

10-year TNUoS tariff forecast

Objectives

- To give insight on the tariff impact from significant future network development, e.g.
 - Holistic Network Design (HND - single, integrated design that supports the large-scale delivery of electricity generated from offshore wind);
 - Accelerating Strategic Transmission Investments (ASTI - facilitating the transfer of renewable generation to mainland Scotland)
- To assess how the future scenarios may impact TNUoS tariffs
 - Generation technologies mix
 - Demand trend

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Constraints

- We recognise the uncertainties in the next 10 years, and the constraints we face
 - Energy policies
 - New technologies and challenges
 - Methodology changes
 - Regulatory uncertainties
 - Unavailability of some detailed network data
 - Generation and demand background: scenarios instead of forecast

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Proposed scope

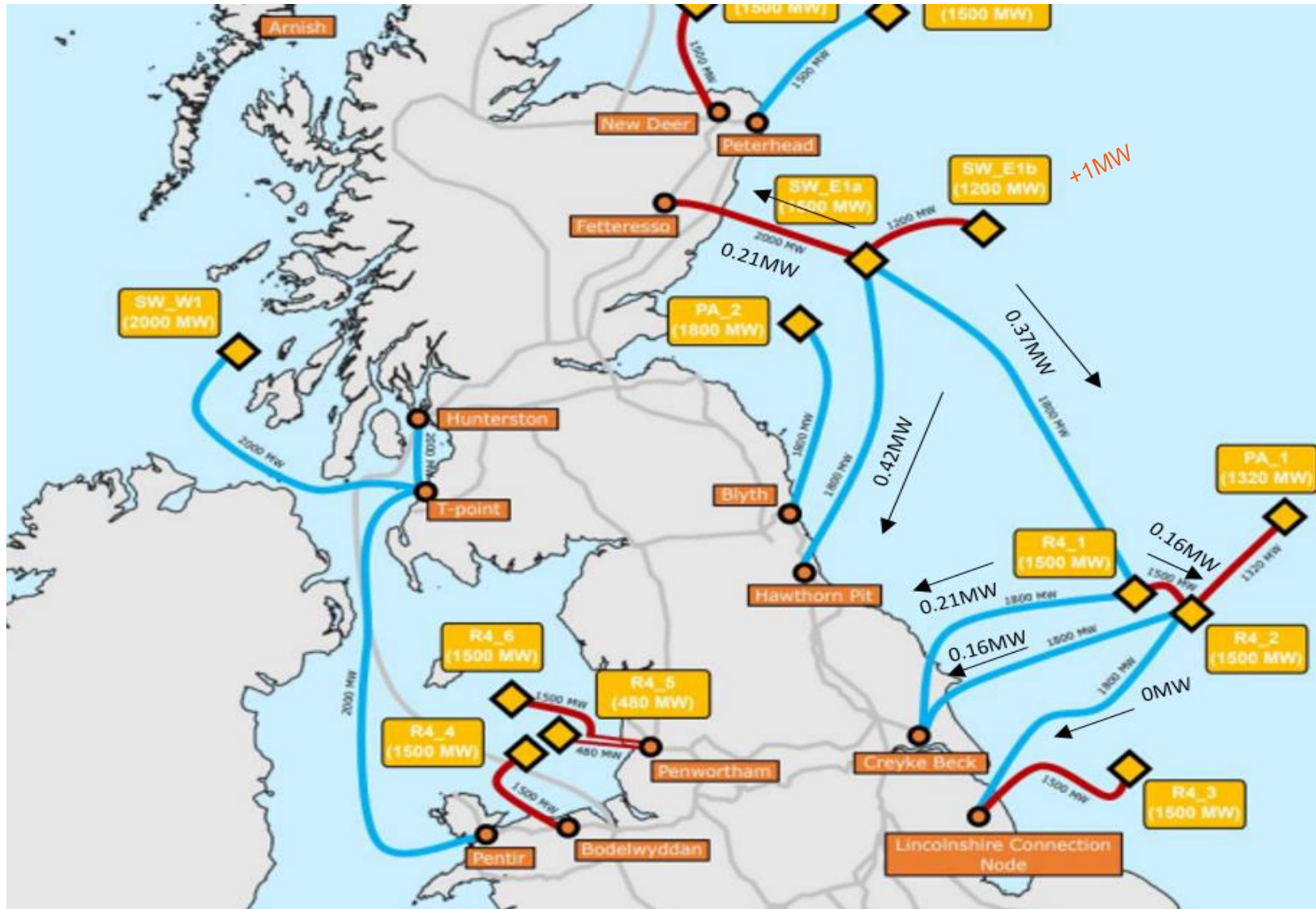
	In scope	Out of scope
Circuits	ASTI and HND HVDC circuits impacts on wider tariffs (illustrative)	Methodology options for a meshed HVDC network (local or wider, MITS node etc)
Gen cap	Incremental impact on consumers by changes to gen wider locational revenue recovery	Forecasting gen cap figures, or forecasting local charges, or charges associated with pre-existing assets
FES	Changes to wider tariffs due to generation/demand trends under FES scenarios	Sensitivities around categorisation of new generation technologies and the associated ALFs
CUSC	Where possible, align with the existing CUSC methodology	CUSC mods options, SCR options (if not been implemented via CUSC mods), REMA etc

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Options to combat the HND methodology challenge

- Option 1 – treat DC circuits as if they were AC circuits
- Option 2 – “even spread” of flows at junction points
- Objective: to keep the tariff calculation relatively simple, and easy to understand, while still retain the locational signals

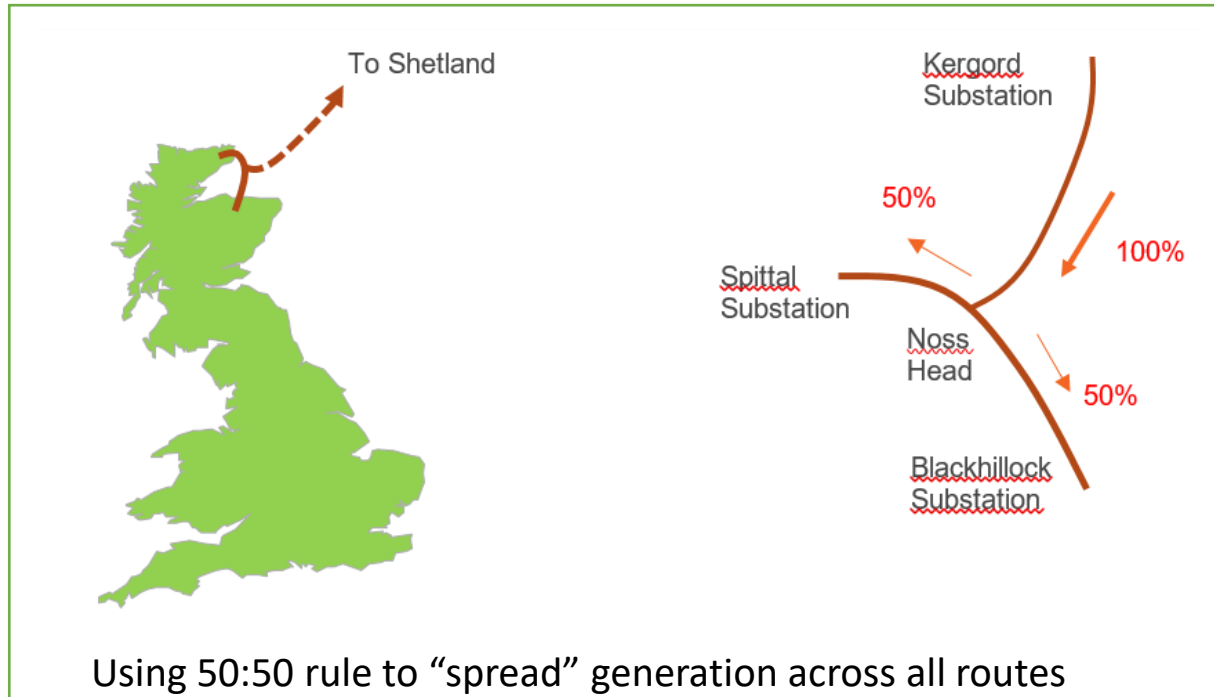
Option 1 – treat DC circuits as if they were AC circuits



- Indicative flows by +1MW at SW_E1b
- Results are indicative
- Results change with generation, demand, network topology and parameters

Option 2 – “Even Spread”

<https://www.nationalgrideso.com/electricity-transmission/document/189146/download>



At R4_1 – 0.33MW of SW_E1a to R4_1 flow is split into 0.17MW X 2 ways

At R4_2 – 0.17MW of R4_1 to R4_2 flow is split into 0.08MW X 2 ways

