Ausgrid Submission

AER Draft Annual Benchmarking Report for DNSPs

October 2018

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Lodged via email

Dear Evan

Comments on the AER's Draft 2018 benchmarking report

Ausgrid welcomes the opportunity to provide this submission in response to the Australian Energy Regulator's (AER) Draft Annual Benchmarking Report for Electricity Distribution Network Service Providers (DNSPs) for 2018.

Ausgrid notes that benchmarking is used by the AER to estimate the relative efficiency of DNSPs and how this changes over time – measuring and encouraging the efficiency of DNSPs is clearly of benefit to end use customers. As we have already provided our views on the AER's general approach to benchmarking and SapereMerz's previous work on the OEFs, we have only focused on the changes to these approaches.

Our comments on the Draft Annual Benchmarking Report are summarised in the attachment. Our comments fall into four key areas:

1. The AER's reporting of productivity growth in 2016-17
2. The change in output weights
3. The implications of Ausgrid's transformation costs on the modelling results
4. Operating environment factor adjustments.

Ausgrid would be pleased to discuss this submission with the AER and would welcome further engagement on the AER's approach to benchmarking in the lead up to Ausgrid's 2019-24 determination. We look forward to working with the AER, other DNSPs and interested stakeholders on these important issues.

If you have any queries, or wish to discuss this matter in further detail please contact myself on (02) 9269 2695 or via email iomar@ausgrid.com.au.

Yours sincerely,

Head of Regulation
Ausgrid

Summary of Ausgrid's comments on AER Draft Annual Benchmarking Report

In this Attachment, we set out a few specific comments on the AER's benchmarking and OEF adjustments. As we have already provided our views on the AER's general approach to benchmarking and SapereMerz's previous work on the OEFs,[1] we have only focused on the changes to these approaches. Our views in this attachment relate to the following issues:

1. The AER's reporting of the 2.2% productivity growth 2016-17
2. The change in output weights
3. The implications of Ausgrid's transformations costs on the modelling results
4. SapereMerz's operating environment factor adjustments.

2016-17 Productivity Growth

In Section 3 of the benchmarking report, the AER sets out a comparison of its estimate of the 2016-17 productivity growth against that of the whole economy and the broad grouping of utilities, which are estimated by the ABS. We agree that our industry is improving its productivity performance, however we think it would be appropriate for the AER to make clear that the productivity change relates to both frontier shift and catch-up efficiency (which the AER identify in Section 4). As it stands the presentation of the figures could be misinterpreted by readers as indicating frontier shift only.

Frontier shift refers to the movement in the production function overtime. While frontier shift is usually taken to mean technical change, it could also include changes in productivity associated with changes in environmental factors (such as quality obligations). Technical change generally leads to a positive shift in the (production) frontier, however a negative shift is possible (for example, improvements in quality that require more inputs but where quality is not accurately included in the output measure). In the economy as a whole (which the AER provides estimates as a comparator to its measures), or in sectors where there is assumed to be a reasonable amount of competition, if the sample of firms is both: (i) large; and (ii) random, we understand that it is reasonable to expect that productivity improvements over time should be largely driven by frontier shift. That is, in competitive industries, inefficient firms will not survive and thus it might be expected that there would be no appreciable inefficiency.[2]

We also note that productivity is a highly cyclical variable, and productivity estimates will show marked variation over the economic cycle as well as differences across economic cycles.[3] It is standard practice to consider TFP growth over complete economic cycles, or at least a long time period if economic cycles are incomplete. As shown by the ABS' estimate, productivity growth in Australia over a long period has been low.

[1] Ausgrid submission to the AER, *Benchmarking operating environment factors review*, 9 February 2018.
[2] CEPA, *Ongoing efficiency in new method decisions for Dutch Electricity and Gas Network Operators*, November 2012, p. 17
[3] OECD (2011), *Measuring Productivity: Measurement of aggregate and industry-led productivity growth*, OECD Manual, p 119.

Change in output weights

The AER's consultant, Economic Insights, has updated its cost function modelling, which determines the output weights for output indices for the MTFP and MPFP models, to include five extra years. The primary change resulting from this is an increase in the weight placed on ratcheted maximum demand. The full change in weights is shown in Table 1 below.

Table 1. Weights used for the output index

	New weights	Old weights
Energy throughput	12%	12.8%
Ratcheted maximum demand	28%	17.6%
Customer numbers	**31%**	45.8%
Circuit length	**29%**	23.8%
Customer minutes lost	Variable (based on AEMO VCR)	

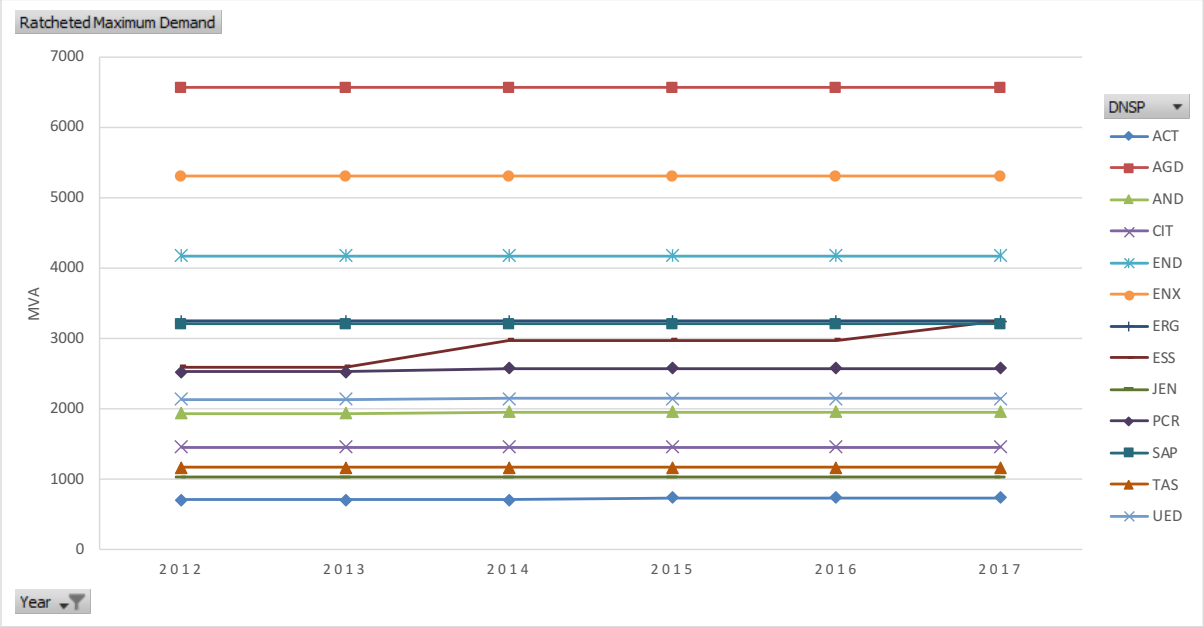
While we agree that the modelling should use up-to-date data, we are concerned that the AER and Economic Insights have not fully explored and explained the underlying reasons for and implications of the change in weights. For example, Economic Insights' statement on the weight change is focused on infrastructure costs and does not consider the broader implications of the weights, particularly for operating expenditure (opex) productivity:

> "*It is likely that customer numbers were initially acting as a proxy for relatively fixed infrastructure–related costs as well as for directly customer–related costs. The expanded database allows the models to attribute infrastructure–related costs more directly."*

It is our view that there are a number of reasons for the weight change and significant implications in the interpretation of productivity change going forward. We discuss these below.

Over the last five years investment in distributed generation has continued. Alongside this, and as a positive consequence, networks have found more opportunities to adopt demand management approaches rather than building out their networks, where efficient. Households and commercial premises have also achieved increases in energy efficiency. This has meant that while there has been growth in customer numbers across all the networks, energy throughput and ratcheted maximum demand have not increased to the same extent. In fact, the RINs indicate that over the last five years ratcheted maximum demand across all the DNSPs has hardly changed. Only five DNSPs have experienced an increase in their ratcheted maximum demand over this period, and the increase was only material for one of the DNSPs. This is shown in Figure 1 below.

Figure 1. DNSPs' ratcheted maximum demand from 2012 to 2017



Given these issues, we are concerned that an increase in weight on maximum ratcheted demand is not justified from both an economic and technical perspective. Specifically, we note the following:

- There is little year-on-year variation in ratcheted maximum demand, therefore econometric modelling will struggle to provide accurate and robust estimates of the weights (Economic Insights highlighted this issue in its 2014 report).[4] In this regard, the cost function modelling may be picking up a spurious relationship between the reduction in opex following the reforms to 2012 and the 'flatlining' of ratcheted maximum demand occurring at the same time.
- With regards to opex MPFP, opex spent on reduced demand increases the input index but it will not lead to, or reduce, an improvement in the output index. Therefore, DNSPs that are actively engaging in demand reduction will achieve a poorer benchmarking result.

As Economic Insights has suggested that these weights remain in place for five years, we consider that it would be appropriate for the AER to investigate whether adjustments for 'demand side response' outputs should be incorporated into its productivity measures or a reduced weight be placed on ratcheted maximum demand. In other words, an increased weight on ratcheted maximum demand perversely encourages DNSPs to avoid demand side response approaches.

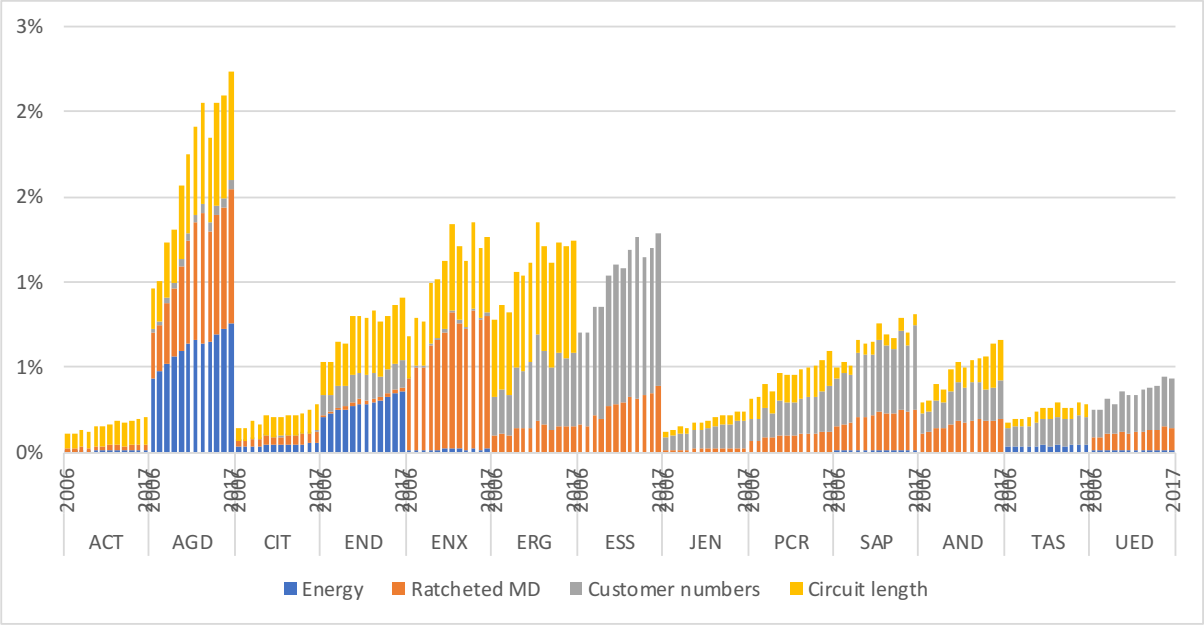
We note that the above points, particularly around the limited variation in ratcheted maximum demand, apply to the econometric models that the AER uses – the stochastic frontier analysis (SFA) and least squares econometrics (LSE) models. Economic Insights has shortened the dataset it uses for the econometric models to 2012-2017. In addition, we note the significant differences between the coefficients derived in these models and those

[4] Economic Insights (2014), *Economic Benchmarking Assessment of Operating Expenditure for NSW and ACT Electricity DNSPs*, 17 November 2014, page 28.

estimate by the Leontief cost functions for the MTFP and MPFP models. The SFA and LSE models estimate weights on customer numbers of between 50% and 72% respectively.[5]

We also consider that the AER should review whether using a weighted average output share approach is appropriate. The weighting is done using gross revenue. As gross revenue has been increasing over time greater weight is placed on more recent years' output cost shares. This implies that the output cost share in 2006 is of lower importance than the output cost share in 2017. This is illustrated in Figure 2 below, with each bar showing the contribution of the driver to its weighted output share (i.e., if you add each of the blue bars for energy throughput together, the total will sum to its weighted output share of 12%). The figure also highlights how different the output weights are across the DNSPs.

Figure 2. DNSPs' year contribution to output cost share



We note that an unweighted approach does not have a material impact on the output weights: energy throughput - 10%, ratcheted maximum demand - 24%, customer numbers - 35%, and circuit length - 32%.

Transformation costs

As the AER have noted *"Ausgrid incurred substantial transformation costs over this period to reduce its workforce by 37 per cent. After removing these non-current transformation costs, Ausgrid's network services reduced by 14 per cent*."[6]

All else being equal, we expect these savings will improve our performance across all of the AER's models. We note, however, that this improvement may take some time to be reflected across all benchmarking results presented in the report, as some econometric models used estimate an average result over the period 2006-16.

Operating environment factors

[5] We note that energy throughput is not included in these models.
[6] AER, Benchmarking, page 27.

Sub-transmission adjustment

We appreciate that SapereMerz has improved its calculations by removing some of its 'normalisation' calculations. However, we still have some broad concerns with the underlying data that SapereMerz is using. This includes concerns about differences in how DNSPs are completing their RINs and precisely what data SapereMerz is using. For example:

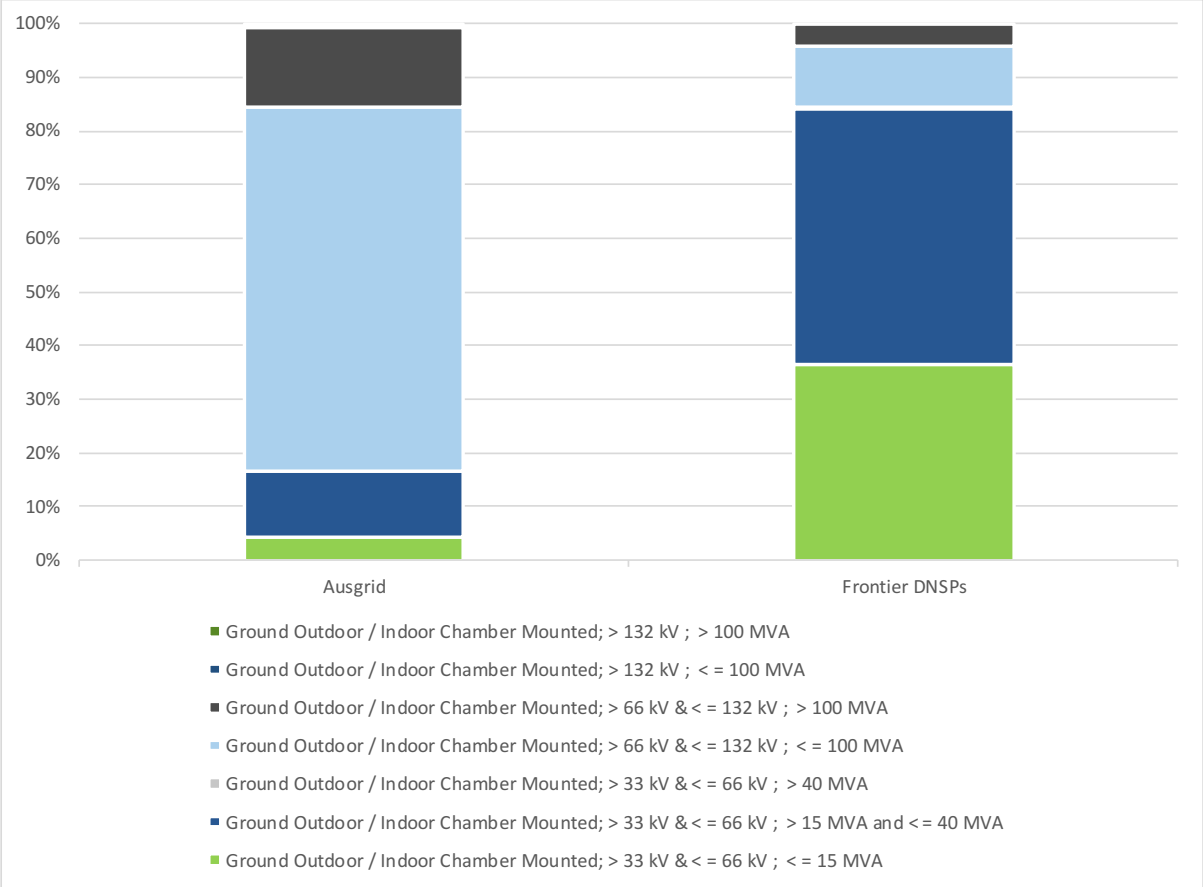
- We have been able to work out where SapereMerz gets its estimates for our opex on zone substations – it sums across 'transformers - zone substations', 'zone substation - other equipment' and 'all zone substation properties'. However, when we use the same three categories for some of the other DNSPs we cannot get the same estimates as SapereMerz.
- We are not clear how, or if, SapereMerz takes account of subtransmission asset maintenance opex for DNSPs with dual function assets. This is a material opex line item.

We would appreciate if the AER could provide greater clarity and quality assurance on the data sources and calculations.

Sub-transmission is an important part of our network and contributes to a significant level of capacity that we need to maintain and operate the system at. Our split of sub-transmission transformers compared to the AER's 'frontier' DNSPs shows that we have a much greater proportion of higher voltage and larger capacity transformers. This is shown in Figure 3.

We are still reviewing SapereMerz's recommended shift to using transformer numbers rather than capacity to determine an adjustment factor. At this stage, we consider the overall approach to this OEF is too simplistic to capture the additional costs that we bear for operating a relatively large sub-transmission network. Operating a large sub-transmission network within our distribution system creates opex beyond maintenance costs. There are additional operating and planning costs which are not represented in SapereMerz's adjustments or the economic benchmarking models.

Figure 3. Proportion of Ausgrid sub transmission transformers compared to AER's frontier DNSPs, 2016



Taxes and levies

As SapereMerz highlight in its report, it is not clear if the DNSPs have reported taxes and levies on a consistent basis. Before adjustments are made on the basis of this analysis, we request that the AER develops more detailed guidance around the information it is seeking.

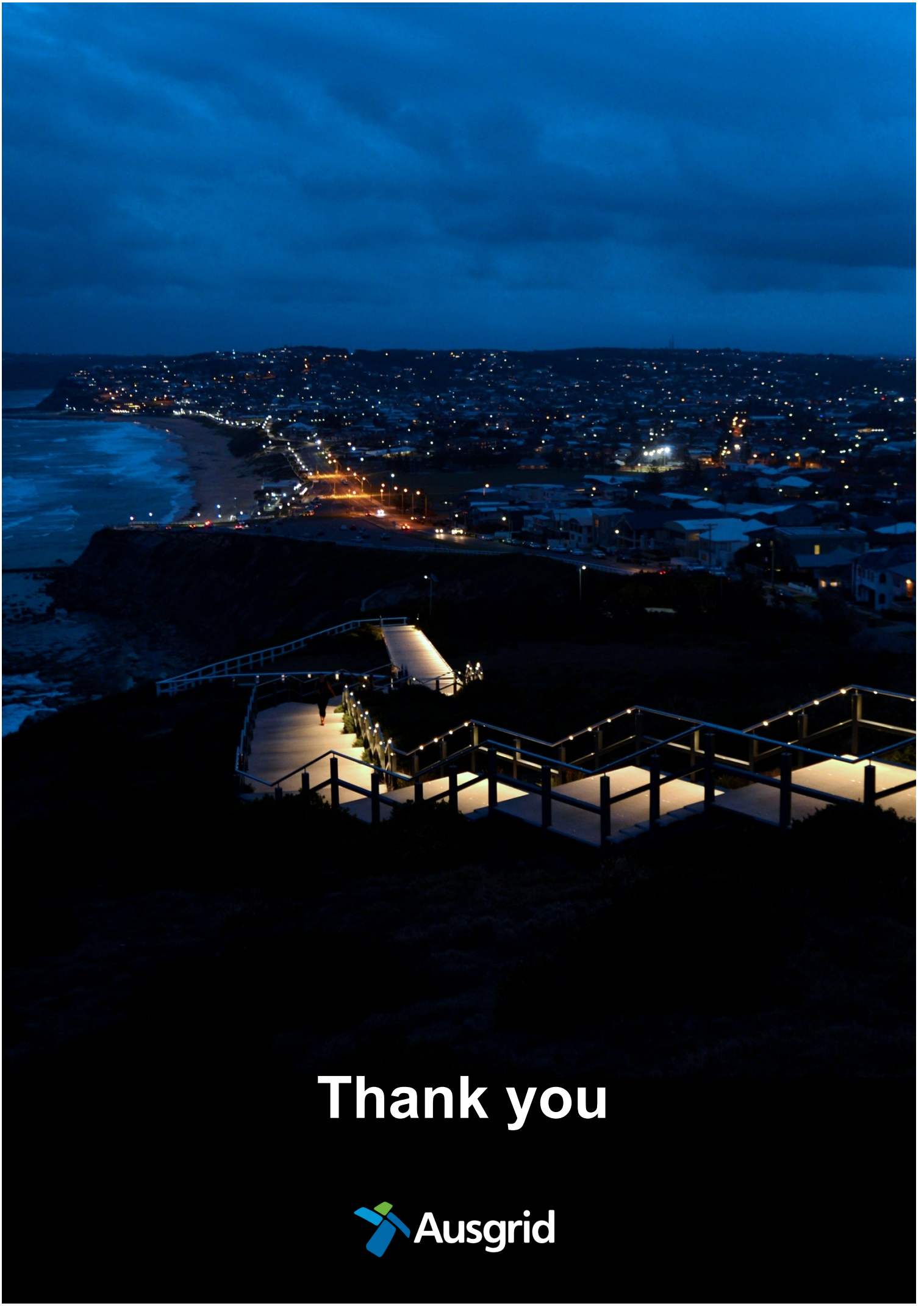
Immaterial OEFs

It is important to note that the AER's approach to assessing proposed opex is largely the same as in the 2015 Determinations, with the same specifications used for its benchmarking models, and is therefore subject to the same limitations. We consider that this supports the position that the AER should continue to provide conservative/greater OEF coverage rather than less. This includes identifying and adjusting for 'immaterial' OEFs as well as material OEFs. As the AER noted in its final decision for our 2015-16 to 2018-19 revenue proposal:

> *"There are various exogenous, individually immaterial factors not accounted for in Economic Insights' SFA model that may affect service providers' costs relative to the comparison firms. While individually these costs may not lead to material differences in opex, collectively they may."*[7]

[7] AER, *Final decision: Ausgrid distribution determination 2015−16 to 2018−19, Attachment 7 – Operating expenditure April 2015,* page 7-174

As evidenced by the 2015 Determinations, the collective effect of immaterial OEF adjustments in the same direction can have a material impact on our opex requirements and the AER needs to provide an adjustment for these factors.



Thank you

Ausgrid