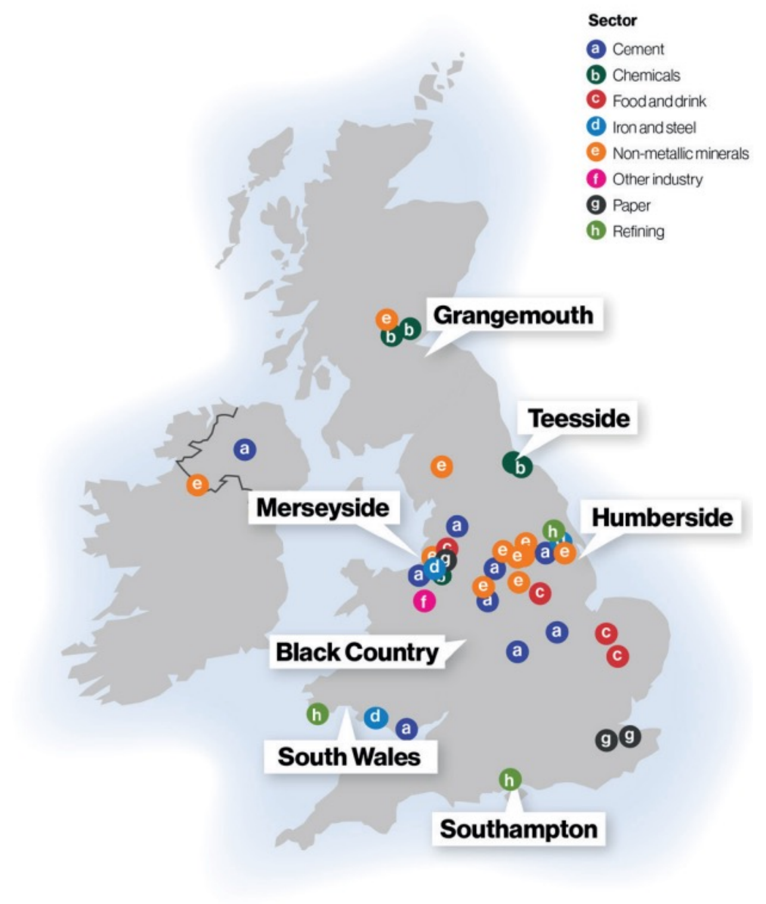
2018: 18.88 Mt CO_2e → 2019: 19.04 Mt CO_2e → 2020: 17.06 Mt CO_2e

Installations	13.38
Terminals	2.53
Logistics	0.72
Exploration	0.34
Aviation	0.09

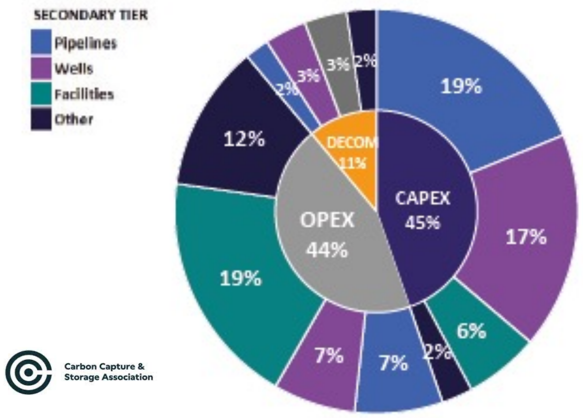
Emissions Reductions Targets

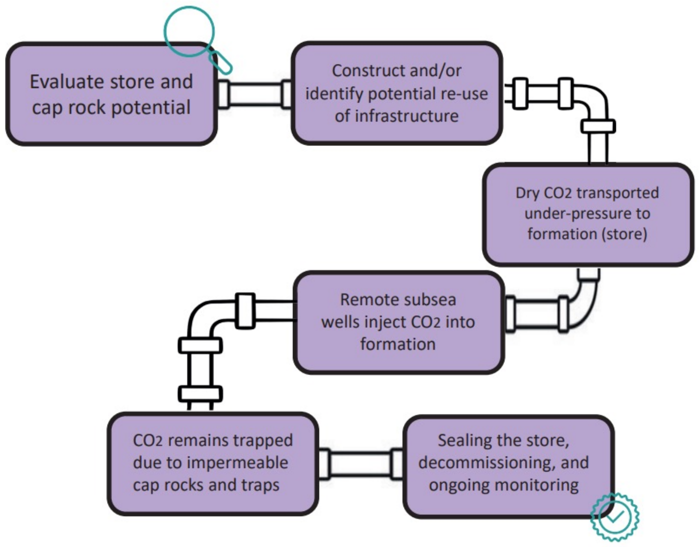


Emerging opportunities – CCUS Opening up new avenues for exploration on the UKCS



Source: BEIS Industrial Decarb Strategy






Exploration Task Force

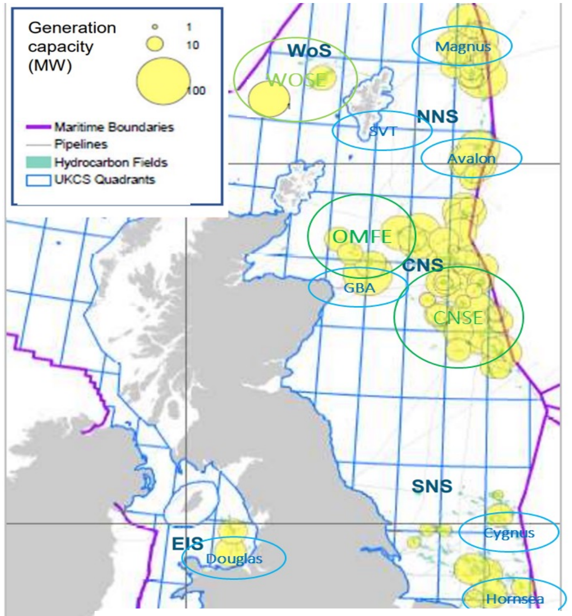
Exploration & Appraisal for CO_2 Storage Sites in the United Kingdom

September 2021

Figure 1: High-graded theoretical subsurface offshore CO_2 storage areas in the United Kingdom (Strategic UK CO_2 Storage Appraisal Project, 2016)

A wide range of electrification projects are being considered across UKCS cutting the emissions from oil and gas extraction

Hub projects feeding clusters:	CNS-E	• Reaching Concept/Select milestones • Engaged with supply chain
	OMF-E formed	• Maturing Integrated Concept with Wind Farm • Engaging with supply chain
	WoS-E	• Working closely with Orion project • Collectively engaged with CNS-E and OMF-E on common issues
Independent regional projects:		• Ocean Wind • CENOS • Kellas • Cerulean Wind
Standalone projects:	• Cygnus • Hornsea • Douglas	• Magnus • Sullom Voe Terminal • Avalon • Greater Buchan Area

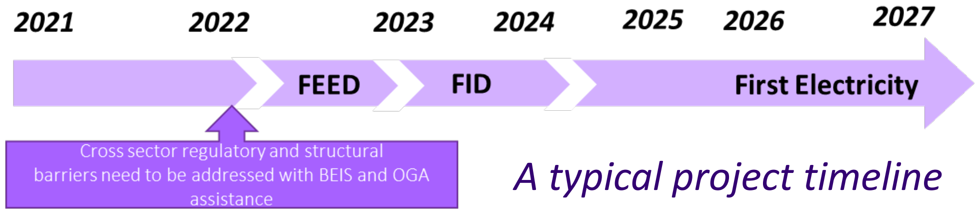


Source: OGA Energy Integration report

Whilst projects have specific issues, which will be worked on an ongoing basis, there is increasing commonality across projects, which we are looking to address on a unified basis. For example:

- **Measures to achieve synergies with windfarms & timing of dedicated licence rounds e.g. INTOG**
- **Opportunities to streamline infrastructure deployment and onshore access**
- **Clarity on regulatory treatment e.g. "private wired arrangements" and power price**

Industry are working with Government and Regulators to address the barriers to electrification



A typical project timeline

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