AusNet Transmission Group Pty Ltd

Transmission Revenue Review 2017-2022

Appendix 5F: AusNet Services opex productivity growth (2006-14) (Huegin)

Submitted: 30 October 2015

AusNet Services opex productivity growth (2006-14)

Client: AusNet Services

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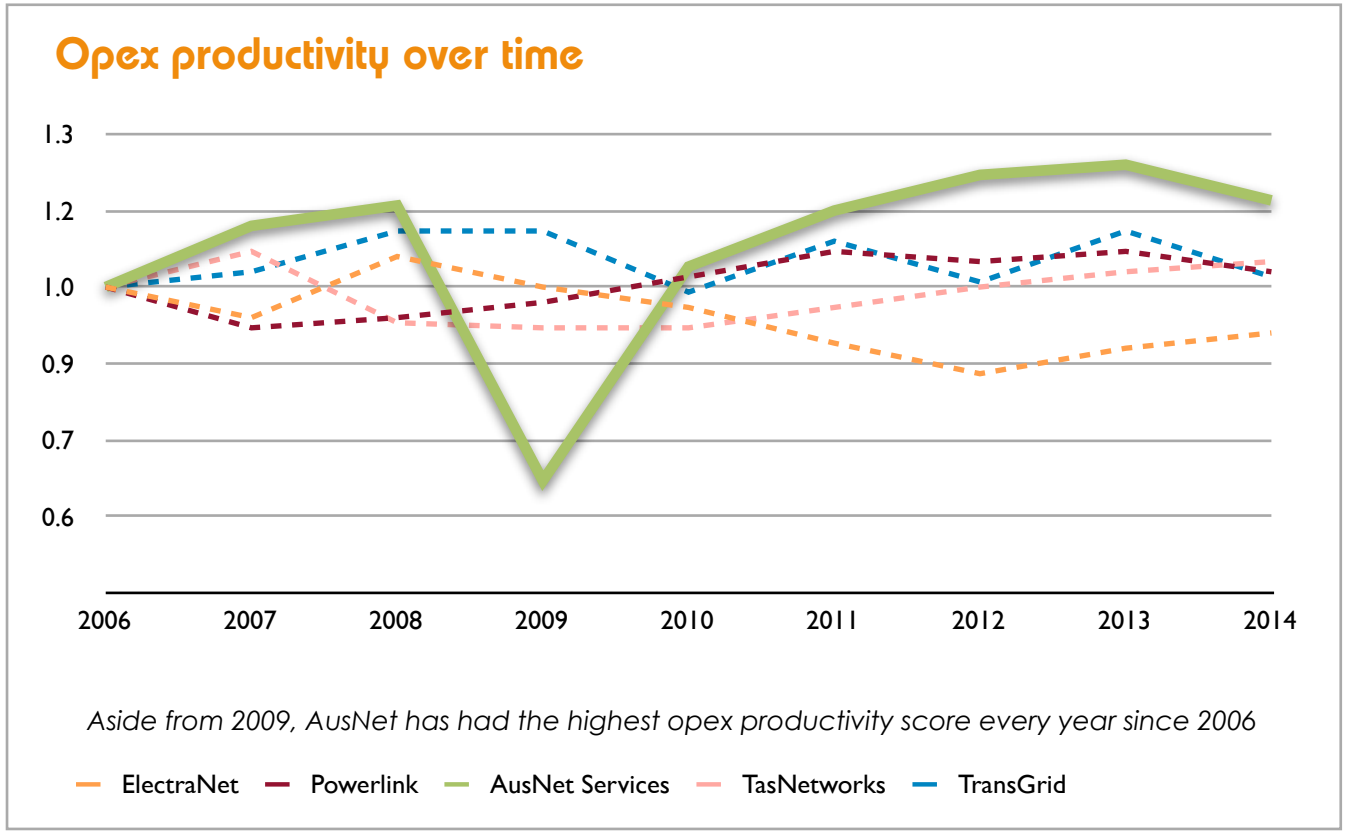
AusNet Services historic opex productivity growth has been the highest in the NEM

AusNet Services had the highest opex productivity growth rate in the National Electricity Market between 2006 and 2014*. This increase in opex productivity was the result of increasing outputs over the period combined with a low opex growth rate. The significant productivity fall in 2009 was the result of a 572% increase in energy not supplied which is used as a negative output in the AER's analysis. The other outputs used to produce an aggregate index of outputs are;

Energy throughput (GWh), Entry/exit connections (weighted by voltage), Ratcheted peak demand (MW), Energy not supplied (GWh), Circuit length (km)



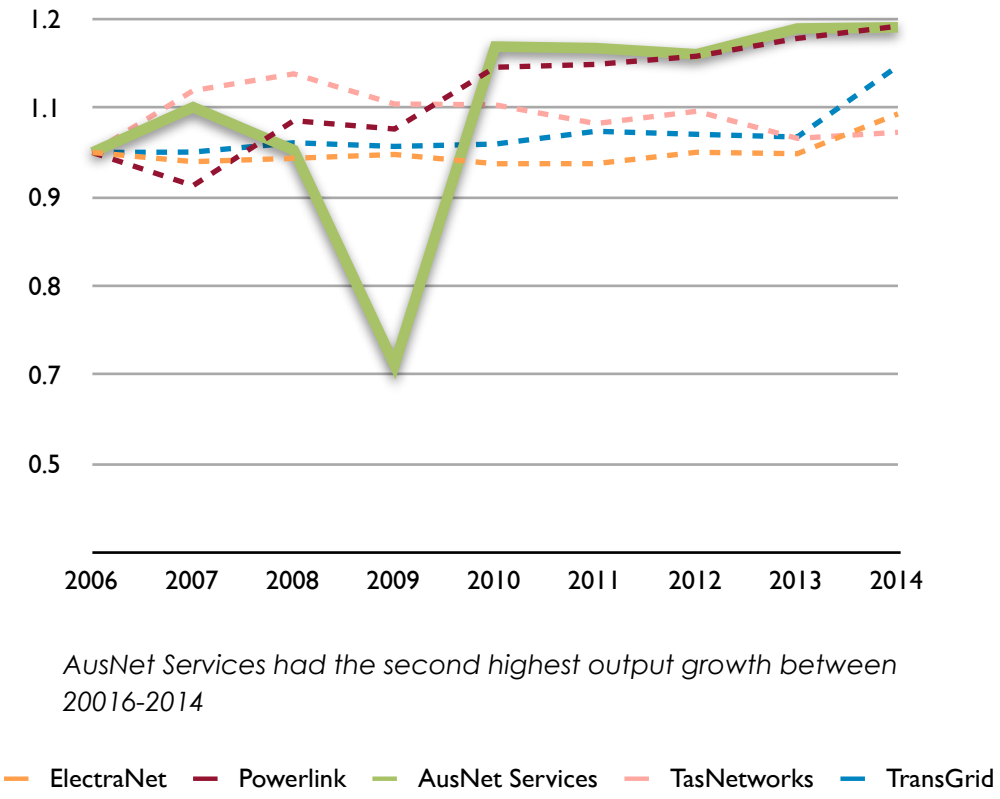
* 2014 Economic Benchmarking RIN data has been used to estimate opex productivity for all NEM TNSPs. Data for all outputs were available in these RINS except energy not supplied, 2013 energy not supplied values have therefore been used for PowerLink, ElectraNet, TasNetworks and TransGrid in this analysis

This productivity increase was the result of increasing outputs…

AusNet Services output index grew at an annual rate of 2.15% between 2006 and 2014. This growth rate was driven primarily by increases in the number of entry and exit connections (weighted by voltage levels) and increases in ratcheted peak demand.

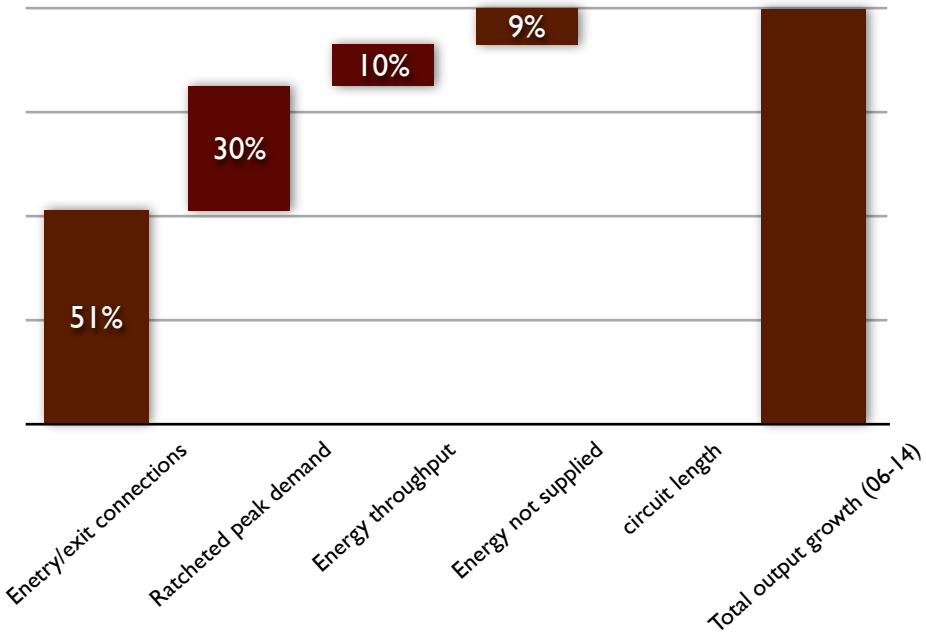
Together, these two outputs accounted for around 80% of AusNet Services historic output growth. The other 20% has come from increases in energy throughput and reductions in energy not supplied. Circuit length was unchanged since 2006 and therefore made no contribution to the output growth rate.

Output growth rate over time



AusNet Services had the second highest output growth between 20016-2014

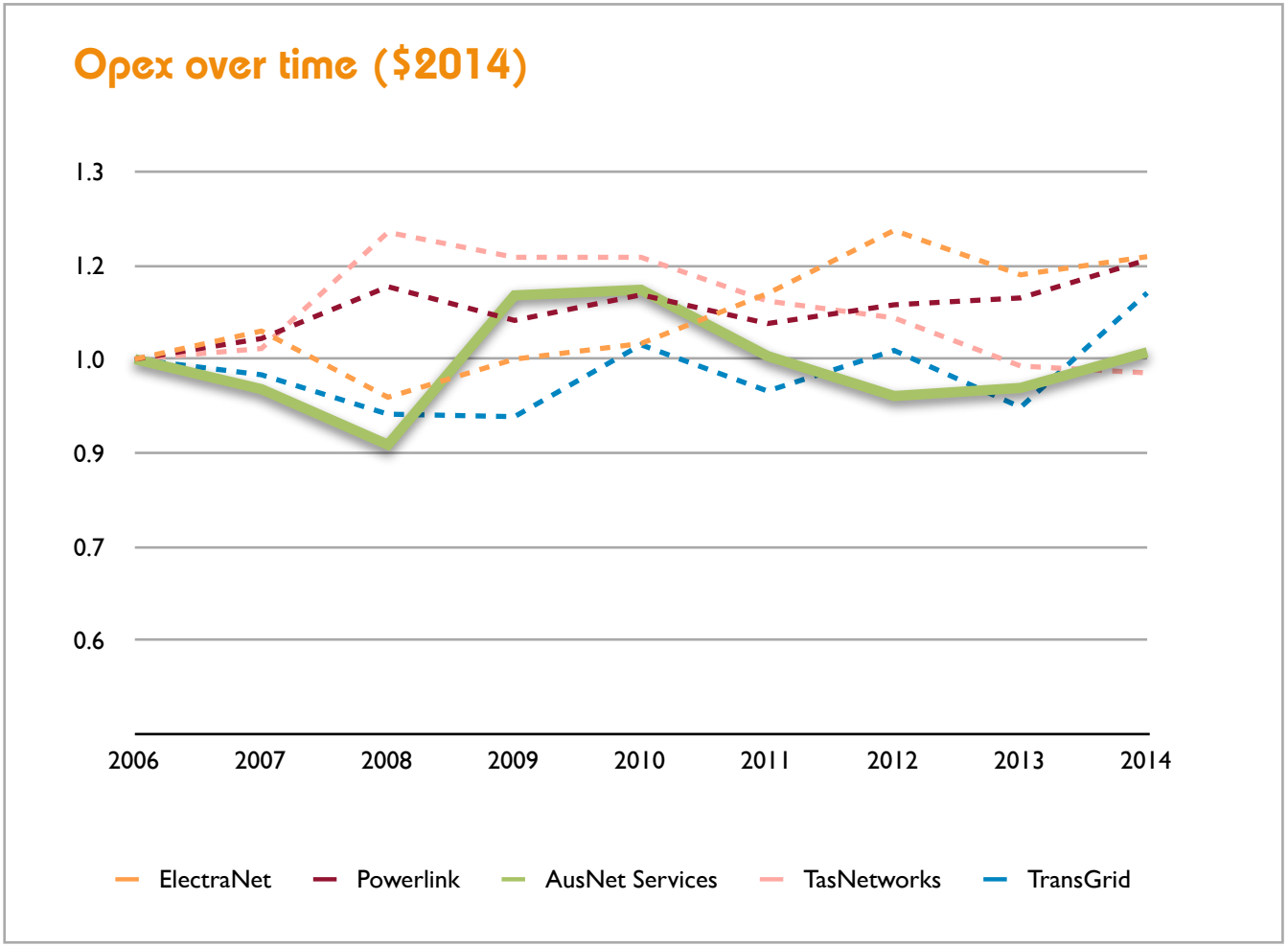
Contribution to growth in the output index



Output growth over the period is mainly die to the increase in entry/exit connections and ratcheted peak demand

...and low opex growth

AusNet Services had the second lowest growth rate in opex throughout the period (2006-2014). Combined with a high output growth rate (relative to other NEM participants) this means that AusNet Services opex productivity improved over the period, an improvement that was unmatched by any other NEM participant.



AusNet's outputs are forecast to increase at a lower rate than the past

Output	Historic growth (2006-14)	Forecast growth (2014-2020)
Energy throughput	6%	6%
Ratcheted peak demand	24%	6%
Entry and exit connections	30%	0%
Circuit length	0%	0%
Total (weighted output growth)	**15%**	**3%**

This means past increases in opex productivity are unlikely to be replicated

AusNet Services historic increases in productivity were the result of increasing outputs and a relatively low opex growth rate. Given the forecast growth rate of outputs is significantly lower than in the 2006-13 period, it would be unreasonable to expect Ausnet Services to maintain historic opex productivity growth levels into the future. A more likely opex partial productivity growth rate would be the 0.28% growth rate the industry achieved throughout the 2006-2014 period.

We note that this growth rate (0.28%) is below the opex partial factor productivity growth rate used by the AER for TransGrid's Revenue Determination (0.86%) in 2014. This reduction is the result of industry output growth in 2014 being relatively flat whilst industry opex has increased (industry opex increased from $391.7M in 2013 to $425.6M in 2014). In order to provide the best indication of current opex productivity performance we believe it is necessary to include the most recent data available - this would also be in keeping with the AER's approach outlined in the recent Ergon Energy Revenue Determination;

"We have indicated in previous decisions and in defending those decisions our preference to use up to date information where possible. The Tribunal has endorsed this approach and indicated a similar preference".

Attachment 7 – Operating expenditure | Ergon Energy preliminary determination 2015–20, p7-85, Footnote 199

The AER has used the Fisher Index to measure opex productivity

The Fisher Ideal index is the technique used by the AER's consultant, Economic Insights, to measure the opex productivity of transmission service providers in the NEM. This method uses aggregates a number of different outputs into a single aggregate output index using different weightings. For this analysis, the output weightings used in the *Economic Benchmarking Assessment of operating Expenditure for NSW and Tasmanian Electricity TNSPs* was used, these are;

Energy throughput 0.214

Ratcheted maximum demand 0.221

Entry and exit connection numbers 0.278

Circuit length 0.287

Energy not supplied (a negative output weighted by the value of customer reliability)

The Fisher output index is then constructed using these weights whilst the input index is weighted using the price of opex. The fisher index is then obtained by dividing the output index by the input index[1].

Whilst the data set used for the Tasmanian and New South Wales Determination used a period between 2006 and 2013, Huegin believes this dataset should be augmented with 2014 data to improve the veracity of the results obtained - the rationale for doing so being that for the most accurate prediction of current productivity levels the most recent available data should be used.

With this in mind, the results presented in this analysis have used data from 2006 to 2014 - all data has been collected from the TNSPs respective Economic Benchmarking RINs with the exception of the energy not supplied value. This data is not available in the RINs and we have used the assumption for each of the TNSPs (with the exception of AusNet Services who provided an estimate) that energy not supplied in 2014 is the same as in 2013.

[1] Economic Insights *Economic benchmarking of NSW and Tasmanian TNSP Opex, 10 November 2014,* pg. 22 provides a detailed formula for calculating the Fisher Ideal Index