

Grid Development-Key Enabler to Deliver 50GW offshore wind by 2030

# A NETWORK FOR NET ZERO

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All-Energy 2023 Glasgow  
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# Overarching Framework

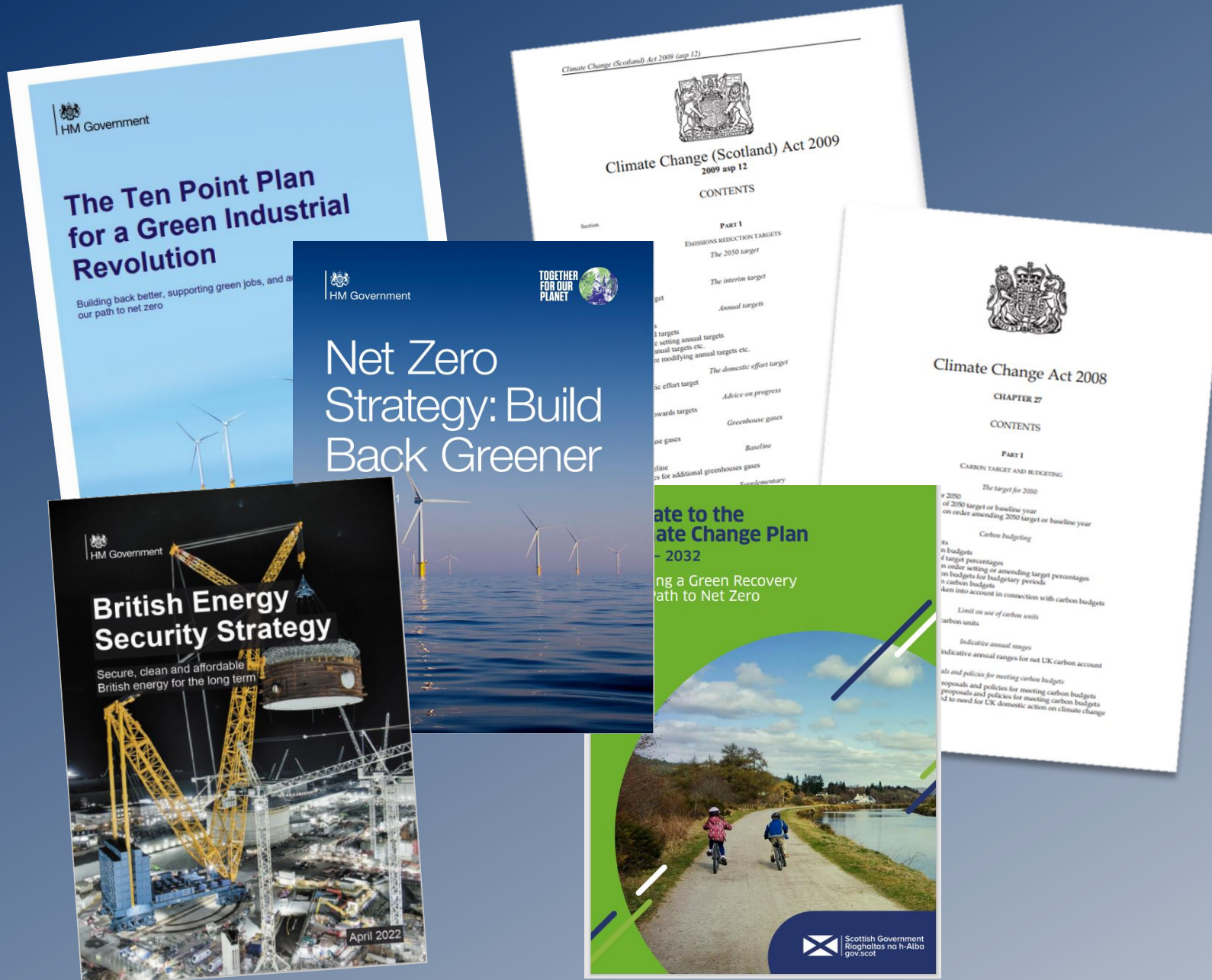
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*Plan and develop an efficient, co-ordinated and economical system of electricity transmission*



- Electricity Act 1989 Section 9 – General duties of licence holders
  - *...develop and maintain an efficient, co-ordinated and economical system of electricity transmission*
  - *...facilitate competition in the supply and generation of electricity*
- Electricity Transmission Standard Licence Condition D3 – Transmission system security standard and quality of service
  - *“...the licensee shall at all times plan and develop the licensee's transmission system in accordance with the **National Electricity Transmission System Security and Quality of Supply Standard** version [X.X], together with the **STC** or such other standard of planning and operation as the Authority may approve from time to time...”*
- The STC (System Operator Transmission Owner Code)
  - The STC has many procedures which govern TO activities including connection applications, investment planning, network modelling, data exchange, Electricity Ten Year Statement and Network Options Assessment.

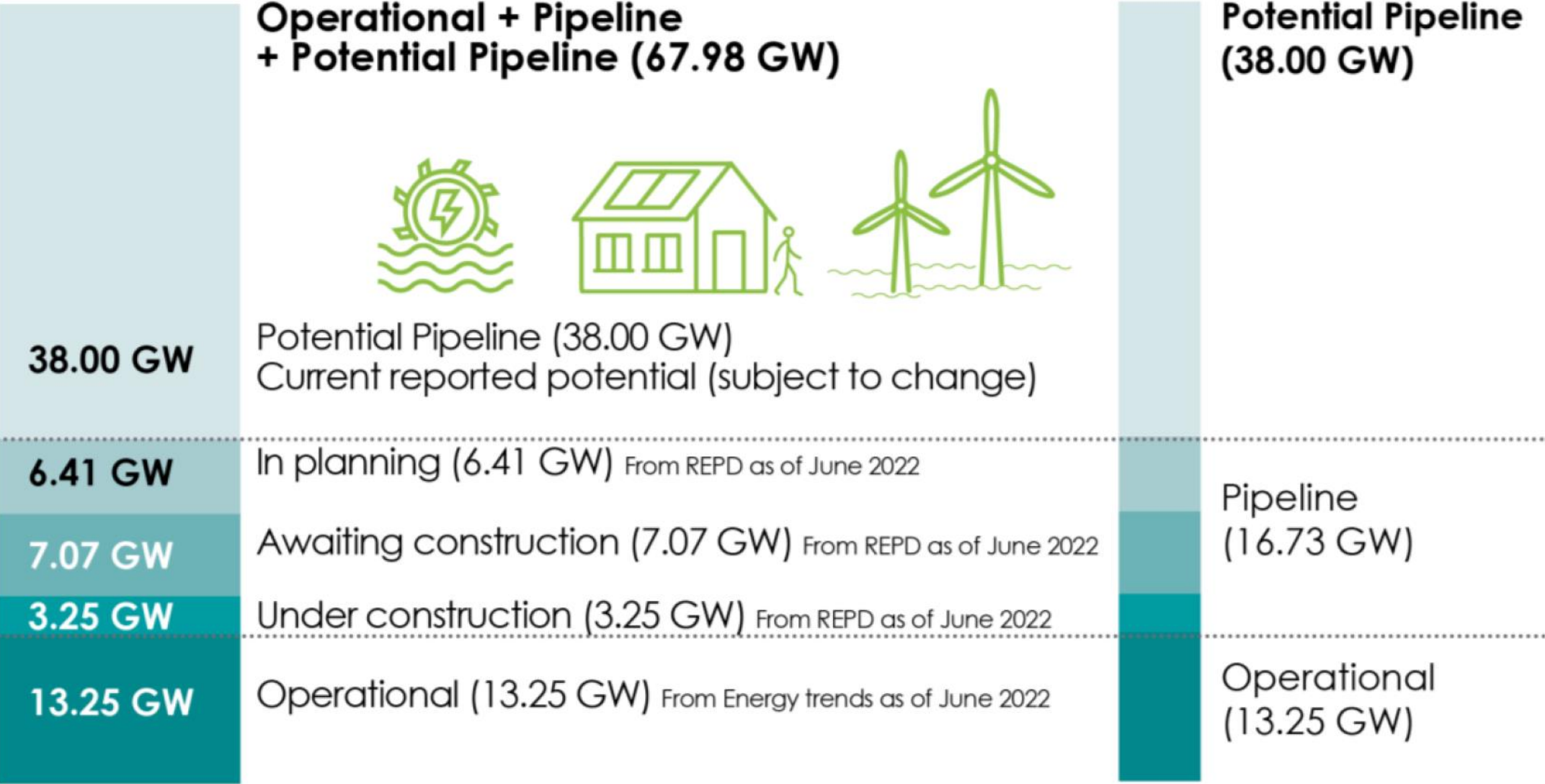
# RENEWABLE GENERATION TARGETS AND NET ZERO



- ✓ Scottish Government's Net Zero goal by 2045
- ✓ UK Government's Net Zero by 2050 and Net Zero power by 2035
- ✓ UK Government's 50GW by 2030 offshore wind target
- ✓ Scottish Government's 11GW offshore wind by 2030 target
- ✓ Scottish Government's 8-12GW of onshore wind by 2030 target



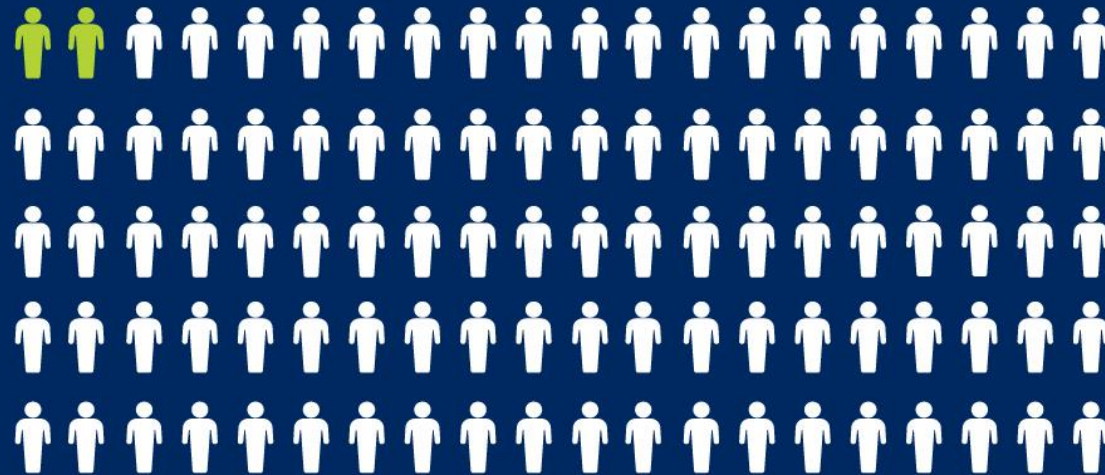
# SCOTLAND'S RENEWABLE ELECTRICITY CAPACITY



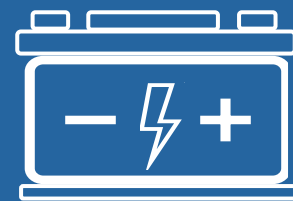
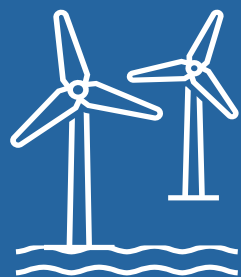
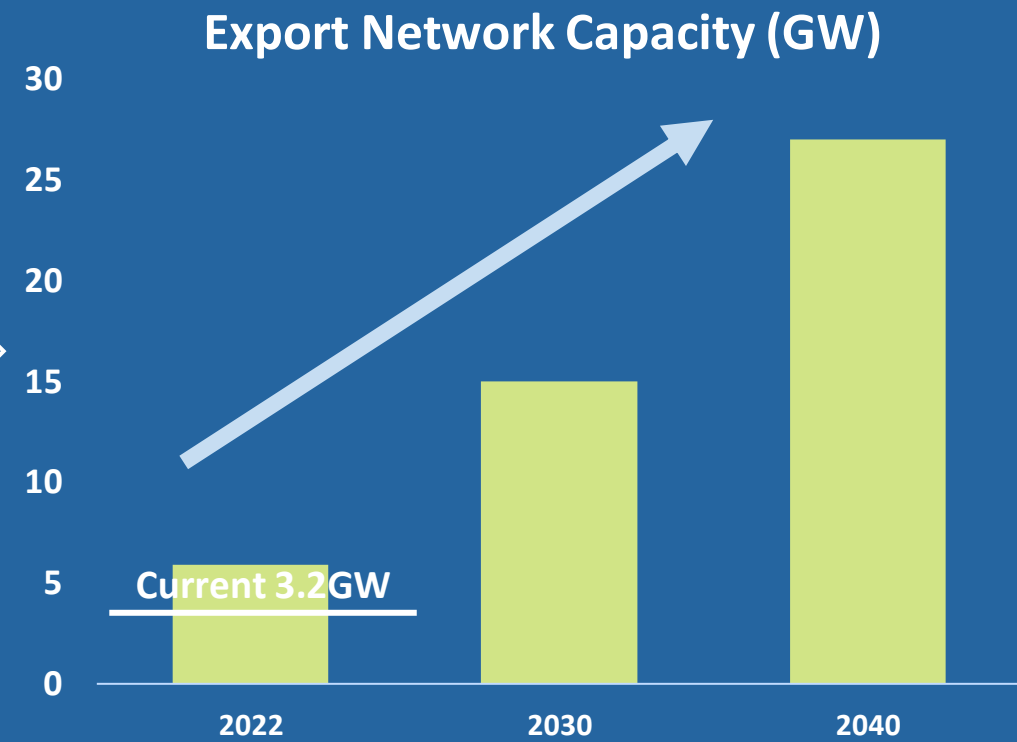
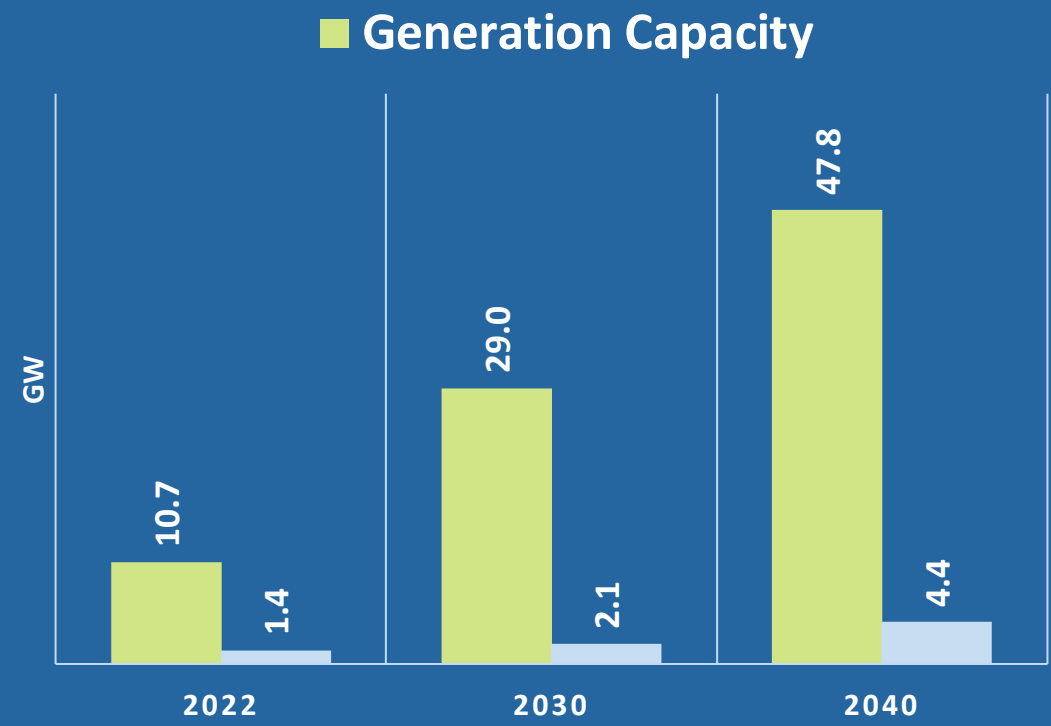
Source: Draft Energy Strategy and Just Transition Plan, Scottish Government, January 2023. Accessed 8 Feb 2023.

# WHAT WE HAVE DELIVERED SO FAR (NORTH OF SCOTLAND)

The region produces and exports low carbon electricity, and is home to **just 2% of the UK population.**



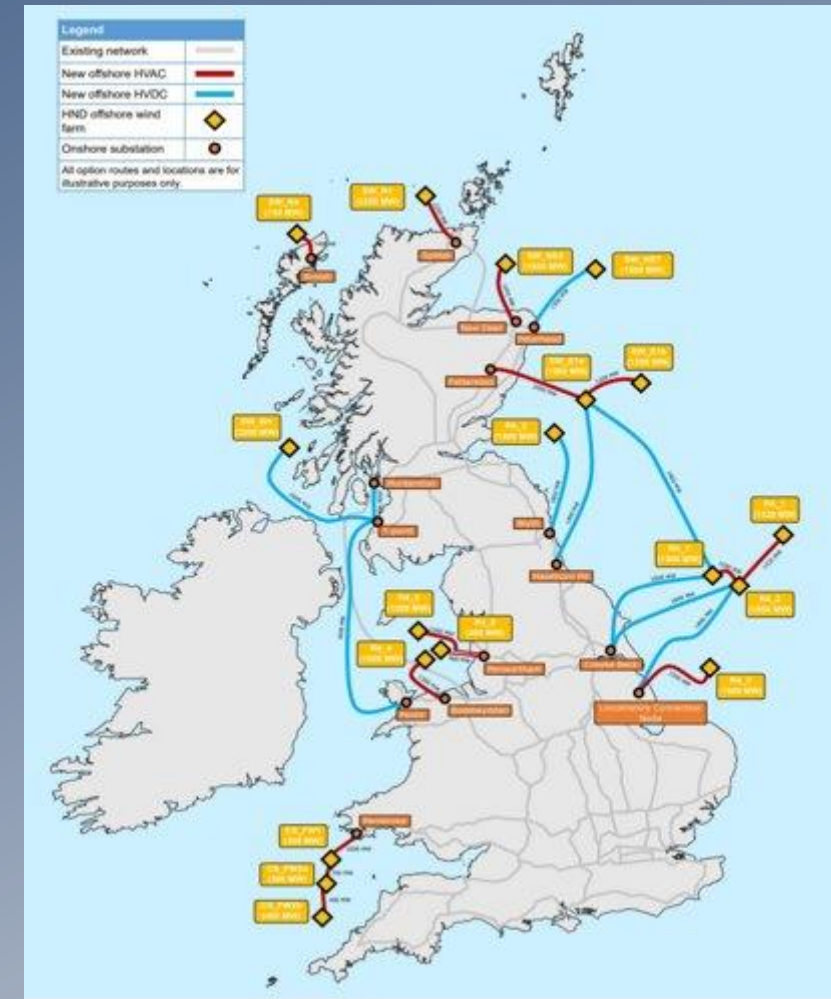
# SSEN Transmission – Growth Drivers



# Regulatory Direction: Ofgem Offshore Asset Classification

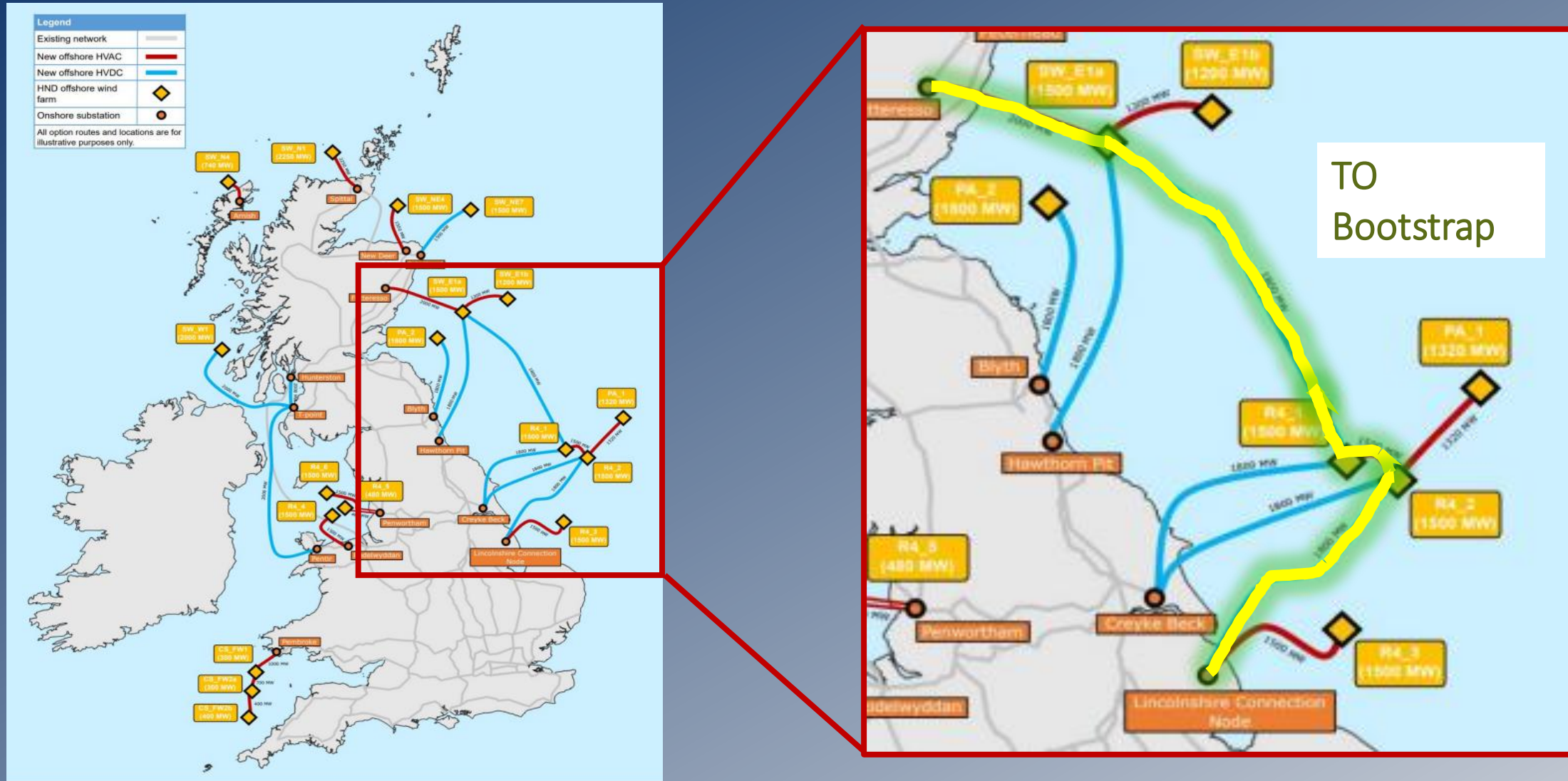
## Three classifications of infrastructure for Offshore Transmission network

1. Equivalent to onshore transmission, running electrically parallel to the existing transmission network
  - “TO build and operate”
2. Radial offshore transmission, point-to-point for single offshore windfarm
  - “Prevailing developer-build, OFTO-adopts regime”
3. Non-radial offshore transmission, shared infrastructure that is wholly or mainly for the purpose of transmitting electricity generated in offshore waters
  - “Co-ordinated offshore regime”





# Need for Acceleration: ASTI & Holistic Network Design (HND)





# ASTI & Holistic Network Design (HND)



## Some examples of ASTI projects -2030 reinforcement

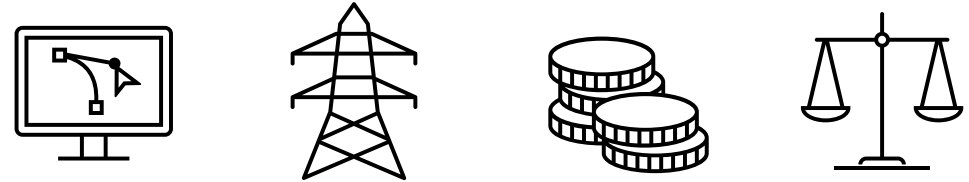
- Beaulieu- Loch Buidhe 400kV Reinforcement
- New 400kV double circuit Beaulieu-Blackhilllock
- Beaulieu-Denny 2<sup>nd</sup> Circuit Upgrade to 400kV
- East Coast 400kV Phase II
- Spittal to Peterhead HVDC
- Peterhead to Drax HVDC (EGL2)
- Peterhead to South Humber HVDC (EGL4)

# Opportunities

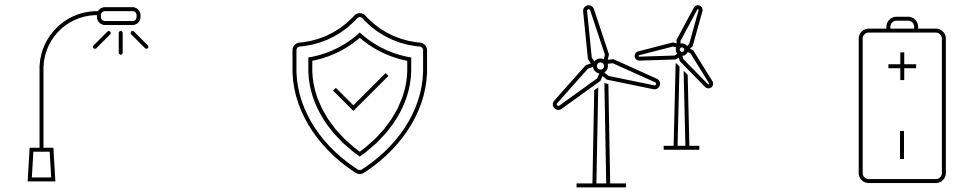
**We hope to realise efficiencies by delivering our strategic investments as a programme of works:**

- Managing project interdependencies
- Oversight and consistency of programme
- Consistency of technology
- Co-located reinforcement
- Coordinated stakeholder engagement
- Common resources

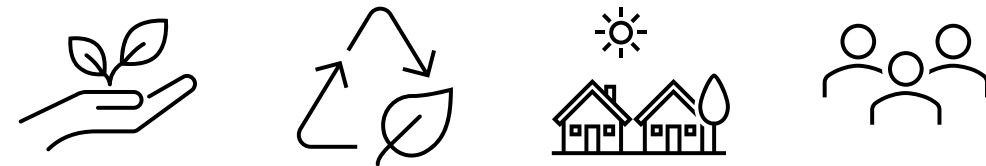
✓ Affordability



✓ Security of Supply



✓ Our Environment and Communities





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**Scottish & Southern**  
Electricity Networks

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TRANSMISSION