Electricity Network Regulation—Issues Paper

Submission from

Jemena Limited

to the

Productivity Commission

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1 Executive summary

Benchmarking in its broadest sense involves comparing the performance of a subject business with that of its peers or its own past performance. That relative performance information, taken together with other inputs, can assist in establishing whether, and to what extent, there is scope for the subject business to improve its performance.

Benchmarking is an art not a science. While there is a wide variety of benchmarking techniques, there are many practical constraints on their application, not the least being the availability of reliable and comparable data. Benchmarking can be useful as a preliminary filter or sanity check on NSPs' proposals and as an adjunct to other assessment techniques. It may also be used more directly in identifying best practice for tightly defined sub-components of expenditure. However, in a building block framework, benchmarking cannot replace the detailed assessment of costs as a means of setting revenues and prices.

The NER require the AER to have regard to benchmarking when assessing the capex and opex forecasts that form part of each NSP's building block proposal and that is what the AER has done. The AER has not been constrained in its use of benchmarking except to the extent that its decisions must be reasoned and evidence-based and may be subject to merits review.

Benchmarking has a continuing role in the regulatory scheme, but there is no case for giving it any greater weight or standing than it has at present.

2 Introduction

2.1 Context of this consultation

The Commission is conducting its inquiry into Electricity Network Regulation in response to terms of reference from the Deputy Prime Minister and Treasurer which request the Commission to:

> assess the use of benchmarking as a means of achieving the efficient delivery of network services and electricity infrastructure to meet the long-term interests of consumers consistent with the NEO.

The reference arises in the context of recent increases in network expenditure and the resultant flow on to increases in electricity prices for end users.

The AEMC is also conducting a number of reviews concurrently with the Commission's inquiry. One of those—consultation on changes to the national electricity rules proposed by the AER and the Energy Users Rule Change Committee—is particularly relevant to the Commission's inquiry. The AER's proposals include changes which, if adopted, would widen the AER's discretion to apply benchmarking techniques when assessing network service providers' building block proposals.

2.2 Jemena's electricity distribution interests

Jemena owns and operates the Jemena Electricity Network (**JEN**) which serves 320,000 consumers in north western Melbourne. Jemena also has a 50 per cent interest in the ActewAGL Distribution Partnership which serves 170,000 electricity customers in the ACT and south-eastern NSW, and a 34 per cent interest in United Energy Distribution which has 630,000 customers in south-eastern Melbourne and the Mornington Peninsula.

The AER regulates all of these businesses and so they will be affected directly by any changes to the way in which benchmarking is employed in the processes of network regulation.

2.3 Jemena's submission

In section 3 which follows, we present Jemena's position on the use of benchmarking in the regulatory context, focusing on the practical and empirical constraints that bear on its use in that context. We do not address the second limb

of the Commission's inquiry which deals with the delivery of interconnector investment in the NEM.

This submission is complementary to and should be read in conjunction with the Energy Networks Association's (**ENA**) submission, which also includes responses to the significant number of questions that the Commission has posed throughout its Issues Paper. Jemena endorses the ENA submission.

3 Benchmarking in the regulatory context

Key points:

- Benchmarking can be useful as an adjunct to other assessment techniques in the process of assessing NSPs' proposals, but not as the sole means of determining regulated revenues and prices.
- The AER presently uses benchmarking, in its broadest sense, in assessing NSPs' proposals and is not constrained in doing so except to the extent that its decisions must be reasoned and evidence-based and may be subject to merits review.
- There is no case for benchmarking to be given any greater weight or standing in the regulatory scheme than it has at present.

3.1 The scope of the Commission's inquiry

The Commission asks, how it can best add value given the various reviews and associated consultations that are presently taking place. [1]

In Jemena's view, the Commission can add greatest value by providing an overview of benchmarking techniques, their uses and limitations, and where and how they have been used. With that background, the Commission could then provide an objective assessment of how, in what circumstances, and with what caveats, those techniques might be applied in assessing network businesses' building block proposals under the NEL. Matters to do with the policy and legislative/rules frameworks under which network businesses are regulated, we suggest, are more properly the province of the Standing Council on Energy and Resources and the AEMC.

3.2 Jemena's position on the use of benchmarking

The Commission's terms of reference—"to assess the use of benchmarking as a means of achieving the efficient delivery of network services…"—suggest a view that benchmarking is not a feature of current regulatory practice; that the delivery of network services is not already efficient; and, to the extent that benchmarking is not currently used and the delivery of network services is not already efficient, that

[1] Productivity Commission, Issues Paper, p. 6.

benchmarking may somehow be capable of producing the "correct" outcome where current practice has failed.

The first observation to make is that there is no "correct" outcome. The efficient costs of operation for a particular business cannot be determined by analysis or inspection but will evolve and be revealed as the business responds to the incentives provided by the regulatory regime. Relevantly, the incentive properties of a price or revenue path are essentially independent of the means by which that path is determined. It follows that benchmarking cannot be a "silver bullet". If benchmarking was given greater weight in setting price paths than at present, then outcomes would no doubt be different but there can be no certainty that those outcomes would be better in terms of achieving the NEO.

Benchmarking can be useful as a preliminary filter or sanity check on NSPs' proposals and as an adjunct to other assessment techniques. It may also be used more directly in identifying best practice for tightly defined sub-components of expenditure—the ENA gives pole replacement as an example of this. Importantly, benchmarking at any level cannot and should not be applied mechanistically or in isolation from other techniques and considerations.

Considered in this way, the NER properly include benchmarking as one of a number of factors that the AER must have regard to when assessing NSPs' proposals. [2] And, as the ENA submission notes, the AER already makes extensive use of benchmarking, in its broadest sense, when assessing those proposals and is not constrained in doing so except to the extent that its decisions must be reasoned and evidence-based and may be subject to merits review. There is also no evidence that the AER is constrained in substituting an alternative forecast where is it not satisfied, on the basis of benchmarking or some other assessment technique, that an NSP's proposal is reasonable.

In Jemena's view, there is no case for benchmarking to be given any greater weight or standing in the regulatory scheme than it has at present. As Professor Stephen Littlechild says in his advice to the AEMC in the context of its assessment of the AER's rule change proposals:

> I am asked whether there would be any benefit in a rule that requires the regulator to undertake benchmarking. I would say that it would be good regulatory practice for a regulator to consider what if any insights benchmarking could provide in the particular price control under consideration, and to take this into account where appropriate. But as just noted, the circumstances of individual networks can vary greatly, and in my experience there is always an element of unexplained variation where judgement

[2] National Electricity Rules, sections 6.5.6(e)(4) and 6.5.7(e)(4).

is required. To require the regulator to undertake benchmarking therefore runs the risk of forcing the regulator to attach more weight to benchmarking than the circumstances allow. [3]

3.2.1 *The practical and empirical constraints on applying benchmarking in the regulatory context*

The background section to the Commission's terms of reference includes the following statement:

> This inquiry will inform the Australian Government about whether there are any practical or empirical constraints on the use of benchmarking of network businesses …

The short response to this statement is that there are practical and empirical constraints on the use of benchmarking in the regulatory context. While benchmarking is primarily a technique derived for management purposes, it does have some uses in the process of setting network revenues and prices but cannot be relied upon as the sole means of doing so. The ENA's submission makes those points in detail. We also refer the Commission to a paper by Graham Shuttleworth of NERA, which summarises very succinctly the considerations and practical problems that arise when applying benchmarking in the regulatory context. [4]

There is a wide range or analytical techniques that can be used for benchmarking, all of which have theoretical legitimacy and all of which will produce different results. However, the application of benchmarking involves matters of judgement and choices which are at best subjective and at worst, arbitrary. The most significant of those choices are the selection of technique, the form of model, and data sources, where data may also be adjusted or culled.[5] As a consequence, an analysis which may have the superficial appearance of rigour may well be neither transparent nor objective.

Then there is the important question of how the results, once obtained, should be interpreted and applied. In particular, there is no justification for assuming that all costs not explained by a model must be due to inefficiency, and it is wrong to expect that an individual business can be best at everything. For example, capex

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[3] Littlechild, S., *Advice to the AEMC on Rule Changes*, 11 February 2012 (available at: http://www.aemc.gov.au/Media/docs/Professor-Stephen-Littlechild-35a49f94-52e3-43e8-aabf-ea783d19c1e5-0.PDF).

[4] Shuttleworth, G., *Benchmarking of electricity networks: Practical problems with its use for regulation,* Utilities Policy 13 (2005) 310–317 (available at: http://www.nera.com/extImage/Benchmarking_of_Electricity_DEC2005.pdf).

[5] Note that these choices are often interdependent. For example the choice of technique is often determined by the availability of data.

and opex performance may be benchmarked separately, but the trade-off between those two components of cost means that no business can be best at both. As Shuttleworth observes:

> Until anyone can claim with certainty that a benchmarking model has capture (sic) every possible cost driver, it is incorrect and misleading to ascribe the residual to ''inefficiency'', or to describe the benchmark as a measure of ''efficient costs''. Instead, one must acknowledge that the residual measures no more than the element of observed costs that the model has failed to explain. On that basis, it provides no grounds for disallowing certain costs or anticipating rapid rates of cost reduction.
>
> Thus, when regulators use the results of benchmarking as a reason to disallow a proportion of total costs (or of a particular subset of costs), they are in fact acting on an arbitrary basis without proper evidence.[6]

and

> The danger with such partial measures of ''efficiency'' is that the regulator combines the lowest (or ''most efficient'') costs for each subset from different companies, thereby producing an overall estimate of costs which is simply infeasible and an unreasonable basis for setting targets.

Shuttleworth provides other valuable insights:

> Regulators therefore have a wealth of benchmarking techniques at their disposal. However, the sheer variety of methods represents a problem in regulation, since each will produce results that differ, sometimes significantly. Indeed, the problem with benchmarking is not a lack of techniques, but their unsuitability for a contentious and financially important task like regulation, as discussed below.[7]

and

> Benchmarking techniques are by no means rigorous or demanding of the regulator, because they leave enough room for the exercise of subjective judgements to allow a regulator to achieve any prior goals for the outcome of the regulatory process. Therefore, they expose regulated companies to substantial risk that cost recovery will be denied for unpredictable and subjective reasons.[8]

The implications of these observations are particularly concerning to Jemena and should be of equal concern to policy makers. That is, if the regulator has wide

[6] ibid. p. 315.

[7] ibid. p. 312.

[8] ibid. p. 316.

discretion generally and in the way that it applies benchmarking in particular, then, because benchmarking involves so many matters of judgement and subjective choices, a decision which on any fair assessment would be viewed as "biased" may effectively be unchallengeable in merits review. This is a significant risk. Professor George Yarrow describes the potential for, and reinforces the significance of, such risks in the "preliminary views" he has provided to the AEMC in the context of its consultation on the rule changes proposed by the AER:

> As discussed above, the working presumption in the relevant economics is that a regulator with unconstrained discretion to set price controls will be tempted to opportunism, and that the temptation will be particularly great in circumstances of rate-shock. That is, at bottom, there is an underinvestment problem associated with the regulation of private monopoly.
>
> On this basis, it would be irrational for capital markets to believe that regulatory decisions will always be 'impartial'; particularly in periods of sharply rising costs. Put another way, regulatory discretion comes with biases of its own. [9]

Shuttleworth provides a useful summary of how benchmarking imposes regulatory risk under the headings choice of technique, choice of variables and model, interpretation of the residual, burden of proof, and duration of glide path. He concludes that:

> As an interim step in an investigative procedure, benchmarking may help regulators to appraise large volumes of data on costs and outputs. However, benchmarking techniques are not robust and cannot replace detailed investigation of costs. Any attempt to rely entirely on benchmarking to set revenue allowances is bound to involve subjective and arbitrary choices. For the sake of transparency and stability in regulation, therefore, it will be necessary to regard benchmarking as an investigative technique, not an alternative method of setting revenues.[10]

3.2.2 Data – a perennial problem

We note that, in the Australian context, the AEMC cited "the current lack of a sufficiently robust and consistent data-set" as its principal reason for recommending against the immediate introduction of TFP regulation as an alternative to the current building block approach. [11] In Jemena's view the same observation can be made about data for benchmarking more generally. While

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[9] Yarrow, G., *Preliminary view for the AEMC*, pp. 9–10 (available at: http://www.aemc.gov.au/Media/docs/Professor-George-Yarrow-c4794217-ac6d-4927-a9fb-1a55d09b38cd-0.PDF).

[10] Shuttleworth, G., op. cit., p. 317.

[11] AEMC 2011, *Review into the use of total factor productivity for the determination of prices and revenues, Final Report*, 30 June 2011, Sydney

groups of businesses may have provided selected consultants with data—in some cases quite detailed—to support specific studies, there is no comprehensive "public" set of consistent and reliable data. The AER now has extensive information gathering powers under the NEL and it is exercising those powers. Over time, that should produce a data-set that could support more extensive use of benchmarking and the use of more sophisticated benchmarking techniques; however that is some way off.

More generally, Shuttleworth and the ENA both discuss in some detail the importance of identifying relevant explanatory variables and of having an adequately sized set of reliable and consistent data to support any benchmarking analysis. Both also refer to the 1999 work by Pedraja-Chaparro et al. which describes how the number of data points required to achieve a reliable analytical result increases rapidly with each additional explanatory variable that is brought into the analysis. Shuttleworth also discusses the problems associated with including data from extra-jurisdictional sources in an analysis. At the very least, it may detract from the overall accuracy of an analysis (which was not accurate to start with) because it requires additional explanatory variables. [12]

[12] ibid. p. 313.

Appendix 1 – Glossary

AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
capex	capital expenditure
ENA	Energy Networks Association
JEN	Jemena Electricity Networks (Vic) Ltd
NEL	National Electricity Law
NER	National Electricity Rules
NSP	network service provider
opex	operating expenditure