

Project	Reference	Summary	Learnings pulled into this project
<b>Advanced Weather Forecast for Dynamic Line Rating</b>	NIA_NGTO046	Probabilistic forecasting of dynamic line rating day-ahead using Met Office ensemble weather prediction	Verification of forecast skill, combination of weather forecasts with network GIS data (overhead lines)
<b>Control REACT</b>	NIA_NGSO_0032	Probabilistic generation and load forecasting for reserve setting (day-ahead) and margin (4-days ahead)	Probabilistic forecast verification and communication
<b>Open Networks Project – Operational Forecasting</b>	WS1B P3	Survey of ESO & DNO operational (demand and generation) forecasting. Fault prediction not considered	Machine/statistical learning adds significant value, uncertainty quantification using probabilistic forecasts adds value
<b>WANDA and SIA</b>	NIA_SPEN0022 (WANDA)	WANDA applies localised weather correction to individual primaries by analysing weather pattern and customer behaviour on a network planning scales (3~10years). SIA creates forecast on operational timescale (1~7days) to manage operational issues, gain visibility of flexibility requirements and is a foundational DSO tool. Forecasts demand and ratings, not faults.	The final digital interface platform created from the proposed project shall be merged into the existing platform of WANDA and SIA.
<b>S2S4E</b>	Horizon 2020 (776787)	Extended-range (weeks-months) forecasting for energy, supply, and demand focus. No fault prediction capability.	Little skill in forecasts of relevant weather variables beyond two weeks ahead in the UK
<b>SECLI-FIRM</b>	Horizon 2020 (776868)	Seasonal forecasting for energy and water, case study for winter demand in GB	Inconclusive skill and low specificity in seasonal forecasting
<b>Forward resilience measures</b>	NIA_NGT0049	Development of a resilience assessment framework that combines qualitative and quantitative resilience assessments.	Risk and resilience metrics

<b><i>The Prediction of Weather-Related Faults</i></b>	NIA_UKPN0006	Short-term (up to 5 days ahead) wind and precipitation forecasts (deterministic) can be used to predict number of fault and improve resource allocation using simple models.	Precipitation, wind speed and direction are key predictors. Faults caused by lightening very difficult to predict. Ice accretion modelling approach.
<b><i>Task Force on Climate-related Financial Disclosures (TCFD project)</i></b>	<a href="#">National Grid Document</a> Page 61	Physical climate risk assessment and visualisation for National Grid. National Grid appointed Arup to provide their first ever comprehensive assessment of the physical climate risks to their assets. We are applying a consistent data-driven approach to assess potential risks arising from 8 climate hazards under 2 scenarios and over several future timeframes, to electricity and gas assets in 8 National Grid businesses located in the UK and US.	An interactive visualisation tool using PowerBI with supporting data will be provided so that National Grid can continue to explore the results for different asset, hazard and timeframe combinations.
<b><i>Mapping the Impacts and Visualisation of Risks of Extreme Weather (MIVOR project)</i></b>	NIA_NGSO0023	This project evaluates the impacts of extreme weather events on system operation up to 2050 and produce a map demonstrating the risks, probabilities, and consequences of such events at a 25km grid level of GB.	The risk correlation between the occurrence of extreme weather events and the consequences on the system is tested and evaluated.

All these projects listed will be used to maximise the efficiency and outcome of Predict4Resilience.