GE VERNOVA

5 Years to 2030 - Decarbonising the UK Electricity System

A GE Vernova Perspective

05 March 2025

Dr. Anser A Shakoor
Executive Leader (Consulting Services)
anser.shakoor@gevernova.com
GE Vernova

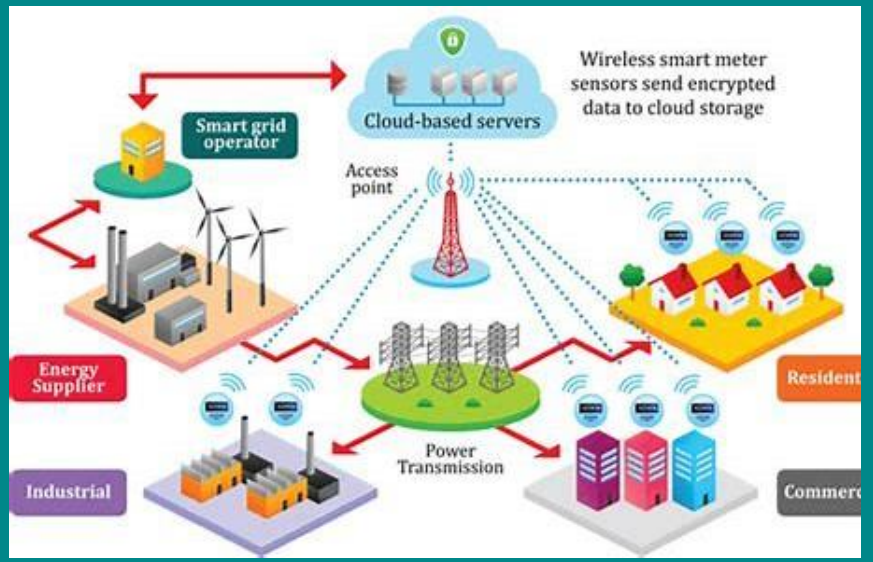
Solving for Decarbonization and Load growth, simultaneously

What we are seeing ‘today’:

- **Load growth** overall driven by electrification and shift of sectoral energy
- Need for **reliable power** more than ever before
- Power system **complexity** exploding… IBR’s, distributed assets, storage, …
- **A lot of data** – struggle to make most effective use of it for consumers and system benefits.

Significant **opportunities** to make the system more efficient with high utilisation of assets while exploiting the benefits of new system resources

Compelling Demand for System Solutions and Expertise



Some Challenges in Delivering the 2030 Plan…..

High electricity prices
- UK prices high compared to many other countries
- Reforms may not reduce prices quickly, public risk of ‘net zero’ backlash

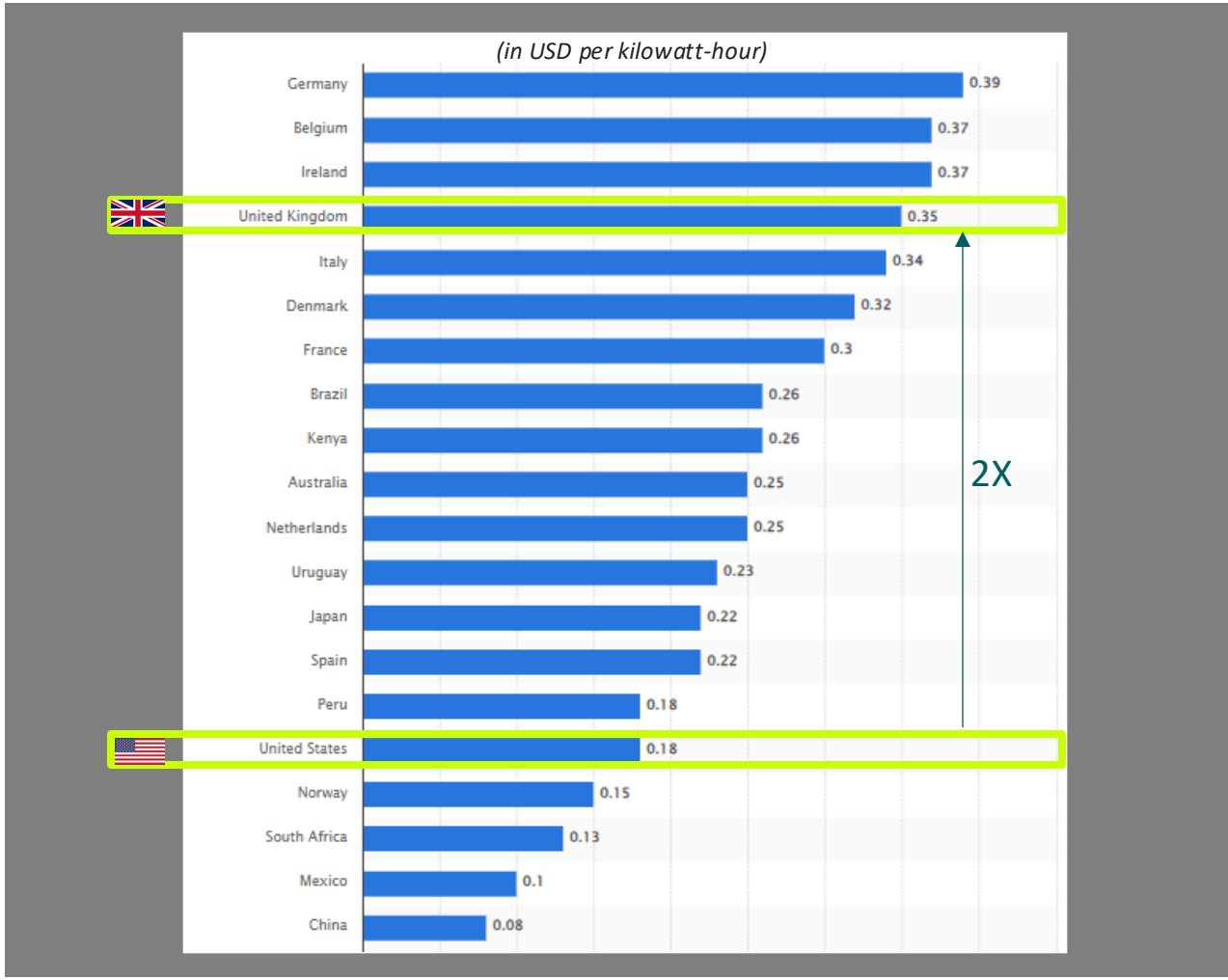
Interdependencies
- Tough to deliver all areas together. Failure in one area could affect entire plan

Skills & supply chain
- Govt estimates suggest that UK needs an extra 200k workers to deliver energy transition
- Shortages currently hampering projects

Grid:
- Expansion & modernisation of grid is foundation on which all other investments rest.
- If grid progress slow, unlikely that 2030 target will be met

Unabated gas:
- Unclear how 35GW of gas power can operate at low running hours

Household electricity prices worldwide, June 2024



https://www.statista.com/statistics/263492/electricity-prices-in-selected-countries/

Solution: No Silver Bullet

All low-carbon technologies and expansion/modernisation of the grid will be needed

ONW: 13-15 GW
OFW: 28-35 GW
Solar: 28-30 GW
BESS: 18-23 GW

Secure the supply chain

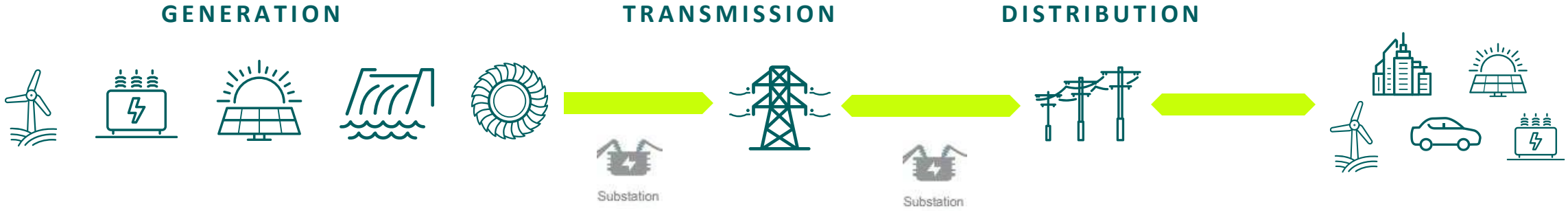
Supporting Markets and Business models

Additional annual investment: (£30bn generation; £10b transmission)

Facilitating Finance

Putting Digital & AI to Work in the Energy Transition

GE VERNOVA



PROBLEM	Improve profitability and flexibility with predictive analytics and process automation to optimize equipment reliability and O&M efficiency	Managing up to 100% renewables penetration while maintaining grid stability	Safe & secure management of the distribution network as distributed resource penetration continues to drive complexity
GE VERNOVA SOLUTION	Asset Performance Management (APM) software	Advanced Energy Management System (AEMS)	Advanced Distribution Management System (ADMS)

How GE VERNOVA is helping delivering the DeCarb Plan

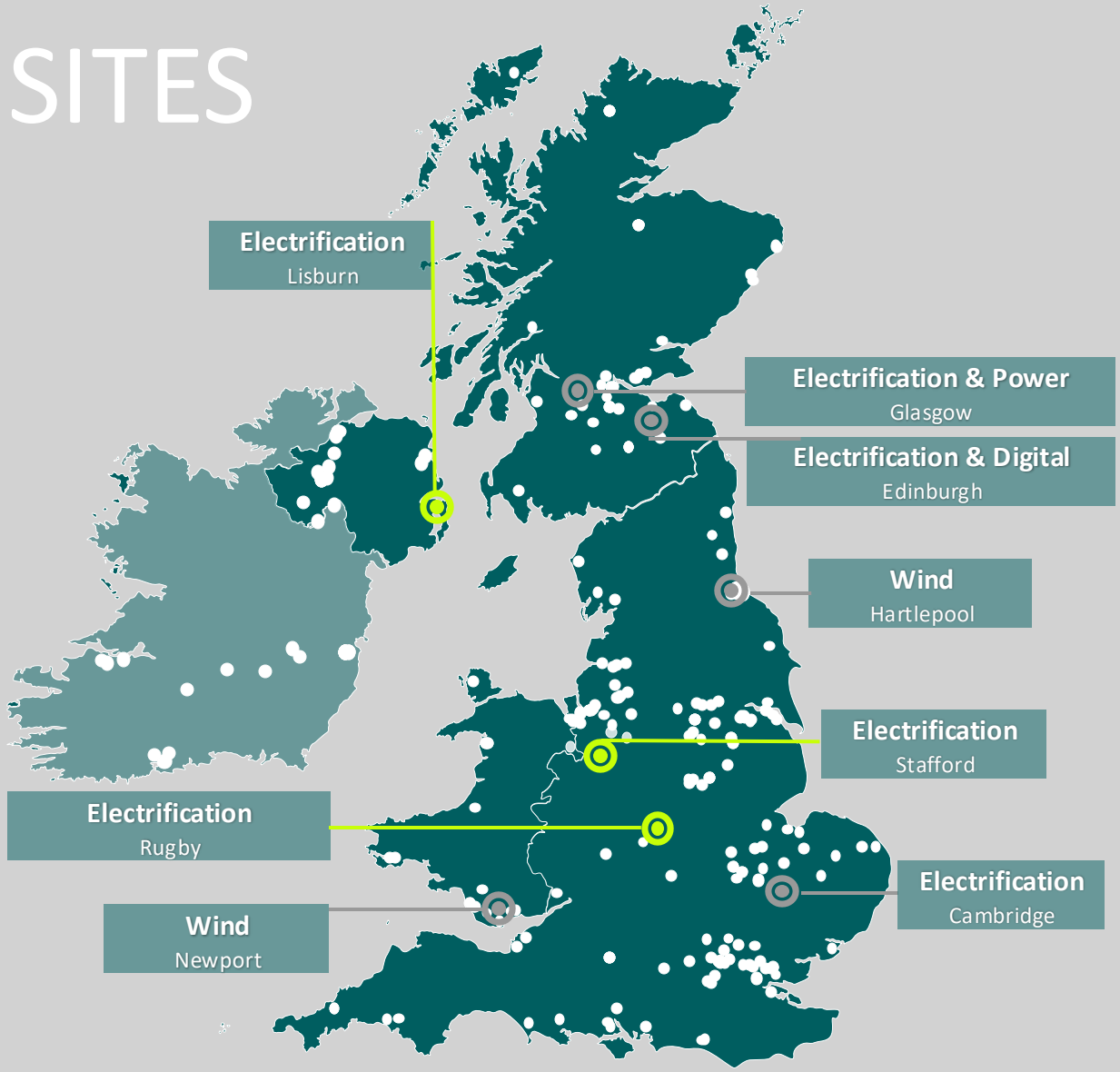
1
major sites

120
years of local experience

37
GW of GE Vernova power generating capacity in UK

~33
of UK's electricity is generated by our equipment
%

SITES



GE VERNOVA

Electrification

- Doubling capacity at grid manufacturing facilities in Stafford. This will bring 600 new jobs including hundreds of additional engineers and skilled employees to support valve assembly and testing.
- HVDC transmission system for Sofia, one of the world's largest offshore wind farm projects.
- Two HVDC converter stations for Eastern Green Link 1 (EGL1)

Power

- We will power Net Zero Teesside, working together with Technip and BP – a landmark project that is poised to become the world's first commercial scale gas-fired power stations with carbon capture, expected to capture up to 2 million tonnes of CO2 per year.
- Finalists in the UK Government's small modular reactor (SMR) competition with our world- leading SMR – BWRX-300.

Financial Services

- Supported global projects worth £2.7+ billion with UK Export Finance
- Supported Dogger Bank Wind Farm with ECA debt financing – the world's largest offshore wind project financing to-date.

Wind

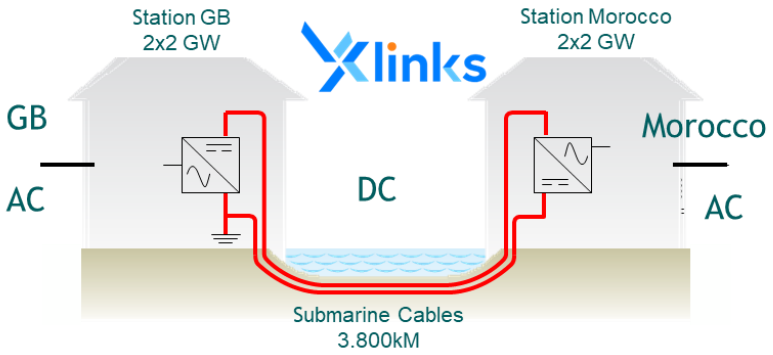
- Supplying 277 Haliade-X offshore wind turbines for Dogger Bank Wind Farm.

The World Remains Beyond 2030

Actions will be required now to ensure that the UK energy system remains decarbonised and reliable in the post 2030 period

Bold and sizeable infrastructure projects will be essential

While new nuclear won't be online in time for the 2030, decisions made within the next 1-2 years will lay the foundations for the successful deployment of new nuclear to the grid in the next decade.



The UK can be a global leader in this endeavour.