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## TRUSTPOWER SUBMISSION: DRAFT EDGS 2019 VARIATIONS CONSULTATION

1. Trustpower Limited (Trustpower) welcomes the opportunity to provide a submission to the Transpower on its Electricity Demand and Generation Scenarios (EDGS) 2019 Variations Consultation.

2. As previously discussed in our earlier submission (dated: 19 November 2020), we support Transpower's approach to developing robust variations to the 2019 EDGS published by the Ministry of Business, Innovation and Employment and we are encouraged by the expertise demonstrated in the Scenarios Development Panel (the Panel) discussions to date.

3. In addition to our previously provided feedback, we have considered the latest information and our response is summarised below:

    a. The EDGS is a very important scenario set, as it plays a key role in transmission investment. Given the nature of transmission investment, it is possible the EDGS could become a self-fulfilling prophesy. As such we believe the 'diversity' approach adopted by Transpower to be slightly flawed – if three internally consistent scenarios all lead to broadly similar outcomes, then this is an important outcome and should be reflected in the results. Tweaking the scenarios (and leading to inconsistent or unlikely scenarios) seems counterproductive. Alternatively, this could be managed by giving any scenarios that have input assumptions beyond what was agreed as sensible or likely by the Panel and other experts very low weightings.[1]

    b. Treating demand and supply (and peaking/dry year solutions) independently may cause inconsistent or unlikely scenarios to be given higher weightings than they may otherwise have. It also means there is no inherent equilibrium being achieved (e.g. if supply is tight, prices go up and demand might not be so high, in turn reducing prices). We suggest a set of internally consistent narratives and scenarios (total number of scenarios between 5-10) that cover a realistic range of transmission outcomes[2] would be more effective than selecting bespoke samples from a 5 x 4 x 6 (demand, supply and peaking/dry year) matrix for each transmission investment. A bespoke sample approach would also make secondary functions, like

[1] However, without consulting on proposed weightings, providing feedback on weightings is difficult (see point f. for more information).

[2] By transmission outcomes we mean the need for transmission investment ranging from a grid centric scenario (high transmission investment) through to a fully decentralised scenario (low transmission investment).

transmission pricing, more difficult to understand if the same approach were used for these functions.

c. Notwithstanding the points made above, we generally agree with the demand scenario assumptions. However, we would re-emphasise our previous feedback that 13.3 TWh of new industrial demand resulting from electrification is unlikely.

d. We support the use of pre-filtering in the supply scenarios that tries to account for the non-economic factors like consenting challenges, workforce constraints and policy decisions. However, we believe the disaggregation into two semi-independent categories – technology bias and peaking/dry year solution – to be unnecessarily complicated and at risk of over-weighting unlikely scenarios.

e. Specifically, we believe the hydro bias scenario and the hydrogen scenario to be very unlikely. We also would like to re-emphasise our previous feedback that batteries have been underutilised in both demand and supply scenarios. For example, the Onslow scenario, while possible, is incomplete in that it does not adequately account for the North Island peaking needs – our own modelling suggests Onslow will be limited in its ability to contribute to North Island peak demand, and therefore a significant amount of new North Island batteries may be required. Finally, we recommend reviewing gas price assumptions as $6/GJ appears to be too low given current market conditions.

f. We support the approach to weighting scenarios. Deciding on specific weightings at the time investment decisions arise is a good approach assuming latest information will be used to shape probabilities. The risk of putting high weightings on unrealistic scenarios remains, but we agree it is appropriate to have this discussion on a project by project basis.

4. For any questions relating to the material in this submission, please contact Bennet Tucker, Strategic Analytics Manager (bennet.tucker@trustpower.co.nz).

Regards,

Bennet Tucker
Strategic Analytics Manager