Endeavour Energy
ABN 11 247 365 823
T 133 718
Level 40-42, 8 Parramatta Square
10 Darcy Street
Parramatta NSW 2150
PO Box 811, Seven Hills NSW 1730

28 February 2025

Networks Benchmarking Team
Australian Energy Regulator (AER)
Via email: AERInquiry@aer.gov.au

Consultation – Quantonomics 2024 Annual Benchmarking Report Memorandum

Endeavour Energy appreciates the opportunity to provide feedback to the AER's consultation on improvements that can be made to the opex benchmarking cost function models to address potential misspecification issues. In addition to the observations below, we note that we are also supportive of the submissions that have been made by our peer NSW distribution networks, Ausgrid and Essential Energy.

We are concerned about the incorporation of the JTT approach at this stage

We understand that the Quantonomics memorandum that has been commissioned by the AER investigates whether jurisdiction-specific time-trends (JTT) are appropriate variables to include to address ongoing monotonicity violations in the current models.

Having reviewed the memorandum and the indicative results of the AER's benchmarking roll-forward model adapted to incorporate the JTT model, we have the following concerns:

- We are concerned that incorporating the JTT approach would undermine confidence in the AER's benchmarking. This is because the indicative results imply that networks previously regarded as efficient are now materially *inefficient*, whereas in fact, the difference in outcomes may be due to model-specific shortcomings rather than poor performance in relation to efficiency-related metrics.
- To date, the AER's benchmarking has been effective in driving management action, serving both as a reputational incentive, as well as an input to the AER's opex setting process. Accordingly, it is important any changes to the models provide actionable targets to DNSP management in pursuit of the operating expenditure objectives; we are concerned that the change proposed would not be consistent with this outcome.
- We support the AER's commitment in the 2024 Annual Benchmarking Report (ABR) to review whether a suitable approach exists to account for time-varying inefficiency in phase 2 of this work. If this is not possible, we suggest the AER consider whether DNSP-specific time-trend models would be a preferable alternative to JTT.

Given the importance of this work and its complex and technical nature, we suggest the AER consider whether additional time is required for phase 2. The AER might consider adopting a similar (perhaps smaller scale) process to the Rate of Return Instrument (RORI) review, where benchmarking is reviewed on a periodic basis. In the context of the RORI, our observation is that the AER addresses dense subject matter in a way that defines clear focus areas and effectively incorporates expert, DNSP and stakeholder views. Similarly, rather than addressing issues via the annual ABR process, a separate process could be established that incorporates additional expert views and focusses on areas such as datasets (e.g., whether alternative datasets exist to Ontario and New Zealand, or reviewing the consistency of Australian DNSP reporting), methodology (e.g., this review on time-trends) and application (e.g., the use and application of the AER's base opex roll-forward model).

Our consideration of the proposed application of the JTT approach

The increasing monotonicity violations in part likely stem from the current model using a single average time trend across Australia, New Zealand and Ontario. The limitation of this approach is that it assumes

time-invariant inefficiency to capture only technical change which does not account for observed productivity trends showing changing inefficiency between these jurisdictions over time.

The addition of JTT, which contains separate time-trends for each of the three jurisdictions and Australian time-trends (ATT) (Australian only trend with an average of the other two) reduces the monotonicity violations and improves the goodness-of-fit of the models. This implies that there are statistically significant differences in time-trends between the jurisdictions.

While these alternatives perform better statistically, we would caution against adopting these models in their current form over the current models. In our view, these models highlight, rather than resolve, several shortcomings with the current models. They also raise new issues that warrant further investigation, including:

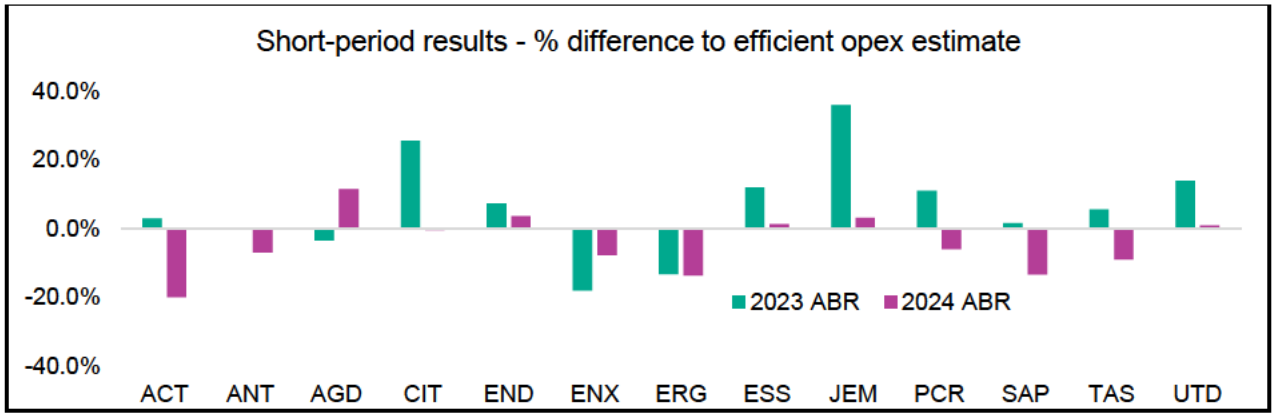
- the JTT short-period Stochastic Frontier Analysis Cobb-Douglas (SFACD) and ATT short-period SFA Translog (SFATLG) models failing the monotonicity requirement;
- the general instability of the short-period Translog models;
- output weights/cost elasticities with the JTT models allocating a higher weighting to Ratcheted Maximum Demand (RMD) relative to the other models and the ATT models assigning more weight to customer numbers;
- omitted explanatory variables and the quantification of operating environment factors (OEFs) over time, Specifically in relation to the vegetation management OEF, we consider that the estimation of this factor involves an incorrect understanding of Endeavour Energy's jurisdictional obligations, noting the illogicality of being deemed to have a vegetation management cost advantage in circumstances where 85% of the footprint lies within bushfire prone land (including the Blue Mountains and Southern Highlands); and
- the design of both the current models and alternative models assume that inefficiency for each DNSP is time-invariant.

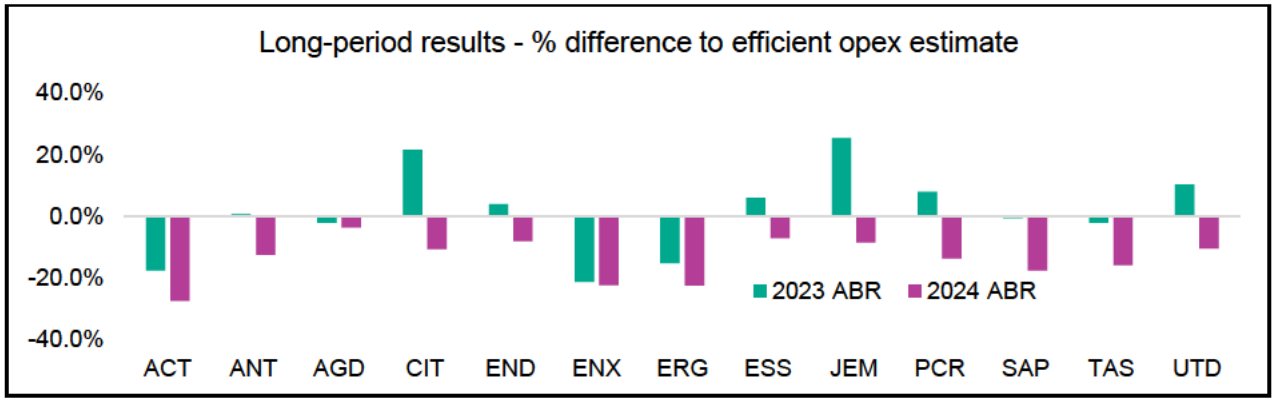
The latter issue is particularly critical to developing models that provide meaningful insights. As noted by Quantonomics, the time-trend element of the current models likely represents technical change due to the time-invariant efficiency assumption. It is likely that there are changes in inefficiency over time, explanatory variables that are not included in the cost functions or captured via operating environment factor adjustments and varying impacts of OEFs over time.

It is very likely that the time-trend captures both industry-wide efficiency movements and 'catch-up' efficiency by individual DNSPs. By way of example, Endeavour Energy has significantly improved its operating efficiency since the introduction of benchmarking. Our Operating Partial Factor Productivity (Opex PFP) ranking improved from ninth in 2016 to third in 2023 with a growth rate (i.e., productivity improvement) of 3.0% in our opex PFP score over the 2012-23 period, compared to a declining trend of -2.9% over the 2006-12 period.

These significant and recent improvements are common across several DNSPs and unlikely to be replicable over time. However, the JTT and ATT models capture these improvements in the rate of technical change effectively embedding an assumption that the 'catch-up' efficiency improvements will be sustained into perpetuity. Consequently, the JTT models result in large swings in the base year efficiency results for all networks. This is illustrated in the two charts below, which show that:

- *all* networks would be considered materially inefficient over the long-term period (2006-23); and
- the majority of networks would be considered materially inefficient over the short-term period (2012-23).





As noted above, this outcome does not promote confidence that an alternate, improved model has been developed. Instead, it highlights that further work is required to address issues in the existing models and we welcome further collaboration with the AER on this undertaking.

If you would like to discuss any aspect of our submission, please contact Patrick Duffy, Manager Regulatory Transformation and Policy at [redacted]

Yours sincerely

[redacted]

Emma Ringland
Head of Regulation and Investments