

TNUoS Task Force Analytical Support



Approach

 $28^{th}\,March\,2023$

frontier economics

Backgrounds: Suggested modelling approach to develop an understanding of the suitability of current backgrounds, and potential alternatives

Collect data on a range of potential future market backgrounds

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2 Analyse the loading of network assets under each background

- Using LCP's dispatch model, we plan to collect data on a range of market conditions as prospective backgrounds
- Looking at a wide range of scenarios will allow us to check how well the backgrounds cover loading conditions with highest constraints
- We suggest studying two years (e.g. 2025 and 2035) to check how robust the backgrounds are to the future generation mix

- For each prospective background, we will study the loading on each network asset using LCP's Transport model
- The output of this analysis will be a matrix of flow on each asset under each prospective background
- The maximum loading on each asset across all backgrounds will also be calculated

3 Identify which backgrounds provide best coverage

- This step would identify a small subset of backgrounds which cover the key loading conditions
- We would measure how well a subset of backgrounds estimates the true maximum loading on each asset across all backgrounds.
- Within a limit of 2, 3 or 4 backgrounds, we will identify the subset which minimises this error

4 Develop and implement backgrounds to use

- The key backgrounds identified may not have a clear conceptual interpretation (unlike the peak or year round backgrounds)
- We would adapt the selected backgrounds to have a clear interpretation
- We would implement the new backgrounds and study their impact on tariffs

Shared/not shared: We propose to follow the next steps for reviewing the shared and not shared charges

Review original justification of approach in the current and future context

1

2 Assess the materiality of the impact of the BSFs 3 Develop alternative options

Assess the impact of alternative options

4

- Research and set out the original justification for the current BSF calibration.
- This may involve reviewing contemporaneous documents and discussions with relevant ESO experts.
- We will consider what the impact would be on charges if the BSFs were changed or removed entirely, to understand their materiality.
- We will consider the longterm implications of this assumption, and how materiality changes over time.
- Given the understanding of the concept that the sharing factors are trying to implement, we will consider what alternatives (if any) may improve cost reflectivity
- For identified possible improvements to the sharing approach, we will calculate the implied difference in charges and consider any implications for predictability.

Data inputs: We propose to follow the next steps for reviewing each data input

Annual load factors	 We will assess whether choosing last-year's ALFs is more representative of future actual ALFs than the current approach. If this hypothesis holds true, then: We would test the impact on volatility of shortening the historical timeframe of the ALFs Understanding the rationale of CUSC behind considering for the ALF value the higher of (FPN, HH) exporting MW Assess the appropriateness to apply this approach vs other alternatives
Charging bases	 We will analyse the historical evolution of changes between forecasts and final demand to detect: Structural changes in the forecast errors with the shift from net to gross demand. Underlying reasons for the detected gap between preliminary and final demand forecasts.
Week 24 data	 We will analyse the Guidance Notes for Network Operators Submission of Grid Code Data 2011 – 2012 (Incorporating changes for Grid Code B/07 Modifications) to check the degree of prescription that DNOs have to follow for elaborating their Week 24 forecasts, and the extent to which DNOs can follow different estimation methodologies.
TO data	 We will explore solutions for reducing the impact of near-term changes in parameters that stay fixed over the price control period. We will check if there is any issue that can be analysed that goes in parallel with the CMP315 and CMP375 processes.

Reference node: Suggested analytical approach

We will combine a qualitative review with a quantitative assessment of the impact of possible alternative approaches.

Original Rationale

We will:

- Review the original rational for a demand weighted reference node and Ofgem's assessment of possible alternatives
- We will assess the extent to which the original rational can reasonably be expected to continue to be reasonable as the nature of the electricity network evolves

Qualitative Rational for alternatives

- We will consider the implications of reasonable alternative reference node options
 - Many of these have been considered by Ofgem previously
- We set out what each options means for:
 - implied network response to new generation;
 - relative locational charges for different technologies; and
 - cost reflectivity principles.

Impact of possible changes

- LCP's model allows for changes to the reference node
 - Therefore, we will assess the impact on TNUoS charges of credible alternative reference node options.



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