CRG submission to AER Rate of Return Instrument Review discussion paper

KEY POINTS / RECOMMENDATIONS

- The AER needs to reconcile conflicting data about the extent and sources of network out-performance.
- Having carried out this reconciliation, the AER should take concrete steps to reduce any material outperformance from capital structure, the cost of debt and inflation.
- The AER should continue to rely on long-term historical estimates of beta rather than introducing international firms into the comparator set.
- There are multiple sources of evidence indicating beta should be set at a value of 0.5 or less.
- The AER should clearly demonstrate whether there is a pressing need to adopt a weighted trailing average approach to debt and how consumers will benefit from implementing such an approach.

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1 Executive Summary

The Consumer Reference Group (CRG) welcomes the opportunity to respond to the AER's Rate of Return Instrument (RORI) Review discussion paper.

The Review process takes place among a backdrop of rising energy prices that are driving affordability concerns for both households and businesses, and with a growing divergence in the future direction of the networks to whom the decision will apply. In electricity, a "wall of capex[1]" is expected as a consequence of the transition, while in gas, networks are expressing concerns about stranded asset risk and seeking to recover their regulated asset base (RAB) at an accelerated rate.

This context in turn creates a heightened sensitivity to the level of network profitability, which is a function both of the allowed rate of return set by the AER, and the networks' ability to outperform the AER's assumptions. Outperformance appears both persistent and substantial and the implications of this are a consistent theme throughout our submission.

However, the AER's own analyses present conflicting perspectives on the extent and causes of this outperformance as it relates to the rate of return. The network performance reports indicate that the sources of networks' outperformance include capital structure (for electricity networks) and cost of debt (for both gas and electricity networks). By contrast the Rate Of Return Annual Update indicates gearing (capital structure) is below the AER's benchmark while the cost of debt is very close to the benchmark. It's essential that the AER reconciles the apparent contradictions of its own analyses in order to maintain stakeholder confidence in the regulatory framework.

These issues inform the CRG's views on the key topics of estimating beta and the implementation of a weighted trailing average for the return on debt.

In the case of beta, the apparent outperformance is consistent with the AER's estimate being too high. Setting a higher return in equity (due to the choice of beta) than required facilitates networks being able to gear up above the benchmark. The CRG considers that the historical evidence on beta is that the AER has chosen at the top of its plausible range through multiple reviews and so there continues to be scope for a lower beta estimate to 0.5 or less.

We recognise the challenges of relying on ageing data due to the delisting of regulated energy network owners, but we do not consider the introduction of evidence from international betas to be an appropriate solution to the challenge, notwithstanding their use by other regulators. The conceptual and practical difficulties are multiple and material.

In the case of the weighted trailing average, we reserve judgment pending further data and analysis from the AER. We observe that the AER considered but chose not to introduce it in 2022, and that no evidence has been presented that there has been a material change in the relevant circumstances since then. The specific problem that it is seeking to fix has not been set out clearly enough and accordingly the other options for addressing the problem have not been considered as a point of reference for the relative merits of the weighted trailing average. Additionally, the AER's proposed analytical framework for assessing the weighted trailing average would benefit from refinement.

[1] i.e. capital expenditure

2 Introduction

The Consumer Reference Group (CRG) welcomes the opportunity to respond to the AER's Rate of Return Instrument (RORI) Review discussion paper.

Under national energy laws, a Consumer Reference Group (CRG) must be established to help the AER implement an effective consumer consultation process for the making of the RORI. The CRG may carry out its activities, including giving advice or recommendations to the AER about the RORI, in the way it considers appropriate. This may include consultation with consumers of electricity and gas, facilitating consumer engagement and making written submissions to the AER about its position on the RORI and the processes undertaken to reach that position.

The CRG consists of the following members:

Kieran Donoghue (chair)

Dr Ron Ben-David

Ashley Bradshaw, representing Energy Consumers Australia

The 2022 Rate of Return Instrument Review was a thorough and extensive review of all the parameters that make up the Instrument. Despite significant resources expended in all sides arguing the various points of view, the final Instrument was very similar to the 2018 Instrument. In this light it is understandable that the AER is seeking a streamlined, focussed Review for the 2026 Instrument. Three key issues have been identified by the AER, of which one is a fairly administrative matter on which we have not taken a position. The other two issues, beta and the weighted trailing average for the return on debt, are discussed in sections 6 and 7. We have considered them in the light of four principles, which we have set out in section 4 and in the Appendix. Section 3 sets out the context for the review, while section 5 outlines some general comments on the RORI as a whole.

We think it is reasonable that the AER requires material new information or analysis in order to open up the other parameters for consideration from first principles. However, the previous CRG set out a range of ways in which the 2022 Instrument was in their view, upwardly biased (see section 3.2). Accordingly, while we are not presenting new evidence on these issues, we consider that these concerns remain salient.

3 Context for the review

The Review process takes place among a backdrop of rising energy prices that are driving affordability concerns for both households and businesses, and with a growing divergence in the future direction of the networks to whom the decision will apply. In electricity, a "wall of capex" is expected as a consequence of the transition, while in gas, networks are expressing concerns about stranded asset risk and seeking to recover their regulated asset base (RAB) at an accelerated rate.

This context in turn creates a heightened sensitivity to the level of network profitability, which is a function both of the allowed rate of return and the networks' ability to outperform the AER's assumptions. Outperformance appears both persistent and substantial and the implications of this are a consistent theme throughout our submission.

3.1 Current context

This review comes at a critical time for consumers and the economy. Households have been hit hard by inflation, and rising energy prices have been a major contributor. While recent increases have largely been driven by wholesale costs, network charges have also risen materially over the past two years and face ongoing upward pressures.

Evidence shows that network returns have consistently exceeded regulatory benchmarks, with networks materially outperforming allowed returns in recent years. This persistent outperformance is difficult to reconcile with an effective incentive-based regulatory framework. Higher-than-necessary regulated revenues have therefore been a significant source of energy price inflation.

Looking ahead, large network capital programs are incoming, placing further pressure on consumers. If excessive returns are not addressed now, households will face even greater financial strain, deepening energy hardship. Moreover, the well-known Averch–Johnson effect suggests that an unduly generous rate of return encourages excessive capital accumulation and inflates the regulated asset base (RAB). Accordingly it remains essential that the AER is able to satisfy itself and stakeholders that it has set the rate of return no higher than necessary to allow for efficient investment.

3.1.1 Energy price rises are driving inflation

Over the five years to September quarter 2025, the consumer price index has increased by 24%. Over this same period:

- the electricity index has increased by 17%
- the gas and household fuels index has increased by 47%.[2]

Federal and state government electricity subsidies have temporarily quelled electricity price rises. However, Australian Bureau of Statistics analysis shows that underlying electricity prices have risen materially. Between the June quarter 2023 and the September quarter 2025, the electricity index increased by 8% but the *underlying* electricity index (without government rebates) has increased by 22%.[3]

Federal energy bill relief only applied to households and eligible small businesses.[4] Many businesses were unable to avoid these material energy price rises, putting upward pressure on the prices of domestically produced goods and services.

In the September 2025 update, the ABS illustrated that energy price increases were a key driver of inflation in Australia. For example, the ABS reported that the most significant price increases in the quarter were housing (+2.5%) with the main contributor being a 9% increase in electricity prices. Similarly, the ABS reported that the main driver of annual goods inflation was a 24% increase in electricity prices. [5]

[2] Australian Bureau of Statistics, *Consumer Price Index – September quarter 2025*
[3] Ibid.
[4] https://www.energy.vic.gov.au/households/help-paying-your-energy-bills/energy-bill-relief-fund
[5] Australian Bureau of Statistics, *Consumer Price Index – September quarter 2025*

3.1.2 Consumers face pressure affording energy bills

Even with energy bill relief, 79% of households are extremely or quite concerned with the price of electricity. [6] This concern is second only to concerns about the broader cost of living – which in turn has been fuelled by energy price rises. The government has now announced the bill relief program will shortly cease.

Around a third of households say they are having some level of difficulty affording their electricity bills. Nearly two thirds of households say they avoid heating and cooling to save money – this increases to over 4 in 5 of the households who say they are under financial stress.[7]

Energy Consumers Australia has found that around 1 in 5 households are vulnerable to or are currently experiencing energy hardship.[8] These households are predominantly low-income renters with little ability to control energy use beyond avoiding heating and cooling when needed.

3.1.3 Network charges have increased substantially in the past two years

Despite relatively moderate expenditure in recent years, network charges have increased significantly. Table 1 shows that the contribution of network prices to household bills rose by 12–23% across jurisdictions in just two years.

Table 1: Network prices for household with average consumption on a flat tariff

Jurisdiction	Network Price 2023-24	Network price 2025-26	Increase ($)	Increase (Percentage)
ACT	$560	$689	+$129	+23%
NSW	$700	$848	+$148	+21%
QLD	$849	$993	+$145	+17%
TAS	$512	$598	+$87	+17%
VIC	$580	$650	+$70	+12%

Source: AER - Consolidated stakeholder report 2025–26

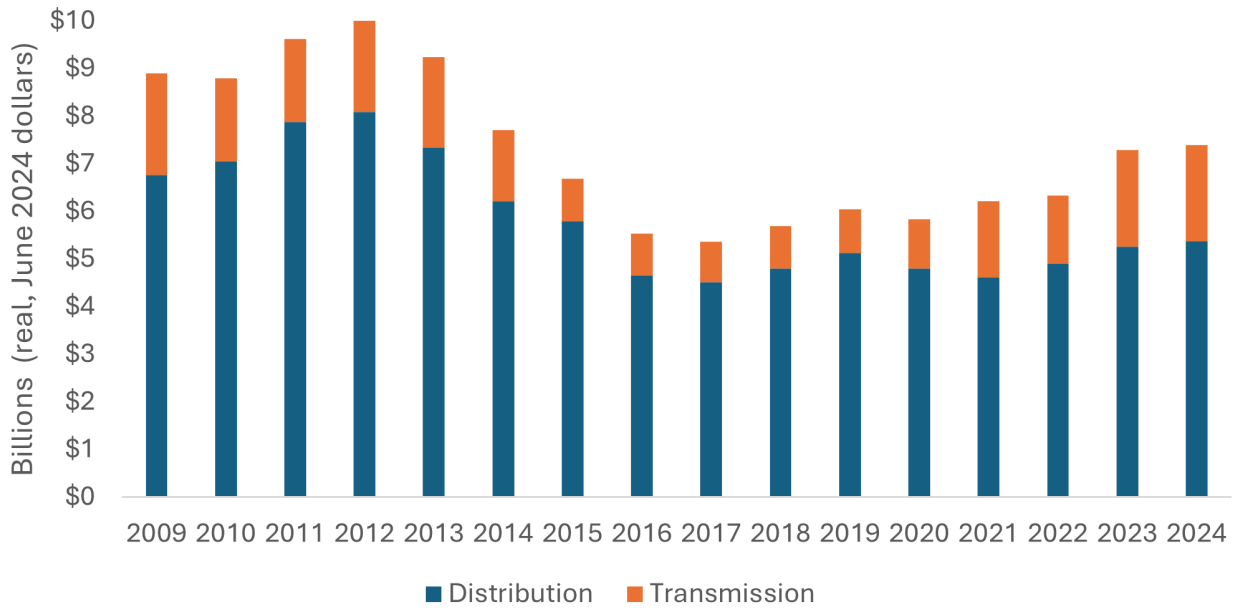
Note: For simplicity, where there are multiple distribution networks in a jurisdiction, the figure shown is the average across each network.

3.1.4 Network investments are rising

Figure 1 shows that electricity network capital expenditures are increasing in real terms, albeit they are yet to reach the levels of the so-called "gold-plating" era of the early 2010s.

[6] Energy Consumers Australia, *Consumer Energy Report Card* (December 2025)
[7] Ibid.
[8] Energy Consumers Australia, *Understanding and measuring energy hardship in Australia* (2025).

Figure 1: Actual electricity distribution and transmission capital expenditures



Source: AER, 2025 State of the Energy Market (2025)

Looking forwards, network capital expenditure will keep rising. Recent AER decisions indicate substantial increases in distribution network capex over coming years. Table 2 shows forecast increases of over 50% for some networks.

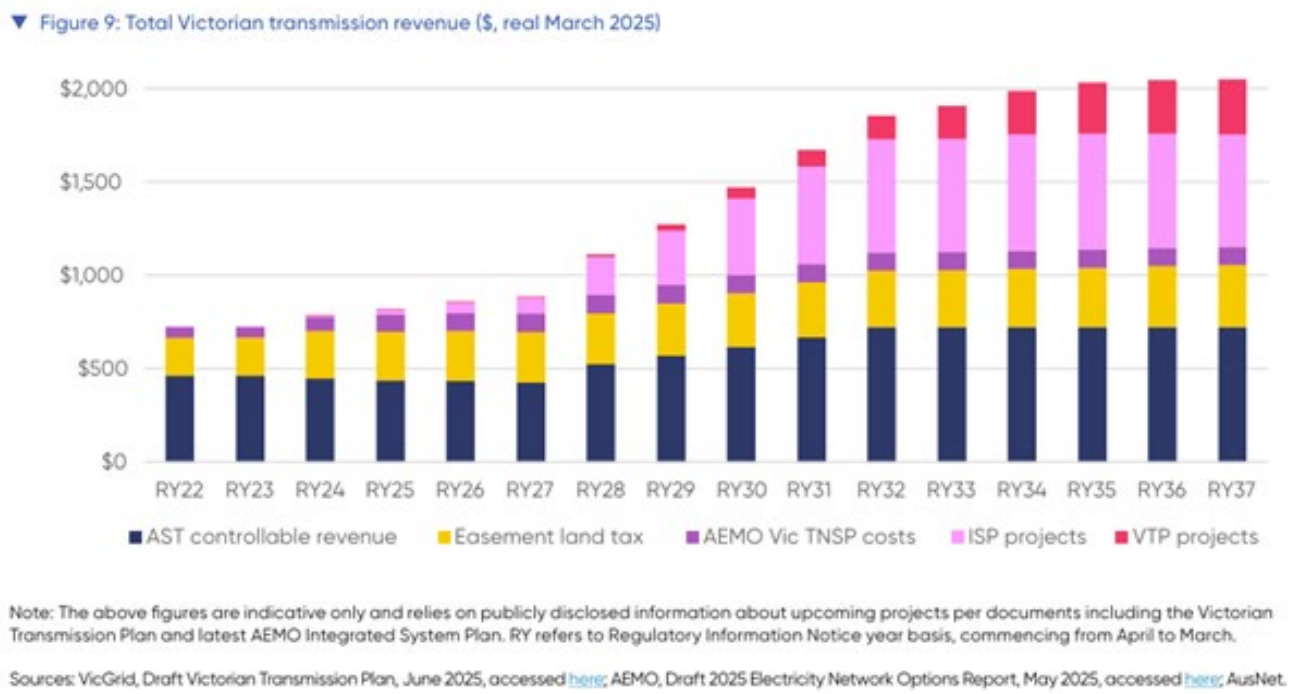
Table 2: Forecast increase in capital expenditure from current to next regulatory period

Network	Percentage increase	AER decision status
Energex	+30%	Final
Ergon Energy	+62%	
SA Power Networks	+11%	
AusNet	+71%	Draft
CitiPower	+85%	
Jemena	+63%	
Powercor	+46%	
United Energy	+26%	

Source: AER, 2025 State of the Energy Market (2025); AER, Draft Decisions for Victorian Networks (2025)

Transmission expenditure is also set to rise rapidly to deliver Integrated System Plan (ISP) projects and jurisdictional policies. For example, AusNet forecasts its transmission revenue requirement will more than double in the next five years (Figure 2).

Figure 2: AusNet's actual and forecast transmission revenue



Source: https://communityhub.ausnetservices.com.au/transmission-revenue-reset-2027-2032-engagement

3.2 Historical bias in the RORI instrument

The AER's own guiding principle is that the regulated rate of return should be "the best possible estimate of the expected rate of return—neither upwardly biased nor downwardly biased—promoting efficient investment and operation of energy network services."[9] However, analysis by the CRG in 2022 highlighted upward bias across several parameters. This summarised in Table 3.

Table 3: Parameter bias in the instrument

Parameter	Direction of bias	Explanation
Beta	Upward	The range of estimates presented in the 2022 Draft Explanatory Statement (and the AER's observations in 2018) clearly do not support an estimate of beta as high as 0.6.
Market Risk Premium	Upward	The AER's choice of historical excess returns (HER) estimate does not account for potential upward bias from: exclusion of geometric averages, interim dividends, survivorship bias and the fact that the data series stops at a point close to the ASX all-time record
Return on Debt	Upward	The AER has identified clear, if modest outperformance by NSPs on the return on debt but has not sought to capture any of this outperformance for consumers.
Equity premium	Upward	As a consequence of the AER's estimates of beta and market risk premium (MRP), the implied equity premium for a 5-year RoE is perversely higher than its estimates of the equity premium for a 10-year return on equity.
Weighted Average Cost of Capital (WACC)	Upward	The AER has not explained why investors would treat a 10-year return on debt as a substitute for a 5-year return on equity. A 10-year return on debt will typically be higher than a 5-year RoD, thereby upwardly biasing the WACC.

Source: CRG, Advice to the AER re Draft RoRI June 2022 (September 2022), p4, adapted

[9] AER, *Rate of return, Overall Rate of Return, Equity and Debt Omnibus, Final Working Paper* (December 2021), p.8

We acknowledge that the AER has gradually reduced some of this inherent bias over the years. Most notably, the AER reduced beta from 0.8 to 0.6 between 2013 and 2018.

However, this does not mean that inherent bias does not remain. For example, the AER's own observation in the 2022 Review was that beta estimates "cluster around 0.5 to 0.6." [10] Yet, the AER chose the upper end of the range with limited justification.

3.3 Networks continue to outperform allowed returns

Regulated energy networks have consistently delivered returns well above regulatory benchmarks. As such, consumers have systematically paid more than necessary to compensate the networks for their actual costs, undermining confidence in the framework.

AER performance reports show repeated outperformance on both return on assets and return on equity. During a period of high inflation and economic stress, electricity networks achieved real returns on equity exceeding 12%, as shown in Figure 3.

As the AER explains, the material recent high outperformance on real return on equity in 2023 was due to how inflation is treated in the framework. As the AER explains:

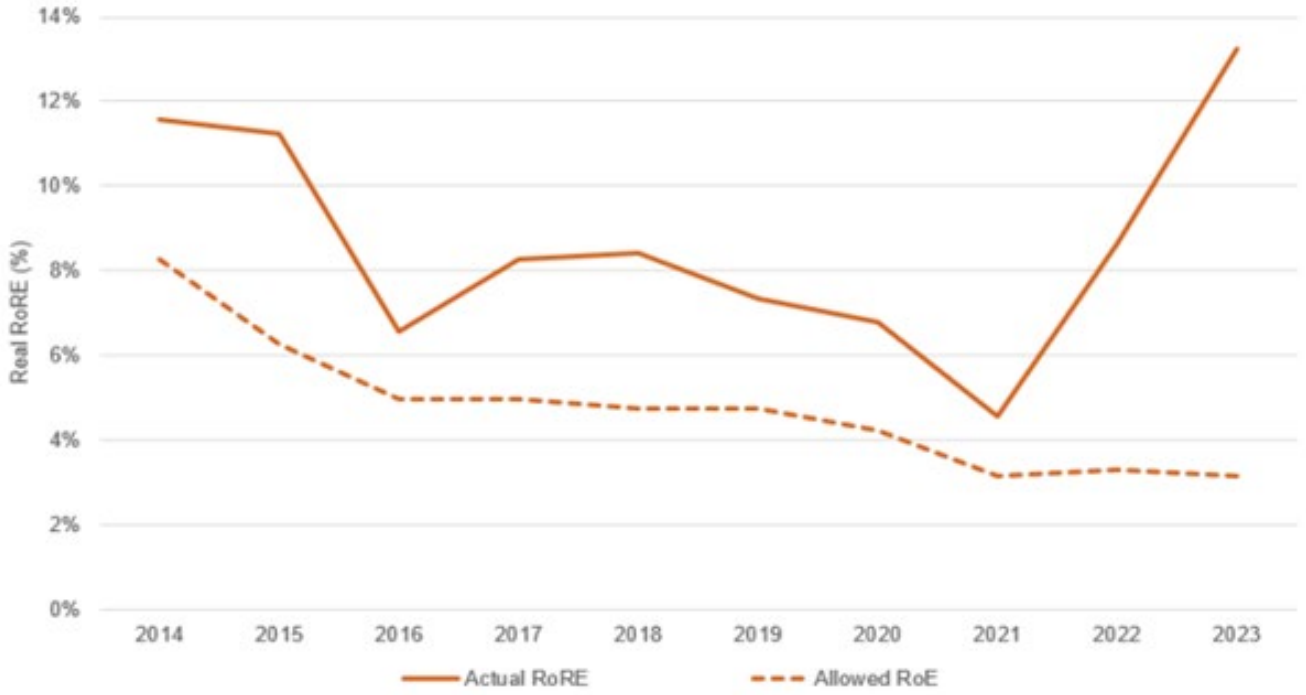
"*Differences between the forecast and actual inflation applied to index RABs impacts an NSP's RoRE…. when actual inflation is higher than forecasted, as occurred in 2022 and 2023, it has had a positive impact on RoRE. These effects are amplified in networks that are financed with a higher proportion of interest-bearing liabilities than our benchmark gearing level of 60%.*" [11].

As Figure 5-6 of the 2024 Network Benchmarking report shows, actual inflation in 2024 was nearly 2 percentage points higher than forecast inflation. This suggests it is highly likely than networks have outperformed real return on equity again in 2024 due to the treatment of inflation.

While Figure 4 shows that most of the 2023 outperformance was due to inflation, several other contributing factors have contributed to outperformance. We discuss our views on outperformance in Section 5.

[10] AER, *Rate of Return Instrument, Explanatory Statement* (February 2023), p.186
[11] AER, *2024 Electricity and gas networks performance report*, (2024), p. 81

Figure 3: Actual and allowed real return on equity by electricity networks



Source: AER, 2024 Electricity and gas networks performance report, (2024).

4 Principles

On reviewing the AER's discussion paper (August 2025), the CRG identified one important omission – namely, the absence of evidentiary thresholds or principles that must be satisfied before stakeholders propose, and the AER accepts, changes to the current approach to setting the regulated rate of return.

To that end, we propose the following four principles. These principles are neither controversial nor profound, nonetheless it would support the community's confidence in the integrity of the 2026 RORI review if the AER were to adopt them:

(1) Parties should only be compensated for risks they clearly bear.

(2) The rate of return should be set as low as possible such that, on the balance of probabilities, it will support the required level of investment.

(3) The consumer impacts of any proposed or final changes to the RORI should be clearly described.

(4) The AER should only entertain different approaches to the two in-scope matters, and the inclusion of any other matters, if a proponent for change has shown that doing so:

- is supported by new evidence or research,
- would be in the material interests of consumers, and/or
- addresses an error or material shortcoming in the approach applied in the 2022 RORI.

These principles differ from those proposed by the 2022 CRG. The changes reflect lessons learnt from, and changed circumstances since, the 2022 RORI review. The principles are discussed in further detail in Appendix A: Four principles to guide the 2026 RORI review. This appendix and a short covering letter were submitted to the AER on 3 November[12].

[12] CRG, *Letter to the Chair and Board of the Australian Energy Regulator* (3 November 2025),

5 General comments on the RORI instrument

The CRG considers:

- The evidence from the AER's own network performance reports is that networks are persistently outperforming the AER's decisions by a significant amount, and that some of this is due to factors relating to the rate of return: capital structure and cost of debt (i.e. return on debt). This means their actual rates of return on equity are materially higher than the allowed return on equity.[13]
- Persistent and material outperformance in relation to the cost of capital must be revealing a persistent and material error in the AER's benchmark cost of capital estimates - with most of the error being attributable to the return on equity.
- Analysis of the available data on gearing and actual debt costs reveals that the AER is publishing data that is hard to reconcile with the network performance reporting, and which thus makes it especially challenging for other stakeholders to evaluate the AER's performance in setting an efficient return on debt. Further analysis is required by the AER.

The AER has decided to focus the review on two issues – measuring beta and moving to a weighted trailing average to determine the cost of debt. While we understand the reasons for limiting the scope of the review, the CRG believes that these broader issues with the instrument also need to be addressed by the AER.

5.1 Network outperformance and capital structure

In the Discussion Paper, the AER emphasises the importance it places on incentive-based regulation and setting revenue/price caps in a way that maintains incentives for efficiency:

"Incentive-based regulation is central to the AER's approach to regulating energy network businesses. It rewards regulated businesses for improving consumer outcomes by realising efficiency gains, reducing costs and improving service outcomes."

The premise of incentive-based regulation is that ex ante allowances are set (in the form of either a revenue cap or a price cap) based on being the efficient costs of running a network plus an allowed return. The network will in practice spend a different amount. The regulator does not seek to adjust in full for this difference because that would remove the incentive to be efficient. The incentive to be efficient matters to consumers because the regulator can observe the results of the incentive – i.e. the efficiency gains and capture these for consumers in a future period. In the AER's case it uses ex post true ups to maintain and calibrate these incentives, respectively the Efficiency Benefit Sharing Scheme (EBSS) for opex and the Capital Expenditure Sharing Scheme (CESS) for capex.

Things are a little different in the case of the allowed rate of return. This is based on the return on debt and the return on equity. There is scope for efficiencies in the rate of return – capital theory shows that under certain assumptions, capital structure does matter and so there is – at least notionally – an efficient level of gearing. There are also many ways to raise debt and so it is worth companies that raise a large amount of debt trying different ways to minimise their interest cost. This is reflected in the concept of a "benchmark efficient entity" that the AER uses in setting the allowed return on debt.

In order to harness these incentive properties, the AER needs to be able to observe the revealed behaviour of the networks and act on them to deliver lower future prices for consumers, noting that there is likely an element of endogeneity – that is, the networks' financing decisions may at least in part be based on how the regulatory allowance is set. It this needs to be able to observe capital structures, and actual debt costs, as well as techniques for raising debt that may systematically lower interest costs below its benchmark assumptions. Consumers in turn need to be able to see this process occurring over time to have confidence in the framework.

[13] This discussion also implies the AER is, in all likelihood, underestimating the true scale of excess returns to equity earned by networks (because it is only measuring actual returns to equity against its own estimated returns to equity, rather than what the CRG contends should have been a lower regulatory allowance provided to equity).

The challenge for consumers and other stakeholders seeking to observe how well the AER is doing this is that there appears to be different evidence depending on where one looks. There are two annual publications that could assist with this process; the Rate Of Return Annual Update, which updates a range of data series relevant to the RORI review processes, and the Networks Performance Report, which includes the return on regulatory equity metric. The Networks Performance Report indicates significant and persistent outperformance, resulting in networks collectively earning well above their allowed rate of return. This report was further analysed by IEEFA, and used to support their claims of persistent super profits (discussed further in section 5.1.3). The sources of outperformance include capital structure (for electricity networks) and cost of debt (for both gas and electricity networks). For the purposes of the RORI review, it's important to seek to understand what is driving this outperformance, and since the networks performance report does not provide the underlying data, the main source of data for stakeholders on rate of return parameters is the annual update.

5.1.1 Evidence from the rate of return annual update

The delisting of most of the regulated networks (with the one remaining listed company, APA, being largely an owner of unregulated assets) has clearly undermined the AER's ability to report on the typical actual gearing levels of the networks it regulates. Its preferred gearing metric is market gearing. This is the ratio of the market value of equity to the market value of debt and so technically requires the AER to be able to observe the market value of equity and the market value of debt (although it uses book value of debt as a proxy for market debt). Given the challenges of obtaining a market value of equity for unlisted companies, the AER now only has up-to-date gearing data for APA. This does not leave the AER (or other stakeholders) well placed to monitor whether there are sector-wide changes in the efficient level of gearing that could have a bearing on the rate of return for a benchmark efficient entity. In the 2022 Review, the AER acknowledged this and stated that:

"*For our next Instrument review, we aim to undertake more work to consider whether other comparators can be satisfactorily employed*" [14].

It's unclear from the discussion paper whether such work was undertaken and, if so, what the results of this work were.

The AER perhaps sees this as of little concern given its stated views that gearing is relatively stable and that changes in gearing make little difference to the overall rate of return. But gearing is not in fact especially stable. As a few historical examples:

- Envestra's gearing dropped from 77% in 2008 to 47% in 2014
- APA's gearing dropped from 73% in 2008 to 45% in 2018
- DUET's gearing dropped from 80% in 2010 to 51% in 2016[15]

Using book gearing (i.e. accounting valuations of debt and equity) instead of market gearing, the changes are smaller. This implies that some of the changes are reflective of changes in the market value of equity rather than a deliberate de-gearing – and is one reason that market gearing alone may not be the best guide to the gearing ratio a benchmark efficient entity would select.

The other takeaway is that network service providers (NSPs[16]) clearly do not strictly target a fixed level of gearing (unlike the assumption in the AER's financial model). This means that changes in capital structure are one tool that NSPs may use to manage volatility in capex financing requirements from year to year, meaning that weighting the trailing average may be less important. This is discussed further in chapter 7.

In any case, the AER's headline gearing metric is a 10 year average gearing of 52%, well below the benchmark rate of 60%.

[14] AER, *Rate of Return Instrument: Explanatory statement* (February 2023), p92
[15] AER, *Rate of Return Annual Update 2025* (November 2025), Table 2
[16] "NSPs" and "networks" are used interchangeably in this document.

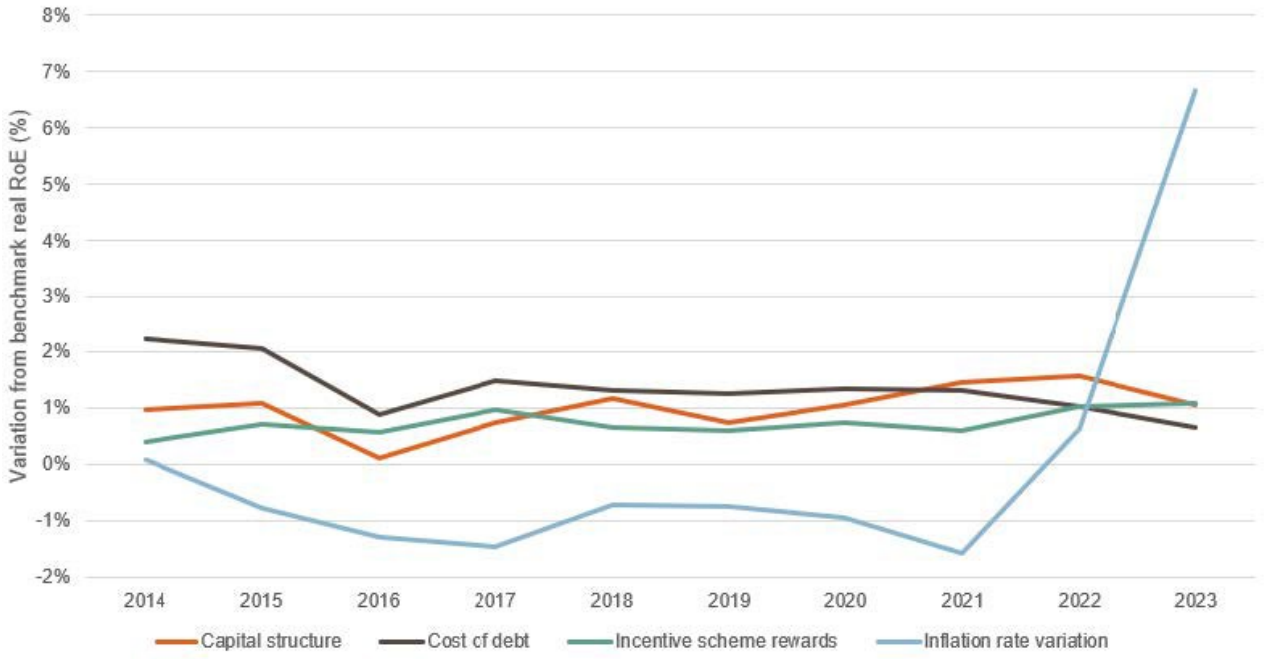
5.1.2 Evidence from network performance reports

The annual network performance report includes a calculation of return on regulatory equity (RORE) and decomposes the overall results into the factors that result in out- or underperformance. Results are presented graphically for gas and electricity networks, limiting stakeholders' ability to interrogate the underlying data. Nonetheless the picture appears clear – there are two elements of the RORE that relate to the rate of return: capital structure and cost of debt.

It's clear from Figure 4 that there has been persistent, material outperformance on both the capital structure (equivalent to around 1% on the return on equity) and the cost of debt (1-2% on the return on equity) for the electricity networks. In contrast the gas networks (Figure 5) have largely underperformed on capital structure (equivalent to around 1% on the return on equity) but also overperformed on cost of debt (by at least 1% on the return on equity until 2022). As there are more electricity networks than gas networks, a weighted average of the two would result in outperformance on both capital structure and cost of debt.

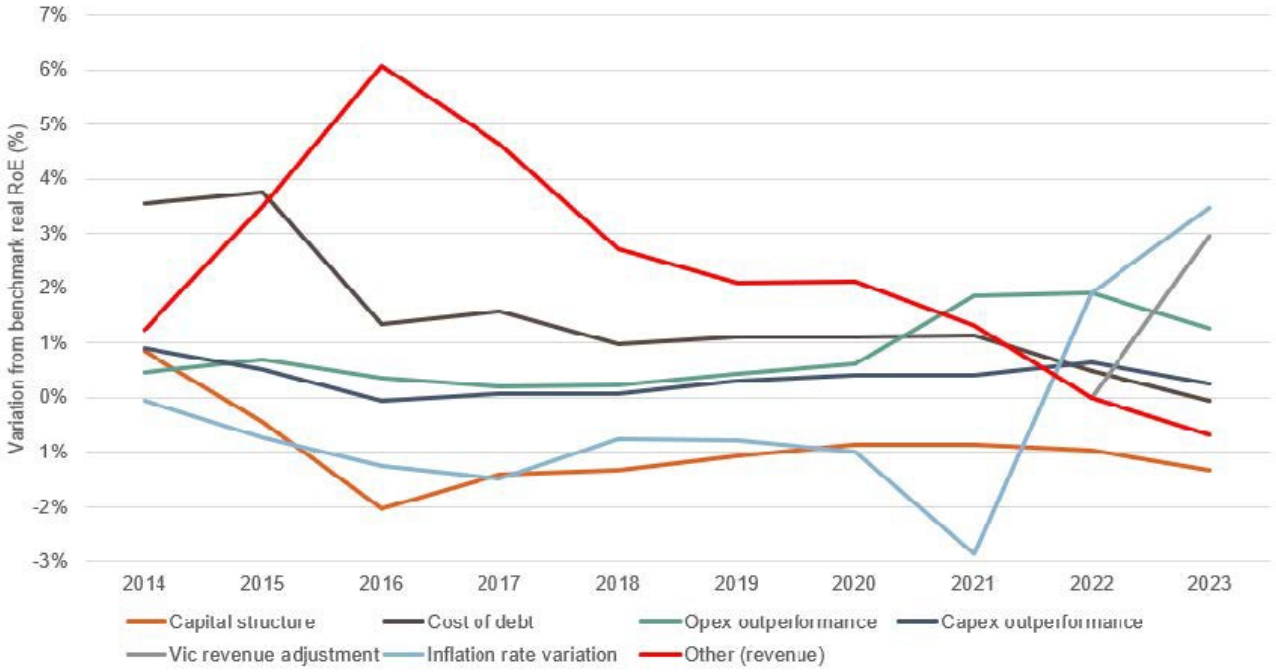
It's hard to reconcile these outcomes with those of the annual update data series, which suggest underperformance (based on very sparse data) on gearing and much lower outperformance on the cost of debt. It's essential that the AER take the time to analyse and report back to stakeholders on the difference, and which is the better indicator of out/under performance and why.

Figure 4: Contributions to real RoRE - electricity NSPs



Source: AER, 2024 Electricity and gas networks performance report, September 2024 Figure 5-9

Figure 5: Contributions to real RoRE – gas distribution NSPs



Source: AER, 2024 Electricity and gas networks performance report, September 2024 Figure 5-12

5.1.3 The return on equity

The AER applies the standard Sharpe-Lintner Capital Asset Pricing Model (CAPM) as the basis for determining the return on equity. The CAPM is a financial model that describes the return investors require in return for investing in a firm based on the systematic risk faced by the firm. Like any economic or financial model, CAPM is based on assumptions, and it is dependent on the availability of market data for its inputs.

Of course, all economic and financial models are only as good as their ability to accurately and reliably explain past, and predict future, market outcomes.

The accuracy and reliability of the CAPM as a regulatory mechanism cannot be tested in this way. While it is used by the AER to estimate the required rate of return on equity, there is no observable 'true' rate of return against which the AER's estimate can be directly tested and verified. In other words, there is no direct mechanism by which the AER can prove to consumers that they are correctly compensating investors for the systematic risks they bear.[17]

In the absence of direct measures of the accuracy and reliability of its estimates, the AER monitors and annually reports on levels of investment and network performance standards. At best, the AER's monitoring activities have only allowed it to provide consumers with a negative assurance, that is, the AER has only assured consumers they are not *undercompensating* networks. For example, the AER observes in its recent discussion paper:[18]

> *We have seen no evidence that* [the 2022 RORI] *has deterred investment since its making, with network businesses continuing to propose capital expenditure and innovation allowance projects.*

Clearly, this statement falls well-short of assuring consumers that they are not *overcompensating* network investors. To the best of the CRG's knowledge, the AER has not attempted to provide consumers with a positive assurance since it assumed responsibility for network regulation in 2009.

[17] The signs of undercompensating investors is likely to be more evident – for example, underinvestment in the network leading to a decline in actual or foreshadowed network reliability.
[18] AER, *Rate of Return Instrument. Review discussion paper* (August 2025), p.7

Two years ago, IEEFA published analysis to assess whether networks were earning "supernormal profits".[19] The approach taken by IEEFA follows the analysis provided by the AER in its electricity network performance reports – namely, both reports measure the difference between the actual return on equity earned by networks and the return on equity assumed by the AER.

The AER's analysis finds that the actual rate of return on equity consistently and substantially exceeds the AER's allowed rate of return. The AER *inter alia* identifies 'capital structure' as a consistent "driver" of returns to equity in excess of those provided under the regulatory framework. The AER explains:[20,21]

> *Capital structure, which reflects departures from the AER's benchmark financing structures. These departures do not result in consumers paying more for network services. Rather, these reflect that some NSPs have chosen to take on higher risk (by holding a higher proportion of debt) to achieve higher returns for themselves. Capital structure is currently the largest incremental driver of average outperformance, adding nearly 145 basis points to the average return on regulated equity in 2022.*

Neither the AER nor IEEFA questioned the AER's methodology for estimating the regulated rate of return on equity or whether this approach produces an efficient estimate. Rather, both reports treat the AER's regulated rate of return on equity as given and only measure excess return (or "outperformance") over-and-above that rate.

In its response to the IEEFA report, the AER did not refute the report's finding, only IEEFA's interpretation of those findings:[22]

> *The ability of business to outperform the regulated rate of return is the incentive-based framework working as intended under the legislation. The outperformance is not an indicator of "supernormal profits", nor having a material impact on customer bills.*

having previously explained:[23]

> *This is part of the incentive-based regulatory framework where businesses are rewarded to the extent they are able to promote better long term outcomes for consumers.*

Incentive-based regulation is also known as 'revealed cost regulation'.[24] Incentive-based regulation is only as good as the regulator who is prepared to act on the underlying costs it reveals.

In the above statements, the AER retorts that its finding of excess returns to equity is a measure of "outperformance" under its incentive-based regulatory framework rather than the supernormal profits claimed by IEEFA. There may be an element of truth in the AER's rebuttal, but only up to a point. Persistent and material outperformance in relation to the cost of capital – that is, the contribution of 'capital structure' in Figure 5 above - may be revealing a persistent and material error in the AER's benchmark cost of capital estimates.

The CRG contends this material error is due to the relative price of equity and debt in the AER's estimation methodologies – with most of the error attributable to the AER's overly generous regulatory allowance for equity.

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[19] IEEFA (Simon Orme, guest contributor), *Power prices can be fairer and more affordable. Urgent actions needed to tackle billions in unearned supernormal profits* (November 2023). Available at: https://ieefa.org/sites/default/files/2023-11/Power%20prices%20can%20be%20fairer%20and%20more%20affordable_Nov23_1.pdf

[20] AER, *2023 Electricity network performance report* (July 2023), p.39

[21] The AER's network performance report finds there are several other contributors to supernormal profits. These other drivers do not appear related to the regulated rate of return to equity. Ibid, pp.39-40

[22] AER Statement, *Institute for Energy Economics and Financial Analysis report on electricity network profits* (22 November 2023). Available at: AER Statement – Institute for Energy Economics and Financial Analysis report on electricity network profits | Australian Energy Regulator (AER)

[23] AER Statement, *Institute for Energy Economics and Financial Analysis report on regulated network electricity prices* (4 October 2022). Available at: AER Statement – Institute for Energy Economics and Financial Analysis report on regulated network electricity prices | Australian Energy Regulator (AER)

[24] Revealed costs regulation seeks to overcome the information asymmetry between the regulator and regulated firms by designing incentive mechanisms that encourage regulated firms to reveal their true costs of operation - operating expenditure (opex), capex and financing expenditure (finex) to the regulator.

By making an allowance for the cost of equity that over-prices equity relative to networks' actual cost of debt, the AER is rewarding networks with an unnecessarily generous WACC. Which, of course, means consumers are paying an unnecessarily high cost for network services.

While the AER's recent discussion paper provides consumers with an assurance of sorts – that at least its regulated rate of return on equity is not too low – the CRG contends the AER's own analysis indicates the regulated rate of return on equity is too high. The AER's claim to administering an incentive-based regulatory framework, demands it respond to this revealed error in its estimates by lowering its allowance for a return on equity. As outlined in chapter 6, the CRG considers the overly generous regulatory allowance for equity is explained, in large part, by the AER adopting a value for beta that is unjustifiably high.

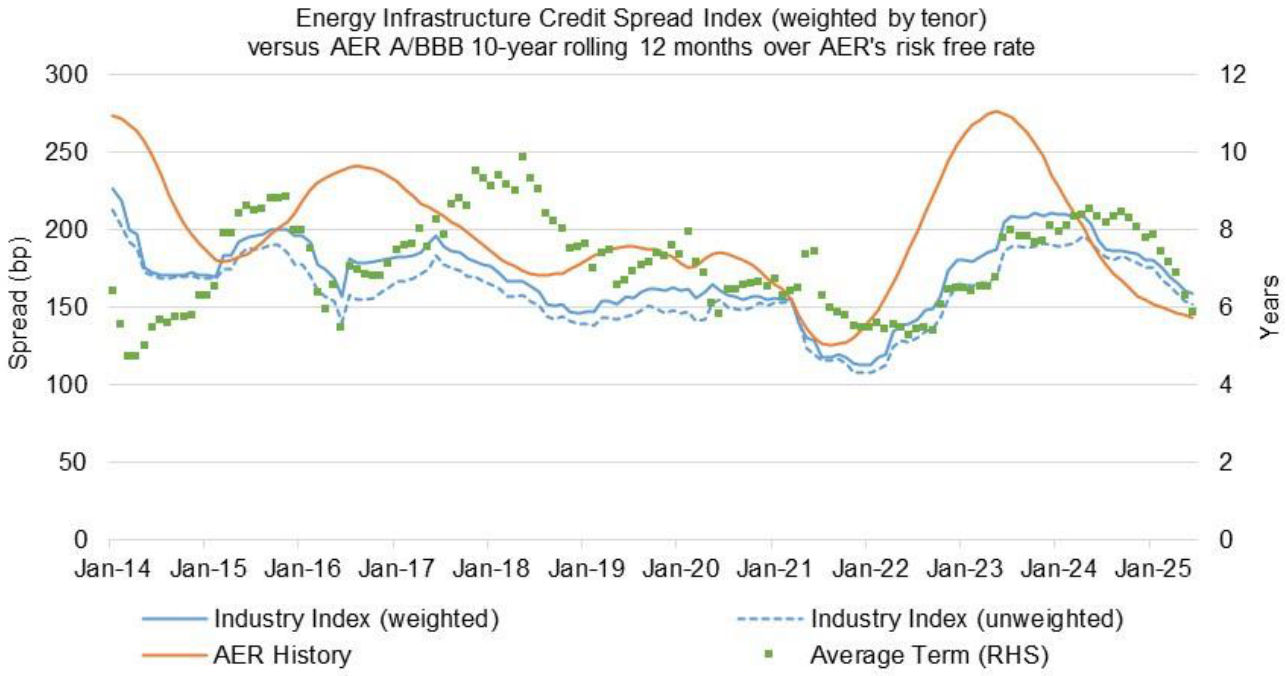
5.1.4 The return on debt

The return on debt of the benchmark entity is a function of the gearing level, the credit rating associated with a network geared to that level, the tenor, or term of debt raised and the credit spread associated with the credit rating and the tenor. As discussed in section 5.1.1, there is little publicly available data on network gearing. There is better information on credit ratings, with 17 regulated entities holding credit ratings, and on actual credit spreads through the Energy Infrastructure Credit Spread Index (EICSI). However, these are of limited use without a good understanding of the gearing levels of the companies holding the credit ratings, and whose debt is a component of the EICSI.

Notably, rating agencies themselves do not attempt to track market gearing – perhaps because of the difficulty of doing so for unlisted businesses. Moodys and Fitch use Debt/RAB as one of their key metrics for regulated businesses, while S&P uses debt/EBITDA as a leverage measure. There would be value in the AER collecting and reporting on such metrics for the businesses they regulate, as this would make for a richer dataset than that for market gearing.

The annual update also allows for a comparison of actual and allowed return on debt, using the spread over the swap rate (broadly equivalent to the debt risk premium). The AER collects privately-owned NSP debt data and reports on the average spread across the instruments in the form of the EICSI. This is presented graphically against the AER's allowance, and - using the tenor-weighted version of the index - appears to show periodic outperformance.

Figure 6: Comparing the EICSI (weighted by tenor) over AER's benchmark estimate



Source: AER, Rate of Return Annual Update 2025, November 2025, Figure 10

During the 2022 review, the AER calculated the average outperformance at a modest 18 basis points, which it considered neither persistent nor material[25]. The difference is largely attributable to actual NSP debt having a shorter average term (c. 8 years) than the 10 year term used by the AER. This finding is hard to reconcile with the network performance report's estimates of cost of debt outperformance.

The other area in which the AER could utilise incentive-based regulation is by monitoring the use of different financing options and considering whether it would be in consumers' interest to adopt any of these as part of the benchmark efficient entity's financing. In the 2022 review, the AER noted increasing use of hybrid instruments, for example. However, the discussion was primarily a definitional one – whether hybrids should be included as debt for the purposes of the gearing calculation or included in the universe of instruments that make up the EICSI. The AER did not consider the extent to which use of hybrids was a replicable, efficient strategy that could be incorporated as a distinct component in the RORI. There was no reference to hybrids in the discussion paper and stakeholders do not have information as to why they are no longer relevant.

As things stand, the AER's approach to the return on debt is highly stable, with essentially the same parameters for being used in 2022 as in 2018, and the AER indicating that The only area of interest for 2026 is whether or not to rate the trailing average. This implies one of two things: either the AER has arrived at an equilibrium benchmark efficient approach to the return on debt that remains consistent over time, or it is no longer utilising the incentive framework to capture outperformance for the benefit of consumers. Which of these is the case depends on the evidence, which appears inconsistent. It would aid stakeholders to better understand the different evidence published by the AER and how the inconsistent evidence can be reconciled. There would also be benefit in the AER exploring ways to provide greater transparency than is currently available on NSP actual capital structures and cost of debt.

[25] AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p201

6 Estimating beta

The CRG considers:

- there are strong indications that the current level of beta (β = 0.6) is significantly overcompensating investors for the systematic risks they face when investing in domestic network service providers ("networks").
- the ongoing use of long-term historical data to estimate beta is the far simpler option and supports greater transparency in, and accountability for, the regulatory judgements applied by the AER when determining a final point estimate of beta
- introducing international firms into the comparator set adds many layers of complexity without any measurable or verifiable improvement in the accuracy or reliability of the resultant estimate of beta.
- Accordingly, we recommend AER chooses a beta value of 0.5 or less.

6.1 Introduction

The AER's discussion paper (August 2025) responds to the delisting of local networks and the subsequent absence of new market-based data. Whether the absence of new market data is fatal to the AER's ongoing use of the CAPM to estimate a rate of return for equity is an important question that must be confronted at some stage (see section 6.4.4). In the meantime, the AER has determined it will continue to rely on the CAPM in the 2026 RORI. This decision enlivens a debate about how the AER should estimate beta in the absence of new market data.

The AER's discussion paper proposes two options for estimating the value of beta in the 2026 RORI, namely, whether the AER should:[26]

- continue to give primary weight to its domestic comparator set of nine Australian energy networks, even though eight of the nine firms are now de-listed; or
- determine a point estimate of equity beta based on both its current Australian comparator set and a newly developed sample of international energy firms.

It is important for all parties to the RORI review to remember that debates over the preferred approach for estimating beta are not just an abstract matter of intellectual curiosity or technical elegance. The AER's final point estimate of beta will matter to consumers. As we demonstrate later in this chapter, continuing to overestimate the value of beta imposes material and unjustifiable costs on consumers.[27]

The scope of the 2026 RORI review is narrower than the reviews conducted previously. Examining the AER's ongoing use of CAPM to estimate the rate of return on equity has been ruled beyond the scope of the 2026 review unless stakeholders can bring any material new information to bear. The estimation of beta, however, which is a crucial determinant of the regulated return on equity, remains in scope.

The above finding that the regulated rate of return on equity is too high must therefore bear on both how beta is estimated for the 2026 RORI, as well as how the AER exercises its regulatory judgement when determining beta's final value.

[26] AER, *Rate of Return Instrument. Review discussion paper* (August 2025), p.18
[27] See section 6.4.2

6.2 Estimating beta

Beta is a longstanding feature of the AER's regulatory framework for determining the rate of return provided on sunk investment. This section urges the AER and stakeholders to reflect on the role of CAPM and beta within that model, before engaging in abstract, normative and heavily theoretical debates over how beta ought to be estimated.

6.2.1 Beta in theory

Beta describes a particular relationship – namely, the statistical relationship between the returns earned by a particular firm (or, in this case, a defined subgroup of firms) and the returns earned by the overall market. More formally, beta is a measure of the volatility, or systematic risk, of that sub-group relative to the overall market.

Systematic risk arises from factors that affect the entire market. Unlike idiosyncratic risk, which is specific to a single firm or industry, systematic risk affects all firms and cannot be eliminated by diversifying a portfolio. Before diving into technical methodological debates about how to estimate beta, it is worth reflecting on whether, and to what extent, networks appear to be exposed to systematic risks.

The AER has relied on answering this question empirically, namely, by regressing domestic data about networks' returns against the market's overall returns.[28] As explained in the AER's discussion paper, for all intents and purposes no new domestic data about networks' returns is being generated following the delisting of network operators from the Australian share market. The possible exception is APA, although as noted by the AER and others, while APA is an energy infrastructure investor, only a small proportion of its portfolio is subject to a price or revenue cap.

In the absence of new domestic data, the two options identified in the discussion paper (see section 6.1) rely on the AER either relying on its intuition or adopting international proxies to divine a value for beta in the 2026 RORI.

In section 6.3, we discuss the challenges arising from attempting to use international proxies. The following discussion attends to an intuitive approach to valuing beta. It steps back from mathematical intricacies of estimating beta. Instead, we apply a qualitative approach largely based on first principles or common sense.

There is no definitive list of systematic risks to which markets are exposed. Our research has identified the following ten risks. We list and describe the ten most commonly mentioned systematic risks in Table 4. The second column in the table describes whether or how these risks are addressed within the AER's regulatory framework for determining networks' revenue allowances.

Table 4: The regulatory treatment of systematic risks

Systematic risks	Description	Regulatory treatment
1. Interest Rate risk	Higher interest rates will negatively affect the value of investments	Trailing average allowance for the cost of debt over 10 years. Return on equity updated 5-yearly to account for interest rate movements. Firm free to rebalance their gearing around a benchmark gearing ratio.

[28] The explanatory statement for the 2018 RORI provided a discussion of some of the systematic risks faced by networks (section 2.4.2). The analysis did not address networks' exposure to systematic risk as comprehensively as Table 1in this report. Nonetheless, the AER still concluded (p.49), "We consider there are reasonable conceptual grounds to expect the overall systematic risk for an efficient firm providing regulated energy network services to be below that of the market average firm, and hence an equity beta below 1.0, a conclusion was supported by multiple reports report to the AER."

Systematic risks	Description	Regulatory treatment
2. Inflation risk	Rising prices will erode the real value of future cash flows or returns.	The value of the regulated asset based (RAB) is indexed by outturn inflation in the AER's Roll Forward Model (RFM) and revenues are indexed for outturn inflation in its Post-Tax Revenue Model (PTRM). Estimation period for expected inflation reduced to 5 years (in 2020). The AER has explained, "This allows our forecast inflation rate for new network determinations to be more responsive to changes in market circumstances. This change will likely lead to a lower difference between forecast and actual inflation than would have otherwise been the case."[29]
3. Equity Market Risk	Broad market declines or volatility due to changes in investor sentiment, economic outlook, or valuation levels.	See response below to liquidity risk
4. Exchange Rate risk	Affects the value of assets due to fluctuations in currency exchange rates. Companies that import or export goods are particularly exposed.	See response below to input price risk.
5. Input Price risk	Broad-based changes in input prices affecting the entire market.	Five yearly resets providing allowances based on current and projected efficient costs. Cost pass-throughs and re-openers available to address material and unexpected increases to input costs. Regulatory incentive schemes financially reward efficient management of costs.
6. Business Cycle risk	Economic downturns leading to widespread declines in output, employment, and profitability.	Revenue capping shields revenues from shifts in demand. Price capping shields revenues from expected shifts in demand. Fixed connection charges unrelated to usage. Revenues smoothed within a regulatory period (using X-factors). Networks do not bear the risk of unpaid customer bills (i.e. retailers must pay networks regardless of whether customers pay their bills).
7. Political and Regulatory risk	Changes to government policy, regulation, taxation, or political instability affecting the entire market.	Stable political system with thorough processes informing policy and regulatory decision making (e.g. benefit cost analysis, regulatory impact statements, parliamentary review of new regulations, rule change requests, etc) Allowances for nominal post-company tax, and pre-imputation return on equity. Allowances for other taxes (e.g. State taxes).
8. Liquidity risk	Widespread financial instability due to credit market freezes, liquidity shortages, or banking crises.	The regulated rate of return accounts for contemporary and expected financial market conditions.[30] Re-openers available to address material liquidity constraints.
9. Environmental	Broad market impact arising from widespread environmental degradation or natural disasters.	Cost pass-throughs and re-openers available to address material and unexpected costs arising from natural disasters.

[29] AER, 2023 *Electricity network performance report* (July 2023), p.42

[30] In its explanatory statement for the 2018 RORI (December 2018), the AER observed, "We consider that although an efficient firm providing regulated energy network services has high financial leverage –relative to the market average – this does not necessarily imply it has an equivalently high overall exposure to financial risk." (p.49)

Systematic risks	Description	Regulatory treatment
10. Technological or Structural risk	Widespread technological disruptions or structural shifts that affect market-wide valuations.[31]	Five yearly resets provide allowances based on available or expected technologies. A 'guaranteed' rate of return is earned on all 'prudent and efficient' investment regardless of the assets' utilisation. Allowances provided for stranded assets (via accelerated depreciation). Since 2022, allowances also provided for *potential* stranding risk (discussed below).

Source: CRG research

In its Explanatory Statement for the 2022 RORI decision, the AER acknowledges the benefits regulatory protections confer upon networks.[32]

> *We consider the beta of regulated energy networks to be relatively stable over the long term, due to the monopoly nature of the service it provides as well as the regulatory protection it enjoys. The nature of the price cap or revenue cap regimes under which regulated firms operate means that the cash flow risk of these businesses is relatively stable.*

The CRG agrees with the AER's observation but considers it significantly understates the "regulatory protection [a regulated network] enjoys".

The features of the regulatory framework described in Table 4 are powerful mitigants against systematic risks should they manifest. For the most part, networks' exposure to those risks will be limited to the lag between a systematic risk manifesting and the ability to mitigate that risk through the regulatory framework. These protections represent a very substantial gulf between the systematic risks faced by regulated energy networks and those faced by other firms.

Moreover, since making the 2022 RORI, the AER has begun providing networks with regulatory allowances to account for the *potential* stranding of [gas] networks in the form of asset life shortening and accelerated depreciation.[33] This is a significant development for at least three reasons. First, the AER has interpreted the rules providing for the accelerated depreciation of stranded *assets* to now apply to the stranding of an entire network.[34] Secondly, the AER has determined it can, and should, provide an allowance for stranding that has not yet materialised (and whose timing and scale may be uncertain).[35] Thirdly, the AER is now providing regulatory protection against the risk that investors may under-recover the full return of their investments due to the so-called, 'death spiral'.[36]

[31] The CRG considers most (if not all) **systematic risks associated with the energy transition** are already captured within the other categories identified in Table 3. Of course, the energy transition may also create idiosyncratic risks for energy networks, but these are diversifiable and therefore do not require compensation through the regulated cost of capital.

[32] AER, *Rate of Return. Explanatory statement* (February 2023), p.177

[33] The first of these decisions was made in: AER, *Final Decision APA VTS access arrangement 2023 to 2027* (December 2022)

[34] Clause 85(1) of the National Gas Rules, which provides for accelerated depreciation, refers to "assets that cease to contribute in any way to the delivery of pipeline services". It is not self-evident that the reference to the redundancy of specific assets extends to the redundancy of an entire network of assets. Moreover, the clause refers to "assets that cease to contribute". It does not refer to assets that *might* cease to contribute to the delivery of pipeline services.

[35] Noting, in some, but not all, instances the AER claims to be responding to government policies about ending the use of reticulated gas.

[36] Death spiral describes a 'positive feedback loop' where, as customers choose to use less gas and disconnect from the gas network, fewer customers are left to share the ongoing costs associated with servicing the network. In response, regulated network prices need to increase. These higher prices, in turn, motivate more customers to reduce their reliance on reticulated gas thereby driving regulated network prices even higher. And so on. The

These three implications of the AER's recent decisions represent a material expansion of the regulatory protections afforded to network investors. While these decisions are currently applicable to gas networks, they are capable of application to electricity networks should an analogous situation arise there.

This invites an important question: Is the stranding of investment a systematic risk or a diversifiable risk specific to networks?

The awarding of this year's Nobel prize for economics is timely. Philippe Aghion and Peter Howitt were recognised for their work in demonstrating that in advanced economies, growth proceeds hand-in-hand with the continuous process of entry, exit, and the churning of the factors of production.[37] Aghion and Howitt extended Schumpeter's (1942) well-known concept of "creative destruction" which describes the relentless 'destruction' of capital as both a driver and consequence of economic growth.

This year's Nobel prize reminds us that the risk of capital destruction (the stranding of sunk investments) is a normal – that is, systematic – feature of markets in advanced economies. Of course, other aspects of stranding risk will be idiosyncratic and therefore diversifiable. In any event, the regulatory framework affords significant protections to networks against stranding risk regardless of whether it is systematic or diversifiable.

Perhaps it has taken a pandemic to highlight the full extent to which networks are insulated from systematic risk by the regulatory framework.

The AER's 5-year estimates in 2022 of beta for a portfolio consisting of SKI and AST (whose revenue is about 90 per cent regulated) declined slightly relative to earlier estimates as returns in the underlying market became increasingly volatile during the pandemic. The corresponding estimates of beta for APA (whose revenue is only about 10 per cent regulated) increased notably.[38] Clearly, regulatory protections powerfully insulate networks with regulated revenues from systematic risk.

The regulatory mechanisms identified in Table 4 transfer almost all of networks' systematic risk on to consumers. In recent years, the AER has extended these regulatory protections further with respect to the potential stranding of investment as well as how it estimates investors' inflationary expectations (see Table).

The AER must take extreme care to ensure consumers do not pay networks twice for systematic risk – that is, first, through its point estimate of beta when risk is just a statistical possibility; and then again via one of the mechanisms identified in Table 4 when a risk manifests (or is reasonably anticipated).

No other firms or sectors enjoy the privileged protections against systematic risk afforded to energy networks under the national energy laws and rules. The CRG contends the AER should estimate the betas of other industries listed on the Australian Stock Exchange and set the beta for regulated networks in the (left) tail-end of that distribution.

6.2.2 Beta in practice

As noted at the start of the previous section, beta is a parameter that appears in the CAPM in order to describe a particular relationship at a particular point in time. It is not a tangible measure like, say, the price of a good, which can be readily and objectively observed. Beta is always and entirely a statistical measure which can only be derived if a host of far-reaching judgements are exercised about the collection and treatment of the underlying data. For example:

- how returns are measured
- over what period returns are measured
- the frequency at which returns are measured

cycle repeats itself. Higher prices leading to fewer customers, leading to even higher prices, leading to even fewer customers – until, at some point, it become unfeasible to keep increasing prices.

[37] For further discussion, see: The Committee for the Prize in Economic Sciences in Memory of Alfred Nobel *Scientific Background to the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2025* (October 2025). Available at: https://www.nobelprize.org/uploads/2025/10/advanced-economicsciencesprize2025.pdf?utm_source=substack&utm_medium=email

[38] AER, *Rate of Return Instrument, Explanatory Statement* (February 2023), Tables 8.4, 8.5 and 8.7.

- how firms are treated (e.g. weighted) to generate a portfolio of 'like' firms
- adjustments to the raw data such as the de- and re-leveraging of beta
- and so on.

Each of these decisions must be decided based on a subjective assessment of the preferred approach. Indeed, the estimated value of beta will vary enormously when these methodological assumptions are varied – as demonstrated by the very wide range of estimates generated by the AER in its previous RORI decisions. This leads to an inescapable limitation in the AER's reliance on the CAPM to estimate a benchmark return to equity: There is no true value of beta waiting to be discovered.

In turn, this means the accuracy of a CAPM-derived rate of return cannot be tested reliably against an unobservable true rate of return required by network investors.

These observations about the inescapable limitations of the CAPM as a regulatory tool, and the AER's efforts to estimate beta within that model, have profound implications.

Until now, it has been arguably possible for the AER to side-step these limitations by allowing itself to rely on statistical estimates of beta. The cessation of ongoing data to feed into that statistical approach may be fatal to the regulatory framework's ongoing reliance on a CAPM-derived rate of return (see section 6.2.4). That said, the CRG accepts and respects that the discussion paper has ruled out alternative approaches to deriving the regulated rate of return in the 2026 RORI. What therefore remains, is a debate over how the AER ought to deduce a value for beta in 2026.

The challenge confronting the regulator and stakeholders is profound. While caution must always be exercised when offering analogies, the following analogy may provide some insight into the profundity of the regulatory challenge confronting the AER – namely, estimating a value that can never be verified through observation.

Trying to estimate the value of beta is like trying to predict the score of a football game that will never take place – for example, trying to pick the final score had the 2025 AFL grand final been played by Collingwood and Hawthorn (who finished the season third and fourth, respectively). Elaborate econometric models could be built to model a season to produce a grand final between these two teams, and then to predict the final score of that game. Alternatively, we could just take an 'informed guess' of what the final score might have been based on what we already know about the two teams.

Whichever of these two approaches is used, it would be impossible to verify the accuracy of the competing forecasts.

Funnily enough, the two options for identifying the final score of the unobservable game are analogous to the two options described in the discussion paper for determining the unobservable value of beta (and the benchmark return on equity). That is, the choice for estimating data lies between elaborate modelling using international data or making an informed estimate based on what is already known about beta.

The next section takes a deeper (and more technical) dive into the approach used by the AER to determine the value of beta in past rate of return decisions, with a particular emphasis on the 2022 RORI.

6.2.3 Beta in the past

In its 2013 and 2018 rate of return decisions, the AER initially reduced its point estimate of beta 0.8 to 0.7 (2013) and then from 0.7 to 0.6 (2018). In its 2018 draft explanatory statement, the AER explained it was taking a "gradual approach" to changing its estimate. The AER explained it was balancing the empirical evidence with the principles of stability and predictability. The AER's final decision in 2018 removed any reference to acting gradually, seemingly in response to advice from its Independent Panel.[39]

We are left to wonder whether the AER said the 'quiet part out loud' in its 2018 draft explanatory statement – namely, that it recognised that its point estimate of beta could have been made lower than 0.6.

[39] AER, *Rate of Return Instrument, Explanatory Statement* (December 2018), section 7.1.13

In its draft explanatory statement in 2022, the AER proposed to maintain a value of 0.6 despite acknowledging little had changed since 2018 in its range of beta estimates.[40]

> *This is consistent with our principles of promoting stability and predictability.*

In its response to the draft RORI, the CRG2022 observed that in 2018, the AER's reference to "stability and predictability" appeared to mean not reducing the value of beta too rapidly, whereas by 2022 it meant not changing it at all – despite the evidence continuing to support a further reduction (see below).[41]

In any event, beta remained unchanged at a value of 0.6 in the final 2022 RORI based on the AER's observation that its "estimates cluster around 0.5 to 0.6."[42]

This conclusion invites close scrutiny of the empirical data on which the AER relied when making its draft and final decisions about the value of beta in the 2022 RORI.

In its advice responding to the draft RORI, CRG22 rigorously challenged the AER's draft conclusion that beta should continue to be set at a value of 0.6.[43] This analysis remains germane to the 2026 review given the AER's estimates varied only slightly between the draft and final explanatory notes. The following discussion summarises CRG22's main findings about the AER's long-term portfolio estimates of beta:[44]

- beginning with the most recently delisted majority regulated networks at that time (SKI and AST), the AER derived estimates for beta of 0.39 to 0.46;
- adding APA to the portfolio very substantially increased the estimates to 0.51 to 0.62;
- adding DUE and ENV to the portfolio lowered the estimates to 0.43 to 0.53, and;
- finally, adding HDF to create the largest portfolio for which the AER had reliable long-term data increased the estimated value of beta to 0.47 to 0.58.

These findings are significant for the following reasons:

- only one of the portfolio options (consisting of SKI, AST and APA) produced a beta slightly greater than 0.6 – where the mere addition of APA added 0.12 to 0.16 to the estimated value of beta compared to the smaller portfolio (of SKI and AST);
- the inclusion of APA (and HDF) explained notable increases in the estimated value of beta, and;
- only about 10 per cent of APA and HDF total revenues came from regulated networks whereas regulated revenue represented about 90 per cent of all other networks' revenues.

(Note, the AER's long term estimates in 2022 were generally similar to its estimates in 2018 when, once again, only the inclusion of APA to the portfolio resulted in a beta estimate greater than 0.6).

In its 2022 decision, the AER cautioned against relying on APA data.[45]

> [We] *caution that a significant proportion of APA's revenue is unregulated. Therefore, it is likely to have higher systematic risk exposure than the benchmark regulated energy network.*

[40] AER, *Draft Rate of Return Instrument: Explanatory Statement* (June 2022), p.165
[41] CRG 2022, *Advice to the Australian Energy Regulator. CRG Response to the AER's Draft Rate of Return Instrument* (September 2022), p.29
[42] AER, *Rate of Return Instrument, Explanatory Statement* (February 2023), p.186
[43] CRG 2022, *Advice to the Australian Energy Regulator. CRG Response to the AER's Draft Rate of Return Instrument* (September 2022), chapter 2.
[44] Ibid. p.25-26
[45] AER, *Rate of Return Instrument, Explanatory Statement* (February 2023), p.186

The AER cautioned similarly in the final 2018 explanatory statement and once again in its recently released discussion paper for the 2026 RORI.[46,47]

Despite these repeated cautions, the 2022 explanatory statement then back-pedalled significantly – without providing any further analysis or reasoning for doing so – when it observed that as a network business, APA "likely" faces risk closer to those of a regulated network business than other infrastructure businesses.

The AER's own evidence repeatedly demonstrates the disproportionate impact APA has on its estimates of beta (for both long- and shorter-term estimates).

The evidence reported in the 2022 final explanatory statement also belies the AER's conclusion that its estimates cluster around 0.5 to 0.6.

Tables 8.3 to 8.6 of the 2022 final explanatory statement demonstrates the apparent 'cluster' of estimates is the product of the portfolios, periods and weightings the AER *chose* to apply when deriving alternative estimates of beta. The AER offers no evidence or arguments to demonstrate its choice of portfolios, periods and weightings is sufficiently comprehensive and unbiased. The mere inclusion of APA in most of the sub-sets used by the AER to derive alternative estimates surely suggests its claimed distribution (and cluster) of estimates must be upwardly biased.

Even if we reluctantly set aside concerns about the risk of upward bias in the AER's claimed distribution (and cluster) of estimates, the 2022 explanatory statement failed to provide any explanation for why the AER's final point estimate was set at the top of the alleged 'cluster'. That is, the AER offered no explanation for why it set the final value of beta at 0.6 rather than elsewhere in the purported range of 0.5 to 0.6.

Despite CRG22 highlighting the self-evident inconsistency between the AER's evidentiary findings and its draft conclusion, the AER determined to uphold its draft decision in the final 2022 RORI.[48]

> *We maintain our point estimate of 0.6 from the Draft Instrument, primarily because we continue to see stability in the longest period estimates, which we give most weight.*

The AER appears to have failed to notice the logical flaw in its argument. Yes, its longest-term estimates of beta in 2018 and 2022 were consistent – but that stability does not self-evidently support the conclusion that the AER's final choice of beta should have remained unchanged in 2022. As noted above, in 2018 the AER appears to have been constrained by its decision not to reduce the value of beta too suddenly from its extant value of 0.7. That constraint did not exist by 2022. Indeed, CRG 2022 concluded that the AER's own evidence justified a "point value for beta of 0.5 or less".[49]

CRG26 is not second-guessing the reason for the AER's final decision in the 2022 RORI, though we note CRG22 expressed concerns about bias in the exercise of the AER's regulatory judgement.[50]

Whatever its reasons may have been in 2018 and 2022, we expect the AER to review its estimates *de novo* when exercising its regulatory judgement in 2026.

[46] AER, *Rate of Return Instrument, Explanatory Statement* (December 2018), p.189
[47] AER *Rate of Return Instrument. Review discussion paper* (August 2025), p.15
[48] AER, *Rate of Return Instrument, Explanatory Statement* (February 2023), p.172
[49] CRG 2022, *Advice to the Australian Energy Regulator. CRG Response to the AER's Draft Rate of Return Instrument* (September 2022), chapter 2
[50] For example, in its response to the draft explanatory statement, CRG22 stated, "The AER's draft decision reflects bias in the exercise of its regulatory judgement when determining a point estimate for beta. The AER's proposed value of 0.6 is supported by neither its own market analysis nor the arguments it made in 2018." (p.20)

6.2.4 Beta in the future

The AER's repeated statements and findings about the stability of, and its support for, long-term estimates of beta in its 2022 and 2018 rate of return reviews, set clear expectations about its approach toward the 2026 RORI review.

In the 2022 explanatory statement, the AER expressed its expectations based on *a priori* reasoning:[51]

> *We consider the beta of regulated energy networks to be relatively stable over the long term, due to the monopoly nature of the service it provides as well as the regulatory protection it enjoys.*

It confirmed these expectations *a posteriori.*[52]

> *Our empirical estimates* [of beta] *… also show that the longest period estimates have been stable since 2018 for both domestic and international estimates.*

These expectations and findings led the AER to support ongoing reliance on its historical long-terms estimates of beta.[53]

> *Given that beta is likely to be stable over the long term, historical data of the delisted firms can improve the statistical reliability of beta estimates by providing more observations and so remain relevant in informing our beta estimate.*

Almost identical statements can be found in the AER's explanatory statement for the 2018 RORI.

In its recent discussion paper for the 2026 RORI review, the AER again reinforced its confidence in the stability and relevance of long-term estimates of beta.[54]

> *We consider the equity beta of regulated energy networks is likely to be stable over the long term. Therefore, we give the most weight to the longest period estimates.*

All of which suggests that the range of estimates that the AER deemed appropriate in the two earlier reviews remain germane for the 2026 RORI.

In other words, the AER must approach the 2026 RORI review with an expectation that the appropriate value of beta is unchanged ***unless*** it can be shown that either

(i) circumstances have changed materially since those earlier estimates were derived; and/or

(ii) those earlier estimates did not appropriately reflect the underlying data in those earlier reviews.

This submission demonstrates that both these thresholds are satisfied.

The analysis in section 5.1.3 highlights clear evidence that the regulatory return assumed for equity is too high (implying beta should be set at a lower value). Section 6.2.1 demonstrates regulated networks' have minimal exposure to systematic risk, implying networks should have a lower beta than any other listed firms. The analysis provided in section 6.2.3 recounts how the AER's evidence in 2022 (and 2018) clearly demonstrates that beta could have been set at a value below 0.6; or as CRG22 concluded, at a "point value for beta of 0.5 or less".

6.3 International data

The second option contemplated in the discussion paper for determining the value of beta in the 2026 RORI, involves introducing a sample of international energy networks into the AER's comparator set. The following discussion responds to this option.

Section 6.3.1 reflects on the problems accompanying the use of international data. In the absence of widely accepted solutions to these problems, the CRG contends the case has not been made for using international data

[51] AER, *Rate of Return Instrument, Explanatory Statement* (February 2023), p.177
[52] Ibid. p.177
[53] Ibid. p.183
[54] AER, *Rate of Return Instrument. Review discussion paper* (August 2025), p.15

in the 2026 RORI. Section 6.3.2 notes the lack of convergence among the experts (in 2022 and 2026) on how to overcome the problems associated with using international data. Section 6.3.3 cautions against a 'fallacy of elegance' whereby seemingly sophisticated adjustments to the data give it a false aura of precision.

6.3.1 The AER has said it all (repeatedly)

Since assuming responsibility for network regulation, the AER has repeatedly rejected including international data in its estimates of a domestic beta. The recent discussion paper for the 2026 RORI neatly summarised the problems international data would inject into the estimate of a domestic beta.[55] These problems include:

- Addressing the fundamentally different operating environments faced by international energy firms and Australian energy networks – including differences in regulatory frameworks, business cycles, local geographies, political contexts, and corporate profiles (i.e. vertical integration and horizontal diversification).
- Overcoming the "leverage anomaly" – upward bias in estimates – when attempting to correct for the difference in gearing between international firms and domestic networks by de-levering and re-levering the equity beta estimates of international firms.
- Accounting for the difference between the structure of the Australian market and market composition of each international market – and their differing exposures to systematic risk.

The discussion paper unconvincingly identifies potential remedies aimed at addressing each of these problems such as applying "filters and adjustments" to produce a short list of international firms, and producing a range of equity beta estimates using different assumptions for gearing and debt beta.[56] The AER rightly appears to be concerned about the arbitrariness of each of these remedies.

The AER has a long history of rejecting the use of international data to estimate a domestic beta. Its discussion paper has not made the case for why the absence of new domestic data makes any of the problems listed above less apposite or more readily surmountable in 2026.

6.3.2 No consensus among the experts

The expert panel established to support the 2022 RORI review spend considerable time discussing the use of international data when estimating beta for domestic energy networks. There was no agreement on whether, let alone how, such data might be used. As the AER's recent discussion paper recounts:[57]

> *Throughout the process of developing the 2022 RORI, several expert consultants commented on the issue of our diminishing domestic comparator set in their reports, including Brattle, Partington & Satchell, Economic Insight, Sapere, and CEG. These expert consultants had diverse and sometimes conflicting views and proposals.*

The CRG has reflected on the discussion that took place at the 2022 expert conclave.[58] The back-and-forth between the experts largely reflects the three problems identified in the AER's recent discussion paper. Most strikingly, perhaps, is how the discussion was conducted in the abstract. No practical solutions were offered for these problems and no supporting evidence was cited. The experts' evidence consisted of their varying opinions only. The following exchange is indicative.[59]

> MR KUMARESWARAN: *I think the presumption should be that the comparator is of similar risk to the Australian DNSP or NSPs unless there is a good reason to think otherwise. So the burden of proof should*

[55] AER, *Rate of Return Instrument. Review discussion paper* (August 2025), section 5.1.2
[56] Ibid. p.19
[57] Ibid. p.15
[58] AER, *Transcript of proceedings. Rate of return instruments. Concurrent evidence session 1 of 4* (February 2022), pp.50-71
[59] Ibid. pp. 69-70

be, or the rule should be, that we only take out comparators if we are convinced that they are not good comparators.

DR BOYLE: *That's all very well and good, but as a practical matter what do you then do? You've got a bunch of foreign comparators and you estimate their betas. Maybe you average them and you combine them in some way or you potentially combine them in some way with the domestic confirmed betas.*

But how does this help you in telling or indicating what weight you should put on them? Suppose foreign betas turn out to be basically indistinguishable from the domestic ones. Does that mean you put a lot of weight on them or no weight on them because they are not adding any information? It doesn't really matter, because if they are the same then whatever weight you put on them will give the same answer.

On the other hand, what if they are a lot different? What if they are a lot higher than the domestic values or a lot lower? That could … indicate that there is measurement error in the Australian betas and there is something wrong with them, or it could indicate that the Australian firms are just different to the average of these firms overseas, in which case you wouldn't put any weight on them at all.

The discussion among the experts did not resolve – or even come close to resolving – the concerns reflected in Dr Boyle's comments about the arbitrariness of the assumptions required and the uncertainties accompanying the introduction of international comparators into the AER's data set.

The 2026 eligible experts report (and subsequent forum) came no closer to resolving these matters, with Professors Johnstone and Partington highly critical of including international comparators, while Mr Kumareswaran remained supportive.[60]

The AER's publications over many years, consultant reports and expert debates all highlight that including international data when estimating the value of beta, would demand an extraordinary increase in the level of regulatory judgement by the AER. The implications of doings so are discussed in the following section.

6.3.3 The fallacy of elegance

As discussed in section 6.2, beta describes a very specific statistical relationship between the returns earned by a particular firm (or group of firms) and the returns earned by the whole market in which it participates. Formally:

$$\beta_{i,m} = \frac{Cov(R_i - R_m)}{Var(R_m)}$$

where:

R_i represents the return of the specified asset (or group of assets)

R_m represents the return of the entire market porfolio

The relationship represented by $\beta_{i,m}$ is unique to the two variables R_i and R_m, and only those two variables – much like a marriage is uniquely defined by the two individuals involved. Substituting one of the individuals to the marriage does not represent a proxy for the original marriage. It represents an entirely different marriage. Likewise, substituting for R_i and/or R_m (say, using international data) represents an entirely different relationship from the one uniquely defined by domestic measures of R_i and R_m. International data *never* represents a proxy for the domestic relationship.

Some potential remedies for the incompatibility of international data are summarised in the discussion paper. These various remedies seek to manage the differences between R_i and R_m and their potential proxies. But, as

[60] Johnstone, D, Partington, G and Kumareswaran, D, *2026 RORI Review, Eligible Experts Report* (November 2025)

the AER clearly states, the similarity of proxies lies in the eye of the beholder – or in regulatory-speak, "regulatory judgement".[61]

> *[E]ven if we were to potentially expand the range of data points that we use to inform the estimate for equity beta, this would not eliminate the need for the application of regulatory judgement by the AER in determining the final estimate for equity beta.*

The remedies and data manipulations involved in 'massaging' international data into allegedly useful evidence for domestic purposes are significant and, at times, heroic. The filters, adjustments and weightings needed to massage international data into the comparator set, are always and entirely a matter of regulatory judgement.

Opening the RORI to international data would flood the process of estimating beta with compounding regulatory judgements about the most appropriate filters, adjustments and weightings.

Herein lies the fallacy of elegance.

Despite filters, adjustments and weightings radiating an aura of quantitative elegance and precision, the results they produce cannot be proven to be any more correct than any other method for determining the value of beta (as per the football analogy described in section 6.2.2). The only certainty delivered by the pursuit of quantitative elegance, is its consumption of time and resources as stakeholders and the AER vainly debate whose judgements are 'more right'. The aura of precision bestowed by the inclusion and manipulation of international data would be a time and resource sinkhole in pursuit of a fallacy of elegance.

Put bluntly, filtering, adjusting and weighting international data – no matter how elegantly – can never be shown to produce a more accurate or reliable estimate of a domestic beta. Including international data to estimate beta in the 2026 RORI would be a waste of everyone's time.[62]

6.4 Our position on estimating beta

In summary, the CRG considers:

- the ongoing use of long-term historical data to estimate beta is the far simpler option and supports greater transparency in, and accountability for, the regulatory judgements applied by the AER when determining a final point estimate of beta
- introducing international firms into the comparator set adds many layers of complexity without any measurable or verifiable improvement in the accuracy or reliability of the resultant estimate of beta, and
- there are strong indications that the current level of beta (β = 0.6) is significantly overcompensating investors for the systematic risks they face when investing in domestic network service providers ("networks").

6.4.1 Our response to the two options

Section 6.3 of this submission considers the option of including international firms in the AER's comparator set for estimating the value of beta. We strongly oppose the use of international data for the purposes of estimating a domestic beta in the 2026 RORI. In summary our reasons are as follows.

- The AER has repeatedly detailed the problems of using international data in all its previous rate of return decisions (and in its recent discussion paper) – with no suggestion it has yet found a robust method for overcoming these problems.
- The case has not yet been made for acceding to the use of international data in the 2026 RORI despite the ongoing presence of these problems.

[61] AER, *Rate of Return Instrument. Review discussion paper* (August 2025), p.16

[62] Other than, perhaps, parties with a commercial or professional interest in opining on how the data ought to be filtered, adjusted and weighted.

- There is no consensus among the experts on how relevant international firms ought to be identified, how their measures of beta should be 'adjusted' to make them useful for domestic purposes, or how different international observations should be weighted when calculating a domestic value for beta.
- Each of the filters proposed by the AER in the discussion paper is contestable; some more so than others.[63] While a proposed filter may appear plausible, plausibility does not confer validity.[64]
- The inescapable reality that no matter how sophisticated the method used by the AER to include international data, the resultant estimate of beta never be proven to be more reliable or accurate than the alternative approach contemplated in the discussion paper (as explained by the football analogy in section 6.2.2 and the 'fallacy of elegance' described in section 6.3.3).
- The quantum and scope of regulatory judgements required when manipulating international data would be orders of magnitude greater than the judgements required were the AER to rely on its historical data.
- Multiple and layered regulatory judgements would have a compounding effect in reducing the transparency of how the AER has reached a final value for beta. Stakeholders, particularly consumers (and their representatives), would have little chance of 'unpicking' (and challenging) the influence of each regulatory judgement on the final value of beta.

While we accept there may still be some merit in the AER using international data as a cross-check when determining the value of a domestic beta (and the overall rate of return), we would caution that only the lightest regard should be had to such data.

For the reasons outlined in Section 6.2, the CRG accepts that, for now, the AER should continue to rely on long-term estimates of beta based on its historical data sets.

We fully recognise that the AER's regulatory judgement will be required when drawing conclusions based on this data for the purposes of the 2026 RORI. However, when compared to the use of international data, relying only on long-term historical data has the following benefits.

- In past rate of return reviews, the AER has repeatedly found its long-term estimates of beta to be stable and preferable to other findings. This suggests that had the data been available, it would have reached a similar conclusion in its 2026 rate of return review.
- The level and complexity of regulatory judgement required when relying only on long-term historical data will be orders of magnitude less than would be required were the AER to seek to include international firms in its comparator set.
- Fewer exercises of regulatory judgement support greater transparency in, and accountability for, the AER's decision when determining the value of beta.
- There is no verifiable loss of reliability or accuracy in estimating a domestic beta from using historical data, when compared to using international data, as explained in section 6.2.2 and it avoids the 2026 RORI review falling prey to the 'fallacy of elegance' discussed in section 6.3.3.

None of this is intended to suggest the CRG considers reliance on long-term historical data to be an ideal approach, but for now, it is clearly the lesser of two 'evils' for determining the value of beta in the 2026 RORI.

Although the CRG supports ongoing reliance on historical long-term data in the 2026 RORI, we emphasise the **various sources of evidence indicating the AER's previously adopted value of θ = 0.6 is unjustifiably high**. The evidence includes:

- The AER's network performance reports indicate 'capital structure' (gearing above the benchmark ratio) is a major driver of returns to equity in excess of those provided under the regulatory framework. As

[63] AER, *Rate of Return Instrument. Review discussion paper* (August 2025), p.17
[64] As the American journalist and editor, H. L. Mencken famously observed, "Explanations exist; they have existed for all time; there is always a well-known solution to every human problem—neat, plausible, and wrong."

discussed in section 5.1.3 this finding suggests the regulatory allowance for the cost of equity is unnecessarily high. Within the limited scope of the 2026 RORI review, this finding implies a lower value for beta.

- As outlined in section 6.2.1 the framework governing the economic regulation of energy networks offers very substantial protections against systematic market risk. In recent years, further protections against systematic risk have been extended to energy networks. First, the AER shortened the estimation period for inflationary expectations in 2020. Second, since 2022, it has provided investors with a revenue allowance for the *potential* under-recovery of their investments. All of which suggests, networks' exposure to systematic risk is extraordinarily limited and even lower than in 2022. Accordingly, the AER should adopt a lower value of beta in the 2026 RORI.
- Section 6.2.3 reflects on the evidence produced by the AER for the 2022 RORI review and the analysis undertaken by the then CRG of that evidence. That analysis highlighted the inconsistencies between the AER's evidence and its decision to hold the value of beta at 0.6. CRG26 contends the AER must now accept its own long-term historical data indicates it should adopt a lower value of beta in the upcoming RORI. As CRG22 concluded, the AER's own evidence justifies a "point value for beta of 0.5 or less".

6.4.2 Our position assessed against our four proposed principles

The following discussion assesses our position on beta, as articulated in section 6.4.1, against the principles we have proposed for the conduct of the 2026 RORI review.

Principle 1 – Section 6.2.1 thoroughly examines the protection against systematic risks afforded to energy networks by the regulatory framework. That analysis explains how those protections have been extended by recent decisions of the AER, leaving networks even less exposed to systematic risk than in the past. Using different approaches, sections 5.1.3 and 6.2.3 clearly highlight the regulatory allowance for equity is overcompensating investors for the systematic risks they do, in fact, bear.

Principle 2 – In its 2018 and 2022 RORI reviews, the AER alleged that its various estimates of beta cluster around 0.5 to 0.6. Thereafter, on both occasions, it set its final point estimate at the top of this range without further explanation. The analysis in section 6.2.3 challenges the AER's claim that its estimates clustered in the range of 0.5 to 0.6, and finds the point estimate could have been set at "0.5 or lower".

Moreover, the AER has only provided consumers with a timid negative assurance that they are not *under*compensating networks (see section 5.1.3).

These observations demonstrate the AER has been overly conservative in determining its point estimate of beta. In other words, the AER has not chosen an estimate that would, on the balance of probabilities, meet investors' requirements. Instead, it has applied a higher standard. That is, it appears to have exercised its regulatory judgement to choose a value that lies 'beyond reasonable doubt' that investors will not be undercompensated. As a result, it has *over*estimated the appropriate value of beta as demonstrated in sections 5.1.3 and 6.2.3.

Principle 3 – While beta is only one element in the calculation of networks' regulated rate of return, it is an important parameter. And more immediately, it is the only parameter determining the return on equity open for reconsideration within the scope of the 2026 RORI review. Regulatory misjudgements when setting the value of beta can impose significant costs on consumers. This cost is demonstrated in the following calculation which holds all other relevant variables constant with their values in the 2022 RORI, except for the Regulatory Asset Base (RAB) which can reasonably assumed to have a significantly higher average value over the four-year life of the 2026 RORI.[65] The calculation shows the impact of applying a beta valued at 0.6 rather than 0.5 (noting section 6.2.3 concluded the AER's point value for beta should be 0.5 or less).

[65] Two caveats are required. First, we recognise RORI 2026 will not apply to the RAB of each network at the same time. Second, we have applied the same average RAB in each of the four years as this calculation is intended for illustrative purposes only. The estimated average RAB of $160 billion compares to the total network RAB of $137.2 billion (as at June 2024) reported in: AER (August 2025) *State of the Energy Market Report 2025*, pp. 56 & 212

Overestimate of beta (0.6 – 0.5)	0.1	x
Market Risk Premium (6.2 per cent)	0.062	x
Benchmark gearing (60:40)	0.4	x
Assumed average RAB (2026-30)	$160 b	x
Life of RORI26 (years)	4	
Impact on consumers over 4 years	$1.59 b	

Principle 4 – Not applicable. Determining the value of beta is within scope of the 2026 RORI review and the options discussed in this submission are consistent with those identified in the AER's discussion paper in August 2025.

6.4.3 A single beta for gas and electricity

The AER has repeatedly considered and rejected calls for different estimates of beta to be applied to gas and electricity networks. For example, in its 2022 explanatory statement, the AER stated:[66]

> *We maintain the view that asset stranding risks faced by gas networks should be addressed through the broader regulatory framework (for example, accelerated depreciation).*

The AER's recent discussion paper proposes to continue applying a single beta to all network investments.[67]

Since the 2022 RORI, the AER has begun providing allowances for accelerated depreciation responding to concerns about potential *network* stranding – or more accurately, as discussed in section 6.2.1, it is an allowance compensating investors for the risk of a *potential* under-recovery of sunk investments. This entirely negates any further consideration of separate betas for gas and electricity networks.

One further implication is worth noting.

Given the AER estimates beta using a single comparator set consisting of gas and electricity networks, if there were an argument for applying a higher estimate of beta to gas networks then it logically follows that a lower value of beta should be applied to electricity networks.

6.4.4 Before the next RORI review

The effectively universal delisting of networks businesses firms in Australia poses an existential problem for the AER's ongoing use of the CAPM – with its unavoidable reliance on market data – to estimate a regulatory allowance for equity.

While, for now, the CRG prefers the AER rely on long-term historical data for the purposes of determining the value of beta in the 2026 RORI, we also recognise the regulator's ability to rely on historical data will decline as that data ages.

The 2022 CRG recognised the clear and present risk to the integrity of the AER's regulatory model and called on the AER to undertake a fundamental review of how it determines the regulated return on equity before commencing the 2026 RORI review.[68]

> *The CRG considers that the delisting of the last two holding companies that were primarily composed of regulated network holdings (SKI and AST) should be the catalyst for a broader review of its approach to estimating the rate of return (with a particular emphasis on the return on equity) … An early review would*

[66] AER, *Explanatory Statement – Rate of Return Instrument* (February 2023), p.184
[67] AER, *Rate of Return Instrument. Review discussion paper* (August 2025), section 5.1.1
[68] CRG 2022, *Advice to the Australian Energy Regulator. CRG Response to the AER's December 2021 Information paper* (March 2022), p.90

enable the AER and stakeholders to be as prepared as possible for the development of the 2026 instrument…

Soon after finalising the 2022 RoRI review, the AER should initiate a full-scale review of its approach to estimating the rate of return (with a particular emphasis on the return on equity).

For whatever reason, this work has not been done.

The narrowed scope of the 2026 RORI review leaves stakeholders and the regulator with few options for dealing with the absence of current data following the delisting of network firms.

The CRG echoes the views of its predecessor. The AER should not sink further resources into the sophistry of including international firms in its data set for the 2026 RORI. Instead, it must invest in understanding why networks have delisted in Australia (and not elsewhere), the role of the regulatory framework in motivating those decisions, and how its methodology must evolve in response to the absence of new market-based data.

6.5 The CRG's response to the AER's questions

Table 5: AER questions on beta and CRG responses

#	Questions	CRG response
1	Do you agree with our preliminary options, as outlined in section 5.1.3? If no, why not? Are there any other potential options that you would like us to consider?	Within the confined scope of the 2026 RORI Review, there are no other feasible options for responding to the lack of new domestic market data to support the estimation of beta.
2	How could we use the equity beta estimates of international energy firms to inform our decision on equity beta?	International data should not be used in the 2026 RORI review to estimate a beta for the purposes of calculating a rate of return on equity for local energy networks. Introducing international firms into the comparator set: • adds many layers of complexity without any measurable or verifiable improvement in the accuracy or reliability of the resultant estimate of beta; and • reduces transparency in, comprehensibility of, and accountability for, the regulatory judgements applied by the AER when determining a final estimate of beta. See sections 6.2.2, 6.3 and 6.4.1.
3	What other filters and/or adjustments should we make to international energy firms and their equity beta estimates to make them more comparable to the equity beta estimates of Australian regulated energy networks, as outlined in section 5.1.2.1?	The AER should resist the temptation of the 'fallacy of elegance' See sections 6.3.3 and 6.4.1.
4	Do you have any suggestions on how best to address the leverage anomaly, as outlined in section 5.1.2.2?	See answers to question 2 and 3. See sections 6.3.1 and 6.3.2.
5	Do you have any suggestions on how best to address the issue of different domestic indices between Australian and international firms, as outlined in section 5.1.2.3?	See answers to question 2 to 4. See sections 6.3.1, 6.3.2 and 6.4.1.
6	Other than the comparator set, do you have any comments on any other aspects of our approach to estimating equity beta?	The ongoing use of long-term historical data to estimate beta is the far simpler option and supports greater transparency in, and accountability for, the regulatory judgements applied by the AER when determining a final estimate of beta. There are strong indications that the current level of beta ($\beta = 0.6$) is significantly overcompensating investors for the systematic risks they face when investing in domestic network service providers. See sections 6.2 and 6.4.

7 Moving to a weighted trailing average to calculate the return on debt

The CRG considers:

- The case for change has not been well established, noting that the weighted trailing average was considered and discarded in the 2022 review.
- The problem statement has not been set out as clearly as possible and accordingly the other options for addressing the problem have not been considered as a point of reference for the relative merits of the weighted trailing average against other options.
- The AER's proposed analytical framework for assessing the weighted trailing average would benefit from refinement.

Accordingly the CRG remains sceptical about the benefits of the weighted trailing average for consumers and cannot endorse its implementation at this time.

7.1 Introduction

In 2013, the AER introduced the simple ten year trailing average and began "transitioning" from the previous day ahead approach to the trailing average approach. At that time it acknowledged that it was making a simplifying assumption in using equal weights, given that NSPs' capex varies from year to year, and so by implication their debt raising varied year by year, but considered that the difference did not materially violate the NPV=0 principle.

In 2022 the AER considered weighting the trailing average in the light of the introduction of the ISP, and the expectation that some transmission network service providers (TNSPs) would face very large capital investment requirements relative to their existing RABs. Ultimately it decided not to, and there was no broad stakeholder support for the change.

Given this outcome, it is surprising that the AER has nominated this issue as one of the key issues for consideration, without presenting evidence that there has been a material change since 2022 to warrant reconsideration of the issue. The implication in the Discussion paper is that the driver for canvassing the issue again may simply be that the Independent panel's report on the 2022 RORI suggested it[69]:

"*Consistent with the Independent Panel's recommendation to the AER in the 2022 RORI review, we have undertaken further work to explore how a weighted trailing average approach could operate in the future, were it to be implemented.*"

The approach of "exploring how a weighted trailing average approach could operate in the future" has the limitations of leaving three fundamental questions unanswered:

1. What has changed since 2022 that would warrant the AER making a different decision than in the 2022 instrument, i.e. to implement a weighted trailing average instead of a simple trailing average?
2. What is the underlying problem statement and is a weighted trailing average the only solution worth considering?
3. What is the analytical framework by which the AER or stakeholders should be assessing the relative merits of a weighted trailing average against the current approach?

We consider these three questions further below and then consider the options for implementation.

[69] AER, *Rate of Return Instrument. Review discussion paper* (August 2025), p22

7.2 What has changed since 2022?

In 2022 the AER presented a range of quantitative analyses of the topic. For example it noted that:

"*setting aside Transgrid and ElectraNet, average annual growth rates over a regulatory period in PTRM debt balances varied between −0.5% and 4.6%. We consider that an average growth rate of under 5% would not result in material deviation from the NPV=0 condition."*[70]

It would be useful to understand whether this result would be different using the latest available data from current decisions (including draft decisions, such as that for the Victorian DNSPs). This would help stakeholders understand whether the materiality of the issue has changed.

There's no evidence that the needs of even the NSPs for whom RAB growth rates might be high enough to warrant a change in approach have changed. During the 2022 review, the AER reported that:

"[Transgrid] stated that, even if the approach did better match the allowed and required return on debt, it was a second-order consideration. The key issue for major transmission projects, in its view, was the impact on credit ratings during the early years of construction, when significant volumes of debt must be raised in a short time period. Transgrid indicated that it is difficult to maintain a BBB+ credit rating under the current regulatory arrangements, and that this issue cannot be addressed by altering the weighting scheme on the return on debt"[71].

Transgrid has maintained the same credit rating since rating was initiated in 2016 on privatisation, so has clearly managed to avoid downgrades so far. Admittedly this credit rating is BBB, however this is presumably based on a choice by the initial private owners to gear up aggressively, and subsequently, Transgrid has chosen to maintain that approach despite expecting to have significant financing requirements over the next decade. Accordingly, the onus is very much on Transgrid to manage its financing costs itself. The AER has noted that efficient financing may include some deleveraging if it is facing a very large financing requirement:

"It is not clear whether a benchmark business would find it efficient to increase debt raising significantly beyond 10% in a year. Instead, the benchmark business may issue proportionately more equity than that consistent with the benchmark gearing level, especially at the project's early stages"[72].

As discussed in section 5.1.1, the evidence is that NSP gearing fluctuates significantly in practice, so there is nothing untoward about the AER expecting NSPs to self-manage financing challenges. NSPs are further assisted by two developments since the 2022 RORI:

- a financeability rule change to allow NPV neutral reprofiling of cash flows where an NSP can make a case that has financeability challenges[73], and;
- the implementation of the Commonwealth government's Rewiring the Nation policy which is issuing concessional rate debt to TNSPs to help finance ISP projects.

In summary, there's no evidence that the situation has materially changed since the 2022 Instrument, that would warrant a change in approach.

7.3 The underlying problem statement

The discussion paper does briefly set out the problem that a weighted trailing average is designed to address:

"Where interest rates are materially above the return on debt from the simple trailing average, this could result in required essential projects being delayed or not proceeding. In the alternative, where interest rates are materially below the return on debt from the simple trailing average, it could incentivise inefficient over-investment on large projects."[74]

[70] AER, *Draft Rate of Return Instrument: Explanatory Statement* (June 2022), p228
[71] Transgrid, *AER Rate of Return final Omnibus paper – Submission* (March 2022), pp. 2-5.
[72] AER, *Draft Rate of Return Instrument: Explanatory Statement* (June 2022), p226
[73] AEMC, *Accommodating financeability in the regulatory framework final rule* (March 2024)
[74] AER, *Rate of Return Instrument. Review discussion paper* (August 2025), p21

However, the extent of the problem is not presented in the Discussion paper – as noted above, the 2022 Review set a threshold of 5% growth in annual debt requirements.

Nor is there a thorough exploration of the extent to which the problem represents a financeability problem versus an incentives problem. The first sentence in the quote above implies a financing problem while the second implies an incentive problem. This matters because there are different alternative solutions depending on how the problem is characterised.

If it is primarily a financeability problem, then there is a risk that if the trailing average is below the current cost of debt, an NSP with an unusually large financing task may simply be unable to raise the finance as the overall return on debt is insufficient. In this case (aside from the initiatives aimed at addressing financeability noted above), the options would include moving closer to a cost-of-service model, which would ensure that the NSP had enough revenue to finance its capex. The merits of this approach of course also depend on what is lost by moving away from an incentive-based approach and a cost-of-service model may need some safeguards to avoid encouraging outright inefficient financing practices.

If it is primarily an incentives problem, i.e. a mismatch between the marginal allowed return on debt and the current cost of debt leading to an NSP deciding not to proceed with a large investment (or conversely over-investing to take advantage of an actual cost of debt below the allowance), then the issue could be addressed by a return to an on-the-day return on debt. Of course the incentive problem has in principle existed since the move to the trailing average in 2013 and the AER has not been unduly concerned to date. The incentive properties of the trailing average apply whether or not there is a material variation in the level of financing required.

In setting out these alternative options for addressing the problem, we are not advocating for them, simply highlighting the existence of the other options. It is easier to weigh up the value of adopting a weighted trailing average if we are clear what we are comparing it with – i.e. what are other potential solutions, as well as the status quo. There would be value in the AER defining the problem it is seeking to address with the weighted trailing average as clearly as possible and setting out the range of possible solutions, as well as reasons why it is not actively considering them in this review. This would help satisfy our principle 3 – that the consumer impacts of any proposed changes be clearly set out.

7.4 The analytical framework for assessing the options

The Discussion paper includes some form of analytical framework for assessing the relative merits of the options, as referenced in question 8.

These are, respectively:

- where on the spectrum between incentive-based regulation and cost-of-service regulation the options lie;
- the accuracy, simplicity and regulatory consistency of the options, and;
- the regulatory burdens and costs associated with the options.

These elements of the framework are considered in turn.

The value of incentive-based regulation and the extent to which it is currently being applied in consumers' interests has been canvassed in section 5.1. To consider what potentially is being lost by moving away from incentive-based regulation, we need to be clear on its benefits and as discussed these are ambiguous, given the different metrics produced by the AER appear to suggest different answers. This ambiguity must be resolved before we can effectively consider the impact of moving along the spectrum.

Superficially, accuracy, simplicity and regulatory consistency all appear desirable characteristics of a regulatory framework. Unfortunately there is ambiguity both in how these various characteristics are defined as well as how important they are to an effective regulatory framework.

Accuracy is defined in the discussion paper as being consistent with actual financing: as per this quote:

"Improves accuracy in aligning the cost of debt with actual financing"[75].

But accuracy is thus achieved by moving closer to a cost-of-service model, which has already been considered as part of the framework. So it's not clear why accuracy is separately considered, nor why it is assumed to be a positive - since the corollary of accuracy in the context of comparing a simple and a weighted trailing average is a potential loss of incentive properties.

Simplicity lacks a clear yardstick – simple in what terms? Simple enough to explain easily to the archetypal person in the street, simple enough to be represented in a single Excel worksheet, or something else? Additionally, we are considering these options in the context of what is already by any measure a highly complex regulatory framework. The 2022 instrument required a 350 page explanatory statement, and reset processes involve an exchange of thousands of pages of documents and models between AER and each NSP. The AER may well take the position that this level of analysis is necessary to establish a robust *ex ante* estimate of the rate of return and the other building blocks of a revenue determination or access arrangement. If so, then all well and good, but then why place any real weight on simplicity in this specific case? Notwithstanding this point, increasing complexity, even if it introduces some benefits, should be weighed against its impact on transparency. As the RORI, or the framework as a whole becomes more complex it becomes increasingly difficult to explain clearly to stakeholders.

Finally regulatory consistency must be considered in the context of for whose benefit? Generically, regulatory consistency is seen as supporting a positive investment environment and representing a lower regulatory risk for investors in NSPs. But in this case, the proposed change is to better match actual financing requirements, so the change is in investors' favour. This presumably trumps consistency. Conversely, if regulatory consistency is intended to reassure NSPs' customers, then there may be an issue. As Associate Professor Partington noted in the Eligible Experts report:

"fairness to consumers required that when the switch to a higher interest rate regime occurred the AER would need to hold the line on the continuing use of the trailing average (equally weighted)."[76]

In this case, regulatory consistency is important and is an argument in favour of the status quo.

There are few if any obvious *regulatory* burdens or costs associated with implementing the WTA. It represents a benchmark that NSPs are not obliged to follow and is aimed at better matching how an NSP *may* finance in practice. The key informational requirements are forecast and (if there is to be a true-up) actual capex, both of which are collected by the AER in any case.

7.5 Implementation options

The main options for implementation are:

- the overall choice of methodology – the discussion paper includes a QTC proposal as well as the AER's own method;
- whether to implement a threshold so the weighted trailing average only applies to NSPs that exceed the threshold;
- whether to true-up for actual capex, and;
- lead times and transitions.

These options are considered further below.

The choice of methodology

Two options are offered and the CRG has not attempted to design an alternative option. Key to both options are that they seek to avoid the refinancing risk that would occur if an especially large tranche of debt needed to be

[75] AER, *Rate of Return Instrument. Review discussion paper* (August 2025), p27
[76] Johnstone, D, Partington, G and Kumareswaran, D, *2026 Rate of Return Instrument review Eligible Experts' joint report,* (November 2025), pp76-77

refinanced every ten years. Accordingly, both need to incorporate a method for transitioning back to a simple trailing average.

The AER's approach is to issue transitional tranches of debt, which are assigned notional maturities from one to nine years[77]. Accordingly a portion of the debt raised each year matures and is replaced by ten year debt to smooth out the overall refinancing requirement. What's unclear from the description is how this debt is priced. Presumably it should be priced in line with the notional maturities in the model, i.e. the one year debt should be priced at a one year rate and so on, in order to represent efficient financing. In that case, the weighted trailing average would result in a marginally lower overall return on debt over time as compared to a simple trailing average as it would contain some shorter-maturity debt costs whereas the simple trailing average only contains ten year debt. However, the discussion paper is not explicit about this or how it will calculate the cost of debt for the different maturities.

The QTC approach seeks to achieve a similar outcome but explicitly assumes all debt continues to be ten year debt. But to smooth out the refinancing, the benchmark NSP retires some of this debt each year, so 10% is retired after one year, another 10% after the second year and so on. But this also does not appear efficient. We appreciate that NSPs in practice may retire some debt early for a range of reasons, but this will typically be as opportunities present themselves to re-optimise their overall financing. It seems unlikely that they would knowingly enter into a ten year agreement intending to retire the bulk of the debt before maturity. This would be less efficient than simply taking out some shorter-term debt. The rationale for the QTC approach is that it represents an approach with lower transaction costs than the AER, which with the staggered notional maturities requires a large number of tranches of debt to be held at any given time. But do the transaction costs really outweigh the extra cost of taking out longer term debt? It seems unlikely, given the NSPs in practice take out plenty of debt at less than ten year tenor, as evidenced by the EICSI. The AER needs to carry out analysis to determine what actually would be expected to be the most efficient way to smooth the refinancing task as well as consider how to price the component of the cost of debt that is less than ten year maturity.

Threshold

Stakeholders are asked to provide a view on thresholds without any data that provides a sense of how different thresholds might cover a greater or smaller number of NSPs. The analysis done in 2022 suggested only two TNSPs had expected capex profiles material enough to warrant a weighted trailing average. If this still holds it seems inappropriate to apply it to all NSPs. But that would require a threshold and that may create scope for gaming. In practice it's not clear how high the risk of gaming is. Assuming the threshold is applied ex ante, for an NSP to be confident it knew which side of the threshold it would prefer to be on (and construct its capex forecasts accordingly) it would surely have to be confident that:

- it could predict how interest rates would move throughout the next five years, and;
- it knew what its actual capex profile would be (assuming a true-up is applied), i.e. it was not subject to delays outside its control.

Both of these seem unlikely, the latter especially in the case of large ISP projects. A bigger issue in determining and applying a threshold could be that some major projects are approved outside of the five year reset period, so the threshold could be reached after the revenue determination had been made.

True up

The AER has previously observed that actual capex does not always match forecast :

"We have observed that forecast capital expenditure in the Post-tax revenue model (PTRM) differs, both in timing and magnitude, from actual capital expenditure. In particular, we frequently see projects that are delayed by several years."[78]

Given this, and given that the purpose of the weighted trailing average is to better match actual financing requirements, there needs to be a true up mechanism. It would be preferable for this to be carried out in the next

[77] AER, *Rate of Return Instrument. Review discussion paper* (August 2025), p37
[78] AER, *Draft Rate of Return Instrument: Explanatory Statement* (June 2022), p226

reset period, but this may depend on the materiality of the adjustment required. This is another reason that the AER should update and publish its quantitative analysis of the likely requirement for and impacts of a weighted trailing average.

We have provided brief answers to the other implementation issues canvassed in Table 6.

7.6 Our position assessed against our four proposed principles

Noting that our overall position is that more analysis and information is required, the application of our principles to the weighted trailing average and the return on debt more broadly is as follows:

Principle 1 - parties should only be compensated for the risks they bear. In principle the AER has aimed to do that through its benchmark approach which takes account of actual credit ratings as a proxy for risk levels. How well this has worked in practice comes back to the question of the level of ongoing outperformance discussed in section 5.1.4.

Principle 2 – setting the rate of return as low as possible, likewise is predicated on how well the AER is capturing outperformance for the future benefit of customers. On the face of it a weighted trailing average could assist with achieving this if it incorporated some shorter-term debt, that was priced accordingly. By better matching the actual levels of debt an NSP needs to raise it could reduce any temptation on the part of the AER to build in a "cushion" to the rate of return to account for the uncertainties inherent in setting an ex ante rate. But the AER does not formally represent its decision as incorporating such a cushion. Otherwise a weighted trailing average should not systematically represent a higher or lower rate of return than a simple trailing average.

Principle 3 – The consumer impacts of any changes should be clearly described - it will only be possible to assess this if the AER confirms that it will implement a weighted trailing average.

Principle 4 – the conditions for a change – these have yet to be established, as discussed in section 7.2.

7.7 The CRG's response to the AER's questions

Our responses to the specific AER questions on this topic are set out below in Table 6

Table 6: AER questions on the weighted trailing average and CRG answers

#	Questions	CRG answers
1	Introduction of a weighted trailing average approach: (a) Do you in principle support the introduction of some form of weighted trailing average (qualified by your answers to the later questions in this section)? Please include reasons.	At this stage the CRG cannot give support to the introduction of a WTA. For now remain sceptical, and we think more work is required to prove up the case for making such a change. Nonetheless we have answered the remaining questions as if a WTA was to be introduced.
2	Application of the weighted trailing average approach: (a) Should it apply to all network businesses by default, or only when forecast capital expenditure exceeds a certain threshold? Please include reasons. (b) (b) If a threshold is preferred, what kind of threshold would work best (e.g. a percentage of RAB and/or a fixed dollar amount or some other measure/s), and what level would be appropriate for your suggested trigger/s? Please include reasons.	During the 2022 review the AER identified two NSPs to whom the WTA would make a material difference (Transgrid and ElectraNet). Given this it may be preferable to have a targeted approach. We recognize this should be weighed against the risk that a threshold creates perverse incentives for an NSP to adjust its forecasts to seek to be on its preferred side of the threshold, but we consider this risk to be low. In order to answer questions regarding the threshold it would be useful to understand the implications of different threshold levels and types, since there is no objectively correct answer.
3	How the true-up mechanism should work: (a) Do you support using a true-up to reduce the risk from capital expenditure forecasts? If you do or do not, please explain why. (b) What do you consider a preferred method of applying a true-up? Would it be through adjustments to the rate of return during the regulatory period (i.e. some form of rolling true-up), or through an adjustment to the	a)In order to achieve the stated purpose of a WTA, a true-up should apply. As the AER has observed, there is a high risk that actual capex profiles do not match forecasts, and it is actual rather than forecasts that will drive financing requirements. b) In the light of the introduction of the financeability rule change to assist with in-period financeability issues, the preferred method would be to adjust in the next regulatory period. This avoids adding

	rate of return in the next regulatory period (potentially at the time of the RAB roll forward calculations)? Why? (c) If a rolling return based true-up with a two-year lag were adopted, are there specific implementation risks or modelling issues we should consider? Why?	to the difficulties of forecasting network tariffs during a period due to true ups. c) We are not aware of any at this stage.
4	Interaction with the CESS: (a) Could financing benefits or losses be double-counted under both a true-up and the CESS? Why? (b) If so, should the CESS be amended after the Rate of Return Instrument is made to ensure it operates as intended?	Double counting should absolutely be avoided. If this requires an amendment to the CESS then this should be processed after the RORI is made.
5	Reporting: a) Are there any concerns with changes that might be needed to Regulatory Information Notices, the Roll-Forward Model, or the RORI?	We have no concerns – the AER should ensure it receives all the information it needs from the NSPs.
6	Costs: (a) Are there likely to be material incremental costs imposed on network businesses from applying a weighed trailing average to them (e.g. additional hedging or other financial transaction costs). If yes: what would these costs relate to (e.g. additional financial transactions of a given type); how large would you expect these to be; are these costs one-off or transitional; and what scheme design elements might reduce any incremental costs?	To the extent that a transition to the simple trailing average is part of the methodology, this may imply an increase in the number of tranches of debt raised. If so, it is reasonable for the AER to consider whether this would result in materially increased transaction costs. Other than this, there are not likely to be material incremental costs. The WTA is calculated with regard to a benchmark efficient entity and NSPs are under no obligation to attempt to match the assumptions of the RORI re how they finance – they will finance in the manner that suits their needs regardless of whether the WTA is introduced. The WTA is intended to assist with financing rather than increase financing costs. If NSPs claim that they will incur material additional costs that should be recovered from consumers, then the WTA should not be implemented.
7	Transition: (a) What transitional arrangements or lead times would be necessary to help NSPs prepare for a change to a weighted trailing average?	None. The WTA is intended to better match NSPs' financing requirements than the simple trailing average. If transitional arrangements or lead times are required, this would imply that the WTA fails to fulfil its own purpose and it should not be implemented.
8	Overall design: (a) Does the proposed approach strike the right balance between incentive-based benchmark regulation and greater use of firm-specific cost information that may move the trailing average approach closer to cost-of-service regulation? (b) Does the proposed approach strike the right balance between accuracy, simplicity and regulatory consistency? Why? (c) Would the use of a weighted trailing average add material regulatory burden and/or cost for NSPs to which it would apply? If yes, what are these likely to be? (d) Are there any other ideas or refinements we should consider? If yes, what are these?	a) As discussed above, it is unclear how much the AER can or does utilise its benchmark approach to ensure the evolution of efficient financing practices have b) As discussed above it depends on what each of these terms actually means in this context. c) no, we do not consider it would. If it did, then that would likely be a reason not to implement it. d) As discussed above, if the AER's preferred methodology (or a variant thereof) is to be applied, it is important to understand how tranches of debt at maturities less than ten years will be priced in a way that consumers can benefit from the efficient financing approach these shorter term maturities represent.

Appendix A: Four principles to guide the 2026 RORI review

In August 2025, the AER published a discussion paper framing the 2026 RORI review. The discussion paper outlines the AER's intention to narrow the scope of the 2026 review to two key issues: the estimation of beta and the weighting of debt. The CRG supports this narrowing of the RORI review.

The discussion paper acknowledges the role played by regulatory judgement in making the RORI.[79]

> *Setting the rate of return is a complex task that involves exercising judgement in the face of uncertainty.*

Indeed, the explanatory statement for the 2022 RORI refers over 80 times to the AER exercising its regulatory judgement.

The CRG acknowledges and fully accepts the role of regulatory judgement in determining the relevant elements of the rate of return, the conduct of a RORI review, and the making of the final instrument. The CRG is concerned, however, that the discussion paper does not offer substantial insight into *how* the AER will exercise its judgement.

The explanatory statement for the 2022 RORI articulated eight "criteria … to help guide" the AER in its exercise of judgement.[80,81] On reflection, it is evident that while these criteria might sound reasonable, they lack sufficient substance against which the regulator could be held answerable.

The AER's recent discussion paper does not provide insight into how it will exercise the regulatory judgement to which it refers. The CRG contends this is a significant omission. Best regulatory practice requires the AER to outline how it will exercise its judgment. First, in terms of its decisions regarding the two in-scope matters; and second, the circumstances under which it will contemplate additional matters.

To this end, the CRG proposes the AER adopt the following four principles to guide the conduct of the 2026 RORI review and publish supporting material or guidance as soon as possible (and well ahead of publishing its draft RORI, scheduled in April 2026).

Our four principles are neither controversial nor profound, nonetheless, having them adopted by the AER would safeguard the community's confidence in the integrity of the 2026 RORI review. Our principles differ from those proposed by the 2022 CRG. The changes reflect lessons learnt from, and the changed circumstances since, the 2022 RORI review.

Principle 1: Parties should only be compensated for risks they clearly bear.

The RORI is a compensatory mechanism. Finance theory dictates that investors will require a higher return for higher risks (and vice versa). Accordingly, the aim of the RORI is to compensate networks for the risks they bear, that they are not compensated for (or protected from) elsewhere in the framework. The AER has recognised this in its statement that:[82]

> *[A]n unbiased estimate of the expected efficient return* [is one that is] *consistent with the relevant risks involved in providing regulated network services.*

Regulated financial returns on capital invested are intended to compensate for systematic risks, i.e. market-wide risks, as investors can diversify away from firm-specific or industry-specific risks (non-systematic risks). Examples of systematic risk include inflation or recessions, both of which regulated energy networks are fairly well insulated against compared to many other companies.

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[79] AER, *Rate of Return Instrument. Review discussion paper* (August 2025), p.6
[80] AER, *Draft Rate of Return Instrument: Explanatory Statement* (June 2022), p. 56
[81] The eight criteria were: (1) Reflective of economic and finance principles and market information, (2) Fit for purpose, (3) Implemented in accordance with good practice, (4) Models are based on quantitative modelling that is sufficiently robust and avoids arbitrary filtering, (5) Market data is credible, verifiable, comparable, timely and clearly sourced, (6) Flexible to allow changing market conditions and new information, (7) Materiality, and (8) Longevity or sustainability of new arrangements.
[82] AER, *Draft Rate of Return Instrument: Explanatory Statement* (June 2022), pp. 6, 31, 50, 59, 298

In the model the AER uses for determining the RORI, the CAPM, the compensation for risk borne by equity investors is calculated by multiplying the market-wide risk premium by the networks' relative exposure to systematic risk, termed beta. The AER has historically relied on empirical data to estimate beta, which is common practice. In the 2026 RORI review, the AER has significantly less recent data from the companies it regulates available to support its estimation of beta. How the AER responds will inevitably require it to exercise significantly greater regulatory judgement than in past rate of return decisions. More than ever, the AER's judgment will rely on qualitative consideration of the risks it is seeking to compensate through the determination of beta.

Accordingly, it is incumbent upon the AER to be fully transparent about the exercise of its regulatory judgement. Consumers are entitled to be confident that only systematic risks that networks *clearly* bear are taken into account in determining the regulated rate of return. Spurious, ambiguous or immaterial claims about network risks must not be taken into account.

The compensation for risk borne by debt investors is estimated through different means, although debt betas can be used in the capital asset pricing model (CAPM). Ratings agencies assign risk levels, or "credit ratings" to companies when they borrow (and sometimes to individual debt instruments) and the interest rate a company must pay is very closely correlated with their credit rating. The AER determines a benchmark credit rating it considers reflects the rating a benchmark efficient network would have and then uses independent published data to estimate the interest rate a company with that credit rating would face. This avoids the potential for perverse incentives if the AER used the actual credit rating of each network, which would – arguably – make them indifferent to the need to maintain a strong credit rating. It cross-checks both the credit rating and the resultant return on debt (a lender's return on debt is the borrower's interest rate) against out-turn network data to satisfy itself that its benchmark assessments are not materially out of step with the actual costs.

Nonetheless, in the 2022 RORI review, the allowed return on debt was set at a rate slightly higher than networks' actual debt costs. Consumer representatives challenged the AER to justify this difference and explain why it did not represent an overcompensation for the risks borne.

Regulatory settings and benchmarks must not compensate networks for equity and debt risks they do not clearly and demonstrably bear.

Principle 2: The rate of return should be set as low as possible such that, on the balance of probabilities, it will support the required level of investment.

Determining a regulated rate of return relies heavily on the regulator's judgement. This includes, but is not limited to, the choice of a theoretical model (e.g. the Sharpe-Lintner CAPM), methodologies to estimate each of the components of the theoretical model, the relevant data set and choices about estimation periods and data frequencies.

In short, there is no objective (or "true") rate of return waiting to be discovered. The centrality of regulatory judgement cannot be understated. It demands a clear and transparent articulation of the 'standard of proof' the regulator will apply when exercising its judgement – in this case, when judging each component comprising the regulated rate of return, and when deciding the final rate of return *in toto*.

The national electricity and gas objectives frame the AER's task when determining the rate of return, but they too are open to regulatory interpretation and judgement. During the 2022 RORI review, the AER explained:[83]

> *In our view, the best possible estimate of the expected rate of return—neither upwardly biased nor downwardly biased—will promote efficient investment in, and efficient operation and use of, energy network services.*

And, as already noted, the AER's draft 2022 explanatory statement elaborated further when it explained:[84]

> *[A]n unbiased estimate of the expected efficient return* [is one that is] *consistent with the relevant risks involved in providing regulated network services.*

[83] AER, *Rate of return, Overall Rate of Return, Equity and Debt Omnibus, Final Working Paper* (December 2021), p. 8
[84] Ibid.

In other words, the regulated rate of return should be no higher than the rate required to compensate for the attendant risks. Setting the rate too high unfairly rewards investors at consumers' expense. Setting the rate too low potentially jeopardises the adequacy of network investment and, therefore, the reliability and sustainability of network services provided to consumers.

There is no single, objectively estimable or verifiable value for the rate of return that meets the 'not too high, not too low' requirement described by the AER. The regulator must form a view –informed by quantitative analysis and/or qualitative reasoning – about the range of possible values for the 'efficient' rate of return. That is, the regulator must form within its own mind a subjective probability distribution function for the efficient rate of return.

In exercising its regulatory judgement, the regulator then decides – whether consciously or otherwise – the standard of certainty (or confidence limit) it will apply when determining the regulated rate of return from within that subjective probability distribution function.

In its response to the AER's draft rate of return estimate in 2022, the then CRG expressed grave concerns about the regulator's judgement. The 2022 CRG identified that many components comprising the draft rate of return were drawn from the higher end of the range of possible estimates – resulting in an unnecessarily inflated overall rate of return. CRG2022 went so far as to express its concerns in terms of the AER demonstrating bias in the exercise of its regulatory judgement.

This lack of regulatory transparency about the AER's required standard of certainty should not be repeated in the 2026 RORI review.

Given the various incentive mechanisms, compensation devices, and checks and balances within the broader regulatory framework, there is simply no justification for the AER adopting a conservative standard of certainty when exercising its regulatory judgement. The CRG contends the AER should set the rate of return as low as possible such that, on the balance of probabilities, it supports the required level of investment.

Principle 3: The consumer impacts of any proposed or final changes to the RORI should be clearly described

The AER's discussion paper opens with the statement, "Consumers are at the heart of our work." The CRG welcome this commitment to consumers.

Consumers experience the electricity sector most directly through price and reliability, and increasingly through sustainability as the sector decarbonises. The RORI influences each of these factors, primarily through its effect on network costs, which flow through to retail electricity prices. It also shapes investment incentives that can affect long-term reliability and sustainability outcomes.

Broadly speaking, the regulated return investors earn on sunk investment, as determined via the RORI, represents 15-23 per cent of a typical household bill – $285 to $427 a year per year, assuming average household expenditure of c.$1900pa[85].

If the RORI places downward pressure on the allowed rate of return, consumers benefit from lower network charges and, consequently, lower retail prices. Conversely, upward pressure on the RORI may result in higher prices for consumers, with uncertain or indirect benefits in terms of reliability or sustainability.

Because network price impacts are the most direct and measurable consequence of RORI changes, any proposed adjustment must clearly articulate how it affects consumer costs. This transparency is essential to assess whether the change is likely to be in the long-term interests of consumers.

Put simply, in the interests of full transparency, the AER must require proponents for changing the approach to estimating beta or compensating debt to express their proposals in terms of the consumer impacts of those claims. Of course, the AER must adopt the same discipline when it subsequently publishes its draft and final decisions.

[85] Department of Social Services and the Melbourne Institute, *The Household, Income and Labour Dynamics in Australia Survey: Selected Findings from Waves 1 to 23* (2025)

Principle 4 The AER should only entertain different approaches to the two in-scope matters, and the inclusion of any other matters, if a proponent for change has shown that doing so:

- *is supported by new evidence or research,*
- *would be in the material interests of consumers, and/or*
- *addresses an error or material shortcoming in the approach applied in the 2022 RORI.*

The discussion paper released in August 2025 definitively outlines the AER's intention of narrowing the scope of the 2026 RORI review.[86] The paper emphasises many elements of the methodology for estimating the rate of return are now settled.[87]

> *We settled on a position for each of these topics in the 2022 RORI. Based on the evidence available at the time, we considered most of these topics to be largely settled. For the 2026 RORI review, we are not proposing to revisit all of these topics given extensive past research and analysis.*

The discussion paper continues:[88]

> *For the 2026 RORI review, we propose to continue targeted work on two of these topics: equity beta and the potential use of a weighted trailing average for the return on debt. This reflects the recommendations of the 2022 Independent Panel, past stakeholder feedback, and our own view that further consideration is warranted in light of evolving market conditions.*

We consider the AER's intention to narrow the scope of the 2026 RORI review to be reasonable and responsible. That said, we also consider the AER should retain an open, but critical – and where relevant, dubious – mind if faced with calls for:

- adopting different approaches to the two matters in-scope, and
- including matters outside of the two identified in the discussion paper.

The AER should pre-empt such calls (including from the CRG) by clearly and transparently outlining the thresholds it will apply when considering new approaches or additional matters.

In the above principles, the reference to "new" evidence or research should be measured from the time of the previous RORI review. The CRG appreciates the notion of "material" is more subjective, nonetheless, and in the interests of transparency, the AER should issue guidance as soon as possible (probably in qualitative terms) on what it would consider to be material. Likewise, the AER should describe the threshold (again, probably qualitatively) for what it would accept as an "error" in its current approach.

[86] AER, *Rate of Return Instrument. Review discussion paper* (August 2025)
[87] Ibid. p.1
[88] Ibid. p.7