

nationalgrid



Scottish & Southern
Electricity Networks

TRANSMISSION



How will the transmission system facilitate our net zero ambitions?

All-Energy & Decarbonise

12 May 2022



Our speakers



nationalgrid

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- Head of Strategy and Innovation
- National Grid Electricity Transmission



 Scottish & Southern
Electricity Networks
TRANSMISSION

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NETWORKS

Stephanie Anderson

- Head of Regulation
- SP Energy Networks

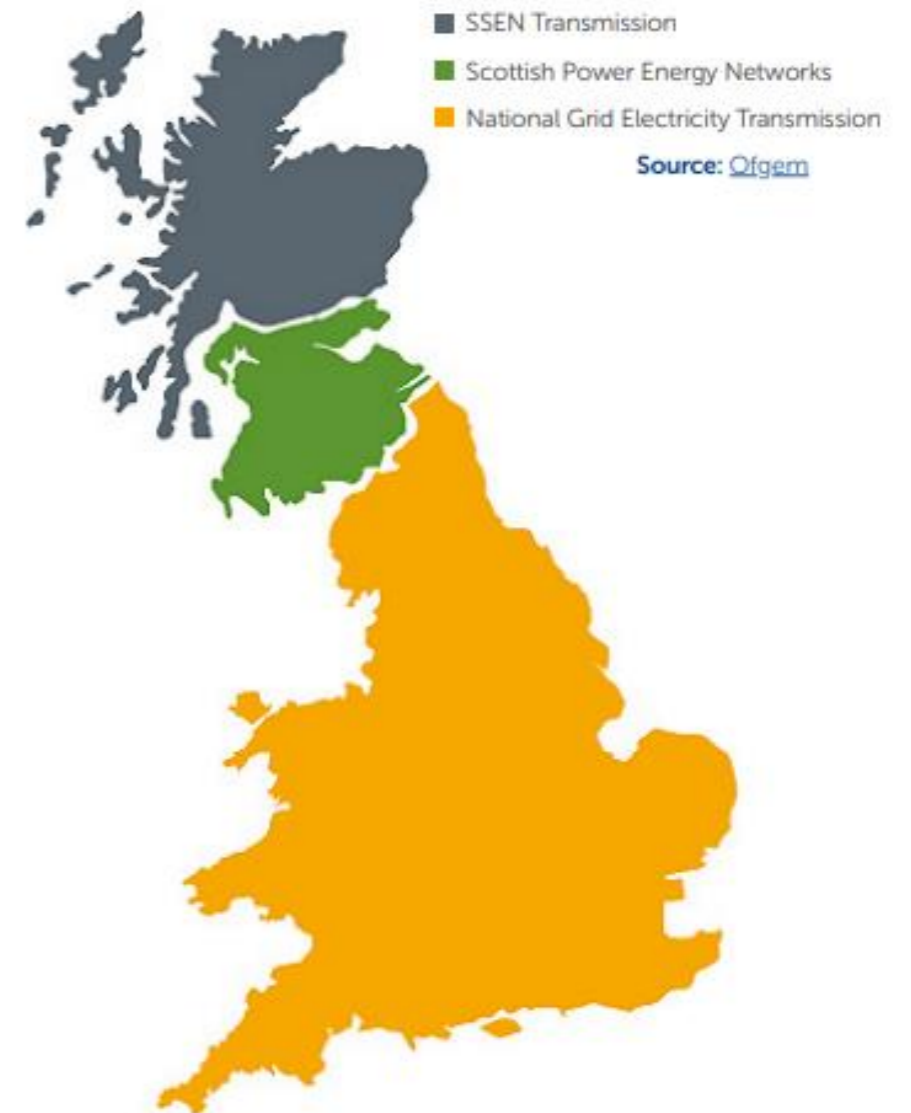
Who we are and what we do

Responsible for the planning, design, construction and maintenance of the electricity transmission system

Critical role to play in transition to net zero, connecting and transporting power from generation source, to areas of demand

Operate under fixed price control period, regulated by Ofgem - current RIIO-T2 period runs from April 2021 to March 2026

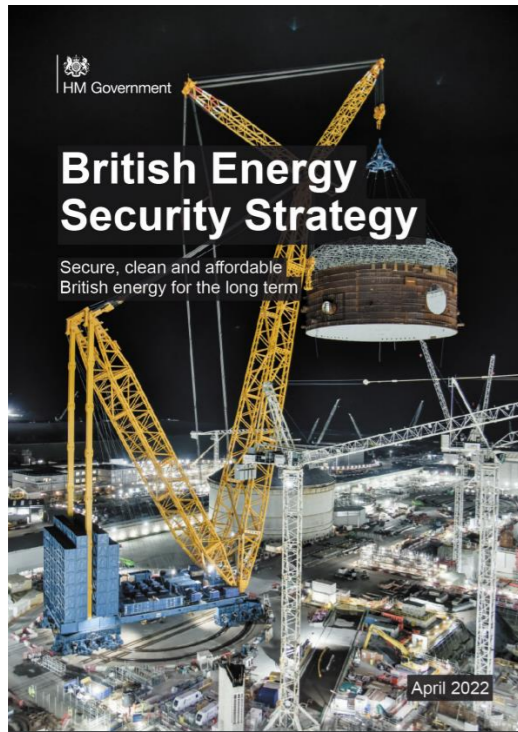
Work with National Grid Electricity System Operator (ESO) to plan the network 10 years in advance to meet forecast changes in generation and demand



Delivering net zero and home-grown, energy independence



HM Government



Net Zero by 2050 across the UK

Decarbonised electricity system by 2035

50GW offshore wind by 2030

Up to 24GW of new nuclear, alongside other low carbon technologies

British Energy Security Strategy

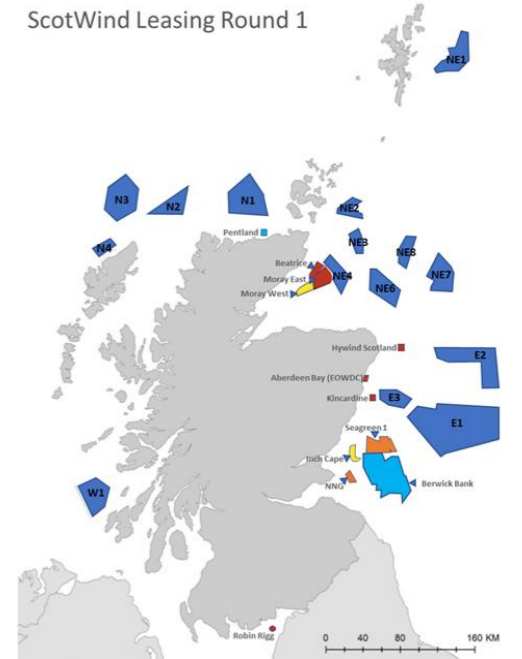
Net Zero by 2045 in Scotland

78% emissions reduction by 2030

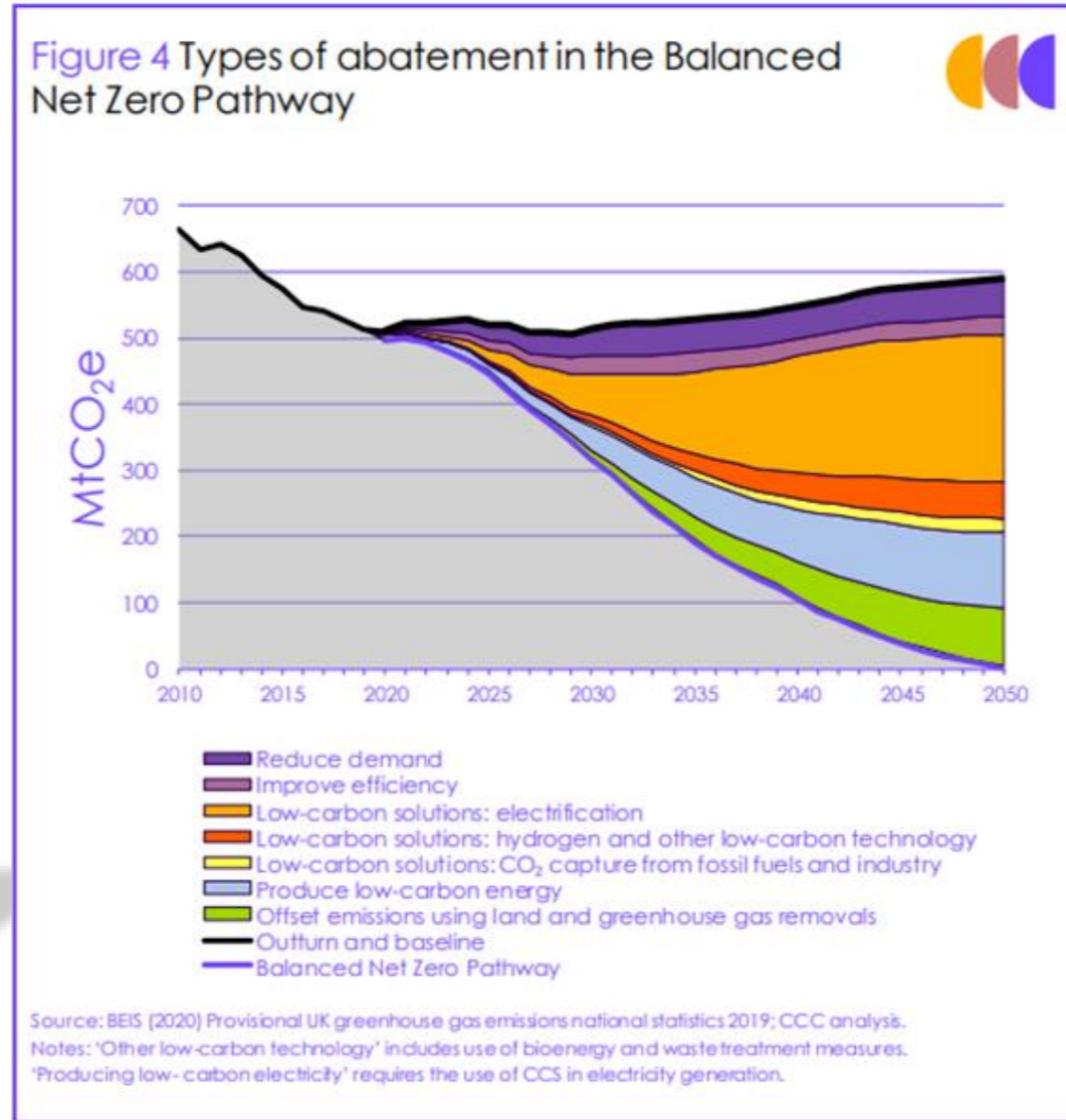
11GW offshore wind by 2030

Potential 8GW-12GW new onshore wind by 2030

ScotWind ambition 25GW

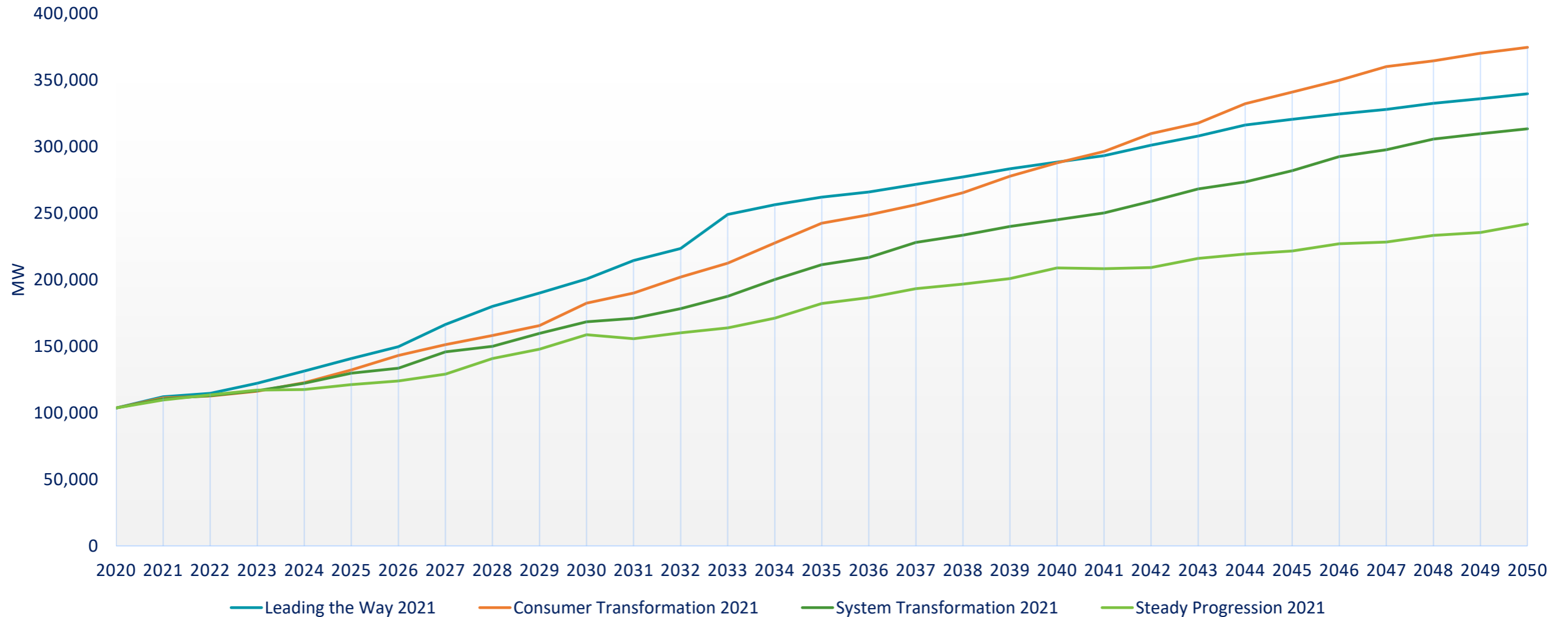


Electrification key contributor to net zero delivery



Forecast growth in renewables to deliver net zero

GB annual installed generation capacity by scenario



Transmission boundary constraints

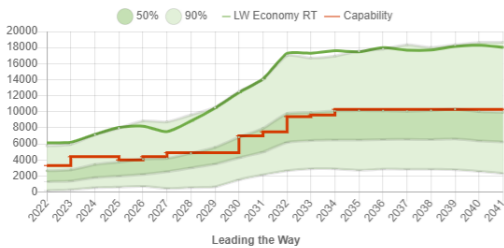
Forecast growth in renewables driving need for major reinforcements

Mid-Scotland (B4) Boundary

Significant growth in renewables driving need for reinforcement

8-13 GW transfer requirement **by 2030** between **north of Scotland and south Scotland** (existing transfer capability is 'only' **3.2GW**), and up to

18GW by 2040.

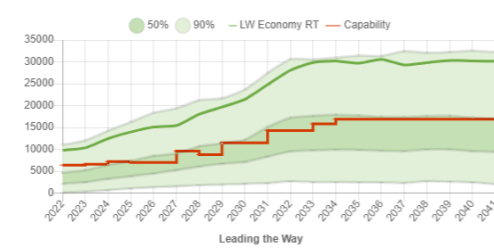


England-Scotland (B6) Boundary

Significant growth in renewables driving need for reinforcement

15-23 GW transfer requirement **by 2030** between **Scotland and England** (existing transfer capability is 'only' **6.6GW**), and up to

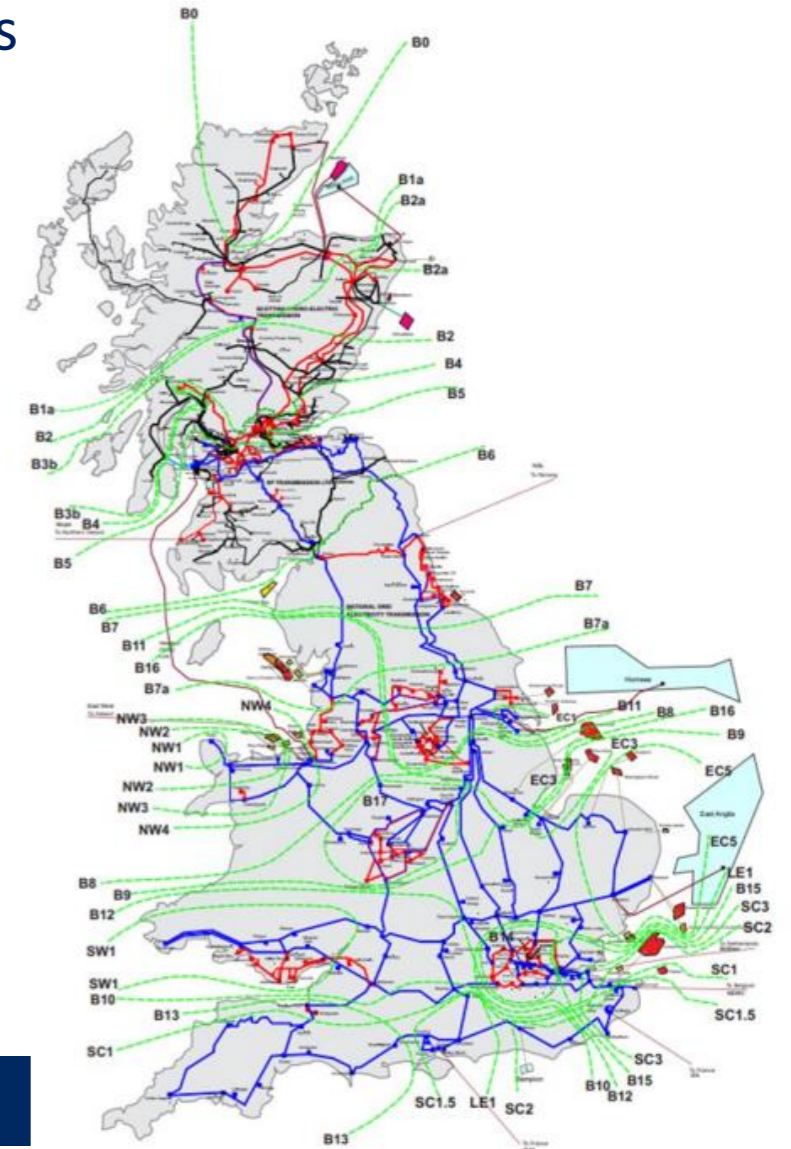
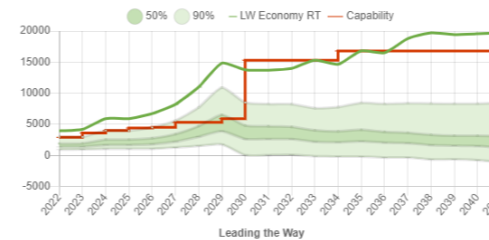
30GW by 2040.



East Anglia (EC5) Boundary

Offshore wind along East Coast of England and new nuclear driving need for reinforcement

12GW offshore wind to connect by 2030 with growth beyond 2030 to deliver net zero outcomes.



• *Leading the Way Future Energy Scenario most closely aligned to net zero*

Coordinated investments to address boundary constraints and deliver FES

Reinforcements key to enable necessary growth in renewables and transport power to demand centres

Major reinforcements to transfer power north to south

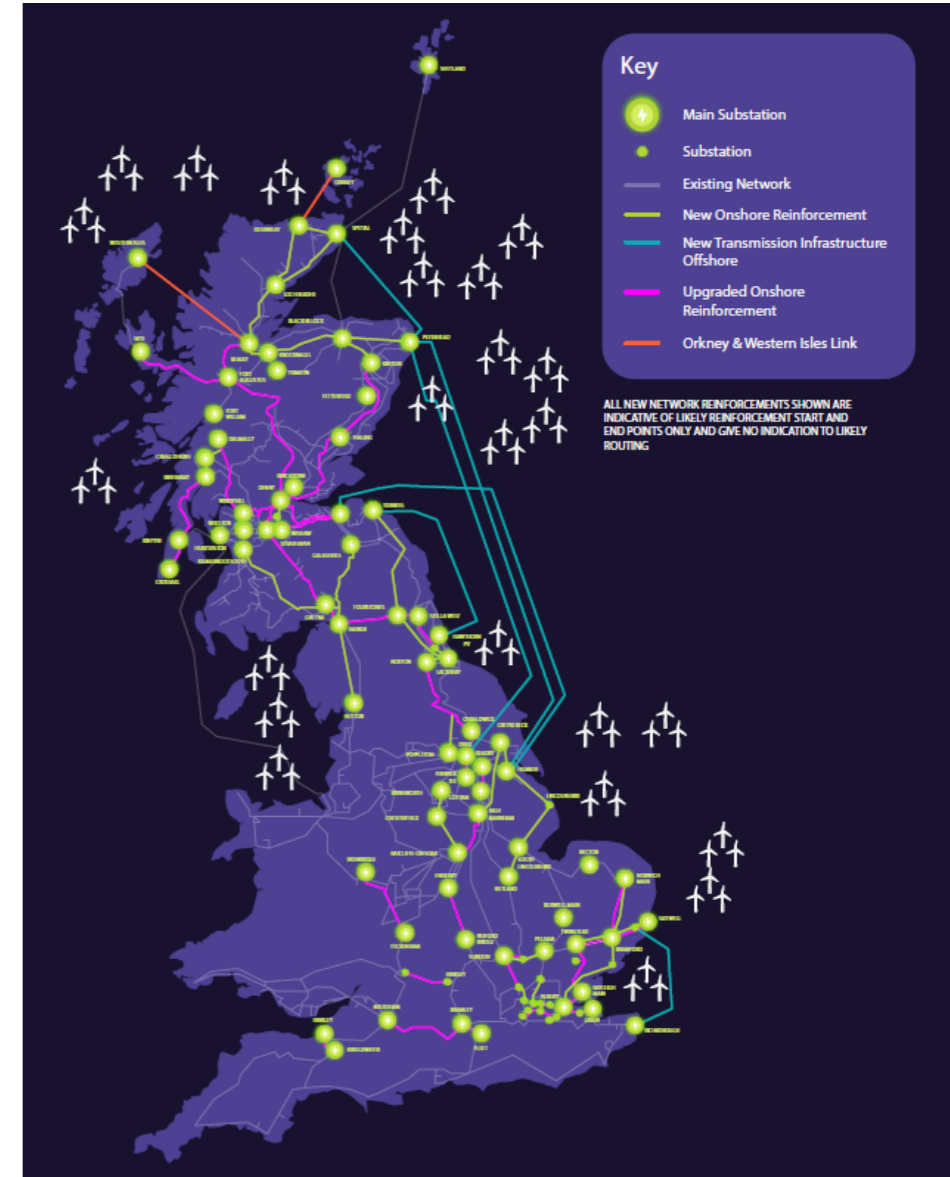
- Multiple offshore HVDC links between Scotland and England, and within the England and Wales System
- Major strategic onshore reinforcements to manage flows across boundary's

Major works in England, onshore and offshore

- North of England, East Anglia and Midlands key areas of focus to enable north-south power flows
- Emerging need to connect Celtic Sea offshore wind

Strategic reinforcements are key to deliver 2030 and 2035 targets

'No regret' investments, required under all credible net zero scenarios



To deliver the BESS and wider Government policy ambitions:

1

LOCK IN STRATEGIC INVESTMENTS

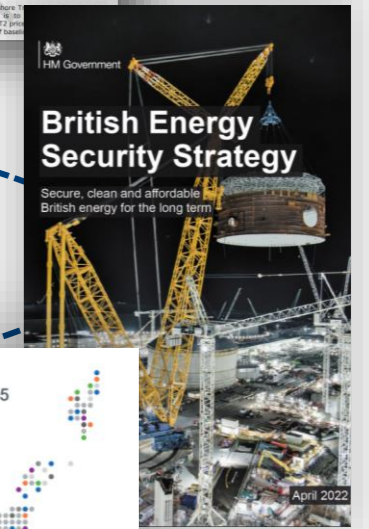
- Networks Options Assessment, Holistic Network Design and Centralised Strategic Network Plan investments need to be locked in for delivery, with agile and accelerated regulatory approvals as GB-wide package of works



2

CERTAINTY OF DELIVERY

- Delivery model certainty required to secure supply chain, avoid delays and provide certainty to stakeholders and communities



3

PLANNING REFORMS

- Streamlined consenting to align investment programmes with required delivery dates and accelerated regulatory approvals

