

Ms Kami Kaur
General Manager
Australian Energy Regulator
GPO Box 3131
Canberra, ACT, 2601

AERInquiry@aer.gov.au

Attention: Networks Benchmarking Team

27 March 2025

Phase 2 of AER consultation on specification of econometric benchmarking models

Evoenergy welcomes the opportunity to submit on Phase 2 of the AER's consultation on the specification of the econometric models that the AER uses to benchmark distribution network service provider (DNSP) operating expenditure (opex). Our feedback in this submission is a response to the analysis presented in Quantonomics' November 2025 report: *Electricity Distribution Benchmarking Opex Model Development* (Quantonomics' Phase 2 report).

Evoenergy engaged Frontier Economics (Frontier) to provide expert advice on the matters raised in Quantonomics' report. A report detailing Frontier's findings is attached to this submission.

Quantonomics' Phase 2 report investigates several candidate time-varying inefficiency models. We commend both the AER and Quantonomics for this work as it demonstrates responsiveness to the feedback provided in Phase 1 of the AER's consultation. Specifically, we submitted that the existing econometric models are poorly specified because they assume DNSPs' efficiency remains constant over the benchmarking period. In fact, however, several DNSPs (including Evoenergy) have delivered significant catch-up efficiency since the AER introduced the current benchmarking regime in 2015. The existing models are, by construction, incapable of accounting for this. As a result, they mis-estimate inefficiency and the opex cost function.

This is highly problematic because it could result in opex allowances for DNSPs being set above or below the efficient level, and a weakening of incentives to continue to deliver efficiency gains if the AER's benchmarking analysis fails to properly recognise the improvements that DNSPs have delivered.

Quantonomics' Phase 2 report identifies four time-varying inefficiency models that they identify as the best-performing of the 12 models tested. However, Quantonomics stops short of recommending that these models should replace the AER's existing models, even though

Quantonomics' analysis suggest that they easily outperform the existing models on an array of criteria.

Frontier found that Quantonomics' analysis suffered from a number of issues that needed to be addressed before the models could be evaluated properly. Having addressed those issues, Frontier tested the 12 models investigated by Quantonomics, an additional six model variants identified by Frontier, alongside the two main time-invariant model specifications currently used by Quantonomics. All 20 models were evaluated against selection criteria very similar to those used by Quantonomics.

Based on that analysis, Frontier concludes that:

1. **The time-invariant inefficiency models currently used by the AER are fundamentally mis-specified and should be discontinued.** Their assumption of constant efficiency is inconsistent with observed data and leads to unreliable outcomes.
2. **Three time-varying SFA models satisfy all selection criteria and materially outperform all others tested:**
 - Two stochastic frontier analysis (SFA) Battese and Coelli (1995)(BC95) models (SFA-BC95-AGEC-HN-GTC and SFA-BC95-AGEC-HN-GTC); and
 - One Kumbhakar (1990)(Kumb90) model (SFA-Kumb-AGECJUR-HN-GTC).

These three models should replace the AER's existing time-invariant inefficiency models, and that all three models should receive equal weight by default.
3. **The LSE specifications should be abandoned.** These models are overly restrictive, and their statistical performance is unambiguously worse than that of the preferred SFA models.
4. **The AER should give primacy to translog specifications, using the Cobb-Douglas models only as a fallback if the translog models cannot be used due to serious statistical problems.** Formal statistical testing performed by Frontier shows clearly that the Cobb-Douglas models fit the data more poorly than the translog specifications. Therefore, these models are unnecessary provided the recommended translog models can be estimated reliably.

Evoenergy supports all these recommendations.

Quantonomics' Phase 2 report raises the issue of how the time-varying inefficiency models should be used to estimate efficient opex in the base year. Evoenergy's preference is for the AER to retain its existing approach of rolling forward an estimate of efficient opex from the middle of the benchmarking period to the base year, as this well-established approach is understood by all stakeholders. This process requires an estimate of average efficiency over the benchmarking period. Under the time-varying inefficiency models, that estimate can be obtained by averaging the DNSP's annual efficiency scores over the benchmarking period.

Evoenergy submits that the AER should consult broadly if it wishes to consider an alternative process for using the outputs of the time-varying inefficiency models to estimate efficient base-year opex. This is because alternative approaches (such as the use of efficiency scores in the final year of the benchmarking period—a possibility raised by Quantonomics)

would involve added complexity, and the AER would need to ensure that there are no unintended consequences of such a change.

Given the highly technical nature of these issues, we would be happy to facilitate access to Frontier, to provide the AER, and/or Quantonomics, an opportunity to discuss Frontier's findings and seek clarifications, if that would be helpful to the AER's deliberations.

Should you have any questions or wish to discuss our response, please contact Gillian Symmans, Group Manager Regulatory Reviews and Policy, at

[REDACTED]

Yours sincerely

[REDACTED]

Megan Wilcox
General Manager Economic Regulation