North Sea
Transition
Authority

OEUK conference

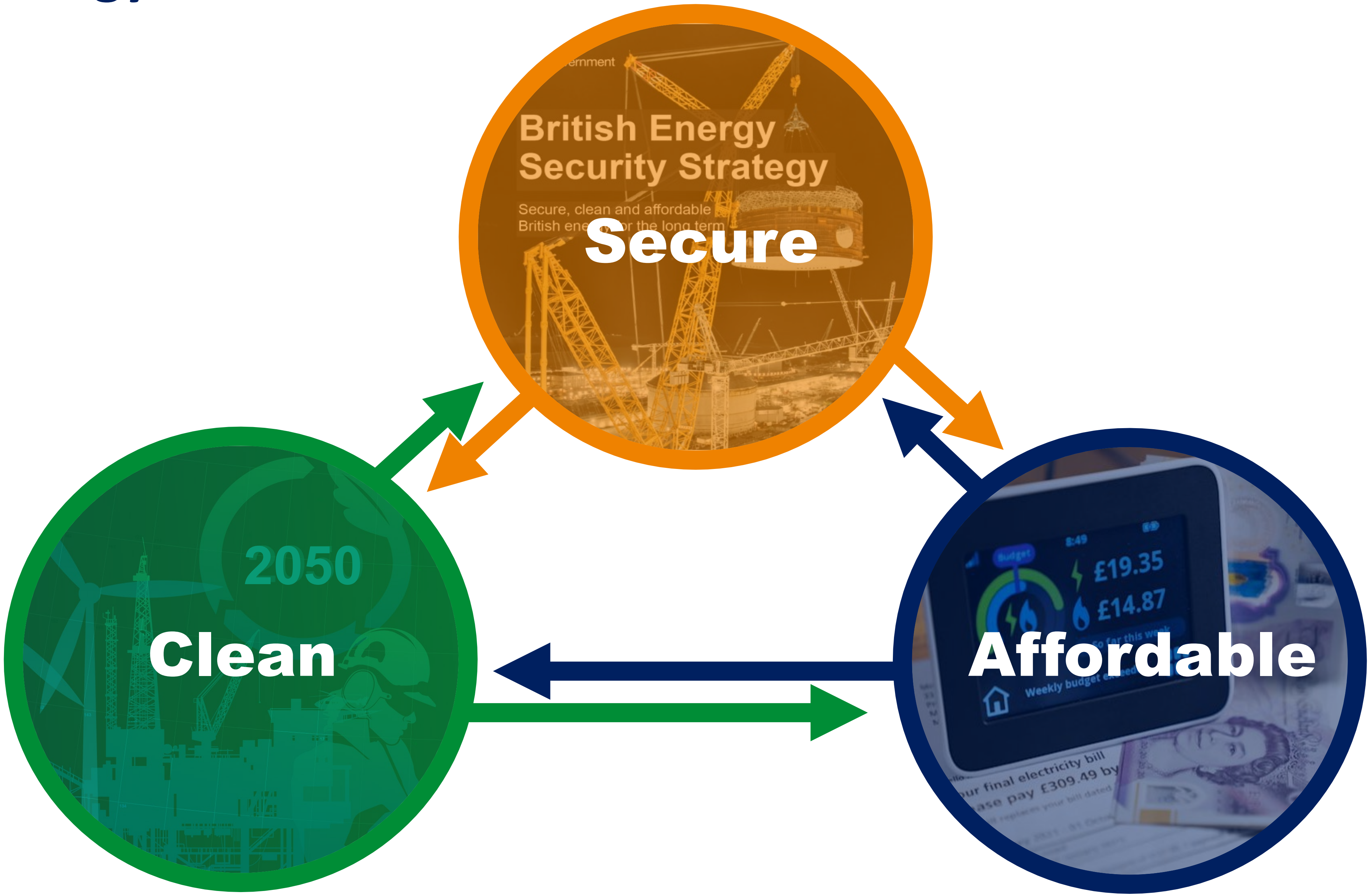
The Age-Old Energy Trilemma

Dr Andy Samuel, Chief Executive

24 May 2022

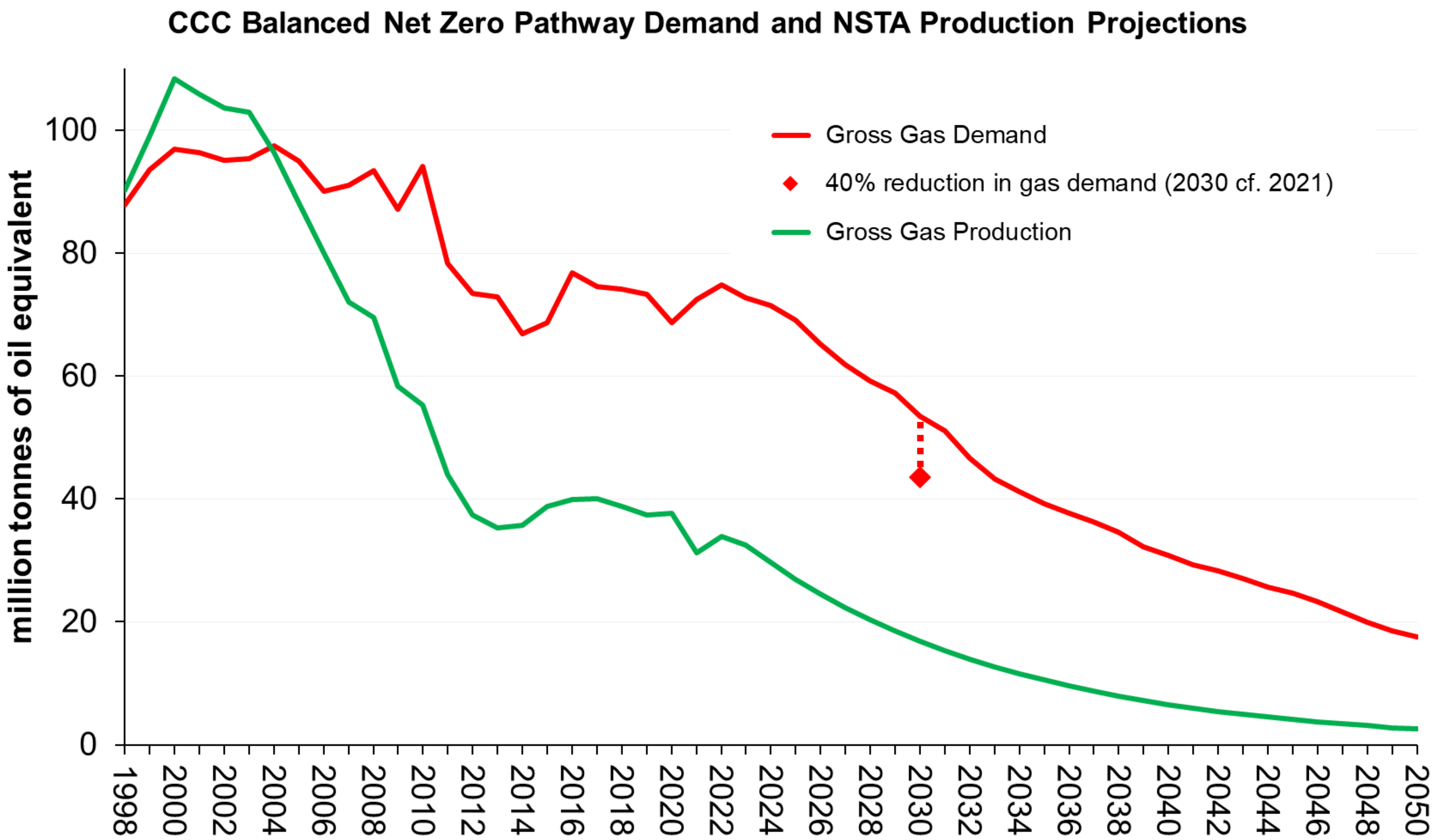
The Energy Trilemma

North Sea Transition Authority



Demand outstrips domestic supply

North Sea Transition Authority



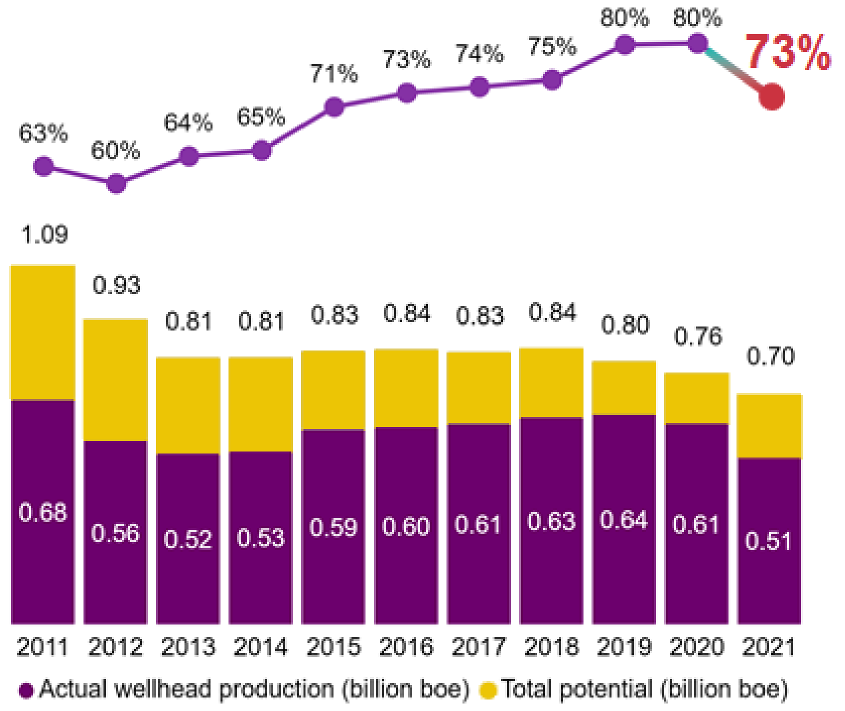
Production from new developments already included

Production decline sharper than IEA, IPPC and UNEP pathways

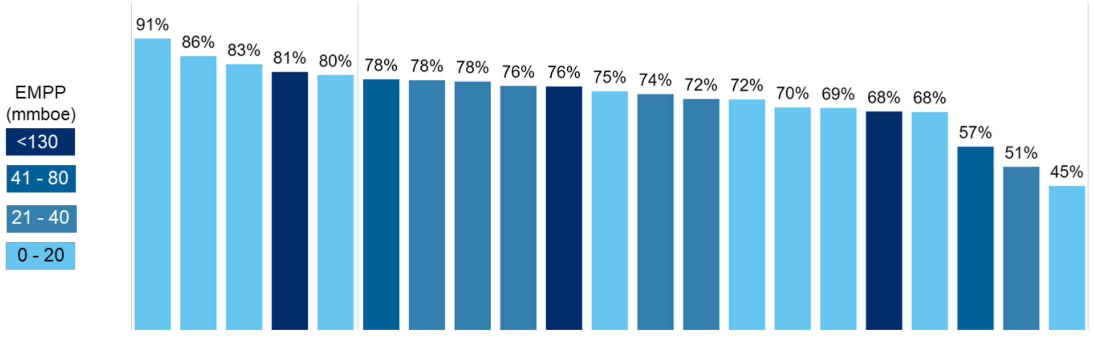
Production Efficiency and Wells

North Sea Transition Authority

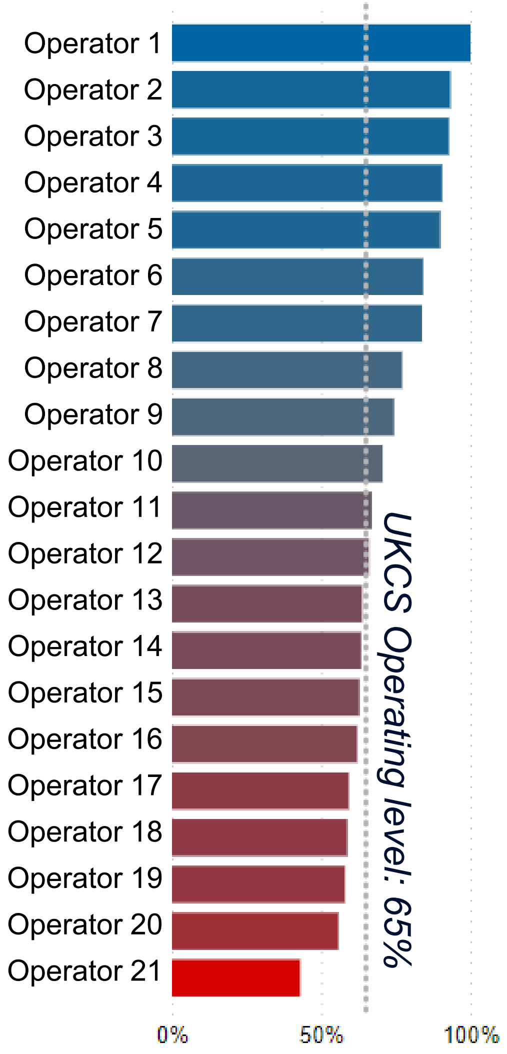
UKCS PE Trend



Production Efficiency by Operator & Production



Operator 'Completed Operating' Well Stock %

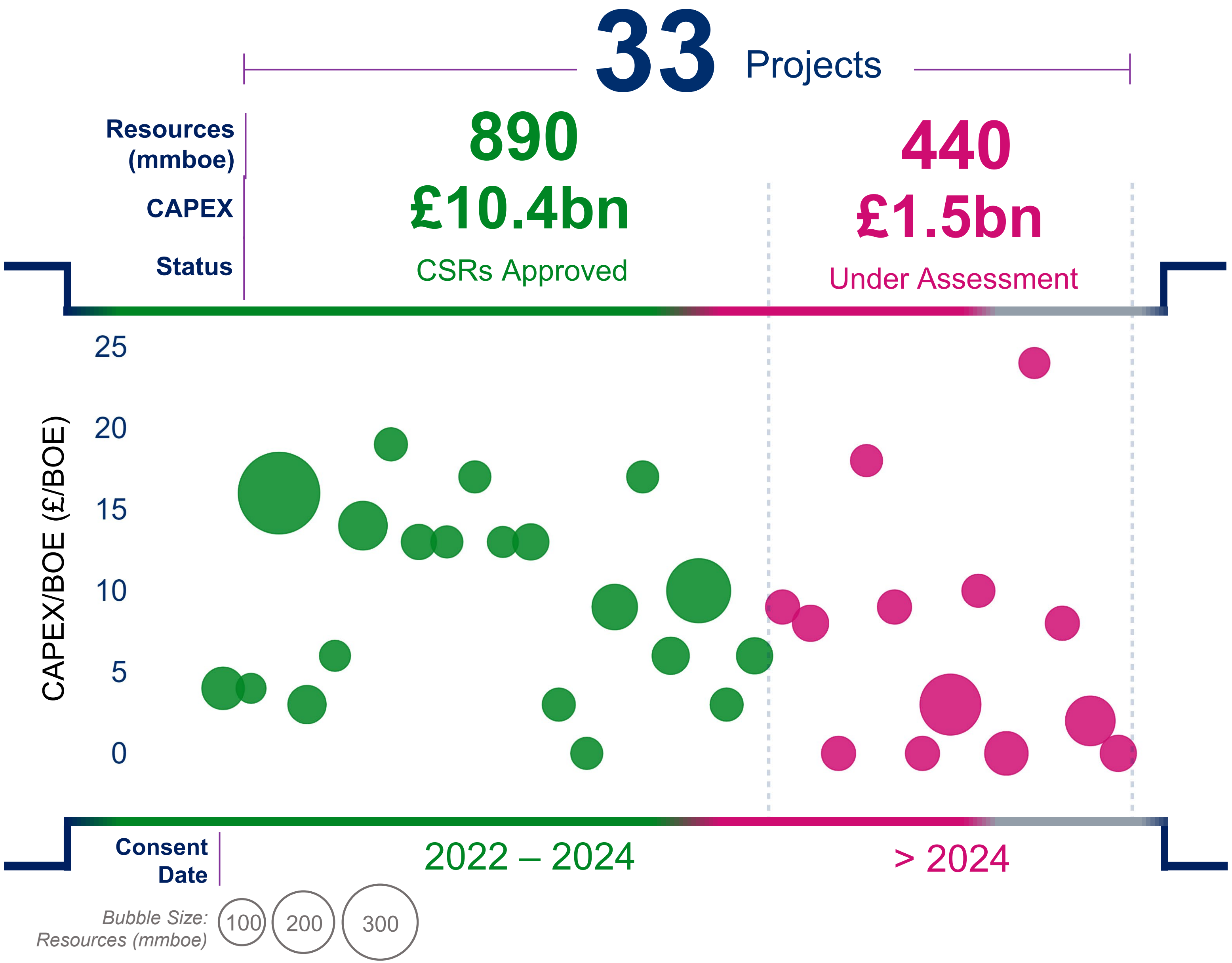


Key performance data reviewed with Top 22 operators

MD's commitment to get PE back to 80%

Other short-term opportunities such as wells being worked hard

Projects Pipeline



33 projects totalling
1.3bn boe
in pipeline

84% resources held by largest operators

Potential for **890 mmboe** to be consented by 2024

Latest barriers/enablers to Oil & Gas Investment

Reduced Access to Capital

- Multiple senior Govt/NSTA meetings with capital providers
- NSTA's ESG Task Force

Lack of Confidence in Govt's Support of Industry

- Highest level of support from UK govt & NSTA
- Energy Security Strategy

Concern over Fiscal Stability

- Attractive fiscal framework
- Industry advised to get on with investments

Access to acreage

- 33rd licensing round
- Right Assets Right Hands
- Appropriately robust regulation

Challenging M&A due to Partner Behaviour

- Commercial Code of Practice
- Early engagement between parties
- Consultation
- NSTA powers

Tough Carbon Reduction Targets

- Right thing & industry signed up to NSTD
- Clear NSTA guidance
- GREG
- Data bench-marking & targets

Slow and/or Disjointed Approvals

- GONPA
- Collaboration on spatial planning
- NSTA/TCE/CES Carbon storage

Delivering the Deal: Emissions reductions

North Sea Transition Authority

21% Reduction GHG emissions 2018-21

23% Reduction flaring 2019-20

1.1M Tonnes avoided since Jan21

Electrification crucial to meet NSTD targets

Supports floating wind, green H_2, CCS & regional schemes

NSTA expects targets to be met as absolute minimum

2021

The OGA Strategy — **OGA Strategy**

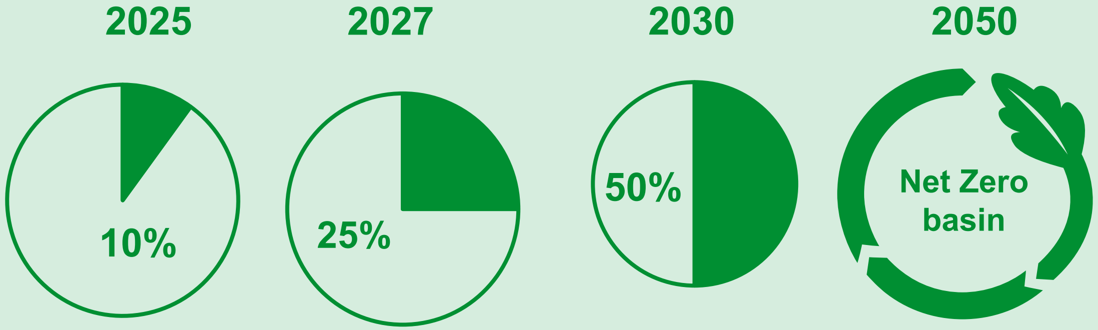
Net Zero Stewardship Expectation 11 — **Net zero expectation**

Requirements for the planning of and consent to UKCS Field Developments — **New fields**

Flaring and venting guidance — **Flaring & venting**

On track

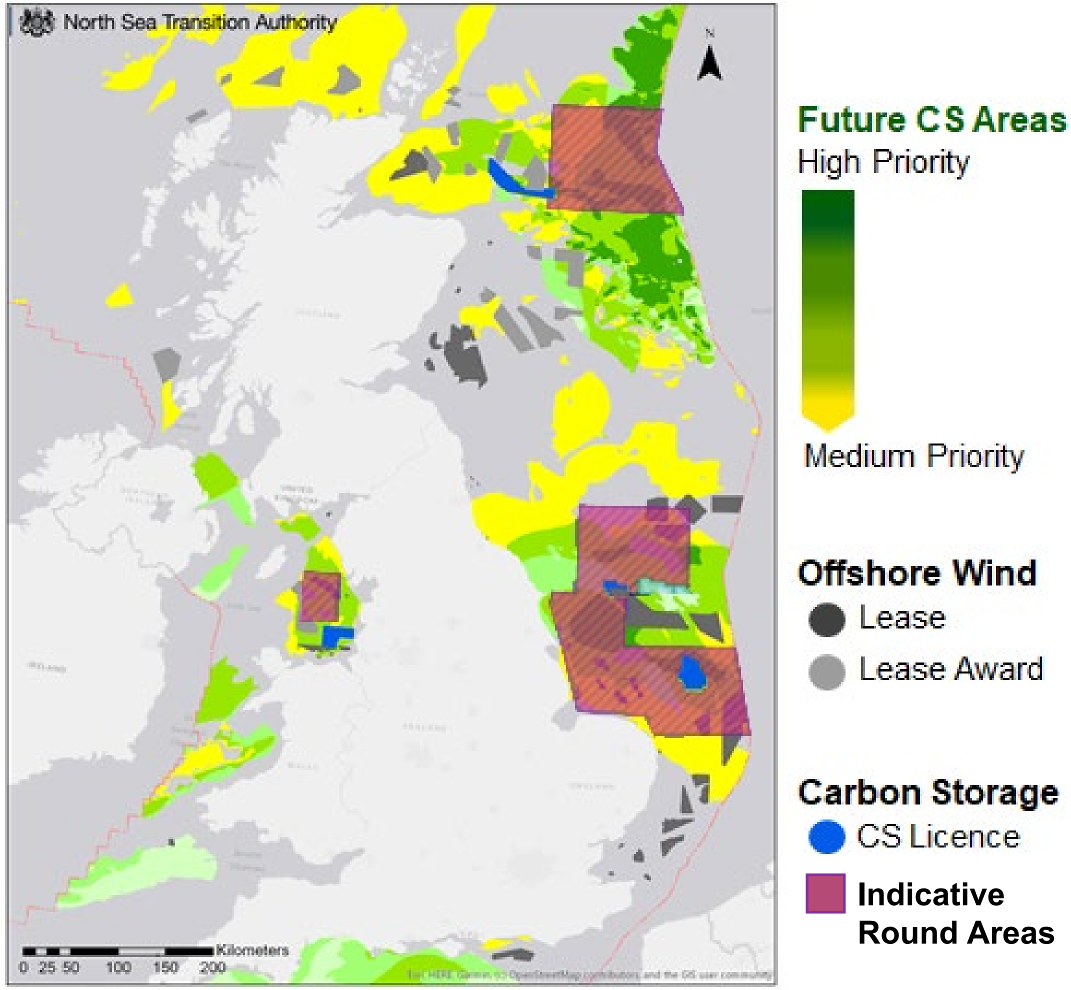
Need industry to strive for 68%



Carbon storage and circular economy

North Sea Transition Authority

Carbon Storage Licence Rounds

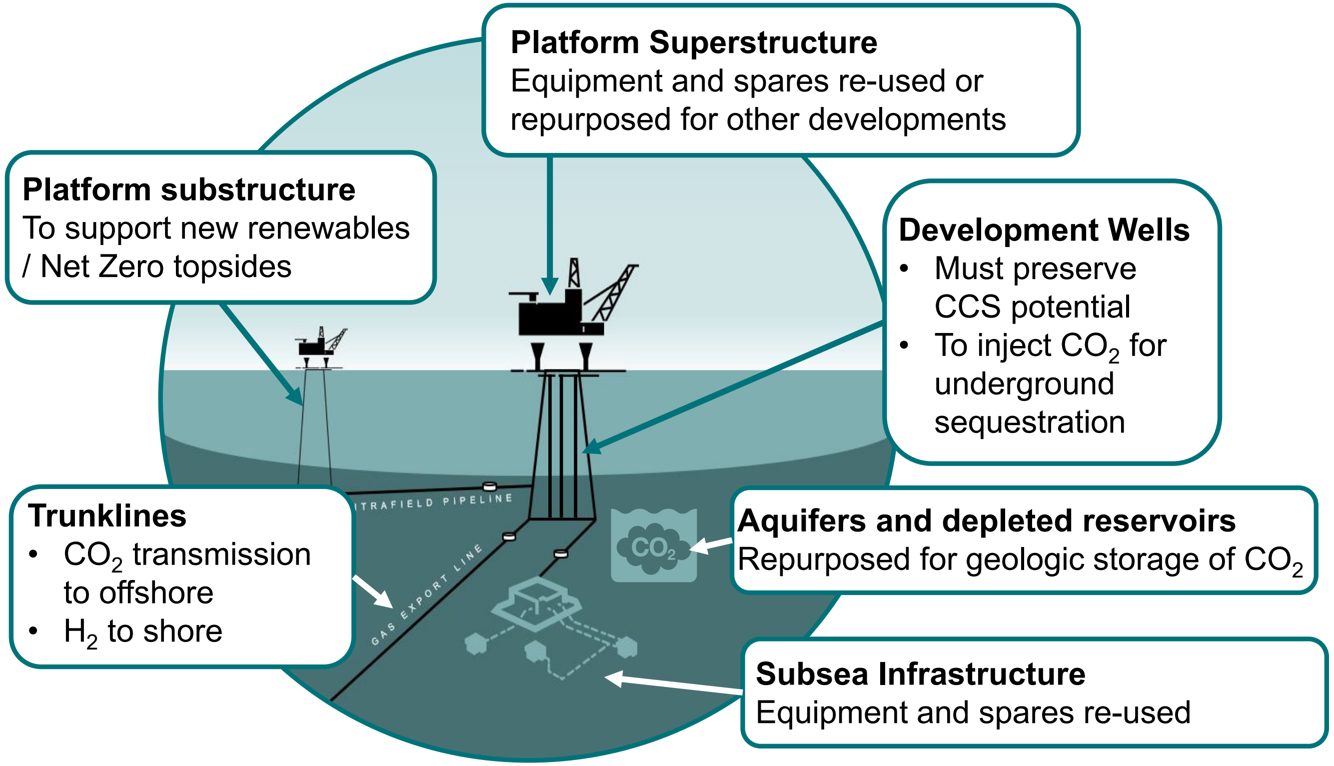


Mid 2020s

- First injection at >2 pilots
- >2MtCO_2 pa injected
- Roll-out of >4 industrial clusters

2030

- >4 commercial scale projects
- 17 MtCO_2 pa injected
- £8bn Capex invested

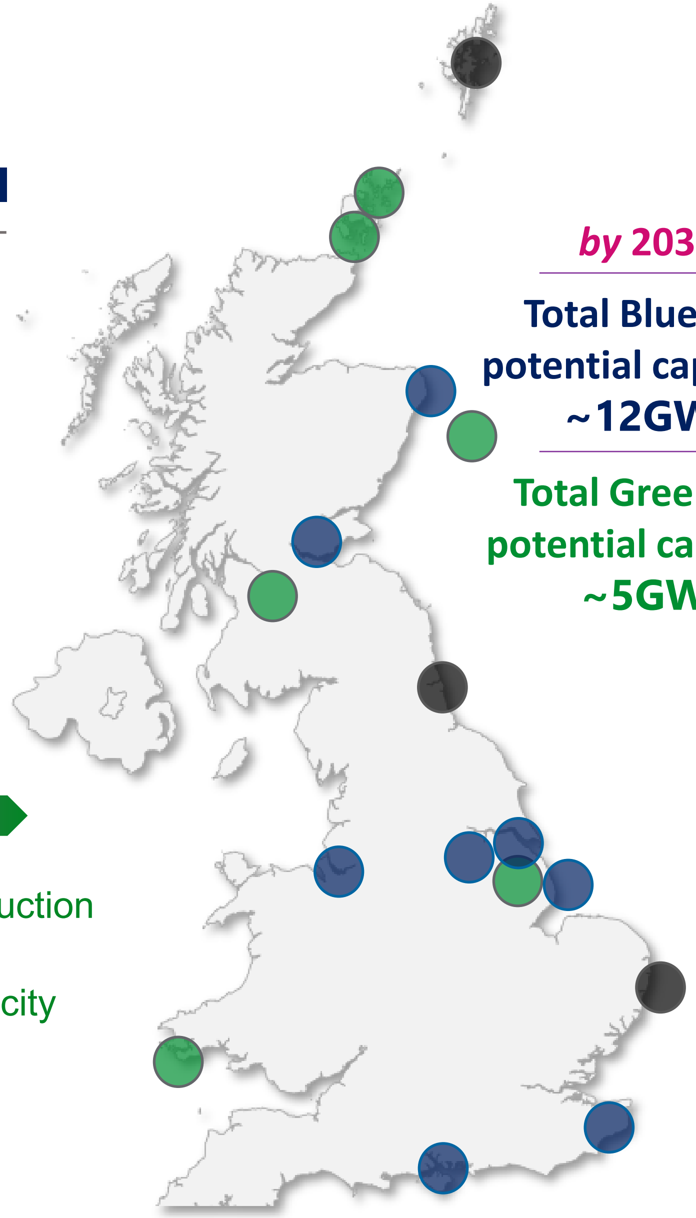


Hydrogen and systemic approach

North Sea Transition Authority

UK Hydrogen Production Potential

- Blue H_2
- Green H_2
- Both



by 2030

Total Blue H2 potential capacity ~12GW

Total Green H2 potential capacity ~5GW

Mid 2020s

- 1GW electrolytic hydrogen in construction or operational

2030+

- 10GW production capacity
- >50% Capacity from Green Hydrogen

Enablers

Develop low-carbon production

Blue H_2 : Industrial clusters & CCUS, natural gas feedstock

Green H_2 : Coastal locations, offshore renewable electricity generation capacity & water supply

Establish H_2 hubs and terminals

H_2 transmission and distribution: Pipelines & network integration (with CO_2 / CH_4)

Establish H_2 storage networks

Storage: Offshore/ onshore; underground/ surface

Supply Chain Key

~ 85% of UK oil and gas workforce employed by supply chain

Supply Chain Action Plans, Stewardship Expectation 12 & robust reviews

Prompt payment

Energy Pathfinder: 135 live projects

Digital & Technology

Partnerships

World class innovation

North Sea Transition Authority

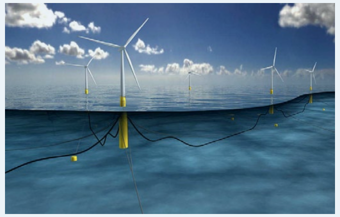
Leadership: tripartite focus on transition

Emissions reduction technology & best practice exported globally

Global Underwater Hub

Net Zero Technology Centre

Technology Driving Transition



UKCS investment 2022-2030

North Sea Transition Authority

E&A	CAPEX		OPEX		Decom
Exploration & Appraisal	New Development (33) Projects	Producing & Approved Fields	'New' – Well Interventions	'Ongoing' Operating Costs	Decommissioning
3	12	12.3	4	48	16
Finding new resources	*Bringing discovered resources online*	*Drilling infill wells & facility improvements*	*Maintenance & well performance*	*Day-to-day installation operations*	*Removing obsolete infrastructure and wells*

O&G: £95bn (NSTA)	Offshore wind: £100bn (OEUK)	Hydrogen: £12bn (OEUK)	CCS: £8bn (OEUK)

Total: £215bn

Vital year and decade of delivery

North Sea Transition Authority

2050
Net Zero

2030
-50% Emissions Reduction
Zero Routine Flaring

2027
-25% Emissions Reduction

2025
-10% Emissions Reduction

2022

Continued investment

- Oil and gas to meet demand profile
- CCS and renewables

Further emissions reduction

- Critical to exceed targets
- Electrification crucial

Transition plans

- Transparent and specific to each operator
- Tripartite collaboration

Value Creation

- Exchequer revenues
- Global supply chain in new technologies

Transition plans

bp: **£18bn** by 2030

Shell: **£20-25bn** over 10 years

Neptune Energy: **£800mm** over 5 years

North Sea
Transition
Authority

Thank you