Forecasting productivity growth

Response to the AER's draft decision paper
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evoenergy

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1. Introduction

Evoenergy welcomes the opportunity to respond to the Australian Energy Regulator's (AER's) draft decision paper on forecasting productivity growth for electricity distributors (draft decision paper).

Evoenergy notes that the AER's tight timeframe for the productivity review, commencing in November 2018 with completion scheduled for February/March 2019, has resulted in a deviation from the standard process adopted by the AER for similar reviews. The immediate movement to a draft decision paper, rather than the standard process of first issuing a consultation or issues paper, has limited the opportunity for meaningful consultation. A longer review timeframe would have allowed consultation on important preliminary matters such as the range of available evidence, suitability of potential data sources, estimation techniques, the relevance of comparisons with other sectors and jurisdictions, the AER's decision-making process and implications for the incentive-based regulatory framework.

Evoenergy is particularly concerned that the publication of the draft decision paper on 9 November 2018 provided insufficient time for Evoenergy to properly consider the AER's proposed approach in preparing its revised regulatory proposal for 2019-24 submitted on 29 November 2018. Despite adopting a zero productivity growth forecast in its draft distribution determination for Evoenergy for 2019-24 in September 2018, the AER intends to apply its final decision on forecast productivity growth to Evoenergy's final distribution determination for 2019-24 in April 2019. While the AER intends to run a separate process in March/April 2019 for submissions on the implementation of its final decision in the open resets, Evoenergy remains concerned that the expedited process adopted for this review has compromised the quality of consultation in the present review and the resulting draft decision. The temporal constraints operating in the reset will limit the opportunity for meaningful input by Evoenergy on the application of the final decision in its distribution determination for 2019-24.

The remainder of this submission provides comments on the AER's proposed methodology for estimating forecast productivity growth and identifies some practical implementation concerns specific to Evoenergy. Evoenergy, together with Ausgrid and Jemena, engaged Cambridge Economic Policy Associates (CEPA) to support its response to the draft decision paper. The CEPA report, which Evoenergy draws on in this submission, is attached and should be read together with this submission.

2. AER's proposed methodology

Evoenergy agrees in principle with the AER that the productivity growth forecast for use in the trend component of the operating expenditure (opex) forecast should capture the

productivity improvements an efficient and prudent electricity distributor can make in providing distribution services.[1]

Evoenergy also agrees with the AER that:

- consistency between the input and output measures (and modelling) and productivity growth forecast is important;[2] and
- the productivity growth forecast should reflect the best estimate available of the shift in the productivity frontier and should exclude any catch-up to the frontier.[3]

However, Evoenergy disagrees with the AER's approach to forecasting productivity growth in practice, which adopts a very short time period, does not accurately separate shifts in the frontier and catch-up to the frontier, and is inconsistent with its econometric estimates.

The AER's proposed 1 per cent per annum productivity estimate is extremely sensitive to the assumptions and data sources adopted. Varying any of these has a significant impact on the resulting range of reasonable forecasts. Given the material impact that the AER's draft decision would have on the opex allowance, Evoenergy encourages the AER to take a cautious approach to determining the range and point estimate of productivity growth to avoid setting unrealistic targets and distorting incentives for achieving efficiency gains under the current regulatory framework. Such an outcome would be inconsistent with the National Electricity Objective and the opex criteria in the National Electricity Rules (Rules).

The AER considers five options for forecasting productivity growth:

1. Status quo (0 per cent)
2. Productivity from the increased proportion of undergrounding (0.5 per cent)
3. Productivity from approach 2 plus the time trend estimated in gas distribution econometric studies (1 per cent)
4. Average opex MPFP growth, adjusted to remove catch up (1.6 per cent)
5. Labour productivity growth forecasts (0.9 per cent)

The AER discounts option 1 on the basis that it does not account for the opex productivity growth from the change in the proportion of undergrounding.[4] The AER uses the remaining four options to arrive at a "holistic" estimate of forecast productivity growth of 1 per cent.

While Evoenergy is not opposed to adopting a holistic approach to determine a reasonable range for forecast productivity growth, it has a number of concerns with the AER's estimates and weighting of the five options considered, which are discussed in turn below.

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[1] AER 2018, Draft decision paper, Forecasting productivity growth for electricity distributors, November, p.5
[2] Ibid, p.8
[3] Ibid, p.9
[4] Ibid. p.6

2.1 Status quo

In forecasting the opex allowance for distributors, the AER adopts the drivers and weights determined by its econometric models. To date, the AER has adopted a zero growth rate for productivity, even though the time trend in its econometric modelling is negative. The AER has taken this position on the basis that it has not been satisfied that the negative productivity growth reflected business as usual circumstances.[5] Consequently, in forecasting productivity growth in past determinations, the AER stated that it did not consider the negative productivity growth would continue and it expected distributors to make positive productivity growth in the medium to long term.[6] Now, in its draft decision paper, the AER is proposing to give no consideration to the productivity growth rate estimated by its econometric model and instead rely solely on external estimates of productivity growth.

The AER states that it does not consider the status quo a reasonable option because it does not account for the opex productivity growth from the change in the proportion of undergrounding.[7] As discussed in the next section, undergrounding cannot be used to set a productivity growth target and hence the AER's reasoning for excluding the status quo approach is invalid.

Importantly, the status quo approach is the only approach that is internally consistent, as recognised in the AER's expenditure forecast assessment guideline. In explaining why the econometric technique for forecasting the opex rate of change is preferable to the use of macro-economic and sector-level data, the AER stated:

> *The econometric cost modelling offers a more coherent approach to forecasting opex escalation as it explicitly models input price changes, output growth and efficiency and productivity gains as cost drivers. By jointly accounting for the change in these factors, it mitigates the risk of double counting or inappropriately accommodating the drivers of the rate of change in opex. Further, the econometric approach can provide more firm-specific forecasts (hence accounts for the individual circumstances of NSPs) whereas the macro modelling approach assumes sector-level labour price changes and/or labour productivity change can be applied directly to a NSP.*[8]

Further, the status quo may capture output and quality changes not specified in the AER's modelling and hence omitting it from consideration may lead to unachievable productivity targets. The negative time trend in the econometric modelling does not necessarily imply that networks are not achieving productivity gains. It simply means that, based on the unadjusted opex, outputs and quality adjustment the AER uses in its modelling, opex

[5] Ibid, p.5
[6] Ibid, p.5
[7] Ibid, p.6
[8] AER 2013, Better regulation, Explanatory statement: Expenditure forecast assessment guideline, November p.130

increased for distributors over time. Within this measure, distributors could have faced increased costs from, for example, new regulatory obligations or the changing nature of services and operations. As noted by NERA Economic Consulting (NERA), a negative result could mean that distributors are producing outputs not captured in the productivity measure, in which case the output scaling may under-forecast opex requirements.[9] NERA suggests that the AER's current status quo approach can be interpreted as recognition that assumed output drivers may undercompensate distributors.[10]

In Evoenergy's view, it is inappropriate to dismiss the status quo approach without any analysis of whether the resulting inconsistency could lead to unachievable productivity targets or how it may affect incentives to reduce opex under the current regulatory framework. Evoenergy encourages the AER to reconsider the inclusion of the status quo to determine the reasonable range of productivity growth.

2.2 Increased proportion of undergrounding

Undergrounding cannot be used to set a target productivity growth rate. The proportion of a network that is underground and the undergrounding growth rate are a function of historic network design and network growth, both of which differ by distributor. For example, Evoenergy has one of the lowest undergrounding growth rates among Australian distributors, however, this does not imply that its opex is inefficient. It simply reflects the fact that Evoenergy has the highest proportion of undergrounding among distributors in the National Electricity Market and hence limited scope for further growth in the proportion of undergrounding in its network.

There is no reason to expect that there should be a consistent level of undergrounding across all jurisdictions or that there exists a target "efficient" level of undergrounding. In many cases, maintaining the existing overhead network may be the most efficient course of action having regard to a distributor's exogenous circumstances. Yet the AER's proposed approach would create the perverse outcome of penalising a distributor for acting efficiently if it did not achieve a target level of undergrounding that has no relevance to its own circumstances.

In Evoenergy's view, the forecast growth in the proportion of undergrounding should be accorded no weight in determining the reasonable range of productivity growth.

2.3 Time trend estimated in gas distribution econometric studies

Evoenergy is not opposed to the use of metrics from other sectors to inform the reasonable range of productivity growth for electricity distribution so long as it can be demonstrated that the sectors are comparable and that the analysis has been undertaken over a sufficiently long period to observe productivity growth.

[9] NERA 2018, Economic considerations for forecasting productivity, AER productivity stakeholder workshop, p. 7
[10] Ibid, p.7

The AER's draft decision paper refers to the results of four different econometric studies for gas distribution. Without access to the detail underlying these econometric studies, it is unclear whether the application of the gas results to electricity is appropriate.

Even if the gas estimates can be used to inform the reasonable range of productivity growth rates for electricity, a number of the estimates cited by the AER are not statistically different from zero (see CEPA report, section 2.3). This means that even if the gas results presented by the AER could be used to inform the productivity growth range for electricity distribution, the studies indicate a range of 0 to 0.7 per cent (midpoint of 0.35), rather than the range and average of 0.5 as reported in the AER's draft decision paper.

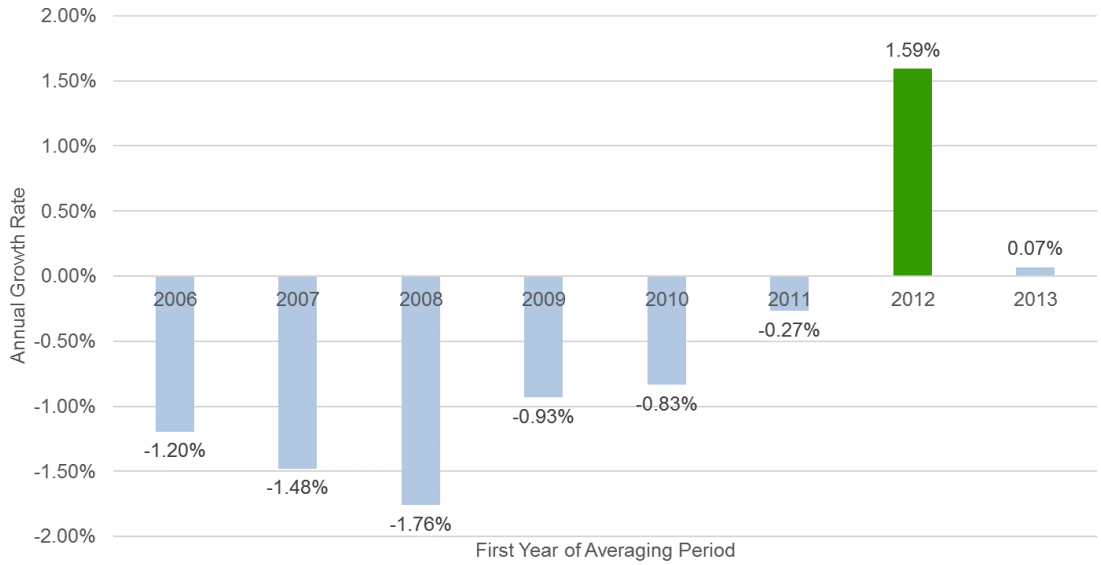
2.4 Opex MPFP growth

Productivity is highly cyclical and can be impacted by once-off, nonreplicable events. As a result, measuring productivity growth over a short period or incomplete cycles can provide misleading results. Common practice among regulators in Australia and international jurisdictions is to have regard to measured productivity over at least one complete cycle in forecasting productivity growth. While it is possible to measure productivity growth over incomplete cycles, this requires measurement over a long period and ensuring the start and end points are not outliers.

The AER's approach is to estimate annual opex MPFP growth over a very short period (2012 to 2016) using an outlier year as the starting year. It is unclear why the AER selected 2012 as the starting year for its estimation of opex MPFP growth given that 2012 is a clear outlier. Opex for 2012 is materially higher than the preceding and following year and it is out of step with the industry trend during the period. Using 2012 as the start year sets the opex productivity index at its lowest point across the whole period leading to the highest possible average annual productivity estimate to 2016.

The sensitivity of the annual opex MPFP growth rates to the starting year was demonstrated by NERA in its presentation at the AER's stakeholder forum held on 30 November 2018. NERA showed that if the AER had used any starting year prior to 2012, the resulting MPFP growth rate would have been negative rather than positive (see Figure 1 below).

Figure 1: MPFP trend for different starting years



Source: NERA 2018, Economic considerations for forecasting productivity, AER productivity stakeholder workshop, p. 10.

Further, to arrive at an opex MPFP growth rate, the AER attempts to separate frontier shifts in productivity from catch-up efficiency gains by excluding from its calculation any distributors with inefficient base year opex. This approach assumes that any change in productivity for the remaining distributors is solely attributable to frontier shift.

However, there is significant volatility in the opex MPFP growth rates used by the AER both over time periods for individual distributors and between distributors over the 2012-16 period. For example, CitiPower is reported to have average annual MPFP growth of -7.1 per cent over the 2006-12 period and then growth of 3.6 per cent over the 2012-16 period. Similarly, TasNetworks' average annual MPFP growth is reported to increase from -4.9 over the 2006-12 period to 7.7 per cent over the 2012-16 period. For the period 2012-16, the AER reports average annual opex MPFP growth of between -5.3 per cent for AusNet to 7.7 per cent for TasNetworks.[11]

In Evoenergy's view, these volatile opex MPFP growth rates suggest it is highly implausible that the MPFP growth over 2012-16 period is solely attributable to frontier shifts. This means that the AER's MPFP estimate is highly likely to include catch-up efficiency gains and is therefore overstating the frontier shift that is achievable by electricity distributors.

For the reasons set out above, it is Evoenergy's view that the MPFP opex results presented in the AER's draft decision paper are not sufficiently robust to inform the reasonable range of forecast productivity growth. Evoenergy encourages the AER to review its methodology to arrive at a more stable and robust estimate of opex MPFP growth.

[11] AER 2018, Draft decision paper, Forecasting productivity growth for electricity distributors, November, p.14

2.5 Labour productivity growth rates

The CEPA report identifies a number of difficulties with relying on forecast labour productivity growth rates for the utilities sector, including volatility of the results and embedding distributors' performance in future reviews. CEPA estimates two alternatives to the AER's estimate. The first is a composite labour productivity estimate for selected sectors undertaking similar opex activities to distributors that results in an opex productivity range of 0.3 per cent to 0.7 per cent. The second is a labour plus intermediate inputs productivity estimate for the same selected sectors, which indicates productivity growth of 0.3 per cent to 0.5 per cent.

The choice of a different data source and methodology results in a significantly lower estimate than the AER's labour productivity growth of 0.9 per cent. Evoenergy encourages the AER to investigate other suitable sources of data and methodologies that could be used to determine a reasonable range of productivity growth.

2.6 Holistic productivity growth rate

Evoenergy agrees with CEPA's conclusion that the reasonable range for productivity growth is 0.0 to 0.7 per cent. For the reasons set out in this submission and the CEPA report, it is Evoenergy's view that the AER should apply caution in selecting the point estimate within this range. In addition, in applying the productivity growth to Evoenergy's final determination for 2019-24, the AER should consider Evoenergy's specific circumstances discussed in the next section.

3. Evoenergy specific considerations

The AER's expenditure forecast assessment guideline states that for the purpose of forecasting efficient cost for the next regulatory period, it will need to carefully consider the productivity improvement potential that can be achieved by each NSP.[12] The AER's draft decision paper also foreshadows that it will consider submissions from distributors on how the AER's final decision should be applied to their specific circumstances.[13]

In considering the application of the frontier productivity growth forecasts, Evoenergy requests that the AER recognise the limited potential for achieving significant productivity improvements in the 2019-24 regulatory control period. Evoenergy has made substantial opex savings over the current regulatory period, reducing its total opex by 22 per cent compared with the previous regulatory period. In response to the AER's 2015 final determination, Evoenergy implemented a broad program of transformation across the business, including an extensive workforce restructure, with structural change occurring across all areas of the organisation. On a per customer basis, Evoenergy reduced its opex from $415 per customer in the 2009-14 regulatory period to $297 per customer in the

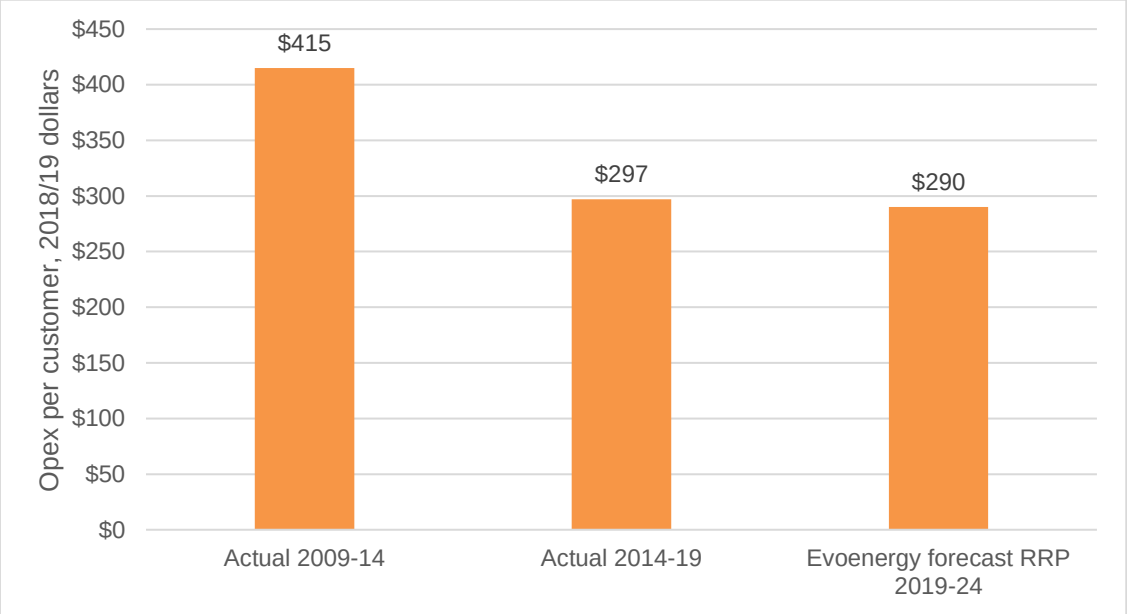
[12] AER 2013, Better regulation, Explanatory statement: Expenditure forecast assessment guideline, November, p.128

[13] AER 2018, Draft decision paper, Forecasting productivity growth for electricity distributors, November, p.7

current regulatory period. In its revised regulatory proposal for the 2019-24 regulatory period, Evoenergy is proposing a further reduction to $290 per customer, despite a significant increase in its vegetation management obligations (see Figure 2 below).

Given the extensive nature of the transformation that has occurred across the business in the current regulatory period, there is limited scope for Evoenergy to achieve further productivity improvements, particularly in the early years of the 2019-24 regulatory period.

Figure 2: Evoenergy opex per customer



Evoenergy also notes that the AER's draft decision for the 2019-24 regulatory period reduced its proposed capital expenditure (capex) allowance by 21 per cent. Under the draft decision, it would be impossible for Evoenergy to fund opex productivity improvements through capex. Further, the AER's draft decision adopts a more aggressive unserved energy risk based augmentation planning criteria. This drives networks to operate at thermal limits, creating higher likelihood of underground cable failure. Evoenergy has already experienced an increase in underground cable faults in stressed parts of the network. As Evoenergy has more than 50 per cent of its network underground, the likely occurrence of cable faults is proportionally higher than overhead-intensive networks. Opex is likely to increase particularly as fault location and repair requires an increased response and repair time compared to responding to overhead network issues.

Evoenergy also expects to incur additional costs over the upcoming regulatory period associated with changes to the Rules and jurisdictional technical regulation and policies, including:

- Rule change: Register of distributed energy resources (DER) (AEMC reference ERC0227): transitional provisions commence on 18 September 2018 and the new register must be in place by 1 December 2019 – requires establishment of a register for DER;

- Rule change: Establishing values of customer reliability (AEMC reference ERC0231): commenced on 10 June 2018 – involves establishing values of customer reliability requiring consultation with internal and external stakeholders;
- Rule change: Replacement expenditure planning arrangements (AEMC reference ERC0209): rule change completed on 18 July 2017 – replacement expenditure planning arrangements involving costs in relation to additional Regulatory Investment Tests;
- Rule change: Five minute settlement (AEMC reference ERC0201): commences on 1 July 2021 – involves five minute settlements with costs relating to the increased volume of manual interventions and data checks;
- Jurisdictional technical regulations: New jurisdictional technical code currently being drafted with additional costs related to new reporting and compliance requirements;
- Jurisdictional policies on DER and technology changes resulting in high growth of DER connections and related opex, large increase in the investigations of power quality complaints, network switching costs and development of new network technical standards;
- Jurisdictional technical regulations: The technical regulator's position is that the number of network sites randomly monitored for power quality should significantly increase. The change is driven by increasing power quality issues relating to DER;
- Jurisdictional technical regulations: A regulatory directive to align Evoenergy's Safety Management System with IPART's requirements in NSW and AS5577; and
- Jurisdictional technical regulations: New requirements to mitigate arc flash hazards during network switching operations resulting in an increase in operating costs.

While the AER considers that costs associated with such non-discretionary obligations can be funded through step changes,[14] in practice, the opportunity to do so is limited. The obligations would also individually fail to meet the materiality threshold for a cost pass through. The AER's draft decision on productivity growth, which would reduce Evoenergy's opex allowance for the 2019-24 regulatory period by $8.5 million (or 3 per cent), would make it even more difficult for Evoenergy to recover these costs. If the AER is to significantly reduce the opex allowance using the productivity growth rate then Evoenergy encourages the AER to increase the opportunity to include step-changes in the opex forecast and reduce the materiality threshold for cost pass throughs to allow distributors to recover efficiently incurred costs.

[14] Ibid, p.10