Energy Networks Australia

MEMORANDUM

Date	11 April 2022
To	**AER Board Members** Mr Warwick Anderson, General Manager, Network Finance and Reporting
From	Mr Andrew Dillon, CEO, Energy Networks Australia

Reaching a cost of equity estimate in the 2022 Rate of Return Instrument applying regulatory discretion

Summary of views following AER Board discussion

Background

The Australian Energy Regulator (AER) Board indicated its ongoing interest in views on a range of practical cost of equity estimation issues as part of its current Rate of Return Instrument (RoRI) review in discussions with Energy Networks Australia (ENA) and the Australian Pipeline and Gas Association (APGA) on 30 March 2022.

Based on the presentation given, five specific topics were further explored, including:

» How different evidence might be weighted to reach a Market Risk Premium (MRP) point estimate;

» Potential 'weighting' options, such as applying a 50/50 weight to the existing Historical Equity Risk premium approach and 'Wright' (or Total Market Returns) approach estimates of the MRP;

» Options for how the AER could choose to update the MRP through the RoRI period;

» An option of the AER giving weight to beta estimates adopted by overseas regulators rather than the AER reaching its own empirical estimation of betas for overseas firms; and

» Whether it would be feasible within the remaining timeframes for the RoRI review to compile a sample of overseas comparator firms.

This memorandum sets out brief responses to these issues and questions. It is provided for the purpose of summarising and clarifying ENA's views on these important matters, with the goal of assisting the AER Board's ongoing decision-making tasks.

As this document serves to summarise a range of views put to the AER through the 'Pathways' process, where relevant, we provide references to these past ENA submissions that set out more fully our views on these issues.

1. How could different evidence be weighted to reach an MRP point estimate?

ENA has set out a suggested approach for distilling the various estimates of MRP into a single regulatory allowance at the time of the Rate of Return Instrument.[1] This approach involves different estimation approaches being weighted according to their relative strengths and weaknesses. It is also consistent with

[1] ENA, *Estimating Cost of Equity: Response to Draft Equity Omnibus Working Paper*, September 2021, section 4.7.

Energy Networks Australia www.energynetworks.com.au
Unit 5, Level 12, 385 Bourke Street Melbourne VIC 3000
P: +61 3 9103 0400 E: info@energynetworks.com.au
ABN: 75 106 735 406

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the overarching approach recommended to the AER Board in its 2018 review, where a range of similar questions as to the use of discretion were posed and responded to.[2]

ENA's proposed approach begins by identifying the estimation approaches that provide relevant evidence about the MRP,[3] being:

» The **historical excess returns (HER)** approach;
» The **Wright (or Total Market Return, TMR) approach**; and
» The **dividend growth model (DGM)** approach – particularly the calibrated DGM developed by the ENA to address concerns expressed by the AER in 2018.

Our proposed approach then considers the reasonable range of estimates produced by each approach and proposes that the AER would use these ranges to guide the exercise of its judgment. [4]

In deciding the weights to apply to different estimation approaches to reach a final point estimate, the following considerations are key:

» **Consistent weighting:** To the extent that two approaches have similar strengths and weaknesses, they would receive similar weight. For example, it would be appropriate in to apply equal weight to the HER and Wright estimates.
» **No weight to unreliable approaches:** Approaches that are unreliable should receive no weight. Survey estimates of the market risk premium are of such low quality they are wholly unreliable, a position reaffirmed by the Queensland Competition Authority in its review on rate of return issues.[5]
» **Weighting by approach, not individual estimates:** The weightings should be considered at the level of *approaches* rather than individual estimates. For example, the historical excess returns approach itself would receive a particular weight, rather than each of five estimates derived from different sub-periods for estimating it each being assigned a particular weight.
» **Avoid a 'median' value approach:** An approach of selecting the median estimate from a range of approaches should be avoided. This is because the median essentially disregards relevant information, making it a crude approach to determining sound estimates in this area.

  For example, suppose there are three estimates that the AER considers to be equally reliable and to have similar strengths and weakness. If those estimates are 6%, 6% and 8%, for example, the median estimate of 6% would be misleading in that there is no evidence to support a lower figure and some evidence to support a higher figure.

In response to the AER's request for specific views on how it might exercise its regulatory judgment, our September 2021 submission included an example where:[6]

» Equal weight was assigned to the HER and Wright estimates as methods of analysing the historical stock return evidence; and

[2] ENA Memorandum *Regulatory discretion and market risk premium determination*, 26 June 2018
[3] ENA, September 2021, Figure 16, p. 61.
[4] ENA, September 2021, Figure 17, p. 63.
[5] ENA, March 2022, section 4.6.
[6] ENA, September 2021, pp. 63-64.

- Equal weight would then be applied to this assessment of historical evidence (HER and Wright) on the one hand and forward-looking (DGM) evidence on the other.

The illustrative worked examples of these approaches produced estimates based on data available at that time of 7.75% and 7.4% respectively.[7]

ENA accept that the AER may use its regulatory discretion to reach different estimates than this. Our primary focus is in describing a possible method for combining estimates to reach a final value, not advocating the specific value itself.

So, for example, were the AER to reach a view that either a DGM-based estimate, or a Wright-based estimate should be assigned no weight, a viable approach would still be to equal weight a historical MRP approach with one other estimate from another methodology judged to possess similar strengths.

2. Potential 'weighting' options - a 50/50 weight to the existing Historical Equity Risk premium approach and 'Wright' estimates of the MRP

As discussed above, if the AER had determined it was appropriate to use the Historical Equity Risk Premium approach and the Wright approach, weighting these approaches 50/50 would be a workable methodology.

This is because the HER and Wright approaches are different ways of analysing the same historical stock returns data. As has been submitted[8] and discussed through the review in AER expert reports[9], each of these methods embeds a particular assumption:

- The HER approach assumes that the *MRP is constant* over time, so that the total required return on equity varies one-for-one with changes in the risk-free rate; and
- The Wright approach assumes that the *total real required return on equity is constant* over time.

These assumptions above represent two end points of a spectrum, where the truth lies somewhere in between. Cambridge Economic Policy Associates has advised the AER that:

> *There also appears to be as strong a theoretical basis for the argument that the RfR and the MRP are perfectively negatively correlated (the "Wright" approach) as there is for the argument that the RfR and total equity market returns are perfectly positively correlated (the fixed MRP approach).*

CEPA has further stated that there is "*no good evidence*" to support the assumption of a constant MRP.

An important factor in combining estimates from different approaches is whether each brings new 'information' to the resulting estimate. The DGM approach differs from the HER and Wright approaches in that it:

- Analyses different data – contemporaneous market information rather than historical returns data; and
- Provides a forward-looking estimate of the MRP.

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[7] ENA, September 2021, pp. 63

[8] ENA, September 2021, p. 53 and ENA, March 2022, section 8.5.

[9] CEPA, *Relationship between the Risk-free Rate and Market Risk Premium*, June 2021, p. 4; pp. 6-7.

That is, the DGM evidence tells us something different about the required MRP, improving the final estimate.

Consequently, ENA recommends giving real weight to DGM evidence in addition to the HER and Wright evidence (for example, 33% weight in a case where the three approaches were used, or 50% where only one other approach was used). ENA has advocated for some weight to be applied to the Wright approach, and Dividend Growth models since the 2018 Instrument review.

3. How might the AER update the MRP through the RoRI period?

The ENA has identified that there are three options open to the AER under the binding RoRI legislation:[10]

1. **Fixed MRP in Instrument:** Estimate the MRP at the time of the RoRI and hold that figure fixed (the approach adopted in 2018).
2. **Fixed weights and mechanical re-estimation for determinations**: Identify in the RoRI the weights to be applied to each approach to estimating the MRP and provide a step-by-step approach to re-computing each estimate at the time of each determination. That guide would then be followed in a mechanistic fashion at the time of each determination.
3. **Formalised risk-free and MRP relationship:** Adopt a simple formula linking changes in the risk-free rate to changes in the MRP. Thus, if the risk-free rate rises by 1% (after the RoRI), the MRP would be reduced by X%. In this case, X would have to be consistent with the approach adopted for estimating the MRP in the RoRI.

ENA's earlier submissions in 2021[11] proposed the third approach subject to some important conditions, but our recent submission has mainly explored the first two options, following AER Working Papers highlighting a preferred AER position to not pursue the third option. [12]

Should the AER remain open to implementing a formalised relationship between the MRP and risk-free rate, we consider it crucial that the implementation is performed in a transparent and consistent manner. The below is an extract from a 2021 submission in which we illustrated how this could be done[13]:

> *We set out an example (only to illustrate how the proposed procedure would work) for the case where the AER decided to apply equal weight to the HER, Wright and DGM approaches. In this case, each of the three methods implies a different relationship between the risk-free rate and the MRP:*
>
> *The HER approach is based on the assumption that there is no relationship at all between the risk-free rate and the MRP. That is, the relationship between the two variables is 0;*
>
> *The Wright approach is based on the assumption that there is a perfect negative relationship between the risk-free rate and the MRP. That is, the relationship between the two variables is -1.*
>
> *The calibrated DGM estimates exhibit an empirical relationship of -0.8.*

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[10] ENA, September 2021, section 5.
[11] ENA, September 2021, section 5.4
[12] AER Final Omnibus paper, December 2021, p. 26.
[13] ENA, March 2022, p. 84 (restating a worked example given in prior submissions)

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In the case where all three methods receive equal weight, the implied relationship between the MRP and risk-free rate is:

$$\frac{1}{3}\times(0)+\frac{1}{3}\times(-1)+\frac{1}{3}\times(-0.8)=-0.6$$

In this case, for every 100 basis point increase in the risk-free rate (between the time of the RoRI and the time of the particular determination), there would be a 60 basis point decrease in the MRP allowance.

4. Potential for weighting beta estimates adopted by overseas regulators

ENA has consistently proposed weight should be given to direct estimates from a sample of international comparators *and* to the approaches and estimates of international regulators.[14]

Having regard a set of international beta comparators has been a key feature of our submissions to the 2013 and 2018 Rate of Return Reviews. In our view, the relative weight applied to that evidence should have gradually increased over time as the set of domestic evidence has narrowed.

Using a set of international comparators in reaching an estimate has the benefit of allowing transparency around the method of sample construction and permitting consistent approaches to estimating beta from international and domestic sources.

However, there is also relevant information for the AER's task in:

» Observing the approaches that international regulators apply, and in how those regulators exercise their regulatory judgment; and

» Understanding whether the AER estimates are broadly in line with, or materially different from, the betas allowed by comparable regulators.

Our submissions into this process over the last two years have assumed that the AER would, when giving weight to overseas beta evidence, construct a set of international comparators, building on a base of detailed beta work undertaken in both the 2013 and 2018 reviews.

ENA has not provided detailed views on an alternative approach of having regard only to estimates adopted by comparable regulators. Our current view on that approach is that:

» Our preference remains for the AER to undertake its own primary analysis of the empirical beta evidence on overseas comparators, in consultation with stakeholders. This would best meet the AER's assessment principles, including of ensuring transparency for stakeholders. ENA would be happy to assist the AER in this regard.

» If the AER considers that there is insufficient time to undertake this analysis and consult appropriately on it, network businesses would support restricting the evidence to consideration of beta estimates used by overseas regulators in recent determinations. However:

  – This support would be condition on this approach being only as a temporary pragmatic measure for the purposes of the 2022 RoRI and would propose that the AER undertake its own primary empirical analysis of overseas comparators well ahead of the 2026 RoRI; and

  – The AER should consult on which overseas regulators should be considered.

[14] ENA, September 2021, section 6 and ENA, March 2022, section 9.

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Were the AER to give weight to beta estimates from international regulatory authorities, and remaining domestic beta data, an additional step of bringing these estimates together to determine a point estimate would be required.

ENA's September submission[15] provided a worked illustrative example of how to derive a robust point estimate drawing on available evidence, and giving weight to international data, including the views of network regulators.

The worked example in that case, using then available data, established a small range of 0.7-0.75.

ENA accepts that the AER could potentially use its regulatory discretion to reach different point estimate than this. As in the case of the worked examples for market risk premium estimation, our primary focus here is to assist the AER in describing a possible approach to combining estimates to reach a final value.

5. Compiling a sample of overseas comparator firms

Should the AER wish to undertake its own empirical estimation of betas for international comparators, clearly the first step would be to identify an appropriate sample of such comparators.

ENA would be happy to assist the AER in this regard by compiling a possible sample of international comparators for the AER's analysis and consultation with stakeholders.

The approach would be to set out a step-by-step approach for constructing the comparator set, including transparent rules for determining which firms are included and which are excluded. These rules could closely follow similar procedures used by other regulators such as the New Zealand Commerce Commission (NZCC) and IPART.

The resulting comparator sample would be a 'proof of concept' and starting point for the AER to review, investigate further and consult on through the draft Instrument consultation phase.

Whilst the analysis that ENA would produce would result in a possible sample of international comparators for the AER to consider and consult on, the main contribution of this exercise to the RoRI process would be a framework or procedure for identifying a sample of candidate overseas comparator firms.

The AER would then have all the detail necessary to refine the comparator list further on its own, as it sees fit, for publication in the draft Instrument decision. The draft Instrument process could then be used to further consult on the composition of the sample – an approach which itself has some regulatory precedence from the NZCC.

References

ENA September 2021 submission;
ENA March 2022 submission;
CEPA report; and
AER Final Omnibus paper.

[15] ENA, September 2021, p.96-97