



Northern Powergrid Enabling regional decarbonisation

Northern Powergrid



- Northern Powergrid is responsible for the electricity distribution network in the North East, Yorkshire and northern Lincolnshire.
- We move electricity from where it's generated to homes and businesses.
- We are the enabler of a net zero society.
- We are a regulated utility business and therefore, we plan ahead of time in business plan cycles.
- We are in the first year of our new business plan period where we are delivering around £3bn of investment (2023 to 2028 – Electricity Distribution 2, ED2)

What we do for our customers

- Facilitate growth and decarbonisation
- Plan for and invest in a safe and reliable network
- Provide connections to the network
- Support vulnerable customers and communities
- Minimise our impact on the cost of living and doing business in our region













Providing Connections: Growth and Decarbonisation across our region

- We treat all applicants equally
 - We will make a connection offer to anyone that applies for a connection to our network
 - The connection queue does not favour any type of applicant over another
 - Government policy influences technology uptakes, we are technology agnostic
- We are speeding up and reducing the cost of some customer connections
 - Time limited curtailable connections can allow connection before completion of necessary reinforcement works
 - Flexible connection agreements can avoid reinforcement requirements where appropriate, and when customers want one



Decarbonisation: Meeting the challenge

- Flexibility customers paid to turn up or down
- Community Distribution System Operator project innovation with customer groups at the local level
- Revising design assumptions using observation to get more out of existing network
- Low Voltage monitoring and external data providing visibility
- Network reinforcement and expansion investing where needed
- Work closely with Local Authorities and other stakeholders coordinating low carbon technology roll outs - a collaborative approach











30 GW IN OUR CONNECTIONS PIPELINE

Network is ready to connect 381 Projects (45%)

DNO reinforcement required 55 Projects (6%) Transmission reinforcement
- under review
227 Projects
(27%)

Transmission reinforcement required 186 Projects (22%)



Providing Connections: Timescales

Type of work

Single domestic installation of solar panels, heat pump, EV charger or battery storage at a single property.

Multi-property installation of solar panels, heat pumps, EV chargers, battery (e.g. a street of houses or single-location with multiple slow EV chargers).

New developments e.g. 5MW solar, wind or storage, multiple rapid EV chargers in single location, new 1000+ housing development with EV charging.

Could be multiple heat pumps installed in a street or a major new development e.g. 10MW+ solar/wind/storage, multiple rapid chargers or a new industrial unit.

Network Impact Minimal Connect network impact and notify Capacity available 6 months to connect Flexible solution 12 months 6 months (LV) to Reinforcement required 2+ years (HV/EHV) Time to connect

When to engage

No engagement needed just connect and notify us directly or via your installer.

Talk to us – Desktop studies may be required. Preapplication support available and online resources to help you identify the most viable and cost-effective locations to connect.

Engage early at a strategic level to identify flexible solutions to reinforcement. e.g. a phased connection, curtailment or flexibility contract.

For LV **talk to us** to understand what reinforcement works are the required and how we can support you. HV/EHV **engage early at a strategic level** so we can build your plans into our strategic forecasting.



Providing Connection: Costs to connect

- Our prices are regulated by Ofgem and are required to be reflective of real cost
- Competition in connections: independent connection providers and independent distribution network operators
- Connections charges
 - Single use assets: connectee pays
 - Reinforcement costs: reduced under April 2023 connection charging reforms





Working with Local Authorities

- Supporting publicly funded decarbonisation schemes including:
 - Local Electric Vehicle Infrastructure
 - Social Housing Decarbonisation Fund
 - Public Sector Decarbonisation Scheme
- Regional Insight Team
 - Local Authority Portal
 - Collecting local intelligence on future network needs
 - Informing forecasts and network intervention decisions
 - Supporting Local Area Energy Planning
 - Providing education and support in using our network data









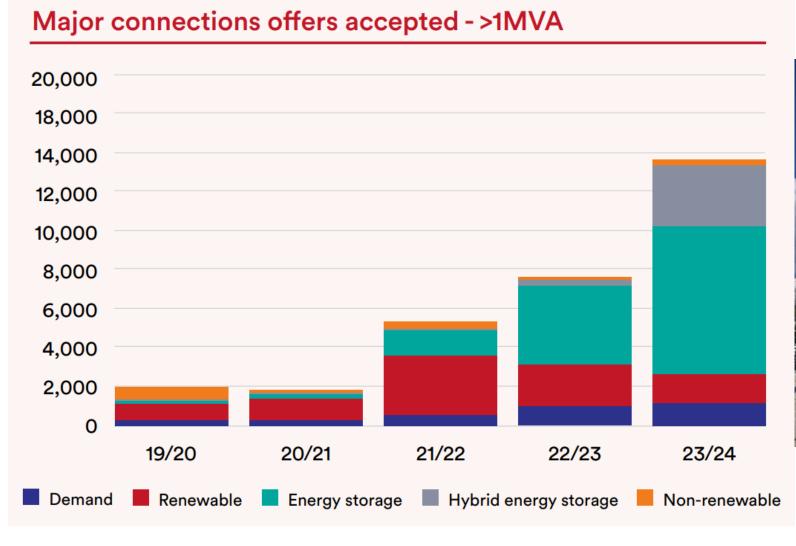
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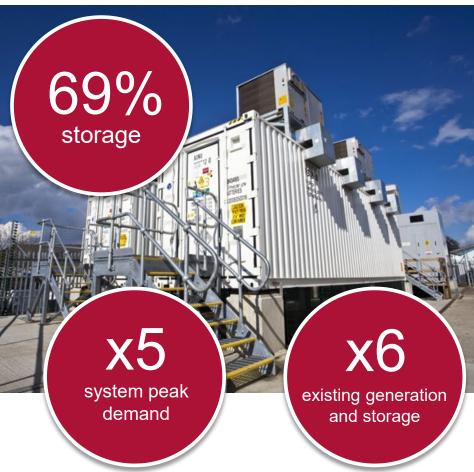
Appendix



APPETITE FOR MAJOR CONNECTIONS IS BOOMING



Connections pipeline





PROGRESSING MAJOR CONNECTIONS FOR THOSE READY TO PROCEED

Providing accelerated connections

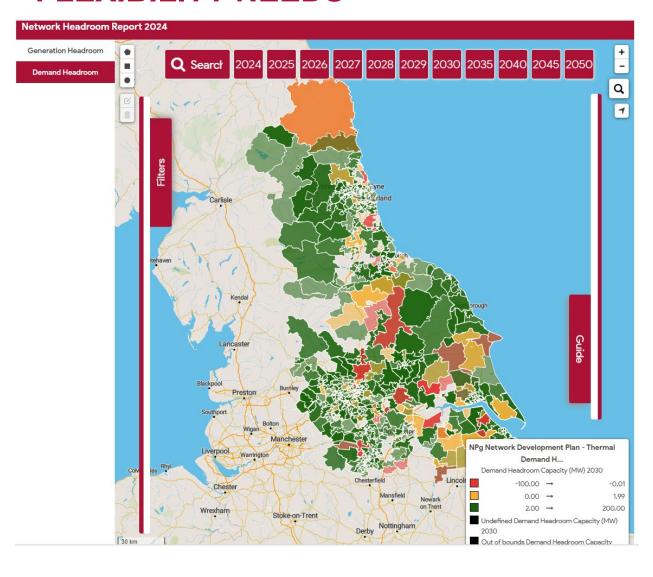
- Contacted 90 of the 230 impacted
- Already made 33 offers with typical
 6.5 year improvement
- Significant movement in the queue
- Expect ca. 110 to connect

New policies, right incentives

- Capacity being freed up for those ready to connect
- >200MW from managing milestones
- User commitment and queue access all under scrutiny



NEW LOAD GROWTH VISUALISATIONS HIGHLIGHTING FUTURE FLEXIBILITY NEEDS



- Network Development Plan sets out network impacts of load growth
- New visualisations use heat map technology
- Users produce different views and access the underlying data



