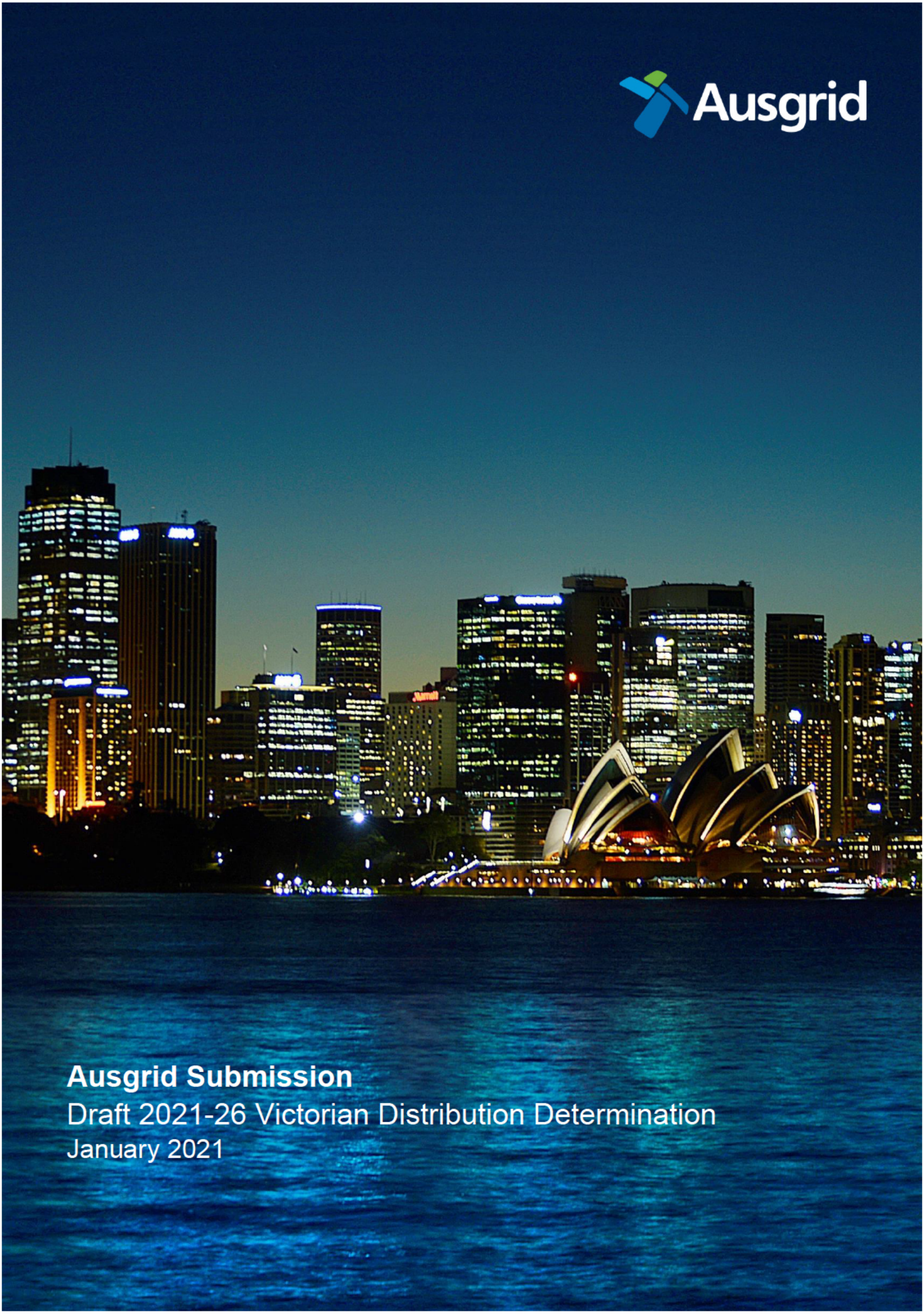

Ausgrid Submission

Draft 2021-26 Victorian Distribution Determination

January 2021

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3 January 2021

Attn: Kami Kaur
Australian Energy Regulator
General Manager A/g
GPO Box 520
Melbourne VIC 3000

Dear Ms Kaur

Ausgrid welcomes the opportunity to provide a submission on the Australian Energy Regulator's (**AER**) Draft Decision for the Victorian electricity distributor's 2021-26 regulatory period.

Our submission is focused on the benchmarking approach the AER applied in setting operating expenditure (opex) allowances. We have several concerns including:

- **Coding error:** benchmarking has limitations, as highlighted by the recent identification of a coding error in the AER's benchmarking modelling. This error is highly concerning, and casts doubt over the reliability of the AER's benchmarking approach for setting allowances.
- **Cost allocation methods (CAMs):** Powercor and CitiPower have new capitalisation policies but are still benchmarked according to their '2013 frozen CAMs'. This skews the AER's benchmarking results for every business, given that the efficiency scores of ***all*** electricity distributors in the national electricity market (**NEM**) are calculated relative to the frontier firm (Powercor).
- **Jemena's opex:** in its Draft Decision the AER applied a 15% efficiency adjustment to Jemena's base year opex. The AER should reconsider if a reduction of this magnitude should be made given materiality of an error recently identified with the AER's benchmarking approach and the further work that is needed to address differences in capitalisation policies.

We have a strong view that the AER should consider a benchmarking 'health check'. The purpose of the health check is to make sure that the current approach is achieving outcomes in the long-term interests of customers. As the AER has been working with the same consultant, Economic Insights, for a significant period, it may be prudent for this health check to be undertaken by a third party.

Our submission is set out in Appendix A. We have also included more detailed economic and engineering analysis on the updated output weightings for the productivity index models in Appendix B. If you would like to discuss our submission in more detail please contact Shannon Moffitt, Regulatory Strategy Manager, on [redacted]280 or [redacted].

Yours sincerely

[redacted]

Alex McPherson
Head of Regulation

Appendix A: Submission

1. Identification of errors undermines confidence in benchmarking

In its 2020 Benchmarking Report the AER noted a 'coding error' has been identified in its benchmarking modelling. While the error has now been corrected, its identification continues to cast doubt over the reliability of the AER's benchmarking framework. This needs to be factored into the AER's decision making for its final 2021-26 Victorian electricity determinations.

1.1 Output weightings cannot be reconciled

The AER's correction of the coding error leads to a reweighting of the functional outputs which are used to measure efficiency in the productivity index models. These new output weightings are shown in the table below. Of particular concern is that the weightings for the productivity index models are now materially different to the outputs used in the econometric models.

Table 1: Output weightings for productivity index and econometric models

	Index models (2020 corrected weightings)	Econometric models (Ave 2006-19)	Difference
Customer numbers	18.52%	55.95%	- 37.43%
Circuit length	39.14%	15.48%	+ 23.66%
Ratcheted maximum demand	33.76%	28.58%	+ 5.18%
Energy throughput	8.58%	n/a	n/a

The large differences in output weightings cannot be reconciled. Given the magnitude of the variations, both the productivity index and econometric models cannot be justified on economic or engineering grounds at the same time. Customer numbers, for example, cannot simultaneously drive 18.52% of operating costs (productivity index model) and 53.35% of costs (econometric models).

The difficulty in reconciling the updated output weightings is present in the AER's 2020 Benchmarking Report. The report states that:

- 'the reallocation of weight away from energy throughput and customer numbers towards circuit length and ratcheted maximum demand better reflects the main function of the distribution network',[1] while also concluding that
- 'opex can be expected to be associated **primarily** with customer numbers (emphasis added)'.[2]

These two statements, like the updated output weightings themselves, are inherently inconsistent. More work needs to be done to interrogate the updated output weightings. Until the current discrepancies are resolved, doubts will remain over the reliability of the AER's benchmarking framework. This needs to be factored into the AER's Final Decision, particularly if benchmarking results are going to be used to make sizeable reductions to opex proposals.

1 AER, 2020 Benchmarking Report, November 2020, p. 4.
2 AER, 2020 Benchmarking Report, November 2020, p. 4.

1.2 Error means Jemena draft decision should be reconsidered

In its Draft Decision, the AER used its benchmarking models to apply a 15% efficiency adjustment to Jemena's base year opex. This is a significant reduction in the funding available to safely, reliably and securely operate Jemena's network which serves more than 360,000 customers. The AER should reconsider if a reduction of this magnitude, based on benchmarking results recently found to be in error, is in the long-term interests of customers.

Before reaching its Final Decision, the AER should consider undertaking a benchmarking 'health check'. This could be achieved by engaging a third-party benchmarking expert to conduct a one-off review of the framework. Given the seriousness of the error that has been identified, a health check would reflect good regulatory practice. If one cannot be completed before the Final Decision, then significant weight should be placed on the Cambridge Economic Policy Associates (CEPA) report that Jemena provided with its Revised Proposal. We have reviewed CEPA's analysis and agree with the finding that the capitalisation policies of electricity distributors have a material impact on the efficiency scores (see section 2 below). The AER should put significant weight on the observation that Jemena's efficiency score would increase 15-17% using their current rather than historical CAM.[3] This indicates that the opex reductions made in the Draft Decision may be due to Jemena's accounting decisions rather than material inefficiencies in its base year.

2. CAPITALISATION / COST ALLOCATION

The AER's current benchmarking approach does not do enough to adjust for differences in capitalisation policies. Significant issues exist which require the AER's attention. We are pleased to see that the AER intends to consult further on this matter over the next 12 months. However, until this consultation is finalised, the AER should reconsider using its current benchmarking approach to make sizeable adjustments to opex proposals.

2.1 Frozen 2013 CAMs skew results for all firms in the NEM

Since the introduction of benchmarking, Powercor and CitiPower have revised their CAMs. The AER has in response 'frozen' their CAMs based on the policies these businesses had in place in 2013. The 2013 frozen CAMs are concerning because they:

- artificially lift the efficiency scores of Powercor and CitiPower; and
- have NEM-wide effects on ***every*** electricity distributors given that ***all*** efficiency scores are calculated relative to the frontier business i.e. Powercor.

Out of these, the latter is the most concerning. As observed by the AER, Powercor's opex is significantly lower (19%) under its 2013 frozen CAM compared to its current CAM.[4] The use of Powercor's 2013 frozen CAM therefore materially overstates the frontier firm's level of efficiency, against which all other businesses are measured. This negatively skews the efficiency scores of all electricity distributors in the NEM.

2.1.1 Artificially lifts Powercor and CitiPower's efficiency scores

In its Draft Decision for Powercor the AER states:[5]

> The material difference in SCS opex between the 2013 and 2016 CAM raises potential concerns as our benchmarking and base efficiency assessment (which is

[3] CEPA, *The AER's operating expenditure benchmarking – a review of the impact of capitalisation and model reliability*, 13 November 2020 (Attachment 05-05 of Jemena's Revised Proposal).

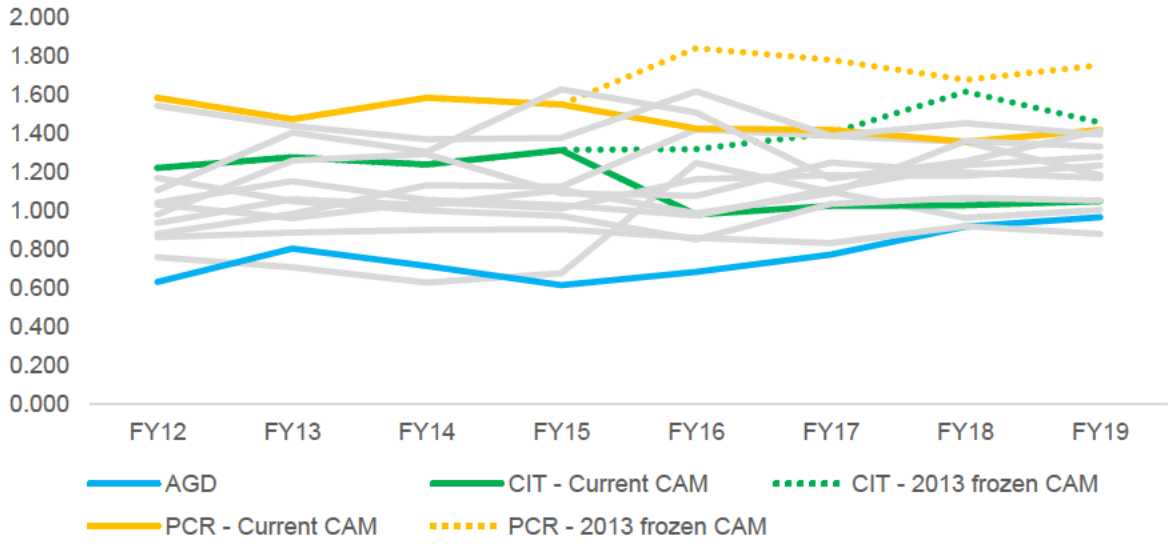
[4] AER, Draft Decision: Powercor distribution determination 2021-26, September 2020, p. 6-25

[5] AER, Draft Decision: Powercor distribution determination 2021-26, September 2020, p. 6-25

based on the 2013 CAM) is capturing on average 19 per cent less than the base and proposed opex. Whilst the relationship between our benchmarking results and distributor's changing CAMs remains an area for further work, we have conducted two preliminary sensitivities for Powercor when assessing base opex.

We share the AER's concerns. The extent to which Powercor and CitiPower benefit from higher efficiency scores is indicated in Figure 2 below. It sets out the opex MPFP efficiency scores for all electricity distributors in the NEM, but with Powercor and CitiPower results highlighted. The dotted orange (Powercor) and dotted green (CitiPower) lines show that these businesses' efficiency scores are much higher under their 2013 frozen CAMs used for benchmarking purposes. This is compared to their actual underlying operating costs allocated according their current CAMs.

Figure 1: Opex MPFP index modelling – All DNSPs (PCR, CIT and AGD highlighted)



From a customer's perspective, the continued use of the frozen 2013 CAMs could be considered misleading. It may be that customers take comfort from the high efficiency scores that CitiPower and Powercor achieve, without knowing that the actual level of opex these businesses spend under their current approved CAMs is much higher i.e. less efficient.

2.1.2 2013 frozen CAMs impact the efficiency scores of all other businesses

To calculate relative efficiency between firms, the AER calculates each electricity distributor's average efficiency performance over a selected window i.e. 2006 to 2019. The AER then divides the average score of each distributor by that of the best performing firm (Powercor).

Both these steps are set out in Table 2 below for the AER's opex MPFP model. Under this method, Powercor has a MPFP benchmark score of 1 by construction, while the scores of all other firms are scaled against Powercor's performance.

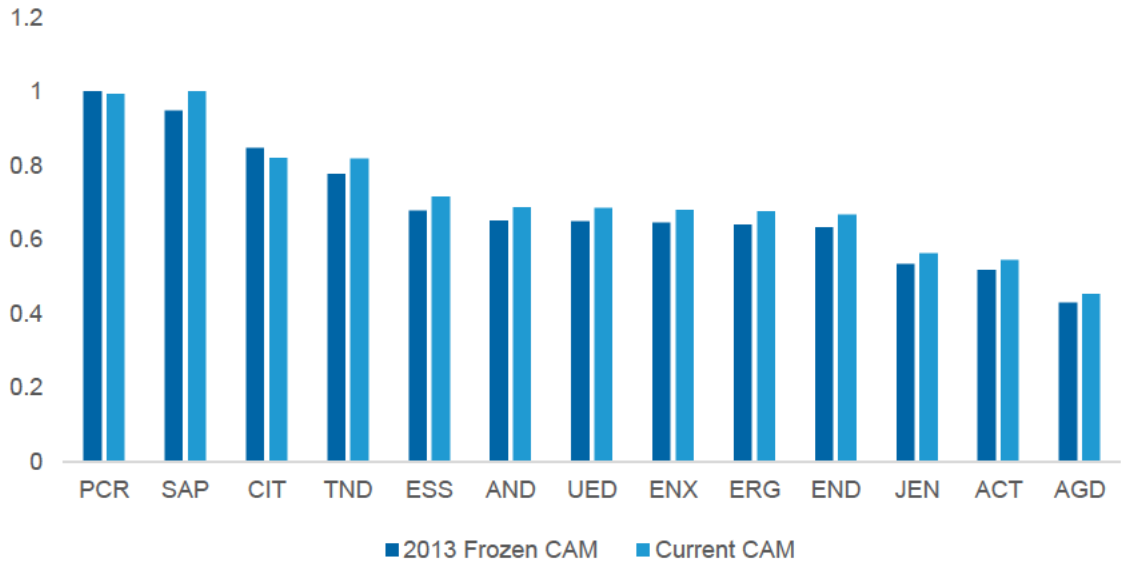
Table 2: Opex MPFP multiyear benchmarking results

	Step 1: Calculate average MPFP score (2006-19)	Step 2: Divide the average score by best performing firm
Powercor (frontier business)	1.743	1.000
SA PowerNetworks	1.652	0.948

Citipower	1.475	0.847
TasNetworks	1.353	0.776
Essential Energy	1.181	0.678
AusNet (Distribution)	1.135	0.651
United Energy	1.131	0.649
Energex	1.123	0.644
Ergon	1.116	0.640
Endeavour Energy	1.101	0.632
Jemena	0.929	0.533
EvoEnergy	0.900	0.517
Ausgrid	0.749	0.430

The scaling of efficiency scores against a frontier business with a frozen CAM has major impact on the AER's benchmarking results. Not only does this provide Powercor with a comparative advantage it **skews the benchmarking results for all other firms**. This is shown in Figure 2 which sets out the opex MPFP scores for all businesses with and without the use of Powercor's 2013 frozen CAM. All firms have higher scores when Powercor's current CAM is used. SA PowerNetworks, not Powercor, would also be the most efficient firm.

Figure 2: Average 2006-09 opex MPFP efficiency scores with/without frozen CAMs

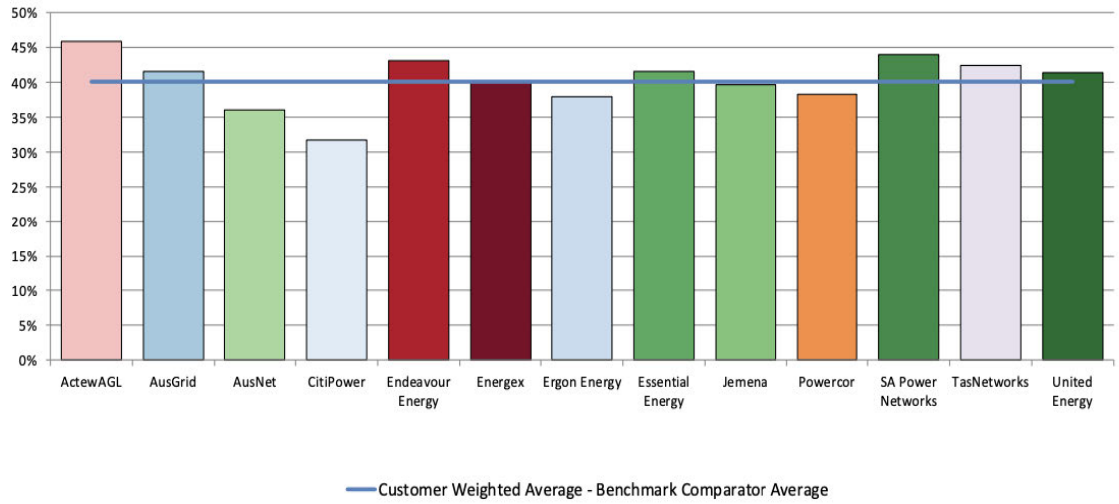


The sensitivity of all firms benchmarking performance to Powercor's 2013 frozen CAM indicates a benchmarking health check is needed. This moreover should take place ahead of the AER making any sizeable adjustment to base year opex, such as the kind flagged in the Draft Decision for Jemena's 2021-26 regulatory period. If there is insufficient time for a health check to take place, then as previously noted the AER should put significant weight on the issues identified by CEPA.[6]

2.1.3 Inappropriate comparison point – average comparator capitalisation rate

To test if differences in capitalisation policies are affecting benchmarking results, the AER's Draft 2021-26 Victorian distribution determinations looked at 'opex/totex' across the NEM. For ease of reference, the AER's analysis is reproduced in Figure 3 below.

Figure 3: AER's analysis of opex to totex ratios, average 2012-18 (frozen 2014 CAMs)



The "customer weighted average – benchmark comparator average" (blue line in Figure 3 above) is based on the opex/totex ratios of multiple electricity distributors (Powercor, SA Power Networks, United Energy, CitiPower). This is not a valid comparison point since a weighted average of multiple firms does not reflect how efficiency scores are calculated in the AER's benchmarking models.

As noted in section 2.1.2 above, the efficiency scores of every electricity distributor are calculated relative to the most efficient business i.e. Powercor. The capitalisation policies of Powercor are thus critical for determining whether there is an issue with differences in CAMs, not the capitalisation rate of multiple firms at or close to the frontier. It follows that the AER must shift its focus away from the opex/totex ratios of multiple firms, in favour of an approach that considers how opex/totex ratios differ to Powercor.

2.1.4 Opex/totex analysis done in a way that is consistent with benchmarking models

We have recalculated the AER's opex/totex analysis using Powercor's capitalisation policies as the appropriate comparison point. In undertaking this analysis, we used the latest dataset published with the AER's 2020 Performance Report. This takes one more year of data into account than in the AER's Draft Decision and excludes capital contributions.[7]

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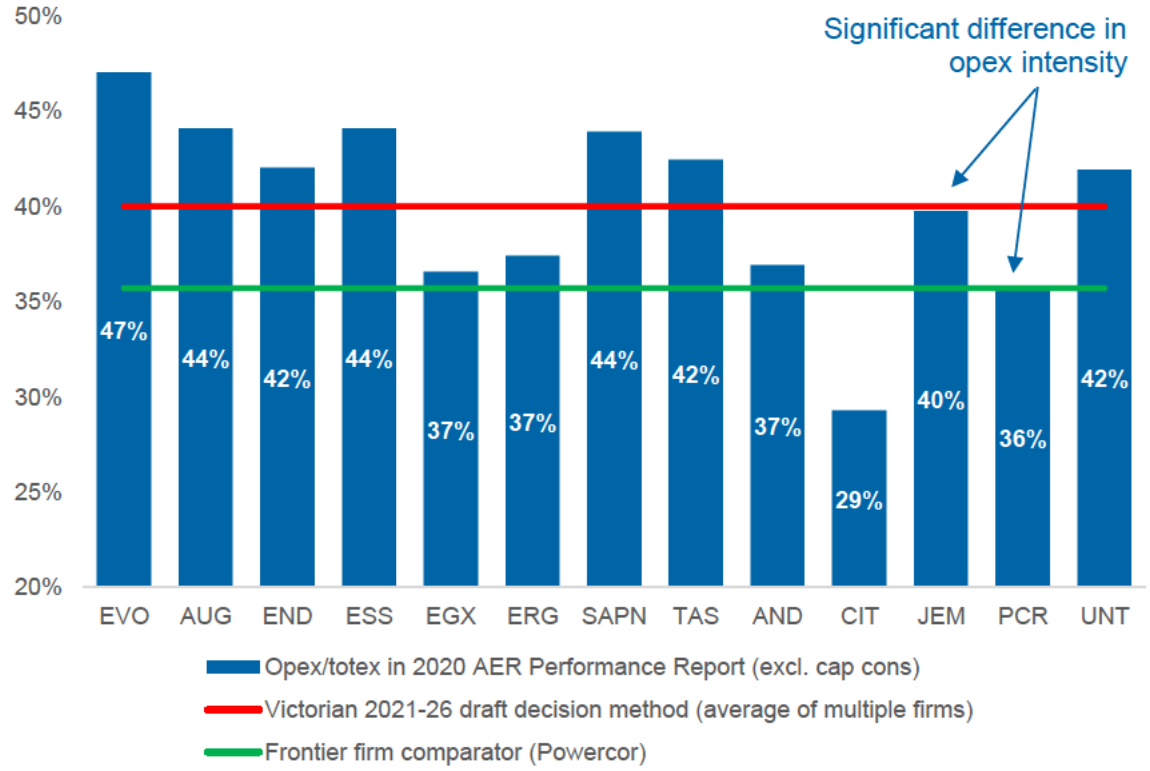
6 CEPA, *The AER's operating expenditure benchmarking – a review of the impact of capitalisation and model reliability*, 13 November 2020 (Attachment 05-05 of Jemena's Revised Proposal).

7 The 2020 Performance Report excludes capital contributions when measuring capex. This is important since capital contributions vary significantly between jurisdictions, particularly in NSW where there are

Our findings are set out in Figure 4 below. It shows that using Powercor (green line) as the comparison point has a material impact on the opex/totex analysis. This is compared to using the "customer weighted average – benchmark comparator" method used in the Draft 2021-26 Victorian determinations (red line). Of particular note is that Powercor's opex/totex ratio from 2012 to 2019 is 36% which is the second lowest among all firms.

Figure 4: Recalculated opex to totex ratios, average 2012-19 (frozen 2013 CAMs)



The difference between the "red" and "green" lines in Figure 4 above is significant. Having regard to just the red line the AER concluded in its Draft Decision that that 'Jemena's opex/totex ratio is not materially different from the benchmarking comparator-average ratio'[8] and that this 'suggest, in terms of annual expenditure, it does not favour opex over capex more'.[9] We strongly recommend that the AER undertakes this analysis again in its Final Decision, but instead has regard to how Jemena's opex/totex ratio differs to Powercor (green line in Figure 4 above).

contestable arrangements for new connections in place. The 2020 Benchmarking Report should adopt the same approach.

8 AER, Draft Decision: Jemena distribution determination 2021-26, September 2020, p. 6-92

9 AER, Draft Decision: Jemena distribution determination 2021-26, September 2020, p. 6-92

Appendix B: Economic and engineering analysis

To correct a coding error, the output weightings in the AER's productivity index models have been adjusted. These weightings were only recently updated in 2018, leading to significant variability in these outputs over a short period, as shown in the table below. In this Appendix B, we challenge the updated weightings from an economic and engineering perspective.

Table B1: Changes in productivity index model output weightings since 2018

	Pre-2018 weighting	Post-2018 weightings (before error corrected)	2020 corrected weightings
Customer numbers	45.80%	30.29%	18.52%
Circuit length	23.80%	28.99%	39.14%
Ratcheted maximum demand	17.60%	28.26%	33.76%
Energy throughput	12.80%	12.46%	8.58%

1.1 Higher weighting on Ratcheted Maximum Demand incentivises poles and wires solutions over demand management and other non-network solutions

The weighting placed on ratcheted maximum demand for the productivity index models has nearly doubled since 2018 from 17.60% to 33.76%. We do not consider this to be justified on economic or engineering grounds.

Electricity distributors should be encouraged to identify opportunities for non-network, as opposed to 'poles and wire', options to meeting the needs of our customers. The increase in weighting on ratcheted maximum demand runs counter to this by determining lower efficiency scores for electricity distributors that devote more effort towards demand reduction activities. This is because more opex spent on reducing demand will increase expenditure 'inputs' in the productivity index models, without delivering a corresponding improvement in the 'output' (i.e. ratcheted maximum demand) that is measured. In effect, networks may now appear less productive if they engage in demand reduction activities. This is particularly the case for our low voltage (LV) distribution system, where configuration of our network means that the probability of failure is closely correlated with peak demand.

The weighting placed on ratcheted maximum demand should form part of the AER's flagged review into how its benchmarking models account for distributed energy resources (DER).[10] There is a need to update the output specifications in the AER's benchmarking models, so they reflect the costs that drive electricity distribution networks today and in a post-2025 NEM. We consider this may look like a set of output specifications which put less weight on ratcheted maximum demand, while adding an output that relates to managing DER. To get to this point, we acknowledge that regulatory reporting may need to be adjusted to collect additional information on DER and the related costs.

It should also be noted that, unlike most other electricity distributors, Ausgrid has both Summer and Winter peaks. This adds to our cost base as the window for planned is narrowed i.e. it is often halted at additional costs during peak periods.

10 Economic Insights, Benchmarking Report, 2013, p. 8.

1.2 Lower weighting on customer numbers does not reflect high fixed costs

The output weighting on customer numbers has fallen from 45.80% to 18.52% since 2018. This is a significant change which cannot be supported on economic grounds.

The AER's consultant, Economic Insights, has commented on the costs that customer numbers are intended to capture in its productivity index modelling. It has stated: 'The customer numbers output is included to capture the fixed costs associated with having a customer connected'.[11] In 2013, Economic Insights also noted that the fixed costs captured by customer numbers includes 'customer connections, customer calls and, more importantly, connection related capacity (e.g. having more residential customers may require more local distribution transformers and low voltage mains)'.[12]

We agree that customer numbers provide a good proxy for the highly fixed nature of electricity distributors' costs. The reduction in this functional output therefore requires further explanation. From an economic perspective, considering the high fixed costs of networks, we would expect an output weighting more akin to 53.35% i.e. the value customer numbers have under the econometric models (see section 2.2.3 below).

1.3 Reduction in weighting on energy throughput should be reconsidered

The output weighting for energy throughput has reduced from 12.80% to 8.58%. The appropriateness of this new weighting should be interrogated from a customer and efficiency perspective.

From a customer's point of view, the main role of an electricity distributor is to deliver energy to their home or business safely, reliably and without putting network security at risk. This is also reflected in the National Electricity Rules (NER) which describes distribution use of system service as 'a service provided to a Distribution Network User for use of the distribution network for the **conveyance** of electricity (emphasis added)'.[13] We therefore question whether an output weighting of 8.58% reflects the main function our customers see networks performing.

In terms of efficiency, electricity distributors should be encouraged to identify ways in which to improve the two-way utilisation of networks. The reduction in the weighting placed on energy throughput runs counter to this objective and therefore may lead to outcomes that are not in the long term interests of customers. Nor do the current functional outputs take into account the generation of electricity by photovoltaic (PV) solar systems, which is enabled by networks. This should be addressed by having a specific measure for DER enablement or an expansion of the energy throughput metric.

1.4 Leontief regression results are not statistically significant

The identification of the coding error has led to an update to the Leontief regression results used to allocate cost share 'weightings' to each functional output in the productivity index models.

For ease of reference, we have reproduced the updated regression results in the table below. It shows that there are few significant coefficients. For example, only two electricity distributors have significant coefficients for customers numbers.

Table B2: Leontief regression results for real opex

	Energy	Ratcheted maximum demand	Customer numbers	Circuit length
EVO		2.125*		2.728*

11 Economic Insights, *Benchmarking Report*, 2020, p. 4.
12 Economic Insights, *Benchmarking Report*, 2013, p. 8.
13 NER, Chapter 10.

AGD		7.928		
CIT	2.193			
END	3.013			-0.719*
ENX		6.921*		
ERG		2.786*		1.225*
ESS			0.577	
JEN			0.383	
PCR		2.220*		-1.153*
SAP		-6.193		
AND		7.378		
TND	3.398			
UED	3.080	1.564*		

Note *: the numbers in red have a "t-score" that statistically may not be considered reliable

We note that Economic Insights emphasised the 'improved… statistical performance of the [Leontief] regressions'[14] based on 28 of the 52 regressions now have one significant output coefficient, 17 have two significant output coefficients and 2 have three significant output coefficients'.[15] We believe it is important for the AER set out its own views as to whether the updated Leontief regression results are statistically significant.

There is also a risk that the regression analysis could mistake correlation with causation. To mitigate against this, the AER may wish to scrutinise the statistical results on economic and engineering grounds, potentially as part of a broader benchmarking health check. An analysis of certain calculations, such as inconsistent results for ratcheted maximum demand for Ausgrid (7.928) and SA PowerNetworks (-6.193), could form part of this review.

14 Economic Insights, Benchmarking Report, 2020, p. 123.
15 Economic Insights, Benchmarking Report, 2020, p. 123.


Thank you
Ausgrid