Northern Powergrid
Rural Electrification 2.0

Andrew Webster | Project Manager, Northern Powergrid
Louise Guthrie | Consultant, EA Technology
Dr Gesa Reiss | Senior Innovation Fellow SMART Agri-Systems
“The ease of agricultural and rural transition to Net Zero will be influenced by how easily rural businesses can reconcile business, operational and technology constraints.”
University of Leeds (setting the scene)

- Agriculture is responsible for 10% of total UK GHG emissions.
- Sector is energy intensive – heating and operations.
- Farm type determines energy demand, e.g., seasonal or low but continuous with two peaks.
- Many farms are off-grid.
- Most operate on constrained budgets.
- Farmers are individuals and not often clustered geographically.
- Want to be self-sufficient.

Future needs:
- Reducing scope 3 emissions is key for agri-food value chains.
- More vulnerable to outages than their urban counterparts.
Drivers for the project

- Better understanding of the challenges associated with the deployment of agricultural electricity flexibility
- Improved network planning assumptions for rural and agricultural daily and seasonal load cycles
- Developing novel ways to increase rural resilience and symbiosis with rural customers
- Identifying opportunities to engineer reduction in connection or capacity network costs through technologies as well as social, economic, business and policy considerations
Driving Questions for Modelling and Analysis

- How will policy influence customer habits?
- What is the present energy demand?
- Will all vehicles be electrified?
- What is the cost to the network and to customers?
- When will these changes take place?
- What do rural customers want?
- What LCTs should be modelled for this project?
- What other energy sources are suitable?
- Does the future of rural electrification include grid connections?
- Which pathways seem most feasible?
- Which seem most attractive to customers?
- How can Northern Powergrid influence customer choices?

Promoting the development of resilient, accessible, low-cost energy networks globally and accelerating the transition to energy decarbonisation.
Questions & Answers

For further information please contact me:

andrew.webster@northernpowergrid.com