AER
Consumer
Reference Group

Advice to the Australian Energy Regulator

CRG Response to the AER's Draft Rate of Return Instrument

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Acknowledgement of Country

The National Energy Market, energy users, and the communities in which they reside and work, traverse the lands of many Indigenous nations. We recognise the Traditional Owners of these lands and honour their customs and traditions and special relationship with the land as well as those where this report is being prepared. We respect the elders of these nations, past, present and emerging.

Acknowledgements

The CRG acknowledge the contributions of the residential and business consumer representatives who attended our forums and workshops over the last two years. They have contributed to our understanding of the perceptions and priorities of the consumers they represent. Likewise, several thousand energy consumers participated in our three consumer surveys, and we also greatly appreciate their contribution.

We also express our appreciation the AER Board and staff for their support and encouragement as we worked through the rate of return issues.

Without the financial support provided by Energy Consumers Australia (ECA) we would have been far more limited in our opportunity to gather primary evidence of consumer perspectives. We are grateful to the ECA for its support to enable us to undertake extensive research with consumers and engage with consumer representatives and independent investors. The ECA's support also enabled the CRG to obtain the services of some experienced and well-regarded consultants to assist us in understanding rate of return technical issues.

Our final advice

Since June 2020, the CRG has engaged in debates over the appropriate estimation of the various inputs into the 2022 Rate of Return Instrument. We thank the AER for providing us with this opportunity. This is our final advice.

For the past two years, we have been tempted, and indeed succumbed, to follow the AER down into the minutiae of debates over estimation methodologies for each of these inputs. At this final juncture, we have stepped back from these debates. Instead, we have reflected on how the AER is exercising its regulatory judgement when determining its (proposed) final position on each of these estimates.

The way in which regulatory judgement is exercised is rarely the subject of scrutiny. As noted above, it is much easier to get entrapped in debates over theoretical constructs and empirical measures. What remains beyond dispute, however, is that very little in a rate of return decision escapes the need for regulatory judgement by the AER. This judgment is exercised in multiple, simultaneous dimensions:

- Choice of methodology
- Choice of data set
- Choice of preferred point estimate, and
- Assessment of efficiency of preferred estimate (i.e., not too high, not too low)

By focussing on the <u>consequences</u> of the AER's proposed decision, rather than being limited to narrow theoretical debates of the past two years, the CRG has found a **systemic upward bias** in how the AER proposes to exercise its regulatory judgement. Across almost every aspect of this rate of return review, the AER is proposing to make decisions that give the benefit of the doubt to networks in the form of a higher rate of return than is otherwise justified.

Consumers will be paying until 2031 for the AER's unwarranted permissiveness. As our engagement with consumers highlights, consumers are particularly worried about current and future energy prices.

For the avoidance of any doubt, the CRG is not advocating for a decision skewed in favour of consumers. We are only holding the AER to account against its own 'guiding principle' that:[1, 2]

> *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.*

As the following summary table highlights, a systemic upward bias pervades the draft decision.

In our final advice, the CRG calls on the AER to follow through on its own guiding principle of setting an unbiased estimate of the rate of return.

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

[2]   AER, *Rate of return, Information Paper and Call for Submissions*, December 2021, p.8

Chapter	Parameter	Direction of bias	Explanation
2	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.
3	Market Risk Premium	Upward	The AER's choice of 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
3	Market Risk Premium (alternative)	Upward	The alternative, Option 3b, gives 50% weight to DGM estimates. DGMs tend to be upward biased due to analyst optimism and the AER's model uses the ASX 200 which likely overestimates the returns to the overall stock market.
4	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.
5	Cross-checks	N/A	See below
6	Equity premium	Upward	As a consequence of the AER's estimates of beta and MRP, the implied equity premium for a 5-year RoE is perversely higher than its estimates of the equity premium for a 10-year RoE.
6	WACC	Upward	The AER has not explained why investors would treat a 10-year RoD as a substitute for a 5-year RoE. A 10-year RoD will typically be higher than a 5-year RoD, thereby upwardly biasing the WACC.

In addition to the issues summarised above, and in line with the 2022 Independent Panel's advice, we have provided a range of relevant cross-checks to assess the impact of the AER's 2018 rate of return decision. These cross-checks taken together demonstrate that the 2018 rate of return decision has not impeded the operational performance of network businesses. Nor has it damaged networks' ability to access equity and debt, their financeability, and the maintenance of credit ratings, consistent with the AER's BBB+ benchmark rating – in fact, to the contrary.

Abbreviations and short forms

The CRG has adopted the following abbreviations and short forms in this advice.

Abbreviation/short form	Long form/full name
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Draft RoRI	AER Draft Rate of Return Instrument 2022
Draft Explanatory Statement	AER Draft Rate of Return 2022- Explanatory Statement
2018 Explanatory Statement	AER, *Rate of Return Instrument*, 'Explanatory Statement', December 2018
AST	AusNet Services
bp	Basis points
capex	Capital expenditure
CAPM	Capital Asset Pricing Model
CER	Consumer Energy Resources
CGS	Commonwealth Government Securities
CRG	Consumer Reference Group
DGM	Dividend Growth Model
ECA	Energy Consumers Australia
EICSI	Energy Infrastructure Credit Spread Index
ENA	Energy Networks Australia
FFO	Funds from Operations
HER	Historical Excess Returns
Information Paper	AER, *Rate of return. Information Paper and call for submissions*, December 2021
IID	Independently and identically distributed
ISP	Integrated System Plan
MRP	Market Risk Premium
NEM	National Energy Market
NEO	National Electricity Objectives
NGO	National Gas Objectives
NPV	Net Present Value
NSP	Network Service Provider
NZCC	New Zealand Commerce Commission
RAB	Regulated Asset Base
RoD	Return on Debt
RoE	Return on Equity
RoRI	Rate of Return Instrument
RPPs	Revenue and Pricing Principles

Abbreviation/short form	Long form/full name
Sapere	Sapere Research Group
SKI	Spark Infrastructure
SL-CAPM	Sharpe-Linter Capital Asset Pricing Model
WACC	Weighted Average Cost of Capital
WATMI	Weighted average term to maturity

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1   Putting energy consumers at the centre

The Consumer Reference Group (CRG) is pleased to provide this advice in response to the Australian Energy Regulator's (AER) *Draft Rate of Return Instrument* [3] (Draft RoRI) and the *Draft Rate of Return-Explanatory Statement* (*Draft Explanatory Statement*).[4]

This is our last opportunity to represent the interests of consumers, after two and a half years of engagement with the AER on the regulated rate of return. In doing so, we cannot ignore the strong feedback from consumers, particularly in the past few months, that energy costs are hurting consumers now more than ever, and the prospect of further energy cost increases is alarming.

Consumer representatives tells us that consumers are increasingly stressed with the rising costs of basic services while their income is declining real terms, particularly for those on fixed incomes or on low wages. We cannot ignore the growing economic challenges facing consumers, nor can the AER ignore these calls by falling back on abstract and arcane regulatory theories.

Abstract theories have consequences for real people. Consumer confidence in the energy regulators and the overall energy market is at risk of deteriorating. Such outcomes would be detrimental to the long-term efficient operation and use of the energy networks. They may well have broader impacts by eroding community support for the vital reforms of the overall energy market.

The AER's 2022 RoRI decision is also being made in an increasingly complex environment as governments in Australia move towards more rapid decarbonisation of the economy and the restructure of the energy market to align with this. Accelerated decarbonisation will require significant additional investment, particularly in the electricity transmission networks.

However, success in implementing these network plans also requires an extraordinary degree of social licence. Any perception by consumers that regulatory decisions are not being made in their long-term interests will erode consumer confidence and undermine the social licence to build the necessary infrastructure.

Our advice to the AER identifies opportunities where the AER can exercise its judgement consistent with the National Energy Laws and Rules. At the same time, it enables the AER to demonstrate it understands and is responding to the challenges facing consumers while continuing to support efficient investment in, operation and use of the network as required by the energy laws.

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[3]   AER, *Draft Rate of Return Instrument*, June 2022

[4]   AER, *Draft Rate of Return Instrument – Explanatory Statement*, June 2022

The CRG's role in the development of the 2022 RoRI

The CRG was appointed in June 2020. It includes six active members and a representative from Energy Consumer Australia (ECA).

The AER has a legislative requirement under the National Electricity Laws and National Gas Laws to appoint a Consumer Reference Group (CRG) when developing a Rate of Return Instrument.[5]

The legislative purpose of the CRG is to assist the AER to implement an effective consumer consultation process. The CRG may give advice or recommendations to the AER about the content of the instrument and the process for making it.[6]

We have has addressed these legislative requirements around two separate but parallel and closely interacting streams of work. We have designed and implemented an innovative consumer and stakeholder engagement program,[7][8] while assessing the AER's approach to the RoRI and its technical analysis of the key components the rate of return.

A key feature of our dual approach included the development of five consumer-based principles, which were endorsed by consumers. These Principles continue to underpin our advice to the AER's on the making of the 2022 RoRI.[9]

In our final advice to the AER, we seek to bring these two streams of work together to provide a substantial body of evidence to support the long-term interests of consumers.

1.1 Setting the scene for the AER's rate of return decision

The turbulence in the geopolitical environment, the Australian economy and the eastern Australian electricity and gas energy markets requires the AER and all stakeholders to very carefully consider the broader context in which the AER is making its rate of return decision.

While the current economic and market turbulence may be temporary, its effects are real for consumers and drive their confidence in the energy market and the bodies that regulate the market. It will also influence their usage and investment decisions with long-term impacts on the operation and utilisation of the energy networks.

These pressures on consumers are occurring at the same time as Australian state, territory and federal governments are actively planning for a more rapid decarbonisation of the economy. The emission reductions ambitions of all jurisdictions now include a commitment to fast-track an amendment to the National Energy Laws to include a decarbonsiation objective.[10]

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[5] Details of the legislative requirements are provided in Appendix A.

[6] See Appendix A for legislative details.

[7] CRG, *Response to the AER's December 2021 Information Paper*, March 2022

[8] See also Appendix B for details of our consumer engagement activities since our March 2022 advice.

[9] Our principles are listed in Appendix C.

[10] Energy Ministers, *Meeting Communique*, 12 August 2022, p. 2. These changes will occur as part of the new National Energy Transformation Partnership.

The energy market reforms also include government commitments to extend the existing state-based transmission and expand the interconnections between the states to facilitate the efficient development of renewable energy zones in the National Energy Market (NEM).

The Australian Energy Market Operator (AEMO) first identified these developments in its initial Integrated System Plan (ISP).[11] AEMO updated the ISP in 2020[12] and in again June 2022.[13] The most recent ISP forecast is that around $12 billion of new 'actionable' transmission projects will need to be constructed by the early 2030s to support decarbonsiation plans.[14]

However, successful implementation of these ambitious plans will require consumer confidence that the energy regulators and the energy regulatory framework is focussed on their interest.

Additionally, due to the 'staggered' timetable of the AER's network revenue decisions over that period, the 2022 RoRI will affect the revenues of some networks through to 2031. The extended impact, or long-tail, of the 2022 RoRI has important ramifications for the AER's rate of return decision under the current legislative framework, particularly where it is setting 'fixed' parameters. In addition, the recent delisting of network businesses and ownership consolidation means that relevant financial data on the networks is increasingly scarce.

All these matters indicate that the AER's rate of return decision in 2022 is increasingly complex and reliant on the AER's judgement to balance the interests of consumers and investors. As the AER stated in its 2021 *State of the Energy Market Report*:[15]

In setting the allowed rate of return, the AER balances the need for efficient and reliable investment against the need to ensure consumers pay no more than necessary for safe and reliable energy.

We agree, and we add achieving the outcome of consumers 'paying no more than necessary' is particularly important at this time for consumers' well-being and the economy generally.

To this end we have received clear messages from consumers and consumer representatives that consumers are hurting and any actions that further embed real price increases in their energy costs should be resisted by regulators. These messages are as follows:

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11   AEMO, Draft *2020 Integrated System Plan,* December 2019

12   AEMO, *2020 Integrated System Plan,* July 2020

13   AEMO, *2022 Integrated System Plan,* June 2022
     Some state governments have announced or are in the process of developing additional transmission projects as part of their plans for 50% carbon reductions by 2030.

14   This figure is based on AEMO's actionable projects and does not include additional state-based transmission plans such as those set out in the *New South Wales Energy Infrastructure Roadmap*, November 2020, and the *Victorian Transmission Investment Framework*, July 2022

15   AER, *State of the Energy Market*, September 2021, p. 152

- Consumers value stability in process and price – but not at any cost

- Reliability of the network is important but, in current market conditions, the price of network services is a priority

- Significant proportions of business and residential consumers are already having difficulty managing their energy bills, and face the risk of closure (for businesses) and significant financial distress (all consumers)

- Consumers expect their energy prices will increase, and increasingly they anticipate being in financial distress, particularly those on fixed incomes

- Many consumers are at a point of 'despair'.[16] They feel helpless to take further actions to reduce their energy bills and instead are cutting back on basic health and well-being expenses - including energy use of basic human needs such as heating and lighting

- Some consumers have the capacity to take more action and continue to look at ways to accelerate reductions in their dependency on grid electricity

- Consumers need to have confidence in Australia's energy system; however, their confidence is rapidly declining, and this is a serious concern relevant to the AER's exercise of judgement

Supporting evidence of these messages is contained in our March 2022 advice to the AER in response to its December 2021 *Information Paper*.[17] Additionally, since our last advice to the AER we have conducted a third survey of residential and commercial energy consumers in the NEM, and qualitative research selected vulnerable consumers, as well as further engaging with consumer representatives. This research confirmed that the above messages continue to hold true. Significantly, consumers tell us the extent of financial stresses facing them worsening, and this is clear from a comparison of the results from our earlier surveys with our most recent survey. An overview of our recent consumer engagement supporting these messages is presented in Appendix B and our Consumer Survey 3 Report is included as an attachment to this Advice.

1.2   The importance of judgement when determining the regulated rate of return

A key feature of the current statutory framework is the scope the energy laws and rules provide for the AER to exercise its judgement. The AER is largely free to select the most appropriate method for estimating the rate of return on equity and debt within the overall legislative task of determining the

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[16]   Quadrangle reports similar findings in its recent consumer survey conducted for Citizens Advice and Ofgem, see Quadrangle, *Household Consumer Perceptions of the Energy Market, Research conducted in Q1'22 – March 2022*, Report prepared for Citizens Advice and Ofgem, July 2022

[17]   CRG, *Advice to the Australian Energy Regulator, CRG Response to the AER's December 2021 Information Paper, March 2022*

rate of return that best satisfies the National Electricity Objectives (NEO) the National Gas Objectives (NGO) and the Revenue and Pricing Principles (RPPs).[18]

As a result of these statutory reforms, the decisions to inform the AER's RoRI are complex. Many of the decisions are not objectively verifiable, but ultimately demand a precise estimate.

The AER's rate of return decision therefore relies extensively on its **regulatory judgement**. The regulatory judgement task is not simple, and it has a real impact on people's lives with the rate of return making up around a quarter of a typical household's energy bill, and even more for some businesses. As the AER indicates, exercising judgement in times of uncertainty requires balancing of risk between reliability and safety of the network and the costs to consumers.[19]

The risk of setting the rate of return too high

The AER suggests over-compensation of network investors for the cost of capital not only drives immediate price rises for consumers; over-compensation also risks network owners' being rewarded, even encouraged, to undertake inefficient investment in growth of their regulatory asset bases (RAB).

In turn, this overinvestment will have long-term impacts on network prices and efficient use of the network by consumers. Consumers, particularly those in NSW and Queensland, quickly saw the cost of over-investment in the networks with the dramatic increases in network charges from 2009 – 2013. Excess investment in networks has a 'long-tail' impact as consumers continue to pay for this excessive growth and inefficiency of the RAB.[20]

The risk of setting the rate of return too low

Alternatively, the AER suggests that under-compensation for network owners for the cost of capital also risks inefficient under-investment in the energy networks and over time, the potential loss of reliability and quality of the services provided by the networks.

In pre-2018 reviews of the rate of return, the AER, and other regulators,[21] have focussed on the risk of under-investment. While this partly reflected an expectation that growth in demand would 'soak up' any excess capacity it also reflected the ability of well-resourced networks to raise the spectre of supply interruptions and general decline in reliability and safety of network services. Neither has proved to be the case.

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[18]   This reflects changes to the Laws and Rules since the 2013 reforms, commencing with the changes made in 2012 and incorporated into the AER's 2013 Better Regulation Program.

[19]   AER, *Rate of Return Instrument, 'Explanatory Statement'*, December 2018, pp. 58-59

[20]   This excess investment was partially driven by changes to reliability requirements made by at least two of the jurisdictional governments within the NEM. Arguably, it was also partially a result of networks' excess capital investment claims to achieve these reliability requirements.

[21]   For example, the New Zealand Commerce Commission (NZCC) guidelines for WACC determinations specify selection of the 67th percentile (within a range) for regulated electricity networks and regulated gas pipelines. See NZCC, *Guidelines for WACC Determinations under the Cost of Capital Input Methodologies*, May 2021, pp. 12-13

AER's guiding principle of an 'unbiased' decision

It is to the AER's credit that it has clearly established a guiding principle for the 2022 RoRI of making an 'unbiased' decision.[22]

However, that principle does not on its own tell the AER how to exercise its judgment. The data and finance theory only get the AER so far in determining an unbiased estimate. In practice it is left to decide a 'point' estimate within plausible ranges for parameters such as MRP and beta. The AER can be confident that setting a parameter estimate outside this range is a biased estimate, but it has some discretion when setting an estimate inside the range. One argument would be to select the midpoint of the range, but this is an overly narrow interpretation of "unbiased" that does not consider whether there is qualitative or contextual evidence that might support a higher or lower estimate. In practice, the AER does not appear to subscribe to the "midpoint" argument, as evidenced by the parameter estimate for beta in the draft rate of return decision.

The CRG also supports, the AER's recent public recognition of the genuine concerns of consumers. As the Chair of the AER, Clare Savage, said recently in an interview with Mark Ludlow of the *Australian Financial Review*:[23]

> *We have to make sure we are looking for every little opportunity to save money and that the monopoly network companies are not using this as an opportunity to make additional returns… Our job is to make sure that it is done at least cost to consumers.[24]*

The CRG is pleased that the AER has acknowledged the challenges facing consumers and its responsibilities in this regard.

1.3   What does this mean for the regulated rate of return?

The CRG concludes that the AER's draft decision does not reflect the AER's commitment to an unbiased decision, nor does it reflect the AER's concerns for consumers and its aim to ensure network services are developed at least cost to consumers, as recently cited by the AER's Chair.

The CRG stresses, for the AER to make an 'unbiased decision' with the appropriate balance of investor and consumer risks, the AER must first **explicitly adopt an unbiased assessment of its own market evidence and the outcomes of the 2018 RoRI.**

In this advice to the AER, we demonstrate how the draft decision on equity beta, the market risk premium (MRP) and the cost of debt all reflect a bias towards a higher rate of return than can be reasonably deduced from the market and performance data available to the AER.

Similarly, consideration of the outcomes of the 2018 RoRI clearly demonstrates there is no shortage of investors who are willing to pay a premium to invest in these regulated network assets. Nor is there a shortage of investors who would provide low-cost debt. The CRG also notes that networks are continuing to propose significant new capital investments to upgrade their networks in their regulatory proposals.

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[22]   AER, *Draft Rate of Return Instrument*, June 2022, p. 6

[23]   Ludlow, M. 'You talk about the crisis like it's over': This regulator's case for a capacity mechanism', *Australian Financial Review*, 18 August 2022

[24]   While we acknowledge that the Chair's quote was made in a different the context than the rate of return, it is also relevant to the AER's obligation to consumers to make a decision in their long-term interests.

While evidence of investor behaviour remains strong, the CRG's research as referenced earlier combined with finding from the ECA's Consumer Sentiment Research and Pulse Surveys,[25] demonstrate the adverse impact of higher energy bills on energy consumers.

In turn, energy price increases are already impacting consumers' confidence in the energy market, their energy use behaviour and their 'behind the meter' investment' decisions. For some, this means reducing their energy usage below levels consistent with their health and wellbeing. Others with greater financial resources, are increasingly looking to take pre-emptive actions to minimise their reliance on network supplied energy.

In direct response to these risks to consumers, our advice highlights the areas in the AER's draft decision where reasonable adjustments can be made to achieve a more balanced and efficient outcome for consumers, and ultimately for the networks.

We expect the AER to address these biases in its decision-making, reflecting its own commitment to look for every opportunity to save money for consumers. It is time for the AER to focus on consumers' perspectives and actions and to fairly recognise the risks to their long-term interests and those investors when rapid price increases distort investment decisions.

1.4   Other matters that may affect the AER's decision

We highlight three other matters raised by the AER and other stakeholders:

1.   Legal constraints

The AER's decisions on the rate of return methodology and parameter estimates are bound by the energy laws and rules. The CRG recognises these constraints, while also stressing the degree to which these laws and rules allow the AER to use its discretion.[26]

All our recommendations can be implemented within these laws and rules, as they go to the use of the AER's judgement when selecting specific rate of return parameter values within a reasonable range based on the AER's own market and performance data.

2.   The impact of higher energy prices on vulnerable consumers

The AER has told us that the societal impact of higher energy/network prices can be addressed by regulatory requirements on energy companies (particularly retailers) or on governments, to provide payment and other supports to vulnerable consumers.

The CRG does not dispute the value of such payments, nor do we dispute the value of the actions the AER proposes in its *Draft Consumer Vulnerability Strategy*.[27]

However, the impact of higher network prices goes to the efficiency of the whole energy market and the economy now, and in the future, as the higher RAB must be paid off by consumers over time, regardless of whether the investment in capacity is inefficient and underutilised. Networks escape the pressures of a competitive market to write-down underutilised assets.

If the AER were to adopt the view that the solution to higher prices begins and ends with special payments to support vulnerable customers, then the AER disengages its decision-making on the rate

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[25]   ECA, *Energy Consumer Sentiment & Behaviour Surveys*

[26]   See Appendix A for details on the most relevant sections of the energy laws.

[27]   AER, *Draft Consumer Vulnerability Strategy*, December 2021

of return from its overall responsibilities to customers to ensure network prices are no higher than they need to be to meet the legislative requirements.

The CRG would reject such a construction if adopted by the AER. Every AER decision and every exercise of its regulatory judgement must seek to ensure network prices are no higher than they need to be to meet the legislative requirements and provide the services that consumers are willing to pay for.

3. Claims that higher rates of return are required to attract network investment

Some energy industry members claim higher rates of return are required to obtain significant new funding to enable the proposed expansion of the transmission network under the ISP. Considerable pressure has been placed on regulators to respond to this via the rate of return decision.

The CRG rejects this claim, as should the AER, and we derive some comfort that the AER is aware of this issue following the AER Chair's public statement, as referenced above.

Although it is important that the AER publicly recognises and responds effectively to industry pressure, the CRG also highlights the following matters:

- The rate of return decision applies to over $100 billions of regulated electricity network assets, and some $12 billions of regulated gas network assets. The projected expenditure on new electricity transmission networks under the ISP program is around $12 billion over the period covered by the 2022 RoRI.[28] Increasing the rate of return in the 2022 RoRI to attract new investment of $12 billion will unjustifiably compensate investors' sunk investment of $112 billion. *This proposal is a case of the tail wagging the dog.* It would represent a distortion of the AER's regulatory judgement and embed a significant bias overall.

- Several other mechanisms are in place or proposed to manage the alleged costs and risks of the new transmission networks. These include government investments in networks, concessional loans, guaranteed off-take agreements, consumer funding of 'early works', and the new rules that allow the AER to modify depreciation schedules. Given these and other possible mechanisms would greatly reduce the costs and risks to investors, along with the general financial protections provided to regulated network businesses, it is consumers and taxpayers who bear most of the risks, not investors.

Further policy and/or adjustments to the energy rules and funding arrangements should be considered by the policy makers if the existing networks delay or refuse to develop vital infrastructure.

Consumer representatives tell us consumers have no tolerance for networks that use their monopoly power to obstruct or delay these essential developments.

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[28] See footnote 6. Clause 18J(a) of the NEL requires the AER to adopt the same rate of return methodology in relation to all electricity regulated network services. There is a similar requirement for gas networks, although the law allows the AER to set a different rate of return for electricity and gas networks.

1.5   Applying regulatory judgement in the current market circumstances

For the avoidance of doubt, the CRG is <u>not</u> asking the AER to make a biased judgement in favour of consumers., nor are we disputing the AER's preference to retain the overall methodology it adopted in the 2018 RoRI. We accept that stability of methodology has value based on predictability for consumers and investors.

However, we dispute way the AER has exercised its judgement within those bounds, and in particular, the tendency in 2018 and in the 2022 RoRI *Draft Decision* to select a parameter point-estimate at a higher point of the range of feasible outcomes identified through its technical analysis of available data.

This tendency to select a higher point in a range reflects an assumption that the risk to consumers of under-investment is greater than the risk of over-investment and the implicit assumption that future demand growth will address any of the risks over time that might arise from over-investment. The CRG advises the AER to revisit this assumption in the context of the 2022 RoRI. The evidence points to the fact that consumers are already paying the price of previous over-investment and are increasingly looking at ways to reduce their reliance on the network.

Neither of these propositions is true during the 2022 RoRI period of operation:

1. The decisions by investors of both equity and debt are based on the overall benefits of the regulatory regime. The allowed rate of return is one component, but there are many other factors influencing the decisions of investors, including:

    o   The ability to outperform the AER's expense allowances, such as operating costs, capital funding costs, depreciation and taxation strategies

    o   The opportunity to receive incentive payments

    o   The benefits of automatic CPI related adjustments of total revenue allowances and RAB indexation

    o   The opportunity to pass through a range of 'unexpected' costs, and contingent project costs.

    It is consumers who, at the end of the day, fund all these benefits to network owners. Moreover, with respect to the rate of return allowance, consumers do not have the opportunity to share in any savings the networks make in their actual cost of capital. It is a one-way incentive.

    Overall, therefore it is not surprising that investors and debt providers continue to provide capital to the networks under favourable terms, with most financial and operational risks being borne by consumers. Not surprisingly, the CRG finds no evidence of a shortage of capital even when interest rates and inflation and therefore nominal returns were at the lowest point for decades.[29]

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[29]   The AER's *Electricity Network Performance Report*, July 2022 provides substantial evidence that returns to networks remain robust under the 2018 RoRI, with observed returns in subsequent years consistently above the allowed returns.

2. The AEMO forecasts[30] a continued decline in demand over the period covered by the 2022 RoRI. The current level of inefficient use of the existing networks is likely to continue for this period. Utilisation of the existing networks is already at historical lows, and capital productivity measures used by the AER continue the declining trends observed since 2006.[31]

3. There has been material growth in a competing alternative to network investment, much of which is consumer-led investment in their own 'behind the meter' Consumer Energy Resources (CER). This is expected to grow, as reflected in the level of adjustments to CER in AEMO's demand forecasts.[32]

Other things being equal, a higher rate of return would stimulate even greater investment in CER, which would tend to reduce the need for network expenditure as the same time as the networks were incentivised to invest more in the networks. In other words, the growth of CER magnifies the risks of over-investment if the rate of return is -consciously or inadvertently – set at a level biased on the high side.

In summary, the NEO and NGO efficiency objectives cannot be achieved without considering the demand side. Most importantly, this must take account of consumers' increasing agency to respond to price increases through CER and other measures to reduce their reliance on the networks.

The need for the AER to adopt this broader perspective was identified in the 2018 Independent Panel's report.[33] In turn, the 2022 Independent Panel's report to the AER[34] has highlighted the need for the AER to the consider the outcomes of its rate of return decisions on the efficiency of the investment in, operation and <u>use</u> of the network.

1.6 The CRG's conclusions

It is time now for the AER to adopt a more balanced approach by listening to consumers as well as investors when exercising its judgement on the regulated rate of return. If consumers increasingly walk away from grid supplied electricity, the AER's stated purpose of determining efficient investment will not be realised.

Our consumer research has clearly demonstrated the consumers' concerns and we fear the gains in consumer confidence in the industry up to 2020 are already being eroded by the current turmoil in the energy markets and the expectations of more to come.

The AER therefore needs to clearly demonstrate in its words, and in its decision, that it has heard consumers, and it can in turn demonstrate openness and balance when it exercises its judgement on the rate of return parameter values.

The remainder of this advice provides detailed evidence and analysis of this upward bias in the AER's draft decision at the parameter level and overall, using the AER's own market data and arguments as follows:

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30 AEMO, *National Electricity and Gas Forecasting, n.d.*

31 Based on the AER's annual *Network Performance Reports* and the AER's *Annual Benchmarking Reports*. See also Chapter 5 which provides more details on these two reports.

32 AEMO, *National Electricity and Gas Forecasting, n.d.*

33 Independent Panel, *Review of the Australian Energy Regulator's Draft Guidelines*, September 2018

34 Independent Panel, *Independent Panel Report: AER Draft Rate of Return Instrument*, July 2022

- Chapter 2 demonstrates 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.

- Chapter 3 reviews the AER's draft decision on the MRP and identifies the biases in the AER's interpretation of the market data it has used.

- Chapter 4 reviews the AER's decision on the cost of debt and demonstrates how the evidence on actual debt costs supports the view that this is an overestimation of the networks' efficient cost of debt under current regulatory settings for setting the cost of debt.

- Chapter 5 examines the AER's proposed cross-checks of the total rate of return. We contend the AER needs to expand the proposed suite of cross-checks to include those that assess the impacts of the 2018 RoRI on investment and outcomes for consumers in line. This is in line with NEL/NGO requirements and has been a long-standing CRG concern. We note the Independent Panel's concerns.[35] We encourage the AER to consider consumer-based cross-checks, including trends in consumers' utilisation of the networks, as an extension of its traditional focus on efficient network investment incentives.

- Chapters 6 and 7 address the implications of the AER's draft decision to move to a 5-year estimation term for the risk- free rate component of the return on equity, a change from the existing 10-year term.

  o Chapter 6 identifies upward biases in the equity premium and the cost of debt if the AER proceeds to shorten the estimation term for equity. The upward bias in the equity premium would, most likely, be addressed by the CRG's recommendation in Chapter 2. However, the approach outlined in Chapter 4 would not be sufficient to remedy the bias arising from inconsistent estimation terms for equity and debt. An additional remedy would be required.

  o Chapter 7 retraces the debate about term over the past two years. Because the AER decided in December 2020 not to deal holistically with the estimation terms for inflation, equity and debt, we are left with no choice but to outline a series of conditional positions on the estimation term for the rate of return.

While some stakeholders could argue the biases identified by the CRG may be considered small, their cumulative impact on the overall Weighted Average Cost of Capital (WACC) is significant. More importantly, and by its own acknowledgement and "guiding principle", the AER has no place in making decisions that are demonstrably biased. Now is not the time for the AER to make a decision that builds in a systemic bias towards a higher than necessary rate of return.

Now is the time to make a decision that aligns with the AER's Chair's statement to the *Australian Financial Review* as highlighted above.[36]

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[35] Ibid

[36] Ludlow, M. 'You talk about the crisis like it's over': This regulator's case for a capacity mechanism', *Australian Financial Review*, 18 August 2022

2 Equity Beta

2.1 Summary of CRG advice

In its draft Rate of Return Instrument, released on 15 June 2022, the AER is proposing to maintain the value of beta at 0.6. This is the value adopted by the AER in the 2018 instrument. The AER explains its reason for leaving the value of beta unchanged:[37]

> *Our best data suggests an estimate in the range of 0.5 to 0.6. In view of the limitations of the other evidence, we think the better approach is to maintain our current value of 0.6. This is consistent with our principles of promoting stability and predictability.*

The CRG considers the AER has demonstrated bias in its proposed estimate of the point value for beta in the draft 2022 instrument. This Chapter covers the following:

- Section 2.2 outlines our concerns by initially highlighting insights from the AER's decision in 2018

- Section 2.3 contains a brief summary of the CRG's earlier advice.

- Section 2.4 highlights the elements of the draft 2022 instrument that cause our greatest concern

- Section 2.5 outlines our concerns in detail

- . Section 2.6 reconciles the CRG's concerns with the draft 2022 instrument with our principle of a high bar for change.

- Section 2.7 concludes the Chapter observing there is an overwhelming and pre-established case for reducing the value of beta.

We find the evidence and the AER's analysis overwhelmingly supports a point estimate of beta of 0.5 or less.

2.2 Important insights from the 2018 instrument

The AER's *2018 Rate of Return Explanatory Statement* (*2018 Explanatory Statement*) provided estimates for beta using different comparators sets over different periods. This analysis produced estimates ranging between 0.42 and 0.88, with most estimates "clustered around the 0.5–0.6 range".[38] On balance, the AER concluded:[39]

> *We consider a point estimate of 0.6 (selected from a range of 0.42–0.88) is appropriate at this time because it is based on the empirical evidence upon which we make our equity beta point estimate and reflects stakeholders' and expert views about short-term estimates.*

In reaching this decision, the AER made the following crucially relevant observations:

> *We also better understand how unregulated activities affect beta estimates – long-term estimates for firms with the greatest per cent of regulated revenue are below 0.5.* [40]

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[37] AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p. 165

[38] AER, *Rate of Return Instrument, 'Explanatory Statement'*, December 2018, p. 168

[39] Ibid, p. 185

[40] Ibid, p. 168

Our view is that regulation reduces the equity beta estimate of a firm which suggests placing relatively more weight on firms that are (majority) regulated (under our framework) such as Spark and AusNet. This is because they would better match an efficient firm in the supply of Australian regulated energy network services. [41]

We do not exclude firms with fewer regulated operations from our comparator set. However, estimates for the longest estimation period derived from firms with a high proportion of regulated operations are clustered in the bottom half of the empirical range. [42]

APA has around 90 per cent unregulated revenue so its inclusion may be less representative of the risks involved in providing regulated services. [43]

When read in their totality, these observations, when applied to the results reported in Tables 13 and 14 in the AER's *2018 Explanatory Statement*[44], suggest the AER decision to settle on a point estimate of 0.6 was overly generous. That is, all these statements suggest an even lower estimate would have been appropriate at that time.

It is not altogether clear why the AER settled on a point value at the top end of its estimates "clustered around the 0.5–0.6 range" given all the observations it made in the *2018 Explanatory Statement*, as quoted above.

Clearly, the highest estimates of beta at that time (see Tables 13 and 14, in the AER's *2018 Explanatory Statement*) [45] derived from the shortest estimation period – leading the AER to caution against placing undue weight on these estimates:[46]

We rely less on estimates from the recent 5 years. This period spans a more limited range of market conditions and is less representative of full business or market.

While this caution may have diminished the weight the AER placed on the top end of the distribution, that only serves to increase the weight it should have placed on lower estimates – nonetheless, it still adopted a point estimate for beta of 0.6 out of a set of estimates "clustered around the 0.5–0.6 range".

The only real indication of why the AER adopted a point estimate from the top of this "clustered" range can be found in its statement that:[47]

We considered a point estimate of 0.6 is reasonable because it reflects our gradual approach to changing parameter values consistent with empirical evidence which gives due consideration for stability and predictability that stakeholders value.

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[41]   Ibid, p. 173

[42]   Ibid, p. 174

[43]   Ibid, p. 189

[44]   Ibid, pp. 182-183

[45]   Ibid

[46]   Ibid, p. 189

[47]   Ibid, p. 186

This favouring of a "gradual approach" is further reflected in how the AER described the "conservative step" it took in 2013 to reduce the value of beta from 0.8 to 0.7 when its evidence clearly suggested a lower point estimate was warranted.[48]

The "gradual approach" taken in 2018 appears to acknowledge that despite all of its observations about its estimates, the AER decided to *only* reduce the value of beta from 0.7 to 0.6 because it was taking a similarly "conservative step" in that regulatory decision.

To summarise:

The AER's analysis and commentary in 2018 indicates it only adopted a point value of 0.6 for beta because it was seeking to manage the rate of change in the value of its parameter estimates between successive rate of return reviews. The data clearly supported a lower value.

2.3   CRG Response to the AER's December 2021 *Information Paper*

In its advice to the AER in March, the CRG identified its concerns with the estimation of beta.[49] The concerns most relevant to the AER's recently released draft instrument include:

- The comparator set contains firms that are:

    o   *defunct* – Of the nine firms in the AER's comparator set, six had de-listed between 2006 and 2017. Two more firms, Spark Infrastructure (SKI) and AusNet (AST) de-listed in recent months– leaving only APA. Some firms will have been delisted for 25 years by the end of the life the 2022 instrument, **and/or**

    o   *of questionable relevance* – because their regulated interests are responsible for a relatively small proportion of their overall income. Most notably, APA derived less than 10 per cent of its revenue from its regulated assets. Other firms in the AER's comparator set with low ratios include HDF, AGL, AAN and GasNet (all of which are delisted) – ranging from zero to under 60 per cent regulated revenue.[50]

- The AER should consider only those estimates derived from the longest available estimation periods. We shared the AER's concern that shorter data sets did not necessarily reflect longer-term market fundamentals.

2.4   The 2022 Draft Instrument and Explanatory Note

The AER's draft decision is to maintain the same overall approach it adopted in 2018.[51]

We maintain our overall approach to estimating the equity beta parameter from the 2018 Instrument, including:

- *placing most weight on the longest period estimates, while also being informed by 5-year estimates*

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[48]   Ibid, p. 168

[49]   CRG, *Advice to the Australian Energy Regulator, CRG Response to the AER's December 2021 Information Paper, March 2022*, Chapter 5.

[50]   AER, *Rate of Return Instrument, 'Explanatory Statement'*, December 2018, Figure 14, p. 174

[51]   AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p. 163

- *maintaining the existing comparator set of 9 Australian firms, and not including international energy firms or domestic infrastructure firms in our comparator set…*

In doing so, the AER proposes to leave the point estimate of beta at 0.6 on the basis that:[52]

> *Our best data suggests an estimate in the range of 0.5 to 0.6. In view of the limitations of the other evidence, we think the better approach is to maintain our current value of 0.6. This is consistent with our principles of promoting stability and predictability.*

In summary, the AER appears to have concluded that little has changed since 2018 and therefore it should maintain the same approach and the same point estimate.

The CRG considers there are numerous inconsistencies and shortcomings in the AER's approach and conclusions regarding the estimation of beta, leading to it exercising its judgement in a biased manner when selecting a point estimate. We outline these concerns in the following section.

2.5 There is bias in the exercise of the AER's regulatory judgement

Before proceeding, it is worth recalling that in May 2021 the AER adopted a principle to guide its approach when applying the legislated national electricity and gas objectives.[53] The guiding principle is highlighted early and repeatedly in the draft 2022 explanatory statement.[54]

> *The guiding principle is:*
>
> > *an unbiased estimate of the expected efficient return, consistent with the relevant risks involved in providing regulated network services.*
>
> *We consider that the NEO, NGO and the long-term interests of consumers are best served through this guiding principle.*

The AER restated this formulation of its regulatory task in September 2021 in one of its final working papers[55] but adopted an alternative formulation in two papers published in December 2021.[56],[57]

> *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.*

While the AER did not explain why it adopted an alternative formulation, the CRG expects the respective references to "unbiased estimate" and "neither upwardly biased nor downwardly biased" to have the same meaning for the AER.

For the reasons outlined below, the CRG has identified numerous sources of upward bias in the AER's proposed point estimate for beta. The sources of upward bias include:

- Inadequate consideration of the limitations of the comparator set

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[52] Ibid, p. 165

[53] AER, *Rate of return, 'Assessing the Long-term Interests of Consumers', Position paper*, May 2021

[54] AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, pp. 6, 31, 50, 59, 298

[55] AER, *Rate of Return, Term of the Rate of Return and Cashflows in a Low Interest Rate Environment, Final Working Paper*, September 2021, p. 65

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

[57] AER, *Rate of return, Information Paper and Call for Submissions*, December 2021, p. 8

- Inconsistent regard given to short-term estimates

- Disregarding the impact of a shorter estimation term for equity

- Inconsistent interpretation of "stability and predictability"

These are discussed in turn below.

2.5.1   Inadequate consideration of the limitations of the comparator set

The AER has maintained the same set of "portfolios" in its comparator set as in its 2018 decision. The eight portfolios appear in Table 8.4 (p.169) of the 2022 *Draft Explanatory Statement*. Table 2.1[58] presents the same information but in a slightly different format. The table begins with the smallest of the portfolios identified in the explanatory statement [P8] and progressively adds firms to identify the impact of each firm on the estimated values of beta. The values of beta shown for each portfolio are only the longer-term estimates (i.e., they exclude the recent 5-year estimates shown in Table 8.4). Shorter-term estimates are discussed in Section 2.5.2. Three portfolios are excluded from the table as they offer little valuable insight.[59] The final row in the table shows the corresponding range of beta estimates from 2018.[60]

Table 2-1: Re-levered weekly equity beta estimates (Ordinary Least Squares Regression, to Feb 2022)

Portfolio	P8	P7	P6	P5	P4
Firms * *firm added to the portfolio*	SKI AST	SKI AST APA*	SKI AST APA DUE*	SKI AST APA DUE ENV*	SKI AST APA DUE ENV HDF*
Regulated revenue of added firm	—	~10%	~90%	~90%	~10%
Beta of portfolio with added firm	0.39 – 0.46	0.51 – 0.62	0.46 – 0.58	0.43 – 0.53	0.47 – 0.58
Impact on beta (max)[61]	—	+ 0.16	− 0.4	− 0.5	+ 0.5
Impact on beta (min)[62]	—	+ 0.12	− 0.5	− 0.3	+ 0.4
Estimation period (years)	14.7	14.7	10.1	7.5	5.7
Beta of portfolio **2018 estimate**	0.42 – 0.53	0.52 – 0.67	0.47 – 0.58	0.43 – 0.52	0.47 – 0.59

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[58] AER, *Rate of Return Instrument, 'Explanatory Statement'*, December 2018, the proportion of regulated revenue for each additional firm is taken from Figure 14, p. 174

[59] Portfolio P3 removes SKI from P4 despite SKI being one of the last firms to delist. In any event, the results are almost identical to those of P4. P2 represents the shortest data set (at only 4.8 years) covering a period that ended 16 years ago. Moreover, it consists of the firms with the lowest proportion of regulated revenue. The relevance of P1 is unclear.

[60] AER, *Rate of Return Instrument, 'Explanatory Statement'*, December 2018, Table 13, p. 182

[61] This row shows the increase in the maximum value of the AER's estimate of beta as a result of introducing the additional business to the portfolio (noting there may also be a change in the estimation period). For example, moving from P8 to P7 sees the maximum estimate of beta increase by 0.16 as a result of adding APA to the portfolio.

[62] This row shows the increase in the minimum value of the AER's estimate of beta as a result of introducing the additional business to the portfolio (recognising there may also be a change in the estimation period). For example, moving from P8 to P7 sees the minimum estimate of beta increase by 0.12 as a result of adding APA to the portfolio.

Table 2.1 highlights important features of the AER's findings.

- Estimates above 0.6 are rare. The only estimate above 0.6, and indeed all the higher estimates in the table, are directly correlated to the inclusion of APA in a portfolio. The impact of APA was previously acknowledged by the AER when it observed, "its inclusion may be less representative of the risks involved in providing regulated services" (see Section 2.2).

- Excluding APA from the longest data set (i.e., moving from P7 to P8) provides estimates of beta below 0.5 in 2022. The impact of excluding APA is even more significant than in 2018.

- The inclusion of firms with low proportions of regulated revenues (APA, HDF) results in higher estimates of beta – as previously acknowledged by the AER when it observed "the long-term estimates for firms with the greatest per cent of regulated revenue are below 0.5" (see Section 2.2).

- Adding firms to the portfolios reduces the length of the data set by over 60 per cent. Indeed, the data set for P4 is only 5.7 years – suggesting significantly less weight should be assigned to these larger data set. As the AER notes in a slightly different context, it only gives "limited consideration" to short-term estimates.[63]

The CRG finds the AER's own estimates directly contradict its conclusion that:[64]

> *Our best data suggests an estimate in the range of 0.5 to 0.6. In view of the limitations of the other evidence, we think the better approach is to maintain our current value of 0.6.*

The AER's estimates clearly suggest the range consistently extends below 0.5 and estimates above 0.6 are rare. These findings suggest a point estimate of 0.6 cannot be justified based on the data available to the AER.

To conclude anything else represents bias in the interpretation of the data before the AER in its role as a regulatory decision maker.

2.5.2   Inconsistent regard given to short-term estimates

In its *2018 Explanatory Statement*, the AER referred to selecting its point estimate (of 0.6) from a range of 0.42–0.88 (see Section 2.2). As per Table 13 in that document, the highest estimates of beta derived from recent 5-year estimates at that time. Six out of the eight of these short-term estimates ranged between 0.66 and 0.88.

While the AER went to some length in the *2018 Explanatory Statement* to emphasise it relied most heavily on the longest-term estimates, it also stated it gave "some consideration" to shorter-term estimates.[65]

> *Recent 5-year estimates, to which we give some consideration to, indicate a range of 0.49-0.88*

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[63]   The AER notes in its *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p. 176, "[W]e have continued to give most weight to estimates from the longest period, while also giving **limited consideration** to the most recent 5-year data." This limited consideration is due the relatively non-representative nature and statistical weakness of short data sets.

[64]   AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p. 165

[65]   AER, *Rate of Return Instrument, 'Explanatory Statement'*, December 2018, p. 189

As the last row of Table 2.1 suggests, it would have been unreasonable for the AER to conclude 0.6 was an appropriate point estimate for beta if it had not attached "some consideration" to these notably higher short-term estimates.

In the 2022 *Draft Explanatory Statement*, the AER expresses a similar preference for relying on long-term estimates but not to the complete exclusion of shorter-term estimates.[66]

> *[W]e have continued to give most weight to estimates from the longest period, while also giving limited consideration to the most recent 5-year data.*

The AER also observes:[67]

> *Considering these strengths and weaknesses of short-term estimates, our view is 5-year estimates may contain useful information despite being affected by statistical noise.*

In other words, as far as the AER is concerned, short-term estimates remain relevant albeit with limits. However, between 2018 and 2022 there was a marked shift in the value of short-term estimates. Whereas six out of the eight short-term estimates in 2018 ranged between 0.66 and 0.88, by 2022 the four short-term estimates of beta reported by the AER ranged between 0.34 and 0.57.[68]

The 2022 estimates reflect a persistent decline in the value of short-term estimates of beta – as evidenced in Table 2.2.[69]

Table 2-2 Historical re-levered weekly equity beta estimates for recent 5 years (Ordinary Least Squares Regression, data to September 2018/August 2019/August 2020/August 2021/February 2022)

Equal and value weighted portfolio estimates	Whole comparator set [P1 to P8]	Still listed and recently delisted firms (APA, SKI, AST) [P7]	Recently delisted majority regulated firms (SKI, AST) [P8]
Recent 5 years			
2018 review	0.49 – 0.88	0.81 – 0.88	0.70 – 0.72
2019 update	0.69 – 0.89	0.83 – 0.89	0.73 – 0.74
2020 update	0.44 – 0.69	0.59 – 0.68	0.44 – 0.44
2021 update	0.37 – 0.70	0.53 – 0.59	0.37 – 0.38
2022 draft instrument	0.34 – 0.57	0.51 – 0.57	0.34 – 0.37

If short-term estimates warranted "some consideration" by the AER in 2018 in support of its decision to select a point estimate at the top of the reasonable range it claimed to have identified (0.5-0.6), then surely giving "limited consideration" to short-term estimates in 2022 would support the selection of a lower point estimate for beta.

The CRG previously submitted that the AER should limit its estimate to those derived from the longest applicable period and that any variation between long- and short-term estimates should be

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66   AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p. 176

67   Ibid

68   AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, Table 8.4, p. 169

69   Ibid, Table 8.5, p. 170

considered 'in the round' when the AER determines the overall rate of return.[70] We accept the AER has not adopted this suggestion, however, in that case, the CRG considers the AER must act consistently in its treatment of short-term estimates of beta. If high short-term estimates in 2018 supported a decision to adopt a point estimate of 0.6, then low short-term estimates in 2022 presumably must imply a decision by the AER to adopt a lower point estimate.

If the AER is exercising its judgement in 2022 consistently with how it exercised its judgement in 2018 (as it claims to be doing), then it cannot adopt a point estimate of 0.6 for beta.

2.5.3   Disregarding the impact of a shorter estimation term for equity

Chapter 6 of the 2022 *Draft Explanatory Statement* confirms the AER's determination to shorten the estimation term for the risk-free rate (and return on equity) on the grounds that:[71]

> *Matching the term of the allowed return on equity to the length of the regulatory period better aligns our regulatory allowance with the efficient costs of providing regulated services and risks borne by the investors…*

> *We are determining a return on equity that will typically last for 5 years and then will be reset and then be applied to the residual value of the accumulated regulatory asset base going forward*

Alternatively stated: [72]

> *[T]he expected return is linked to the period over which it is expected to be received.*

The relevance to the estimation of beta of the shorter estimation term for equity, is given less than half a page of consideration in Chapter 8 (on beta) of the 2022 *Draft Explanatory Statement*. The AER briefly concludes:[73]

> *We do not consider the term of return on equity should affect the estimation period we should use for equity beta, because they are separate issues.*

Only two one-sentence arguments are made in support of this conclusion. First, it cites the considerations of the experts in the concurrent evidence sessions.[74]

> *The experts at the concurrent evidence session agreed that the term of return on equity and the length of beta estimation period are largely independent and unrelated…*

Of course, "largely" is the operative word in this observation from the AER – a qualification with which we agree. There was not a clear delineation between the experts' consideration of the estimation period for beta and their views about the relationship between that exercise and the determination of the estimation term for the return on equity.

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[70]   CRG, *Advice to the Australian Energy Regulator, CRG Response to the AER's December 2021 Information Paper, March 2022,* Chapter 5

[71]   AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p. 94

[72]   Ibid, p. 105

[73]   Ibid, p. 177

[74]   Ibid

An apparent consensus among stakeholders was the second argument cited by the AER to support its conclusion that the term of return on equity should not affect the estimation period it uses for beta.[75]

> *The CRG and [Energy Networks Australia] ENA both agreed that the estimation period for beta is independent of the term of the risk-free rate*

This appeal to consensus is misplaced. The draft explanatory misrepresents the CRG's position on these matters when it states:[76]

> *[The CRG] noted that the decision on term of the risk-free rate had no obvious bearing on how other WACC inputs should be estimated (except for the HER approach to estimating the MRP).*

This attribution by the AER fails to recognise the conditional nature of the CRG's advice. We contended the term for estimating beta was independent of the term for estimating the return on equity *if and only if* the AER relied only on long-term (unconditional) estimates of beta.[77]

As outlined in Section 2.5.2, the AER does not agree with the CRG on this point – thereby voiding the CRG's support for the view that the estimation term for equity has no bearing on the estimation of the point value of beta.

For the avoidance of doubt, the CRG contends that, if short-term estimates of beta influence the AER's decision on a point estimate for beta, then the shortening of the estimation term for equity must also be relevant to the AER's conceptualisation of beta. This point was made in unequivocal terms in our earlier advice:[78]

> *If the AER moves to a 5-year term for return on equity, the AER needs to explain how such changes interact with all the other parameters in the rate of return to ensure there is a clear and consistent conceptual framework that underpins its overall decision on the rate of return.*

Despite the CRG's appeal, the AER assert (with only the barest of justifications) there is no relationship between its decision to adopt a shorter-term for the return on equity and the exercise of its regulatory judgement when estimating the point value of beta. As further outlined in Chapter 6 of this advice, **by ignoring the relevance of its decision to shorten the term for equity when exercising its regulatory judgement about its point estimate of beta, the AER is producing an upwardly biased equity premium (and therefore, return on equity)**.

2.5.4   Inconsistent interpretation of stability and predictability

As highlighted in Section 2.2, in 2018 the AER adopted an estimate at the top of its "clustered" range (0.5-0.6) because it considered doing so gave due regard to stability and predictability.[79]

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[75]   Ibid

[76]   Ibid, p. 113

[77]   CRG, *Advice to the Australian Energy Regulator, CRG Response to the AER's December 2021 Information Paper, March 2022,* Chapter 5

[78]   Ibid, p. 14

[79]   AER, *Rate of Return Instrument, 'Explanatory Statement'*, December 2018, p. 186

We considered a point estimate of 0.6 is reasonable because it reflects our gradual approach to changing parameter values consistent with empirical evidence which gives due consideration for stability and predictability that stakeholders value.

In other words, in 2018, stability and predictability meant not reducing the value of beta too rapidly despite the evidence suggesting a larger step was warranted at that time.

In 2022, the AER's practical interpretation of "stability and predictability" has changed.[80]

Our best data suggests an estimate in the range of 0.5 to 0.6. In view of the limitations of the other evidence, we think the better approach is to maintain our current value of 0.6. This is consistent with our principles of promoting stability and predictability.

This interpretation appears akin to a status quo bias – which the Melbourne Energy Institute has defined for the AER as, "The tendency for people to show a certain resistance to change."[81]

In support of its altered interpretation of stability and predictability, the 2022 *Draft Explanatory Statement* refers to an expert report it commissioned from Economic Insights in 2021.[82]

Economic Insights … considered that, given the natural monopoly characteristics of Australian regulated energy networks and the stability of the regulatory framework, it is likely that their systematic risk is relatively stable over the long-term.

It is important to recognise that this statement about the expected "relative stability" of beta refers to its market value not the point value adopted by a regulator. The observation by Economic Insights does not support a status quo bias in the exercise of the AER's regulatory judgement – that is, unless the AER has sufficient reason to believe its earlier estimate of beta reflected the long-term, mean reverting value of beta. As this Chapter has made clear, that conclusion cannot be made about the exercise of the AER's judgement in 2018 when adopting a point estimate of 0.6 for beta.

Put bluntly, if the AER now applies a principle of "stability and predictability" in order to avoid reducing the value of beta despite its own evidence, then this revised interpretation of "stability and predictability" indicates the AER's willingness to tolerate an upward bias in its estimate of beta when exercising its regulatory judgement.

2.6   Adopting a lower estimate of beta does not contradict the CRG's *high bar for change*

As outlined in some detail in this Chapter, in 2018 the AER tempered its decision to lower the point value of beta on the basis that:

- it wished to avoid a one-off large reduction (i.e., greater than 0.1) in the value of beta, and

- it was not prepared to entirely discount short-term estimates of beta.

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[80]   AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p. 165

[81]   The full definition reads, *"Status quo bias, which is the tendency for people to show a certain resistance to change, regardless of whether it entails improvement or deterioration from the initial state."*
See Melbourne Energy Institute *Estimating values of customer reliability using Revealed Preference approaches: A report by the Melbourne Energy Institute at the University of Melbourne in support of the AER review of the Value of Customer Reliability (VCR).* July 2019, p. 9

[82]   AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p. 176

In other words, it took these two factors into account when exercising its regulatory discretion not to lower the point estimate of beta in 2018 to its likely 'true' value.

The CRG therefore observes:

- the AER has already recognised the likely long-term value of beta is below the point estimate adopted in 2018

- neither of the two factors noted above prevents the AER from further reducing its point estimate of beta in 2022, and

- the second factor serves to encourage the AER to now adopt a lower point estimate of beta.

Further, the CRG notes these observations were openly available to regulated networks and so a further reduction in the value of beta should have been factored into their expectations.

These observations imply the case for a lower beta is long-standing and overwhelming. In this regard, it well and truly exceeds the CRG's high bar.

2.7   Conclusion, next steps and other matters

In this Chapter, the CRG has identified multiple sources of bias in, or as a consequence of, the exercise of the AER's regulatory judgement regarding a point estimate for beta in the 2022 Rate of Return Instrument. This is despite the AER's principle of pursuing unbiased estimates because, in its own words, doing so best serves the NEO, NGO and the long-term interests of consumers (see Chapter 1).

The consequences of the AER proposed approach to estimating a point value of beta are material. These consequences will be further increased in the 2022 instrument by the AER's intention to adopt a shorter-term estimate of the risk-free rate which will have the effect of increasing the market risk premium from 6.1 per cent (in 2018) to 6.8 per cent (see Chapter 6) for further discussion).

For the reasons outlined in this chapter and in Chapter 6 there is an overwhelming case for the AER to avoid embedding an upward bias in the Rate of Return Instrument by adopting a significantly lower point estimate of beta.

2.7.1   Next steps

The AER should:

- Amend its comparator set to ensure it is not giving undue weight to marginally relevant comparators, namely:
  - o   Networks that have been delisted for many years
  - o   Networks that receive only a low proportion of their revenues from regulated activities
  - o   Portfolios with limited time series data.

- Generate a portfolio consisting of the networks listed in portfolio P5 but excluding APA (given its acknowledged distortionary impact on estimates of beta). When exercising its regulatory judgment, the AER should place greatest weight on this new portfolio and portfolio P8 (given

the AER's previous observation that SKI and AST "better match an efficient firm in the supply of Australian regulated energy network services" [83]).

- Take into account the consequences of shortening its estimation term for the return on equity on its point estimate of beta, as described in Chapter 6.

The CRG considers doing so will justify a point value for beta of 0.5 or less. We acknowledge that based on the precedents established in 2013 and 2018, the AER may wish to avoid reducing the value of beta by more than 0.1 as part of the current review of the rate of return.

2.7.2   Other matters

The CRG reaffirms the following positions, as outlined in our earlier advice to the AER.[84]

- The AER should reject claims that its point estimates beta should account for stranding risk or low beta bias.

- The AER should not include non-energy infrastructure firms or international energy firms in the comparator set for estimating the value of beta in the 2022 Rate of Return Instrument.

- In finalising the 2022 rate of return review, the AER should do nothing that pre-empts or forecloses on future options for determining the rate of return.

We note the *Draft Decision* is consistent with the CRG's position on these matters and that any change in the final instrument on the above matters would need to be supported by overwhelming evidence.

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[83]   AER, *Rate of Return Instrument, 'Explanatory Statement'*, December 2018, p. 173

[84]   CRG, *Advice to the Australian Energy Regulator, CRG Response to the AER's December 2021 Information Paper, March 2022,* Chapter 5

3   Market risk premium

3.1   Summary of CRG advice

The CRG continues to favour the use of Historical Excess Returns (HER) data to inform the estimate of the MRP. This approach provides a stable, consistent signal to investors and consumers based on long-term evidence of returns to Australian equities.

We consider that the use of Dividend Growth Models (DGMs) to generate estimates of MRP carries the risk of resulting in volatile estimates, given that several of the inputs to a DGM are subject to variation over time and that these variations feed through to variations in the output. We commissioned a report from Professors Graham Partington and Steven Satchell on DGMs and other matters related to the MRP, which we include as an attachment to this advice[85]. Their report bears out our conclusions on the flaws of DGMs.

Accordingly, we do not support further consideration of the Option 3b outlined in the Explanatory Statement.

While our broad position is thus aligned with that of the Draft Instrument, we consider that the point estimate of 6.8 per cent selected by the AER is too high. We recognise that the difference between the two estimates is partly due to the change in term, but that only accounts for 30 basis points of difference. We consider that the available evidence supports a lower estimate as set out in 3.2.4 below. While we cannot be definitive on the "right" point estimate, we consider that the 6.1% estimate used in the 2018 RoRI should serve as the upper bound, given the work the AER has done to establish the adequacy of the 2018 decision. However, the best estimate consistent with the AER's objective of an unbiased estimate could be lower than 6.1%.

3.2   The Draft Instrument position

The AER's preferred position uses the same type of data as its previous decision, that is, it is based on a range of HER estimates, from which the AER has (or appears to have) selected one specific estimate. While we support the stability of process associated with continued reliance on HER data, we do not consider it necessary or desirable that the AER chooses a specific single estimate based on one specific combination from amongst the several combinations of averaging type, term and sampling period that it has reviewed.

Rather, we consider that these estimates are all relevant factors that should be potentially given some weight in the AER's judgment of the best estimate. The final estimate need not correspond to any single estimate, but rather should account for the limitations of any single estimate. For example, in accounting for the fact that neither arithmetic nor geometric averages are straightforwardly the best estimate, the AER should select a figure that lies between the arithmetic averages and the geometric averages. By taking account of only the arithmetic average, the AER has ignored its own assessment that arithmetic averages will overstate the MRP [86].

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[85]   Partington & Satchell, *Report to the CRG: The Dividend Growth Model, the MRP and the AER's Draft Rate of Return Instrument*, August 2022

[86]   AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p.134

3.2.1 Term of the risk-free rate used to derive HER from total excess returns

Note: For convenience this Chapter focuses on cases where the AER's intended approach results in an estimation period of 5 years. The CRG recognises there is a limited number of resets where a longer estimation term might be applied.

Given our preference for consistency across parameter estimates, we support the use of the same term for the risk-free rate used to derive excess returns from total returns as for the separately determined risk-free rate parameter in the Capital Asset Pricing Model (CAPM), with the following caveats.

1. We note that the AER has not convincingly demonstrated that this is the correct approach to deriving excess returns. Whether this means the resulting MRP has a 5-year term is moot, since the AER's calculation of *total* returns is not affected by the decision on term. Whether the estimate of total returns *should* vary with term and how this might be put into practice is not addressed by the AER. Essentially there is an implicit assumption that the variation in equity returns required by investors for longer periods is less than the variation in the risk-free rate (due to beta < 1). This is explained further in the term Chapter 6.

2. Given the weight put by the AER on the need to match the term of equity as a whole to the regulatory period in order to satisfy the Net Present Value (NPV) =0 criterion, we expect that some consideration should be given to whether there is an impact on the way excess returns should be calculated beyond simply stripping out the risk-free rate at the preferred term. Partington and Satchell note that the AER's approach "assumes there is a term structure to the equity market premium, and also one which is appropriately measured by the method the AER follows".[87] If this is the case, then there must be some doubt whether the AER's approach is correct.

3. Separately, there is an unfortunate knock-on effect from the change in term to the available data sampling period for HER. A 10-year term allows data to be considered from 1883, while a 5-year term only allows data to be considered from 1972 as 5-year commonwealth government security data is not available before that date. This truncates the longest available sampling period from 138 years to 49 years, a reduction of almost two-thirds. It also reduces the number of sampling periods reviewed by the AER from five to three. The choice of sampling periods is discussed further below, but we consider that this significant reduction in data is worthy of consideration in assessing the pros and cons of a five versus a 10-year term.

3.2.2 Sampling periods and unconditional estimates

As a result of the use of the 5-year risk-free rate, the AER presents data from three periods. Each period runs to the end of 2021, the last full calendar year from which returns can be calculated. The first period starts in 1972, from when 5-year Commonwealth Government Securities (CGS) yields become available, while the other two start in 1980 and 1988 respectively, representing years that could be considered a structural break in returns data.

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[87] Partington & Satchell, *Report to the CRG: The Dividend Growth Model, the MRP and the AER's Draft Rate of Return Instrument*, August 2022, p. 62

None of these periods can be considered *a priori,* as more representative than others of the true market risk premium. The AER has stated that "In our view, the unconditional MRP is most relevant to our regulatory task as there is difficulty in estimating the conditional MRP"[88]. We agree and have justified this position in our advice to date.[89]

In general, a longer data series is most likely to provide an unbiased estimate of the unconditional MRP. Nonetheless even the longest available series of 49 years is not very long for developing a robust estimate of the unconditional MRP, as explained by the Sapere Research Group (Sapere) in their report for the CRG, attached to our March 2022 *Response to the AER's December 2021 Information Paper*[90]. Sapere note that:

> *Over a shorter period of 30 years the [95%] confidence interval is {0.1%, 13.1%}, which is so wide as to be of little value for practical purposes.*

The AER's point estimate is based on the 33-year period 1988-2021.

The relatively short period used to construct what is intended to be an unconditional estimate is a relevant concern because of the surprisingly large movement in the HER data over this shorter period between 2018 and 2022. This is well summarised by the Independent Panel:

> *The return to the Australian equity market over the four extra years included in the new average has been very high relative to bond yields. Because of this, adding those years to the average has resulted in an increase in the average risk premium from 6.1% to 6.5%.[91]*

The Panel goes on to note that there are two competing explanations for this. If those four years were unexpectedly excellent years for the equity market, then they would:

> *…tell us little about the long average MRP. This…interpretation would imply that the MRP estimate used in the cost of equity should not be increased.[92]*

One reason to be sceptical of the apparent increase in the *unconditional* MRP is that the 10-year data, over the longest available period, has only changed by 0.1%. This is closer to what one might expect when adding only 4 years of data to update an estimation method that is predicated on stability of outcomes. Whether having a shorter sample period means that the estimate is closer to the notional "current" MRP is irrelevant when the task is to set an *unconditional* MRP. The CRG also considers that attempting to track the true MRP for the current moment is inappropriate when the MRP figure is applied as a fixed parameter in setting a binding rate of return that will be in application in a decade's time.

Another reason is that – through no fault of its own – the AER's dataset ends in 2021 at a point close to a high-water mark for ASX returns. The ASX all ordinaries closed 2021 at 7779.20, before reaching its all-time peak on 4 January. We understand that the AER is using calendar year data and that there will thus be no further update before the final Instrument in December. If the AER's data was on a

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88   AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p. 128

89   See for example, CRG, *Advice to the Australian Energy Regulator, CRG Response to the AER's December 2021 Information Paper, March 2022*, pp. 67-69

90   Sapere, *Estimation of the Market Risk Premium and its Relationship to the Risk-free rate in the Context of Regulation of Electricity and Gas Networks*, February 2022, p20

91   Independent Panel, *Independent Panel Report: AER Draft Rate of Return Instrument*, July 2022, p. 27

92   Ibid

financial year, it would have incorporated a 13.3% drop to 6,746.50 on 30 June 2022, although the market has rallied since. We agree with the Independent Panel's advice that the AER should consider the impact of 2022 data on its estimate. We are not looking for cherry-picking of data, but it is important that the AER satisfy itself that in relying on data from 1988-2021 only, it is not overweighting the impact of the unusual macroeconomic settings that applied for over a decade following the GFC, when central banks around the world engaged in an unprecedented level of quantitative easing and then maintained their balance sheets for several years beyond that. That era is now behind us and is not reflected in "current market conditions" regardless of how much the AER should be trying to take such conditions into account.

Finally, and given that the AER has now confirmed it is using HER data to set an unconditional MRP, we appreciate the due diligence of the AER in commissioning a stationarity test of the HER data series. This was a recommendation we made based in Sapere's advice.

3.2.3   Arithmetical and geographical averages

We recognise that the debate between arithmetic and geometric averaging of a dataset such as HER is now something of a hoary chestnut in regulatory circles. The CRG has consistently argued for some consideration of geometric averages and were heartened to read in the explanatory statement that the AER confirmed that "we look at both arithmetic averages to develop our MRP estimates range."[93]. The AER also recognises that both approaches have advantages and disadvantages.

Using an arithmetic mean to set the HER assumes that future observations will be drawn from the same independent and identical distribution as past observations. This is a seemingly reasonable assumption. Using a geometric mean to set the HER assumes the future observations will (over the course of time) deliver the same long-term compound rate of return to investors as they have received in the past. This too is a seemingly reasonable assumption.

While both assumptions are seemingly reasonable, they have very different implications for what the regulator expects to happen in the future.

As a consequence of applying an arithmetic mean for the HER in the upcoming regulatory period, the AER is implicitly assuming the long-term compounding (i.e., geometric) HER will increase over that regulatory period – i.e., gradually converging to the arithmetic mean.

This upward convergence is demonstrated in the following numerical example.

In proposing to adopt an arithmetic mean for setting the HER, the AER has not acknowledged that this approach entails an implicit assumption by the regulator that the compounding rate of return earned by investors will increase over the coming regulatory period – that is, increase over its long-term average. Nor has the AER explained why this is a reasonable or unbiased assumption.

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[93]   AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p. 127

Box 3-1: Numerical example

Assume the annual return over the past 4 years (let's call this the 'long-term') has been 5, 10, 5 and 10 per cent, respectively. The arithmetic mean of this sequence is 7.5 per cent per year, while the compounding return (geometric mean) over this period has been 7.471 per cent per year.

If a regulator now sets the return for the next four years at the geometric rate of 7.471 per cent per year, then the long-term compounding rate remains constant at 7.471 per cent per year. That is, the regulator assuming the long-term compounding return remains in line with its long-term average.

Alternatively, if the regulator sets the return for the next four years at the geometric rate of 7.5 per cent per year, then the regulator is assuming the compounding rate over the next four years is 7.5 per cent and the long-term compounding rate (over the entire 8 years) is increasing to 7.486 per cent per year.

In other words, as a consequence of its approach, the regulator is implicitly assuming the long-term return on investment is increasing over the next four years rather than remaining consistent with the observed long-term average compounding rate of return. This assumption warrants some scrutiny and justification by the AER.

Sapere note that the superiority of arithmetic averages is predicated on the dataset being independently and identically distributed (IID), whereas if there is serial correlation then a weighted average of arithmetic and geometric averages "is both a less biased and a more efficient estimator than either alone"[94]. We are not aware of any analysis carried out by the AER or others to determine whether the HER dataset is IID and so we do not consider that the geometric averages should be given zero weighting as the AER has done.

Indeed, the AER specifically states that "the arithmetic average is likely to be subject to a small upward bias"[95], but then does nothing to correct this bias. We acknowledge the difficulty of determining a very precise adjustment or a specific weighting for geometric averages, but this is not an excuse to do nothing.

3.2.4   The final estimate

We do not consider that the reason given by the AER for selecting one specific HER estimate from among the several it presents in the *Explanatory Statement* that "stakeholders can transparently calculate the value we use"[96] is important enough to override the issues set out above. This criterion is not so critical that it is applied to all parameters – it does not apply to the beta estimate for example. The beta example demonstrates that the AER can legitimately use its judgement to adjust down from the latest arithmetic averages to reflect the inherent biases in those estimates.

We note that the previous point estimate of 6.1 percent, used for the 2018 RoRI has been assessed by the AER as resulting in a rate of return that is at least adequate, as evidenced, for example, by the AER's analysis of the financeability of Network Service Providers (NSPs) under the 2018 RoRI. We

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[94]   Sapere, *Estimation of the Market Risk Premium and its relationship to the risk-free rate in the context of regulation of electricity and gas networks*, February 2022, p. 46

[95]   AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p. 134

[96]   Ibid

repeat our recommendation in our advice to the *Information Paper* that the 2018 estimate represents the upper bound of a reasonable estimate (subject to adjustment for a lower long-run risks free rate if the AER persists with its decision on term).

Whether this is still the case if combined with other parameters set differently to the 2018 RoRI, such as the AER's choice of a 5-year risk-free rate, or our recommendation to set beta lower than 0.6 is unclear. We would expect the AER to satisfy itself that the overall rate of return was adequate.

3.3   The alternative – "Option 3b"

As a matter of regulatory principle, the CRG is concerned that the AER is still leaving open in the Draft Decision the prospect of adopting an MRP based on an equally weighted HER and DGM (Option 3b). The introduction Option 3b has significant implications not only for the AER's initial return on equity, but for the operation of the RoRI framework over the next four years. The full implications of this approach are not adequately canvassed in the Draft Decision.

A major concern with the alternative option is the use of the DGM in setting the estimate and the broader implications on the operation of the RoRI. The AER and many other stakeholders will be familiar with the critiques of the DGM. Indeed, the AER sets out a range of issues and expert views Nevertheless, given that the AER appears to be contemplating using it as a direct input into the estimate for the first time, we reiterate some of the main concerns. Most of these matters are explained at greater length in Professors Partington and Satchell's report.[97]

3.3.1   Generic issues with the DGM

All DGMs are built off taking current dividend pay-outs of a universe of publicly trade stocks (as the data is accessible) and projecting forwards. Analysts' forecasts for future dividend pay-outs are used where available (typically no more than three years, and then some method is used to trend from the final forecast to an expected long-term growth rate. This is often based off general GDP growth forecasts, although Partington and Satchell introduce an alternative source of DGM estimates from a group called Fenebris,[98] which uses firm's internal growth rates to reflect terminal growth.

It's well known that dividend pay-out ratios are "sticky", with firms' managers preferring to deliver a smooth growth in returns and only cut dividends as a last resort. They thus may not provide a true snapshot of the sustainable level of dividend growth.

DGMs typically build in an upward bias due to analysts' forecasts of future dividends being overly optimistic. If future dividend forecasts are upwardly biased, the resulting DGM estimate will be upwardly biased[99]. Analysts' forecasts may also be slow to adjust and thus incorporate out-of-date information.

All DGMs result in significant weight being put on the choice of g, the long-term growth rate. This is largely due to the limited time horizon over which specific dividend forecast data is available. But the growth rate is yet another input variable that must be estimated, and growth rate expectations can change materially over a period of four years (especially in an environment of volatile inflation,

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[97]   Partington & Satchell, *Report to the CRG: The Dividend Growth Model, the MRP and the AER's Draft Rate of Return Instrument*, August 2022

[98]   Ibid, p. 16

[99]   See Fenebris.com, *Market-Risk-Premia.com*, 2020

which may change longer-term expectations and thus the nominal growth rate even if the real growth rate estimate remains relatively consistent). The accuracy of long-term growth rates is hard to assess, but Partington and Satchell present findings that nearer-term forecasts are highly unreliable until about 8 months out from the period being forecast. It's also necessary to adjust the estimate of overall economic growth downward as it is not credible that all future growth will be captured as dividends to stockholders. As discussed below, there is no currently known method for accurately quantifying this adjustment.

In other words, the main inputs to the DGM (apart from the risk-free rate used to convert total returns to excess returns) are all highly subjective and therefore suspect, rendering the output highly unreliable.

3.3.2   Issues with the AER's choice of DGM and input data

The AER claims in the Explanatory Statement that "we have used this formulation [its 3-stage model] since the 2013 Guideline and stakeholders have not raised any issues in the past"[100]. We would submit that stakeholders have spent little time contemplating the specific model because the AER has not directly used it in estimating the MRP to date, and so they have focussed on other issues. For the avoidance of doubt there are several issues to consider beyond the generic problems of all DGMs.

The AER's use of ASX 200 as its universe of stocks will tend to upwardly bias the results. As Partington and Satchell note, smaller and newer stocks that sit outside the ASX 200 are typically less likely to make consistent profits or pay dividends than the larger stocks inside it[101]. The ASX represents 70% of the stock market by value, so 30% of the market is being ignored.

There is also a risk of upward bias due to not accurately capturing the net returns to equity. Equity raising, such as dividend reinvestment (DRP), placements and rights issues need to be accounted for as well as dividends and if these activities are not included in the calculation returns to equity will be overstated. Conversely share buybacks reduce capital and ignoring these would understate returns to equity. Partington and Satchell review some evidence of the quanta of these activities[102].

The sensitivity of the DGM output to the value of g means that the adjustment to the long-run growth rate forecast is important. We agree with the AER's decision to make a downward adjustment, but we note that the choice of 1 percent is essentially arbitrary. While it is the midpoint of three example adjustments used by Professor Martin Lally in some analysis for the AER in 2013, these too were arbitrary choices.

Partington and Satchell also identify some typographical errors in the version of the model reproduced in the explanatory statement and propose a formula change to reflect the timing of dividends[103].

They also test several versions of the model for stability. They find that the AER's 2-stage appears to deliver a more stable result than the three-stage model. This does not automatically make the 2-

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[100]   AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p. 143

[101]   Partington & Satchell*, Report to the CRG: The Dividend Growth Model, the MRP and the AER's Draft Rate of Return Instrument*, August 2022, p. 10

[102]   Ibid, p. 46

[103]   Ibid, p. 13

stage model superior but is relevant given the AER's presentation of its Option 3b as providing a more stable RoE.

3.3.3   The ENA's calibrated DGM

Briefly, we agree with the AER's decision not to further consider the calibrated DGM. The results are highly volatile, the terminal growth rate is implausibly high and the AER's finding that "there may be a material time varying error in the model created from using a constant growth rate"[104] is further cause for concern. The AER also references Woollahra Partners' finding that there is at least one independent variable short in the regression model, leading to potential for omitted variable bias[105]. These issues are additional to the generic problems with DGMs outlined above.

3.3.4   Weighting the HER and DGM estimates under option 3b

An additional concern is that the 50:50 weight given to HER and DGM is arbitrary, and it is not clear whether or how the AER has satisfied itself that this is an appropriate weight. The Independent Panel noted that "it should better explain why it chooses equal weight[106]".

Partington and Satchell critique this aspect of the AER's approach. More fundamentally they question the premise of averaging an unconditional estimate of MRP with a conditional estimate of MRP.

The CRG agrees with Partington and Satchell that there is a fundamental problem with taking an average of two very different ways of analysing the MRP. The mathematics is easy, but the resulting figure has no conceptual or theoretical foundation; it is more a convenience than an attempt to decide an unbiased estimate

In addition, the HER approach provides a sensible statistically sound methodology for estimating future expectations on the overall returns on equity and is widely used for this purpose. The DGM approach relies on subjective forecasts (often derived based on short-term recent market events) and with no statistical framework for assessing the probabilities of these events in the future.

3.3.5   Other matters

As we cautioned in our advice to the *Information Paper*, it is too late to introduce a major change in approach such as Option 3b at the draft instrument stage[107]. This option is a radical change both because it puts material weight on DGMs for the first time, and because it introduces a formulaic approach in place of a fixed-point estimate. We consider that if the AER were to make such a change it should have signalled more clearly to stakeholders and begun the process of thoroughly testing the options for implementing such an approach much earlier in the process. At a minimum we would have expected:

- Thorough review of and consideration of options for all relevant inputs into the DGM

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[104]   Ibid, p. 145

[105]   Woollahra Partners, *Dividend Growth Model Results*, March 2022, p.1 4

[106]   Independent Panel, *Independent Panel Report: AER Draft Rate of Return Instrument*, July 2022, p. 32

[107]   CRG, *Advice to the Australian Energy Regulator, CRG Response to the AER's December 2021 Information Paper, March 2022*, p. 75

- Consideration of contingencies in the event an input data source ceases to be available

- Review and comparison of the relative strengths and weaknesses of different DGMs

- Review of the plausible range of outcomes from applying a DGM, not simply from varying the risk-free rate but also from varying the other inputs, including specifically, dividend forecasts and the terminal growth rate.

- Some consideration of whether a 50:50 weighting was the optimal choice

These basic requirements have not been addressed by the AER in anything like enough depth or early enough in the review for stakeholders to engage with the issues. For much of the review the default position appeared to be that DGMs remained unsuitable for use in directly estimating MRP. Nor did the AER provide the detail of how it would estimate the DGM, what weight it would give to the DGM in the final MRP calculation and, importantly, how it would apply it the DGM in practice in the context of the RoRI framework. in practice.

3.4   Stability of the return on equity

The AER's presentation of Option 3b suggests that they believe it will introduce greater stability in the overall estimate of the Return on Equity (RoE)[108]. This is simply a function of DGMs deducting prevailing risk-free rates from the total returns figure and that partially offsetting the impact of the risk-free rate term in the CAPM RoE. The offset is only partial because beta is less than one. This section considers how important this stability might be to consumers and whether Option 3b really does provide greater stability.

Our consumer engagement and research indicate that stability is somewhat important to many consumers. This has been documented throughout our submissions. However, this does not mean that consumers in general are interested in "buying" stability through higher prices. The AER's analysis indicates that this is what they would have effectively done had option 3b been applied in 2018. It would have resulted in an average 46 basis points increase in the return on equity, costing a typical household $15/year.

Whether Option 3b is more stable in the future is unclear because the stability benefits from the interaction with the risk-free rate may be outweighed by variability due to variations in the other inputs. The outcomes of DGMs are typically highly sensitive to variations in inputs. Partington and Satchell compared the statistical stability of Option 1 and Option 3b including variations in other inputs but not g, as a single value of g was used by the AER in computing their MRP estimates. They find that Option 3b appears to be more stable, however "the differences are not great"[109] and the result must be treated as contingent on the stability of g, which cannot be taken as a given.

In any case a stable return on equity, while a major component of allowed revenues is neither sufficient nor necessary for stability in the amounts consumers pay for energy. It is not sufficient because other inputs can vary so final prices are volatile even if the RoE remains constant. It is not necessary because there are other tools to smooth prices. The AER has some discretion to profile revenues within a determination period, and it could do so in a manner calculated to minimise changes in network prices (which would still not obviate the risk of wholesale price volatility). Or

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108   AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, Figure 11.11, p. 283 (for example)

109   Partington & Satchell*, Report to the CRG: The Dividend Growth Model, the MRP and the AER's Draft Rate of Return Instrument*, August 2022, p. 52

consumers can choose to pay consistent regular amounts against their bills, often called "bill smoothing". Both are essentially free options from consumers' perspectives.

Accordingly, the CRG puts very little weight on the putative stability benefits of Option 3b.

4 Return on debt

4.1 Summary of CRG advice

The CRG considers that the AER has robustly demonstrated that there has been some outperformance of its existing benchmark approach by the NSPs from whom it has collected data for its Energy Infrastructure Credit Spread Index (EICSI).

The AER considers that the outperformance is not persistent nor material and as such is not proposing to change its benchmark.

We consider that the evidence from the EICSI (which was in development at the time of the 2018 review) to be sufficiently important to qualify as passing our high bar for change.

Accordingly, we think it is appropriate to make a change to the approach for the 2022 RoRI. We consider that there are several options that have been proposed and reviewed by the AER during this review and we would be comfortable with the AER using whichever one of these it considers best furthers the NEO.

We do not consider that a change in approach automatically requires a transition; this should be judged on the materiality of the change.

We support the retention of equal weighting for the trailing average.

We think the AER should further consider the implications of its proposal to adopt a different term for the RoE to the one it is using for the RoD.

4.2 The AER's *Draft Instrument* position

The AER has decided to retain its 2018 position of applying a 10-year trailing average of 10-year debt, weighted 1/3 AAA and 1/3 BBB to reflect the benchmark BBB+ credit rating.

The AER has collected (via the EICSI) what we consider to be robust evidence of modest average outperformance against this benchmark.

The AER has assessed this outperformance as being 14 basis points (bp) to the EICSI representing a shorter-term than the 10-year term of the benchmark and 4bp due to other factors. The AER considers that the outperformance is neither persistent nor material[110].

The CRG notes that while the AER has described the ways in which the outperformance fluctuates, it has not formally defined the benchmarks for either "persistent" or "material". Nor has the AER explained how it applies such criteria – materiality in particular – consistently across the different parameters. We consider that in assessing the outperformance as neither persistent nor material, and even in choosing those criteria as the basis for assessing whether or not an adjustment to the benchmark return on debt is warranted, the AER is not applying objective standards, but rather using its judgment. This is well within its remit of, but we consider that in exercising its judgment in this way, the AER is applying upward bias in its decision, and we consider that it should use its judgment differently. We consider it is imperative that consumers see some benefit of this outperformance as well as networks.

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110 AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p201

Our advice in response to the *Information Paper* was that we accepted the AER was likely to continue with its existing approach to setting RoD, but that the evidence of outperformance should be taken into account when:

- Considering the decision "in the round"

- Considering cross-checks such as financeability that otherwise assume the allowed RoD is equal to actual debt costs

We are now of the understanding that the AER considers that a situation such as this where one parameter is set a little too high cannot be taken into account when judging where to set other parameters. We are not clear why this should be the case, but given this we have reconsidered our position, and now advise that the AER should seek to capture at least some of this outperformance for consumers. We discuss ways that it could do this below.

One reason for our acceptance of the status quo was that the AER indicated it would have to apply a transition if it were to make a change such as moving to a shorter-term consistent with the evidence of the EICSI. We were concerned by the complexity this would entail, especially given this might entail transitions upon transitions. We now consider that the AER has not established the necessity for transitions between different terms of trailing averages and so this should not be a barrier to a change in approach.

We also note that the Independent Panel considered that the AER:

> *Should give further consideration to…using the EICSI as the primary source and using the Yield Curve approach as the crosscheck[111]*

The CRG agrees with the Panel's request for the AER to give further consideration to using the EICSI. In an incentive regime, consumers should over time share in the benefits when there is clear evidence of continuing outperformance.

4.3   Options for capturing outperformance

There are several ways that this could take place, most of which have been canvassed and considered during the review. They include:

- Direct adjustment to the benchmark

- Varying the weighting of A and BBB debt instruments in the benchmark calculation

- A mechanism to cap outperformance

- Shortening the term of the RoD consistent with the weighted average term to maturity (WATMI) evidence from the EICSI

- Using the EICSI to directly set the RoD

We recognise there are pros and cons to each of these, but that none of them have drawbacks that are so serious that they must be ruled out as viable options.

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[111] Independent Panel, *Independent Panel Report: AER Draft Rate of Return Instrument*, July 2022, pp. 43-44

We remain of the view that the AER's suggestion to cap outperformance is relatively complex and some of the other simpler options would have a very similar impact. However, if the AER considers it the best option, then we would be comfortable with its use.

The AER's explanation of how it would blend 5- and 10-year HER data to derive an MRP of 6 to 9 years if it had to do so to match a non-standard regulatory period[112] provides a good analogue for how it could apply a term of RoD between five and 10 years. It need not even be a whole number of years.

In short, we consider the priority is to address the outperformance and we are relatively agnostic as to which of the available methods the AER uses. However, we note that one drawback of the change in term would be that it would be unlikely to result in a consistent term with the term of equity. Since the draft instrument already adopts the position that consistency of term across parameters is not a prerequisite, this may not be a significant drawback.

4.4 Transitions to a new approach to Return on Debt

The AER insists that any change in term must be accompanied by a transition from the old term to the new term. But it has not explained why. If a revised term of debt is considered a better approach, then surely it is in consumers' interests to make the change immediately and in full?

Changing between a 10-year term and an 8-year term, say, is not the same scale of change as the move from the on-the-day approach to the trailing average approach which began in 2013. So, the fact that a transition was allowed at that time is not sufficient reason to apply a transition for every change to the way the (Return on Debt) RoD is calculated.

We do not consider the AER's contention that transition is necessary to preserve the NPV=0 condition[113] to be compelling. In considering the issue of whether to weight the trailing average, the AER adopts a different criterion of whether the departure from NPV=0 is material, rather than the binary framework of meets NPV=0/does not meet NPV=0 it uses in its arguments about the appropriate term. We consider that the materiality point could be used to assess whether a transition is strictly necessary.

We also do not agree that it is a necessary criterion of an efficient and effective RoD that all firms must be able to match the benchmark strategy at all times, which is the other reason cited by the AER for requiring a transition[114]. The ability to match the strategy, or replicability is one way to demonstrate its adequacy, but it is not the only way. In addition, NSPs have already demonstrated that they do not strictly follow the 10-year trailing average. NSPs have already demonstrated that they manage their own debt portfolios to address their financing needs rather than mechanically following the AER's 'average' benchmark, and in the process have generally been able to beat the AER's benchmark. It is appropriate for the AER to respond in turn to share this benefit with consumers over time.

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[112] AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p133

[113] AER, *Overall Rate of Return, Equity and Debt Omnibus Final Working Paper*, December 2021, p. 85

[114] Ibid

4.5   Weighting the trailing average

We support the Draft instrument decision to retain the equal weights, although we note that the AER intends to keep this option under review. Given the Independent Panel also agreed with the AER's approach and given few if any other stakeholders were advocates of the alternative weighting options, we offer no further arguments to support our position.

We are however somewhat concerned that the AER's interest in applying this approach could presage a move towards treating debt as something of a cost pass through, rather than setting an efficient benchmark that maintains the incentive for the NSPs to beat the benchmark. This is the only approach that would allow the AER to observe if there is a more efficient approach to RoD than its current benchmark. This may not be the AER's intention, however we recommend that the AER keep a close eye on the incentive properties of its approach to RoD.

4.6   Consistency with equity term

One factor the AER has not considered is the implications for the efficient RoD of changing the term of the RoE. This is discussed further in Chapter 6, where we note that some capital providers provide both debt and equity capital. It does not seem plausible that such investors take a different view of the appropriate term for debt versus equity. If the AER maintains its position as set out in the draft instrument this will result in different terms for RoE compared to RoD, and thus introduce a distortion in the relative attractiveness of debt and equity. The AER should consider further the implications of this before making its final decision. Regardless, the relative allowances for RoD and RoE can no longer be compared as a cross check since they are now based on different terms.

4.7   Continued use of the EICSI

We support the continued monitoring of the EICSI and the AER's remaining open to using that to make adjustments to future returns on debt if the gap between the current benchmark and the EICSI becomes more material/persistent.

We agree with the AER's conclusion that it is preferable to maintain equal weighting in the trailing average rather than attempt to tailor the weighting to either forecast or actual capital expenditure (capex) profiles. We are somewhat concerned that the AER's interest in applying this approach could presage a move towards treating debt as something of a pass through, rather than setting a straightforward benchmark that maintains the incentive for the NSPs to beat the benchmark. This is the only approach that would allow the AER to observe if there is a more efficient approach to RoD than its current benchmark.

5 Cross-checks of the overall rate of return

There is widespread agreement that cross-checks, particularly in isolation, should not have a determinative role in the AER's rate of return decision. However, as a whole, they can provide important information on the expectations of investors and on the performance of the AER's 2018 rate of return decision. The 2022 Independent Panel highlights that an analysis of outcomes of the 2018 decision is relevant to understanding if it has led to over- or under-investment in the energy networks. The Panel also urges the AER to take a 'holistic approach' to designing and interpreting cross-checks.

The CRG agrees with the Panel's conclusions. We support the use of RAB multiples and historical profitability as relevant measures. We are less convinced about the value of the AER's proposed financeability test. Sensitivity and scenario testing, if appropriately designed and symmetrical, can provide useful insights on the risks to consumers of different approaches.

The CRG recognises there are challenges in interpreting cross-checks. Nevertheless, for the reasons outlined by the Panel, we believe the AER has too readily dismissed the value of historical profitability as a cross-check. We also identify other cross-checks to enhance the AER's understanding of the 2018 RoRI outcomes.

Finally, we highlight the additional importance of understanding efficiency in the broader context of consumers' response to price changes. A relevant measure is utilisation of the existing network, which has been declining over the last 10 to 15 years. This is clear evidence of network over-investment. Consumers cannot afford this trend to continue.

5.1 Background to our advice on cross-checks

In the 2018 RoRI, the AER undertook an extensive assessment of potential cross-checks on the overall rate of return.[115] The AER concluded that none of the proposed cross-checks could be used to reliably determine any outperformance of the rate of return. However, the AER indicated two cross-checks – 'RAB multiples' and 'historical profitability' – may provide 'contextual information'.[116] Relevantly, the AER explicitly rejected the use of financeability tests as a cross-check of its 2018 decision on the overall rate of return.[117]

In its 2021 *Final Omnibus Working Paper*, the AER confirmed that cross-checks could not be used in a determinative or 'formulaic' way. However, the AER stated its preliminary view that it was open to using the following cross-checks as sense checks, while also noting their limitations. They were:[118]

- RAB multiples

- Financeability tests

- Scenario testing

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[115] The AER considered historical profitability and RAB multiples, investment trends and results of RAB values and asset utilisation, and financeability assessments. See AER, *Rate of Return Instrument, Explanatory Statement*, December 2018, p. 382

[116] AER, *Rate of Return Instrument, Explanatory Statement*, December 2018, p. 388

[117] Ibid, p. 405

[118] AER, *Final Omnibus Working Paper*, December 2021, p. 120

In the CRG's March 2022 response to the AER, we supported the use of RAB multiples and scenario testing (subject to certain conditions). We also warned against using the AER's proposed financeability and argued that historical profitability tests provided relevant information on the outcomes of the 2018 RoRI.[119]

Nevertheless, the AER's draft decision confirmed its preliminary views and ignored the CRG's concerns with the proposed financeability test and the value of historical profitability tests.

The 2022 Independent Panel subsequently highlighted the limitations of the AER's approach. The Panel urged the AER to expand its approach to cross-checks. They urged the AER to:[120]

- Include a broader range of cross-checks including tests that measured whether the 2018 RoRI has led to the right level of investment in the past and is likely to do so in the future.

- Consider the evidence from the various cross-checks 'in the round' rather than focus on individual discrete cross-checks.

The CRG agrees with the overall direction of the 2022 Panel's recommendations. It is important to include cross-checks that asses the outcomes of the 2018 because:

- The AER is using the 2018 RoRI methodology as a base for its 2022 RoRI decisions

- There is sufficient data available to the AER to now assess the impact of the 2018 RoRI.

Section 5.5 sets out a range of potential cross-checks that support the 2022 Panel's recommendations.

However, the CRG, however, goes further than the 2022 Independent Panel.

In our view, it is important for the AER to include 'consumer-based' cross-check measures. The CRG has long supported the 2018 Independent Panel's view that for the AER to satisfy the national objectives and the RPPs it needs to take account of the actions of all the stakeholders that comprise the regulated industries.[121]

In Section 5-6. the CRG identifies network utilisation trends as a cross-check on the efficient utilisation by consumers of the networks. We urge the AER to consider other relevant consumer-based cross-checks before its final 2022 rate of return decision

Overall, cross-checks that assess the outcome of the 2018 RoRI, are already available to the AER. For example, the CRG has assessed the most recent data provided by the AER and note that:

i. There is no evidence that networks have had difficulty in accessing either debt or equity capital; to the contrary

ii. There is no indication of credit agencies downgrading the businesses to below the AER's benchmark credit rate of BBB+

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[119] CRG, *Advice to the Australian Energy Regulator: CRG Response to the AER's December 2021 Information Paper*, March 2022, p. 105

[120] For example, Independent Panel, *Independent Panel Report - AER Draft Rate of Return Instrument 2022*, July 2022, pp. 49-50

[121] Independent Panel, *Review of the Australian Energy Regulator's Rate of Return Draft Guidelines*, September 2018, p. 67

iii.   The AER's analysis of return on equity and return on regulated assets indicate ongoing profitability of the networks despite very low inflation and interest rates in 2019-2021

iv.   The businesses continue to propose significant capital investment programs, currently focussed on upgrading the existing networks

v.   Capital productivity measures continue to decline across the sector

vi.   Network performance measures indicate that networks generally maintain or exceed their regulatory benchmark standards (i.e., the STPIS standards)

vii.   Electricity distribution network utilisation data has declined to an average of 41% in 2021.[122] This suggests that consumers are already paying more for excess capacity than the benefits they receive.

Consumer representatives have also highlighted these developments since 2018 to the CRG. They believe the AER should take this into consideration in its 2022 RoRI decision. We agree with their concerns and consider it essential that the AER use this information to inform its judgement in the final 2022 rate of return decision.

The following sections provide additional detail on the background to the AER's draft RoRI decision, the changes the AER made from its 2018 position and the CRG's response to the decision.

5.2   The AER's perspective on the role of cross checks

The AER defines the role of cross-checks as follows:[123]

> We use crosschecks as a sense check on our overall allowed rate of return and to assist in identifying potential issues. However, we do not use crosschecks in a formulaic way to determine the overall rate of return. **Therefore, no crosscheck is used to directly determine parameter estimates for the allowed rate of return.**

While we agree with this general proposition, we also note the AER's statement that the outcome of the cross-checks could result in the AER revisiting its parameter estimates, as quoted below:[124]

> If we found the Instrument did not perform well in crosscheck or future scenario, we would consider options for making changes and the trade-off with other issues could also arise.
>
> For example, if we were not satisfied that the decision in the round is likely to contribute to the achievement of the NEO/NGO we would reconsider:
>
> • CAPM input parameters (for example, equity beta)
>
> • Cost of debt assumptions
>
> • Broader adjustments (For example the notional gearing assumption, revenue profile, and use of DGM to set MRP).

It is important to ensure consumers better understand and have confidence in the AER's final rate of return decision. The AER can do this by providing more guidance in its final rate of return decision on

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[122]   AER, *Electricity Network Performance Report*, July 2022, pp. 20-22. The AER's report does not include figures for the utilization of the transmission networks.

[123]   AER, *Draft Rate of Return Instrument – Explanatory Statement,* June 2022, p. 259

[124]   Ibid

how it intends to apply the assessment process outlined above. For example, in its final decision the AER should set out:

- The specific circumstances under which the AER would decide to reassess its equity parameter estimates or cost of debt in order to achieve a more 'satisfactory' rate of return outcome, and how it would undertake that reassessment; and

- The AER's commitment to symmetry in its treatment of investor and consumer interests. This requires the AER to explain its response to perceived over-estimation of the rate of return in the same way that it explains its response to perceived under-estimation of the rate of return.

5.3   The AER's selected cross-checks and the AER's changing position

In its *Final Omnibus Working Paper*, the AER identified a range of potential cross-checks from which it selected three 'preferred' cross-checks that may have some 'value' as sense checks on the overall rate of return decision. They were RAB multiples, financeability and Scenario testing.[125]

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[125]   AER, *Final Omnibus Working Paper*, December 2021, p. 120

The AER confirmed its preliminary position in its draft decision as summarised in the table below.[126]

Figure 5-1: Role of cross-checks from preliminary position to draft decision

Role	Crosscheck	Our preliminary position (Dec 2021)	Our draft decision (Jun 2022)
Most useful cross checks	RAB multiples	Our preliminary position is that RAB multiples may be useful as a sense check and trigger for further investigation into the regulatory framework.	As per preliminary position
	Financeability tests	Our preliminary position is that we are open to using financeability tests in a contextual role.	As per preliminary position
	Scenario testing	Our preliminary position is that we are open to using scenario tests in a contextual role.	As per preliminary position
Less useful cross checks	Historical profitability	Our preliminary position is that historical profitability should have no role in informing the overall rate of return.	As per preliminary position
	Investment trends	Our preliminary position is that investment trends should have no role in informing the overall rate of return.	As per preliminary position
	Other regulators' rate of return rates	Our preliminary position is that other regulators' rate of return estimates should have no role in informing the overall rate of return.	As per preliminary position
	Analysts' discount rates	Our preliminary position is that analysts' discount rates should have no role in informing the overall rate of return.	As per preliminary position

Source: AER, *Overall rate of return, equity and debt omnibus - final working paper*, December 2021, p. 124

While the AER's draft decision is consistent with its preliminary 2021 position, it differs from the AER's 2018 decision on cross-checks. In 2018, the AER rather cautiously suggested RAB multiples and historical profitability could provide some 'contextual' information, while it explicitly rejected the use of financeability tests as a cross-check.

The 2018 Independent Panel supported the AER's selection of cross-checks including the AER's rejection of financeability tests. The 2018 Panel concluded:[127]

> *On this point* [the decision to reject financeability tests] *the Panel finds that the AER considered the available evidence and explained sufficiently its reasoning.*

The CRG is not clear on the reasons for the AER's change in its draft decision to include a financeability test and exclude historical profitability cross-checks.

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[126] See for example, AER, *Draft Rate of Return Instrument – Explanatory Statement*, June 2022, Table 11.1, p. 261

[127] Independent Panel, *Review of the Australian Energy Regulator's Rate of Return Draft Guidelines*, September 2018, p. 19

For example, the AER adopts the same single financeability test in 2022 as it considered, and rejected, in 2018. It provides no evidence to suggest that the financeability test is now more robust or provides more value.

On the other hand, the AER's main reason for rejecting historical profitability appears to be first that it is subject to accounting manipulation, and it is also a:

> backward-looking measure of actual returns earnt by businesses rather than expected returns" and that "most stakeholders are also supportive of our December position on the limited use of historical profitability as a crosscheck. [128]

The CRG's view is that historical profitability can provide useful information to the AER to inform the 2022 rate of return decision. Our view is supported by the 2022 Panel who did not agree with the AER's dismissal of historical profitability cross-checks.[129]

As discussed in the following sections, we consider that all the cross-checks have limitations. However, by considering a wider range of cross-checks the AER can have more confidence in using this information to confirm or reassess its final rate of return decision (as the case may be).

5.4   The evolution of the CRG's perspective on cross-checks

The CRG's position on cross-checks has evolved over the last year. In reaching our final position on cross-checks, we have considered the advice of the 2022 Independent Panel and the findings of an independent research study commissioned by the CRG on 'consumption efficiency.[130]

For example, the independent investors and consumer representatives interviewed by the CRG emphasised the need for the AER to investigate networks' historical performance data. The consumer representatives were particularly concerned that the networks were able to use their extensive resources to pressure the AER to determining a rate of return that was higher than necessary. To these representatives, historical profitability outcomes (and other performance measures) were important to their having confidence that the AER's decisions were unbiased, and the AER had considered the impact of their decision on consumers.

For example, as highlighted in the CRG's *Response to the AER's Draft Working Paper on the Term of the Rate of Return*, one participant commented:[131]

> It would seem, you know, to me, this was a big failing of the way in Australia we assess infrastructure investments. We do an awful lot of work, like we're doing at the moment, in a priority sense; yet, at the end of the day, nobody sits down and does an ex-post evaluation of all those decisions and finds out 'well did we get it right; if so, why and if not, how can we improve?

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[128] AER, *Draft Rate of Return Instrument – Explanatory Statement,* June 2022, p. 271

[129] Independent Panel, *Independent Panel Report - AER Draft Rate of Return Instrument 2022*, July 2022, p. 54

[130] University of Wollongong, *Consideration of Demand Side Issues in Making the Rate of Return Instrument*, report prepared by David Havyatt, Rabinda Nepal and David Johnstone for the CRG, August 2022, not yet published. The report is included as an attachment to this advice.

[131] CRG, *Advice to the Australian Energy Regulator on the Term of the Rate of Return, July 2021*, p. 39

The 2022 Independent Panel also considered it critical the AER examine the outcome of its previous rate of return decision. Notably, this reflected the Panel's somewhat different perspective to the AER on the purpose of cross-checks. The Panel stated:[132]

> The purpose of crosschecks is to test whether the overall rate of return is **consistent with regulatory objectives** [emphasis added]

The Panel was aligned with consumer representatives' concerns, noting that 'backward-looking' cross-checks can contribute to assessing whether the outcomes of the AER's previous rate of return decision contributed to achieving the statutory requirements of efficient investment in the network.[133]

The Panel also advised the AER as follows:[134]

> Given that the use of crosschecks is the holistic one stated by the AER the evidence from crosschecks should be judged **in the round** without the necessity of attaching full weight to some and discarding others. [emphasis added]

The CRG's advice to the AER in response to the AER's *Final Omnibus Working Paper*, came to a somewhat similar conclusion on the importance of considering cross-checks 'in the round', stating:[135]

> The CRG agrees with the AER that cross-checks should not have a determinative role and should be used with caution. Generally, the value of any cross-check will be considerably enhanced if:
>
> • A particular cross-check demonstrates a consistent trend over time relative to the modelled estimation of the rate of return and/or return on equity
>
> • **The different cross-checks all point to a similar conclusion, taken in the round** [emphasis added]
>
> • The majority of network companies, representing a range of fuels, locations, size and ownership structures all point to an under or over recovery of the rate of return
>
> • The extent of any under or over recovery is material.

The four criteria listed above provide a preliminary guide to selecting suitable cross-checks and to considering how each individual cross-check contributes to the overall assessment of the rate of return.

The CRG also stressed the importance of the AER setting out how it will respond symmetrically to the outcomes of the cross-checks. We expect the AER to respond to any evidence of over-recovery of the rate of return allowance, in equal fashion to its response to evidence of under-recovery, and that this commitment is clearly expressed in the final RoRI.

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[132] Independent Panel, *Independent Panel Report – AER Draft Rate of Return Instrument 2022*, July 2022, p. 49

[133] In particular, the energy objectives and the revenue and pricing principles (RPPs) set out in the National Electricity and Gas Laws (NEL and NGL) – see Appendix A for details.

[134] Independent Panel, *Independent Panel Report – AER Draft Rate of Return Instrument 2022*, July 2022, p. 50

[135] CRG, *Advice to the Australian Energy Regulator: CRG Response to the AER's December 2021 Information Paper*, March 2022, p. 108

Sections 5.5 and 5.6 expand on the CRG's considerations of the range of cross-checks identified by the AER, and ones that could serve to address the issues raised by the 2022 Panel.

- Section 5.5 first considers the individual cross-checks considered by the AER in its *Final Omnibus Working Paper* and draft decision.

- Section 5.6 outlines the CRG's initial views on additional 'output' cross-checks that might contribute to the assessment of the 2018 RoRI. In this section we also point to evidence that may be useful in understanding the investment consequences of the AER's 2018 RoRI decision.

However, we again stress that the overall picture provided by the cross-checks is more important for the AER's evaluation of the rate of return than the results of the individual cross-checks.

5.5   CRG's assessment of the cross-checks considered by the AER

In this section, the CRG considers only three of the more controversial individual cross-checks that the AER has assessed, namely RAB multiples, financeability tests and historical profitability.

The AER also identifies scenario/sensitivity testing as relevant. There is wide-spread acceptance of scenario and sensitivity testing as a potentially useful adjunct (cross-check) to assist the AER in exercising its judgement.

It is important, however, that the AER's sensitivity/scenarios are realistic and defined ex-ante, so it does not become a 'fishing' exercise. The tests should also relate to matters that are important to consumers, such as the impact of a decision on stability of prices or the sensitivity of the decision to changes in the economic inputs (e.g., inflation and interest rates). Such information allows consumers to understand the different risks to consumers of the options the AER is considering, and to express their preferences between these options.

Within these constraints, we support the 2022 Independent Panel's recommendation for the AER to develop additional scenarios that represent a broad range of possible future outcomes.[136] The CRG also suggests that if the AER does select a broad range of future scenarios, it ensures the scenarios are developed and applied symmetrically so that both under and over rate of return outcomes are equally represented. The AER should also contextualise the scenarios and acknowledge those scenarios that are least likely. This will provide consumers with a more realistic understanding of the level of the potential risks compared to an approach that treats all scenarios as having equal probability.

5.5.1   RAB transaction multiples

RAB multiples are a measure that is widely used and reported by investors and market analysts. The CRG continues to support the value of RAB multiples as part of the AER's suite of cross-checks. RAB multiples are 'forward looking' measures based on the expectations of potential equity investors of the future net cash flows of the regulated businesses.

The CRG acknowledges there are many factors in addition to the regulated rate of return that may contribute to a decision to invest in a regulated network business. The AER outlined these problems

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[136] Independent Panel, *Independent Panel Report – AER Draft Rate of Return Instrument 2022*, July 2022, p. 54

in 2018 and in the current Draft RoRI[137], and we are satisfied with the AER's assessment of these challenges. Therefore, we do not repeat them here.

While RAB multiples may not provide direct evidence of the impact of the regulated rate of return on the expected cash flow, neither do other cross-checks. All the cross-checks face the problem of isolating the impact of the regulated rate of return and this is the reason for the CRG recommending that the AER adopts a broader suite of cross-checks and considers the evidence holistically.

While we accept the AER's assessment of RAB multiples, the CRG highlights the following matters (*focusing on transaction RAB multiples rather than trading multiples*):

1.   Darryl Biggar's 2018 report[138] on RAB multiples

Darryl Biggar sought to disaggregate the various drivers of RAB multiples. This study has made an important contribution to the analysis of RAB multiples in relation to the regulated rate of return. Biggar noted that a RAB multiple outside the range of 0.9x to 1.3x could be a trigger for closer investigation. After considering the impact of a range of factors, including the potential for circularity between the AER's rate of return decision and the enterprise value, Biggar concluded:[139]

> *This analysis suggests that there is scope for the regulator to take into account RAB multiples (as one of a range of factors) when setting the regulatory-allowed cost of capital despite the circularity issue.*

2.   2022 Independent Panel's review of RAB multiples

The 2022 Panel also recognised the challenges of identifying the contribution of the regulated rate of return to the observed RAB multiples. The Independent Panel's conclusions are particularly insightful on this matter, and we quote the Panel's comments on RAB multiples in some detail below: [140]

> *If it* [RAB multiple] *is to be used to inform decisions on the cost of capital considered alone, the RAB multiples must be decomposed using evidence that attempts to quantify the extent to which the ratio is affected by the above issues, and to remove the effects from sources other than the cost of capital estimate …*
>
> *To identify whether a high RAB multiple is caused by a cost of capital that is too high or by a cost of capital that is correct combined with an expectation of earning more than the cost of capital inevitably involves a judgement of whether the regulated firm can earn more than its cost of capital. One way of doing that is done by the AER in other contexts (AER Electricity Network Performance Report, September 2021) and we discuss whether it is useful to discard that information if one is seeking to interpret RAB multiples …*
>
> ***Notwithstanding all the above difficulties, one should not reach the conclusion that the RAB multiple says nothing about the effectiveness of the regulatory regime as a whole.*** [emphasis added]

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[137] See for instance, *Draft Rate of Return Instrument – Explanatory Statement,* June 2022, pp. 262-266

[138] Biggar, D*., Understanding the role of RAB multiples in regulatory processes*, February 2018

[139] Ibid, p. 16

[140] Independent Panel, *Independent Panel Report – AER Draft Rate of Return Instrument 2022*, July 2022, p. 52

The CRG agrees with the Independent Panel's conclusion that RAB multiples can assist the AER to assess the effectiveness of the regulatory regime as a whole and we discuss this further in Section 5.6.

3.   2022 CEPA report to the AER on RAB multiples

Prior to the publication of the AER's draft decision, the AER commissioned a study by CEPA to further investigate if two recent RAB transaction multiples of around 1.5-1.7 could be decomposed to identify the impact of the rate of return.[141] Due to the timing of the report, the AER did not address the matters raised by CEPA in its draft decision.

CEPA focussed on the two most recent transactions (Spark Infrastructure (SKI) and AusNet Services). CEPA's study outlined seven factors, including the rate of return, that help explain why the value of the regulated business to an investor may differ from the value of the RAB. CEPA concludes:[142]

> *However, our analysis indicates that for plausible combinations of assumptions it can be inferred that investors expect persistent outperformance on cost of debt and/or an allowed return on equity that is persistently above the market cost of equity for assets of equivalent risk.*

The ENA, and their consultant Frontier Economics ('Frontier'), strongly disputed CEPA's analysis. to the point where the ENA demanded in a letter to the AER:[143]

- *Withdraw the analysis from any AER and Independent Panel consideration in its entirety; and*

- *Adopt the AER's past stance of RAB multiples having no role in the estimation or cross-checking of regulatory rates of return in the Draft and Final Instrument.*

The ENA/Frontier contended that after removing all the other sources of value to the buyer apart from the rate of return, Frontier's analysis[144] showed the residual RAB multiple for AusNet was reduced from around 1.6 – 1.7x to 1.06x. The principal reason for this difference between CEPA and the ENA/Frontier reports appear to come from different assessments of AusNet's future cash flow from the provision of unregulated network services ("Development and Future Networks") over the next (approximately) 20 years.[145] ENA/Frontier relied heavily on the report by Grant Samuel to

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[141] CEPA, *EV/RAB Multiples* – AER, May 2022

[142] Ibid, p. 6

[143] Energy Networks Australia, *2022 Rate of Return Instrument Review – CEPA Report EV/RAB Multiples*, letter to Clare Savage, Chair Australian Energy Regulator, May 2022, p. 3

[144] Frontier Economics, *Analysis of RAB Multiples, Summary of the Issue and Objective of the CEPA Report*, May 2022. Frontier made a number of further adjustments which suggested that the RAB multiple for AusNet's regulated business could be as low as 0.87. In discussions with the ENA, the CRG stated that this figure was not feasible and inconsistent with statements by the networks to investors and valuers on the value of regulated businesses. The ENA has not repeated this claim in the AER's August Public Forum

[145] AusNet Services, *ASX Announcement*, 'Court approves distribution of Scheme Booklet and convening of Scheme Meeting and Scheme Booklet registered with ASIC', Schedule 1: Grant Samuel Independent Expert's Report, December 2021, p. 5

AusNet Investors[146] for the estimation of the future cash generated from the provision of unregulated revenues.

While the CRG has not undertaken a separate analysis, we draw the AER's attention to the more detailed tables in the Grant Samuel Report. For example, the RAB multiple for the electricity distribution business was in the range of 1.58x – 1.64x, yet this sector had little future growth forecast for contestable service provisions, its revenue and cash flows came almost exclusively from its regulated network services over the forecast period. [147] We also highlight Grant Samuel's observation that they have relied on AusNet's forecast of the future value of competitive business and that median broker forecasts of future EBITDA of the Development & Future Networks division *"differ materially"* [148] from AusNet's FY22 budget for this division and have "*therefore not been used to calculate implied multiples for valuation purposes*".[149]

We therefore support the 2022 Panel's recommendation for the AER to 'expedite' its work on decomposing RAB multiples prior to its final RoRI[150], including a review of the different conclusions of CEPA and ENA/Frontier.

5.5.2   Financeability testing

To date, the CRG has opposed the use of financeability testing as a cross-check on the AER's overall rate of return decision. We were concerned that the proposed test (Funds from Operations (FFO)/Net debt)) was too narrow to assess the financeability of a regulated network, particularly as the rate of return was only one component of the overall regulated returns available to the regulated businesses.

It also appears that the networks have promoted the test to the AER claiming it is a relevant check on the AER's notional rate of return allowance (and specifically, the allowed return on equity). Specifically, the claim appears to be based on testing whether the AER's rate of return decision would be sufficient for the network(s) to maintain a BBB+ credit rating.

No evidence was provided by the networks for any simple relationship between the FFO/net debt test and the credit ratings of the businesses. Indeed, none would be expected as the credit rating agencies consider multiple factors when rating a business. FFO/net debt is a relatively small contributor to their overall credit rating decisions.

Not surprisingly, financeability testing has not been widely used by Australian regulators and was firmly rejected by the AER in 2013 and 2018, the latter decision being endorsed by the 2018 Panel. Nevertheless, in our response to the AER's *Final Omnibus Working Paper*, we examined in some

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[146] Ibid, p. 3

[147] Ibid

  The Grant Samuel Report estimated AusNet' total implied RAB multiple, including contestable services, as in the range of 1.53x – 1.61x. However, there were significant differences between the four separate 'business operations' of electricity transmission, electricity distribution, gas distribution and 'development and future networks'.

[148] Ibid, p.1

[149] AusNet Services, *ASX Announcement*, 'Court approves distribution of Scheme Booklet and convening of Scheme Meeting and Scheme Booklet registered with ASIC', Schedule 1: Grant Samuel Independent Expert's Report, December 2021, Appendix 1, p. 3

[150] Independent Panel, *Independent Panel Report – AER Draft Rate of Return Instrument 2022*, July 2022, p. 56

detail the approach taken by the two regulators (IPART and Ofgem) that included a financeability test as part of their regulatory decision making.[151]

We highlighted to the AER that the two regulators used financeability tests in different ways, and neither used it in the simplistic way the AER is proposing in the *Final Omnibus Working Paper*. For example, IPART measured FFO/net debt for both the notional and actual business and used the test as only one of several financial tests. IPART also undertook an extensive consultation on all the financial measures, and on how it might apply the outcomes of these tests in its revenue determination processes.

Ofgem places the responsibility of conducting financeability testing on the network businesses. The purpose of the tests was for the businesses to demonstrate to Ofgem that their proposed business plans were financeable. If not, Ofgem required the businesses to revise their plans accordingly.

In its most recent draft decision on the rate of return for the UK electricity distribution businesses, Ofgem particularly emphasised that financeability tests were not to be used as a justification for amending Ofgem's settings on the regulated rate of return, as some businesses had proposed. Ofgem stated:[152]

> *We have previously indicated that we cannot justify higher cost of capital allowances to improve a financial metric, and we remain of this view.*

Ofgem then listed alternative actions that the businesses could take to address any financeability issues such as refinancing, changes to capitalisation and dividend policies, equity injections and changes to depreciation schedules.[153]

The CRG was disappointed with the AER's discussion on financeability in its draft decision because it did not engage with the issues we raised in our March 2022 advice. Nor did the AER respond to our request to engage further with stakeholders on the details of how financeability might be best measured in the regulatory context and how other regulators have used the financeability tests. The AER's only reference to the CRG's concerns was to note:[154]

> *In contrast* [to the comments from other stakeholders] *the CRG suggested that there is limited usefulness of financeability tests in the context of the Rate of Return Instrument.*

The CRG again reiterates its concern with the gaps in the AER's assessment of financeability tests. We highlight the following:

- Before the AER applies financeability as a cross-check, it has a responsibility to further consider the role of financeability testing and how it is currently applied by the minority of regulators who use this test in assessing the allowed revenue of the regulated businesses.

- This is particularly important because it is not clear from the AER's draft decision on how the AER proposes to use financeability testing. Certainly, the AER developed a measure (FFO/net debt) in 2018 and repeated its analysis in 2022.[155] The exact details on the calculation of the

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[151] CRG, *Response to the AER's December 2021 Information Paper*, March 2022, Sections 8.4.2 and 8.4.4

[152] Ofgem, *RIIO-ED2, Draft Determination Finance Annex*, June 2022, p. 67

[153] Ibid, p. 68

[154] AER, *Draft Rate of Return Instrument – Explanatory Statement,* June 2022, pp. 267-268

[155] AER, 2018 *Rate of Return Explanatory Statement*, December 2018, p. 397

financeability measure are scarce, and we have relied on the AER's *2018 Explanatory Statement* to gain any insight into the process. However, it appears to be based on some notional (theoretical) business, and calculates average inputs based on revenue and cost information in the various networks' most recent Post Tax Revenue Models (PTRMs). We question the relevance of this type of measure in the context of the RoRI.

- The AER's analysis demonstrates that in 2018 and in 2021, the notional business on average achieves a FFO/net debt score exceeding the credit agency benchmark of 7 percent[156] (but with some significant individual firm differences).[157] The similarity between the 2018 and 2021 results reported by the AER suggests that the typical network business has remained above the rating agency benchmark of 7 percent, despite financeability being measured during a period of record low inflation and low interest rates which depress the nominal return on equity.

- The CRG also stresses that if the AER uses the financeability test as proposed, it should also explain if and how the findings from this test will influence the AER to adjust its decision on the rate of return and/or the rate of return parameter values. We also seek assurance that the AER will apply the results symmetrically. That is, if the AER takes some action when the FFO/net debt is materially below the 7 per cent benchmark, we expect the AER to commit to action when the FFO/net debt is materially above the benchmark.

- The AER also needs to be clear about the practicalities of implementing this test. Will it do so only once, in the final 2022 RoRI decision. In which case what data will it use as representing the 'notional' business. Or will the AER apply the test at each regulatory decision it makes over the four years. Both approaches create practical difficulties if the intent is to respond to material variations by modifying the rate of return. In addition, if the AER considers it might modify the rate of return for a particular decision (noting that the businesses already vary significantly on the test), the 2022 RoRI will need to include a formula for doing so. The AER does not discuss these complications of a financeability test.

For the reasons set out above, if the AER decides to adopt financeability testing as a cross-check, then the CRG contends it has much more work to clarify its methodology, reasoning and proposed response to any findings. Our preference is for the AER to be very clear that the role of financeability testing is strictly limited and will be used only as one measure in a broader suite of cross-check measures.

We agree with Ofgem when it states financeability has no role in determining or amending the regulatory rate of return, particularly as a 'stand-alone' cross-check.

5.5.3   Historical profitability

The CRG has consistently stressed the importance of historical profitability as a cross-check to the AER's rate of return decision. Our views on the relevance of this measure were reinforced by the

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[156] The AER bases the 7 per cent on guidance from Moody's on the FFO/net debt ratios expected for a given rating. The AER states that the 7 per cent FFO/net debt is based on the lower bound guidance on FFO/net debt for BBB+ entities, noting too that the guidance is indicative. See AER, 2018 *Rate of Return Explanatory Statement*, December 2018, pp. 396-397

[157] See AER, *Draft Rate of Return Instrument – Explanatory Statement,* June 2022, Table 11.3, p. 267. The table compares the 2018 calculation of FFO/net debt to 2021 results.

strong statements from consumer representatives who expressed concern on the continuing pattern of the actual returns to the network businesses being higher than the returns 'allowed' by the AER.

In its 2018 Final RoRI decision, the AER concluded that:

- There was 'substantial difficulty' in disaggregating information contained in both RAB multiples and historical profitability measures[158]

- Over time, the information can help inform the AER on the effectiveness of the regulatory framework and identify areas for further investigation. For example, considering profitability measures over time *"may be helpful in identifying whether the business's actual cost of debt has been systematically lower or higher than the cost of debt applied in the rate of return"*[159]

- While the information cannot currently be used to determine the degree of outperformance of the allowed rate of return, it may *"provide contextual information that can assist the AER's investigation of other evidence and the risk-cost trade off assessment."*[160]

As discussed above, the AER appears to have changed its views on the potential value of historical profitability since its 2018 review. The issues it identified in the 2022 draft decision were much the same as the issues raised in 2018, but there was little further explanation of the AER's reasons for changing its mind other than the observation that historical profitability was a backward-looking measure and issues with accounting treatments.

The 2022 Independent Panel criticised the AER's current position on historical profitability. The Panel noted that the analysis of historical data regarding the excess returns is "vital to the decomposition of the RAB multiple". The Panel concluded:[161]

> *Therefore, we do not agree with the dismissal of historical profitability as part of the crosschecks.*

We also note the 2022 Panel's recommendation that the AER examine profitability in a forward-looking way using analysts forecasts of future profitability.[162]

The CRG agrees with the Panel. The measure provides an insight into the outcomes of the AER's 2018 RoRI and therefore provides guidance on its current decision making.

Given the 2018 RoRI is the 'base' for the AER's 2022 approach to assessing the rate of return, it is necessary for the AER to carefully examine the realised rate of returns (e.g., the return on assets and return on equity) and to consider the potential role of the 2018 rate of return decision (along with other factors) driving the realised network returns.

The CRG therefore urges the AER to revisit its draft decision and include this measure in its suite of cross-checks. Like all the other cross-checks it has limitations. The data requires careful analysis and should be considered only as part of the AER's assessment of its rate of return decision.

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[158] AER, 2018 *Rate of Return Explanatory Statement*, December 2018, p. 383

[159] Ibid, p. 387

[160] Ibid, p. 388

[161] Independent Panel, *Independent Panel Report – AER Draft Rate of Return Instrument 2022*, July 2022, p. 54

[162] Ibid, p. 56

Nevertheless, ignoring this information suggests the AER is neglecting to consider the consequences of its past decisions when formulating its current decisions. The CRG considers this represents an abrogation of the AER's responsibility to consumers and fails to address their valid concerns with the AER's regulatory process.

In summary, both RAB multiples and historical profitability provide relevant and balanced information on investor' expectations and past performance of the networks. They are complementary measures.

We are less convinced about the value of a single and limited financeability test. We are significantly concerned with the lack of detail on the design and application of the test and seek a commitment from the AER that such a test would be applied symmetrically.

5.6 Measuring the outcome of the RoRI against the regulatory objectives

In this section, the CRG responds to the issues raised by the 2018 and 2022 Panels. We also outline a range of cross-cross checks for the AER to include in its final decision.

5.6.1 Selecting cross-checks measuring the outcome of the AER's 2018 decision

In its discussion on the rate of return, the AER frequently highlights the link between the rate of return and the incentives for the businesses to either over or under invest in the networks, as the risk of consumers long term interests.

The 2022 Panel expresses this same objective as follows:[163]

> *Whatever is the outcome of other crosschecks, the primary matter of interest regarding the use of the cost of capital in regulation is whether it gives too much incentive to invest …, or whether it results in underinvestment…*

The Panel then highlights it did not find sufficient evidence in the draft decision to determine if the AER's 2018 approach met the statutory objectives of efficient investment,[164] The Panel stated: [165]

> *We recognise the difficulties involved in assessing this [evidence of investment], but a crucial part of concluding whether the rate of return is too high or too low is to gather as much evidence as reasonably possible regarding whether it has led to the right level of investment in the past and is likely to do so in the future.*

The CRG supports this advice while also recognising the difficulties in identifying the specific impact of the rate of return decision.

However, the energy laws also require the AER to go beyond collecting evidence on the level of investment.

The laws require the AER to consider the efficient **operation and use of the network**. At a minimum, this suggests that the AER should collect evidence on the **efficient utilisation of the network.** For example, a low level of utilisation implies excess past investment relative to demand from consumers for the network capacity.

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[163] Ibid, p. 54

[164] For example, see Ibid, p. 49

[165] Ibid, p. 55

Surprisingly, although the AER collects considerable data on the financial and operational performance of the networks including utilisation of the networks, it does not appear to link this data to the outcomes of its 2018 rate of return decision and the alignment of these outcomes with the regulatory objectives and the RPP requirements.

In the table below, the CRG suggests a range of financial and performance cross-checks that would assist the AER in addressing the 2022 Panel's issues. We consider the AER already has access to much of the data to support these cross-checks

Table 5-1: Financial and operational performance cross-checks

Class of measures	Possible-cross checks
Financial measures	• Actual return on assets and actual return on equity (i.e., historical profitability) • Notional return on assets and return on equity (i.e., the AER's proposed financeability tests) • RAB multiples (disaggregated) • Investment trends and capital availability – including evidence of access to (or otherwise) capital and equity to meet AER approved expenditures • Level of interest in investing in the regulated businesses, including unsolicited offers, competition for ownership, investor/export reports • Trends in credit ratings of the listed businesses • Capital expenditure proposals of the networks
Operational performance indicators	• Trends in reliability measures, and performance against statutory and regulatory reliability requirements • Trends in productivity, with a focus on capital expenditure productivity, using the AER's economic benchmarking tools • The level of and trend in utilisation of the network assets

5.6.2 Do the cross-checks provide evidence of over/under-estimation of the rate of return?

The CRG concludes, based on a sample of the cross-checks listed above, that taken together, the cross-checks will contribute to understanding the outcome of the AER's 2018 rate of return decision and provide a guide to the AER's assessment of the 2022 rate of return.

Our conclusions are based on the information in the AER's annual performance and benchmarking reports. We believe the following observations are relevant to the AER's task.

• RAB multiples continue to be around 1.5-1.7, a trend that goes back at least to 2016.[166]

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[166] AER, *2022 Electricity Network Performance Report,* July 2022, pp. 27-28

- The AER's financeability tests in 2018 and 2022 indicate that on average the financeability measure (FFO/net debt) is stable[167] and somewhat above the 7% benchmark Moody's set for a BBB+ credit rated business.[168]

- The AER's report on return on assets and return on regulated equity show on average, actual returns to the businesses continue to be in excess of allowed returns.[169]

- There is no evidence that the networks have faced difficulties in raising equity or debt funds

- Credit agencies continue to rate the listed networks favourably (A- or BBB+)[170]

- There is high demand amongst investors for network assets even after the 2018 RoRI.

- Network utilisation, based on peak demand, has continued to decline year on year, a trend that is forecast to continue over the life of the 2022 RoRI[171]

- Capital productivity as measured by the AER's annual economic benchmarking studies has declined across the board since 2006[172]

- Network performance measures (e.g., STPIS related measures) are stable or improving across networks[173] and are likely to exceed the statutory standards of performance[174, 175]

Taken together, the measures described above suggest that the current rate of return decision (i.e., the 2018 decision) has continued the historical trends that enabled networks to consistently achieve financial returns in excess of the efficient requirements while also delivering (on average) overinvestment in an already underutilised network system.

In the face of the current market conditions facing consumers, and the evidence from the AER's own performance and benchmarking reports described above, it is more important than ever that the AER address any bias in its decision-making.

The CRG's recommendations in Chapters 2, 3 and 4 of this advice indicate areas where the AER can revisit its draft parameter estimates. They do so using the same set of market-based data the AER has relied on in its draft decision.

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[167] AER, *Draft Rate of Return Instrument – Explanatory Statement,* June 2022, p. 260

[168] Ibid, pp. 23-24 and p. 267

[169] AER, *2022 Electricity Network Performance Report,* July 2022, pp. 23-29

[170] Ibid, pp. 26-27

[171] AER, *2022 Electricity Network Performance Report,* July 2022, p. 21

[172] AER, *2021 Annual Benchmarking Report – Electricity Distribution Network Service Providers*, November 2021, pp. 13 & 16

[173] AER, *2022 Electricity Network Performance Report,* July 2022, pp. 15-18

[174] We have not assessed whether the STPIS targets imply position performance levels above the statutory requirements. We do note the 2022 Panel's comments with respect to the incentives for delivering reliability above that required by quality standards.

[175] Independent Panel, *Independent Panel Report – AER Draft Rate of Return Instrument 2022*, July 2022, p. 55

5.6.3   The energy laws and the challenge of measuring efficient use of the network as a cross-check

The CRG has previously raised the issue of the AER's obligation to consider efficiency of usage of the network ('consumption efficiency') in a number of our submissions to the AER.

We highlighted that the requirement for the AER to consider efficient investment in and operation and utilisation of the network is embedded in the national energy objectives and the RPPs. Indeed, the RPPs are even more specific, setting out three aspects of efficiency that need to be promoted: efficient investment, efficient service provision and efficient use.

With respect to the last obligation, namely efficient use of the networks, the RPPs state:[176]

> *Regard should be had to the economic risks and benefits of the potential for **under and over utilisation of a distribution system or transmission system** with which a regulated network service provider provides direct control network services.* [emphasis added]

In response to the CRG's concerns, has AER acknowledged this matter. However, the AER also claimed that setting the allowed rate of return at a rate that promotes efficient investment is sufficient to address the question of efficient utilisation of the network.[177] This assumption is neither consistent with the obligation set out most clearly in the RPPs to separately consider efficient utilisation of the network. Each element of the objectives and RPPs must be given explicit consideration rather than assuming efficient investment is the same as efficient use.

Nor is this assumption by the AER supported by evidence. In practice, whether there is over or under-investment, or 'just right' investment, can only be logically assessed by separately considering whether the investment in the network is being efficiently utilised by consumers. The AER has not undertaken such a task.

A recent report by the University of Wollongong that was commissioned by the CRG to specifically investigate the issue of consumption efficiency, provides an economic perspective on the matter:[178], [179]

> *"From an economics standpoint, the "right" level of investment depends on the realized demand. However, the realized demand depends on the cost curve and hence what price is offered to utilise that capacity."*

The CRG contends the AER can no longer avoid addressing the issue, however difficult it might be to do so. Not only is it a regulatory requirement, but the NEM energy market conditions are changing rapidly and better understanding of regulators on the interaction between rate of return, network costs and consumer demand is increasingly critical.

Consumers have far greater agency in their use of the network services. They are no longer left with the only option of reducing usage in the face of price increases. Many consumers are in a position to invest in various behind the meter equipment including more efficient appliances and PV systems.

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[176] National Electricity Law, Schedule, Section 7A (7). For details, see Appendix A

[177] See for example, AER, *Rate of return: Assessing the long-term interests of consumers – Position Paper*, May 2021, p. 4

[178] University of Wollongong, *AER Consideration of Demand Side Issues in Making the Rate of Return Instrument*, July 2022, p. 35.

[179] See also, Consumer Reference Group, *Improving How the AER Assesses Consumption Efficiency*, September 2022 attached to this Advice

Confidence, or lack thereof, in the operation of all sectors in the energy industry, and in the decisions of energy regulators to act in the interests of consumers will have an impact on consumers own investment decisions. Rapid price increases and/or expectations of price increases will accelerate this process beyond what may be efficient from a total consumer welfare perspective.[180]

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The CRG has indicated in the section above that trends in utilisation of the network would be a first step in the AER developing cross-checks that measure whether the rate of return decision has or will contribute to efficient utilisation of the network.

We do not claim this to be the only, or even the best measure of consumption efficiency. However, as the consideration of efficient utilisation (or consumption efficiency) is a requirement under the energy laws, we do expect the AER to better recognise and investigate this requirement - **as a cross-check, and more generally** – when exercising its judgement on the final overall rate of return.

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[180] For example, installing larger PV systems that cannot be managed operationally by the existing network, driving accelerated need for investment – and the cycle continues.

6   Consequences of adopting a shorter term for equity

6.1   Summary of CRG advice

The purpose of this Chapter is not to re-engage on the merits of the AER's intention to adopt an estimation term for the return on equity (and risk-free rate) matching the length of the regulatory period. The CRG's concerns with this proposal stand on the record.[181]

Rather, this Chapter focusses on the *consequences* of the AER following through on its intention to adopt an estimation term for equity matching the length of the regulatory period. The Chapter outlines two areas of bias that would be introduced by virtue of the AER exercising its regulatory judgement in favour of a shorter estimation term for the return on equity, namely:

- Upward bias in the estimated equity premium (Section 6.2). The CRG expects this bias would be addressed by the AER acting on the concerns raised in chapters 2 (beta) and 3 (MRP) of this advice (though this would require testing).

- Upward bias in the estimated overall rate of return arising from different estimation terms for equity and debt (Section 6.3). This bias is independent of those identified in chapters 2 to 4 of this advice and therefore, would require an *additional* remedy to the ones proposed in those chapters.

This Chapter does not outline the CRG's final position on the estimation term for the rate of return. Our final position is provided in Chapter 7. To a large extent, our final position on term depends on how the AER responds to the biases identified in this Chapter.

Note: *For convenience the remainder of this Chapter focuses on cases where the AER's intended approach results in an estimation period of 5 years. The CRG recognises there are a limited number of resets where a longer estimation term might be applied.*

6.2   Upward bias in the AER's estimated equity premium

In the Sharpe-Lintner CAPM (SL-CAPM) model favoured by the AER, the equity premium is represented by the product of the equity beta and the MRP as estimated.

As noted by the AER, shifting from a 10-year to a 5-year risk-free rate can be expected to result in a lower risk-free rate under normal market conditions. The AER also notes the impact of this reduction in the risk-free rate will be somewhat offset by an increase in the MRP.[182]

> *The 2 ways in which the risk-free rate enters the allowed return on equity calculations partially offset each other, with the overall result depending on the value of the equity beta and the MRP estimation method.*

For reasons that are not clear, the AER has not examined the consequences of its proposed estimates on the equity premium. Table 6.1 presents the results from the AER's comparison of using 10-year and 5-year terms for the risk-free rate, and its resultant estimates of the MRP.[183]

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[181]   CRG, *Advice to the Australian Energy Regulator, CRG Response to the AER's December 2021 Information Paper, March 2022,* Section 3

[182]   AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p. 97

[183]   Ibid, Table 0.1, pp. 9-10

Table 6-1: Return on equity components using 10 and 5-year estimation terms (February 2022)

Term	Risk-free rate	MRP	Beta (β)	Return on Equity risk-free rate + (β x MRP)	Equity Premium (β x MRP)
10-year	2.12	6.5	0.6	6.02	3.90
5-year	1.82	6.8	0.6	5.90	4.08

The AER's expectation that a lower risk-free rate will be "partially offset" by a corresponding increase in the MRP bears out in the results reported by the AER and shown in Table 6.1. As a result, while the risk-free rate is reduced by 0.3 per cent (= 2.12 – 1.82), the return on equity declines by only 0.12 per cent (= 6.02 – 5.90).

The *Draft Explanatory Statement* does not examine the impact of the AER's estimates on the equity premium. According to the AER's estimates, the equity premium when estimated over 5 years is higher than when it is estimated over 10 years (i.e., 4.08 vs 3.90 per cent). This is a puzzling and seemingly perverse result.

As shown algebraically in Box 6.1, in exercising its regulatory judgement to accept these estimates, the AER is proposing to accept estimates implying the term premium on equities is *less than* the term premium on risk-free investments. This outcome is hard to reconcile with the expectation that equities represent a riskier asset class than risk-free investments.

Despite the detailed explanation of term structures outlined in Chapter 6 of the *Draft Explanatory Statement*, the perverse implications of the AER's estimates on the term premium of equity appears to have been missed by the AER. Without further justification, it is not clear why the AER would accept a term structure for the equity premium that declines with term. Failure to address this seemingly errant consequence arising from its estimates of beta and MRP would imply the AER is tolerating an upward bias in its estimate of the equity premium.

6.2.1   The AER's point estimate of beta can correct for the upwardly biased equity premium

As already noted, in the SL-CAPM, the equity premium is represented by the product of the equity beta and the MRP. The unexpectedly higher equity premium reported above suggest one or both of:

- a calculation error in the AER's estimates of the 5- and 10-year MRPs

- an error in the exercise of AER's regulatory judgement in adopting a point estimate for beta.

The CRG assumes the AER's estimates of the different MRPs reflect a correct application of its estimation method.

Table 6.2 demonstrates the impact of beta on the equity premium using the AER's values for the risk-free rate and the MRP. The table only shows values for beta in the range of 0.5-0.6 as this is the range the AER claims is representative of the likely range from within which it should be exercising its regulatory judgement when estimating the point value of beta (see Chapter 2 for detailed discussion).

Table 6-2: The impact of beta on the equity premium and return on equity

Term	Risk-free rate	MRP	Beta (β)	Return on Equity risk-free rate + (β x MRP)	Equity Premium (β x MRP)
5-year	1.82	6.8	0.60	5.90	4.08
	1.82	6.8	0.59	5.83	4.01
	1.82	6.8	0.58	5.76	3.94
	1.82	6.8	0.574	5.72	3.90
	1.82	6.8	0.57	5.70	3.88
	1.82	6.8	0.56	5.62	3.81
	1.82	6.8	0.55	5.56	3.74
	1.82	6.8	0.54	5.49	3.67
	1.82	6.8	0.53	5.42	3.60
	1.82	6.8	0.52	5.36	3.54
	1.82	6.8	0.51	5.29	3.47
	1.82	6.8	0.50	5.22	3.40

If the equity premium for a 10-year term is 3.90 (as per Table 6.1), then the equity premium for a 5-year term must be lower under normal market conditions. The values shown in Table 6.2 suggest the AER's point estimate for the value of beta must be lower than 0.574 – and significantly lower because of the normally positive relationship between term and premium (see Figure 6.1 for illustration of this positive relationship).

Although the CRG concludes the point value of beta should be significantly lower than the AER's current proposal to keep it at 0.6, how much lower should be informed by other factors including empirical estimates. As we demonstrate in Chapter 2, the AER's own empirical analysis supports a point value of beta of 0.5 or lower (not the 0.6 it has proposed).

The CRG expects that by adopting a significantly lower point estimate for beta, as outlined in Chapter 2, and a lower MRP as discussed in Chapter 3, the AER would probably eliminate the upwardly biased equity premium implied by the estimates proposed in its draft decision. In any event, the AER should confirm that its final estimates of beta and MRP do not imply an equity premium that is declining with term.

Box 6-1: Comparative term premiums

The following analysis compares the term premium on Commonwealth Government Securities (as the proxy for the risk-free rate) and the AER's assumed term premium for equity investors.

The return on equity (RoE) for investments of terms (10 and 5 years) is the sum of the relevant risk-free rates (risk-free rate) for each of those terms and the equity premium (EP) attached by investors to each of those investors. The return on equity over 10 and 5 years can be represented as:

$$\text{RoE}(10) = \text{risk-free rate}(10) + \text{EP}(10) \tag{1}$$

$$\text{RoE}(5) = \text{risk-free rate}(5) + \text{EP}(5) \tag{2}$$

As noted by the AER, the long-term risk-free rate can be expected to be higher than shorter term rates because investors will attach a term premium to longer investments. The term premium between a 10 and 5-year risk-free rates (TPR) can be written as:

$$\text{TPR}(10,5) = \text{risk-free rate}(10) - \text{risk-free rate}(5) \tag{3}$$

The term premium between 10 and 5-year equity investments (TPE) can be written similarly as:

$$\text{TPE}(10,5) = \text{RoE}(10) - \text{RoE}(5) \tag{4}$$

Substituting equations (1) to (3) into equation (4) and rearranging gives:

$$\text{TPE}(10,5) = \text{TPR}(10,5) + \{\text{EP}(10) - \text{EP}(5)\} = \text{TPR}(10,5) + \Delta\text{EP}(10,5)$$

When the term $\Delta\text{EP}(10,5)$ is positive, the term premium on equities will be higher than the term premium on risk-free assets – as would be expected given the riskier nature of equities.

The values in Table 6.1 indicate the AER is proposing to adopt a negative value for $\Delta\text{EP}(10,5)$, that is, 3.90 – 4.08 = –0.18. Without providing any explanation, the AER is proposing to accept that the term premium on equities is *less than* the term premium on risk-free investments.

In accepting these estimates without critical examination or explanation, the AER is proposing to exercise its regulatory judgement in a manner resulting in an upwardly biased estimate of the return on equity.

6.3   Upward bias in the AER's estimated return on debt

In Chapter 4, we discuss our expectations about how the AER should respond to its EICSI findings if it proceeds with its proposal to retain a 10-year term for estimating the cost of debt. This chapter is examining a different question – namely, whether the AER **should** retain a 10-year cost of debt or whether it should adopt a 5-year estimation term in line with its proposal to shorten the estimation term for the return on equity.

To be clear, the CRG's focus in this chapter is not on which of 10- or 5-year debt terms reflects a more efficient debt structure for networks. That's not a question that lends itself to ready resolution because of the endogeneity problem discussed below. Instead, our focus is on **consistency** and whether the AER's draft decision adequately justifies its claim that the terms of debt and equity can be considered independently – and therefore, its proposal to apply different estimation terms to the two forms of capital in its rate of return.

6.3.1   The AER's reasons for maintaining a 10-year estimation term for debt

The draft 2022 explanatory statement makes clear that the AER intends reducing the term for estimating the return on equity to match the length of the regulatory period (typically 5 years). It also makes clear the AER intends to maintain the benchmark term for estimating the return on debt at 10 years while also continuing to apply a simple (unweighted) 10-year trailing average. The *Draft Explanatory Statement* recognises retaining a longer estimation term for debt implies higher estimated returns on debt than if the AER matched the estimation term to its shortened estimation term for equity.[184]

> *[I]t also means the total cost of the debt portfolio is higher because of the upward sloping term structure and term premium associated with longer term debt.*

Despite recognising 10-year debt is likely to impose higher costs on consumers, the AER gives four reasons for continuing to estimate the cost of debt using 10-year terms despite its intention to cost equity on 5-year terms. These reasons are largely driven by pragmatic consideration without regard to the broader question of consistency across the entirety of the AER's rate of return model. The AER's four reasons include networks' existing debt financing practices, refinancing risk and cost, implementation difficulties, and the avoidance of additional volatility. The CRG considers the AER's four reasons do <u>not</u> support its conclusion that the terms of equity and debt can be considered independently. Our reasons are outlined below.

(a) Networks' existing debt financing practices

In its approach to debt chapter, the AER states [185]

> *This aligns with the debt financing practices of regulated businesses to issue long-term debt. Our analysis of industry debt data also does not show clear evidence that the current benchmark of 10 years is no longer an appropriate benchmark term, or that there is a materially better alternative.*

CRG response

The *Draft Explanatory Statement* does not discuss the endogeneity between the AER's regulatory treatment of debt and the debt financing practices of regulated businesses. Elsewhere, it expresses its expectation that a benchmark efficient network would broadly match the profile of its debt issuances to those assumed by the AER in order to minimise its risks exposure.[186]

> *The benefits of the trailing average approach is that is* [sic] *provides NSPs with a regulatory benchmark that they can more readily match each regulatory control period. As such, this provides a benchmark efficient entity with an enhanced opportunity to minimise any mismatch between actual costs and regulated revenues*

Other factors may also have some bearing, for example, a network's changing preference for taking aboard interest rate risk in light of changing market conditions. This helps explain why the observable average term of debt has varied over time, as observed by the AER:[187]

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[184]   AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p. 195

[185]   Ibid, p.195

[186]   AER, *Rate of return: 'Debt omnibus' Draft Working Paper*, July 2021, p. 18

[187]   Ibid, p. 196

In June 2016 the average term was under 6 years, increasing to almost 10 years in May 2018. Our latest estimate of the average term is 7.5 years in June 2021.

Throughout this period the AER's estimation term for debt was consistently set at 10 years which allowed firms to identify whether they could benefit by structuring their debt profiles somewhat differently to the one assumed by the AER.

In any event, the AER has clearly expressed its expectation that its regulatory approach to estimating the return on debt will figure in networks' decisions about how they structure their debt portfolios. Put simply, the AER' assumptions are a determinant of industry practice. For the AER to then argue industry practice informs its regulatory judgement about such matters ignores the endogeneity between its actions and those of the networks.[188]

(b) Refinancing risk and cost

The AER states [189]

We consider that, within the constraints of the market for corporate bonds, a regulated business would aim to issue longer term debt to minimise refinancing risk. However, we consider this is balanced with higher costs arising from the term premium of longer-term issuance.

CRG response

The *Draft Explanatory Statement* offers no evidence in support of the AER's assertion that firms issue higher cost 10-year debt, rather than 5-year debt, because the difference between the two is less than the refinancing costs networks would incur with a debt portfolio based on 5-year debt.

The CRG also notes that under the trailing average approach, firms are already assumed to be in the market each year seeking new debt. While a shorter term may entail more refinancing risk, it also entails lower credit spreads. It remains an open question at what point these two factors balance out. No evidence has been proffered suggesting that switching to 5-year debt would impose substantially greater refinancing costs on networks. In any event, the regulatory framework compensates networks for their (efficient) costs – including refinancing costs.

In the absence of any evidence to the contrary, the CRG considers the AER's concerns about refinancing cost are overstated and should have little or no bearing on the exercise of the AER's regulatory judgement about its preferred estimation term for the cost of debt.

(c) Implementation difficulties

The AER expresses its concerns about transition costs and implementation difficulty due to the current ongoing transition from an on-the-day estimate to a 10-year trailing average approach[190]

If we were to adopt a different benchmark debt term, or change it during the transition period, we consider it would be necessary to undertake a further transition between approaches or adjust the trailing average calculation methods to achieve the NPV=0 principle. The

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[188] In Chapter 4, we discussed our expectations about how the AER should respond to its EICSI findings if it proceeds with its proposal to retain a 10-year term for estimating the cost of debt.

[189] Ibid, p.195

[190] Ibid, p. 198

implementation of this change would require a further transition from midway through the ongoing transition based on the 10-year term.

CRG response

We agree a 'transition on a transition' would be messy and may lead to unsightly formulas describing the cost of debt for the duration of the transition. However, as outlined in Chapter 4, the CRG does not accept transitions are required.[191] In any event, an amended transition formula would not be the first or last complicated formula to be included in the AER's rate of return instrument. Stakeholders have coped perfectly well with regulatory ungainliness for many years.

(d) Avoiding additional volatility

The AER states:[192]

[A]pplying a shorter term under the trailing average is likely to lead to higher price volatility. The current trailing average is over 10 years to reflect the benchmark term – if this average is shortened to reflect a shorter term, then the volatility of the average would likely increase.

CRG response

Even though the CRG previously drew attention to the undesirability of unwarranted volatility, we consider the AER's concern for volatility in this context to be somewhat peculiar given it has accepted the introduction of a 5-year term for equity without consideration to the volatility this would introduce to the rate of return.[193]

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While the above discussion responds to the individual reasons the AER has given for not reconsidering the estimation term for the return on debt, it is also worth considering these arguments in their totality.

When read as a whole, reasons (a) to (c) appear to suggest the AER is disposed towards viewing the cost of debt on broadly similar terms to the cost of the other business line-items that it is required to estimate (e.g., labour, materials). The AER's disposition towards seeing debt merely as a cost is reinforced by Chapter 9 of the *Draft Explanatory Statement* which describes debt as an observable cost that should be benchmarked against networks' revealed borrowing costs. The AER's disposition toward debt is strongly reflected in its intention to adopt different estimation terms for debt and equity.

The intention to use different estimation terms for debt and equity suggests the AER no longer views debt and equity as efficient substitutes in the financing of network investment.

Estimating the cost of debt and equity on different terms severs the regulatory nexus between these two sources of capital. This nexus is broken despite the AER's intention to continue applying a WACC-based model which treats debt and equity as substitute sources of capital. Neither the explanatory statement nor any of the AER's position papers over the past two years acknowledges

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[191] See Section 4.4

[192] Ibid, p. 199

[193] Ibid, Chapter 6 only mentions volatility within the context of the averaging period – defined as:
"the appropriate period over which to observe the returns on this proxy security to calculate the risk-free rate" (p.93)

or addresses the **inconsistency** implied by maintaining a WACC-based model for the cost of capital, while adopting different estimation terms for debt and equity.

We return to the AER's inconsistent treatment of debt and equity in Section 6.3.2. In the meantime, it is worth noting the decision to shorten the estimation term for equity while leaving the estimation term for debt unchanged did not come from Dr Lally. He only observes:[194]

> *[I]n respect of the cost of debt, satisfying the NPV = 0 principle requires that the allowed cost of debt match that incurred by the benchmark efficient firm. In principle, this can be achieved by using an N-year trailing average for the entire cost of debt (TA [trailing average] approach) … with N being the borrowing term for the benchmark efficient firm.*

Dr Lally does not express a view about how N (in the above quote) would, or should, be set by the regulator when reflecting the practices of the benchmark efficient entity. The CRG also notes Lally does not discuss the endogeneity of this decision – namely, that any observed value of N (or average value of N) is not independent of the regulator's assumption about the value of N.

It is also worth noting that unlike when he advises on the term of equity, where he is unequivocal in his advice, Dr Lally maintains an open position when it comes to debt. Instead, he identifies various criteria for assessing the different options for estimating the cost of debt (including an on-the-day estimate) and concludes:[195]

> *I offer no view on the relative importance of these criteria, and therefore offer no view on the best approach (for existing regulated businesses with moderate capex).*

The point to be drawn from this discussion is this:

There is no *a priori* or *a posteriori* way to determine the efficient term of debt and length of the trailing average (i.e., 'N' in Dr Lally's terminology) within a regulatory setting. These decisions unavoidably lie within the discretion of the AER. In which case, the AER's commitment to exercising its regulatory judgement in accordance with its guiding principle becomes immediately relevant. [196]

> *The best possible estimate of the expected rate of return [to be] neither upwardly biased nor downwardly biased.*

The CRG considers the AER's proposal to continue to apply a 10-year term for estimating the return on debt, despite its intention to adopt a shorter term for estimating the return on equity, reflects a significant inconsistency in its regulatory approach to estimating the cost of capital. This inconsistency will result in an upward bias in the AER's estimated the rate of return. This upward bias will impose an unnecessary cost on consumers. Our concerns about this misplaced exercise of regulatory judgement are outlined in the following section.

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[194] Lally, M., *The Appropriate Term for the Allowed Cost of Capital, April 2021,* p. 53

[195] Ibid, p. 53

[196] AER, *Rate of Return, Information Paper and Call for Submissions*, December 2021, p. 8

6.3.2   The exercise of regulatory judgement

For the following five reasons, the CRG considers the AER's proposal to leave the estimation term for debt at 10 years <u>while</u> moving to the shorter term for estimating the return on equity, reflects bias in the exercise of its regulatory judgement – resulting in higher costs for consumers.

First, the AER's two key arguments for leaving the estimation term for debt at 10 years, despite reducing the estimation term for equity to 5 years, are (i) it broadly reflects industry practice, and (ii) changing the estimation term for debt would require a 'transition on a transition' (as described in Section 6.4.1).

The CRG contends the first argument has little merit. As noted above, the AER is clearly aware of the endogeneity between industry practice and its regulatory assumptions about the term structure of debt (i.e., the incentive for networks to match their debt books to the AER assumed debt profile). There would be no disadvantage for networks if the AER adopted a shorter term for debt, provided the networks were provided with enough notice of a new arrangement.

The AER's concern about administering a 'transition on a transition' is of no consequence. Consumers should not be condemned to higher bills for the sake of the AER's administrative convenience. Moreover, despite acknowledging that 10-year debt is very likely to be more costly than 5-year debt (see quote above at beginning of Section 6.3.1), the *Draft Explanatory Statement* makes no attempt to reconcile this observation with either the AER's guiding principle (see above) or the AER's strategic purpose which states:[197]

> *The AER exists so that energy consumers are better off, now and in the future.*

This statement invites the obvious question: How does keeping the regulatory allowance based on 10-year debt costs (because change is inconvenient for the regulator) make consumers better off now and in the future? What is the evidence in support of that regulatory judgement?

Second, under the AER's proposed approach, debt and equity become structurally unalike. Even so, the AER is proposing to maintain the assumption they can be averaged (in the WACC) to produce the "coupon rate" identified by Dr Lally in his description of the regulatory task.[198]

> *[T]he valuation problem for a regulator is like that for an unregulated business terminating in five years' time, or a floating rate bond whose coupon rate is reset every five years. In each of the latter cases, the correct discount rate to use for the payoffs over the next five years is the current five-year rate, just as it is for the regulatory situation.*

The AER has not explained why 60 per cent of the "coupon rate" of a five-yearly floating bond rate (which it considers its regulatory framework is seeking to mimic) should be determined by the 10-year cost of debt – particularly as the "coupon rate" is applied to the residual value of the entire regulatory asset base at the end of the regulatory period.[199]

According to this argument, which has been accepted by the AER, the entire "coupon rate" should reflect the length of the regulatory period – not just that 40 per cent of the coupon rate determined by the return on equity. By using a 10-year term to estimate the cost of debt (which the AER

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[197] AER, *Strategic Plan 2020–2025, 2020* p. 3

[198] Lally, M., *The Appropriate Term for the Allowed Cost of Capital, April 2021,* p. 52

[199] AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, p. 94

acknowledges is likely to be higher than 5-year debt), the AER's estimated 5-year "coupon rate" (or WACC) will be upwardly biased according to its own arguments.

While it is obviously possible arithmetically to average a 5-year estimate for equity with a 10-year estimate for debt to derive a single figure, the logical coherence of such an approach is wanting. Having determined to adopt a 5-year estimation term for equity, this mixing of 'equity apples' and 'debt oranges' embeds an upward bias in the AER's estimated rate of return because it is inconsistent with the AER's argument for moving to a 5-year "coupon rate".

Third, the AER will be making a perverse (but unstated) assumption if it proceeds to estimate the return on equity based on a 5-year term while estimating the return on debt based on 10-year estimates. This perverse outcome arises when the regulatory allowance for debt exceeds the regulatory allowance for equity in the WACC (at the point of a regulatory determination). Such an outcome is shown schematically in Figure 6.1.

Figure 6-1: Normal yield curves for the risk-free rate, debt and equity[200]
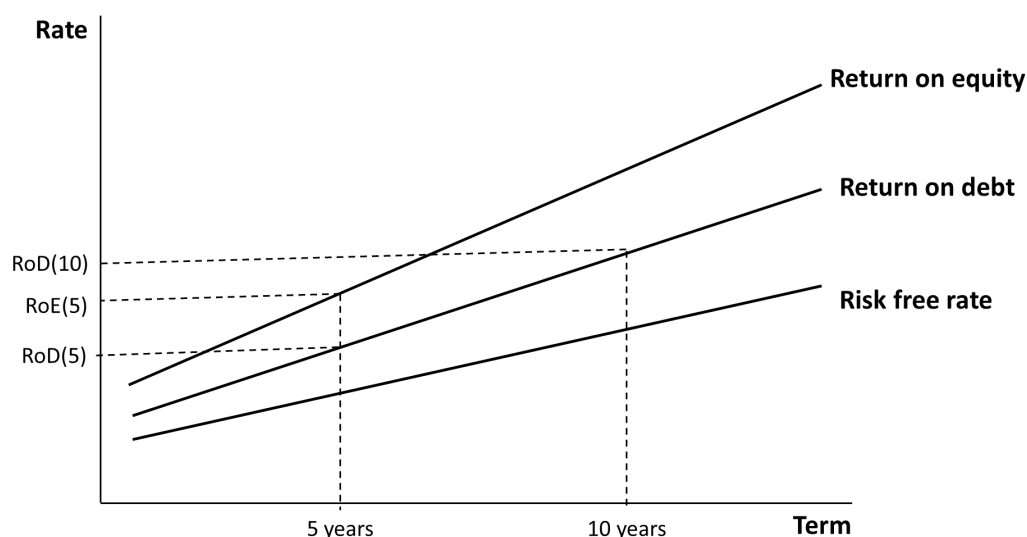
Figure 6.1 shows upward sloping yield curves for risk-free assets, debt and equity, where the debt premium and equity premium increases with term, and the equity premium is greater than the debt premium. As such, Figure 6.1 reflects the normal finance theories described in the AER's *Draft Explanatory Statement*.[201]

The AER's proposed approach will produce a perverse outcome (where debt is more expensive than equity) whenever market circumstances lead to the AER adopting estimates as represented stylistically in Figure 6.1, that is:

$$\text{RoD(5)} < \text{RoE (5)} < \text{RoD(10)}$$

This perverse outcome is the direct consequence of the AER's proposed approach. It will have a direct and adverse impact on consumers as, in almost all the circumstances, it will result in a higher

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[200] Where RoD(X) refers to the regulatory return on debt over an estimation term of X years, and RoD(Y) refers to the regulatory return on equity over an estimation term of Y years.

[201] AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, see pp. 96-102

estimate of the overall rate of return. A perverse outcome would be far less likely were the AER to match the estimation term for debt to its shortened estimation term for equity because under normal market conditions RoD (5) can be expected to the less than RoE (5), as per Figure 6.1.

In the past, the AER has satisfied itself about the sensibility of its methodologies for estimating debt and equity by confirming its estimated return on debt was lower than its estimated return on equity.

The AER has not commented on whether it would abandon this sensibility test if it proceeded to apply different estimation terms to debt and equity; and if so, whether it would adopt an alternative sensibility test in its place.

Fourth, as noted in the previous section, by adopting a methodology that relies on a weighted average cost of capital (WACC), the AER is (or should be) assuming debt and equity are substitute sources of capital for funding network investment. As substitutes, the *relative* prices of debt and equity need to be considered as carefully as their absolute values.

The AER implicitly recognises the importance of relative prices when, at each reset, it reviews gearing ratios (which tests whether any change in the relative prices of debt and equity has led to networks rebalancing their capital portfolios). In 2022, the AER has determined that it intends to leave the benchmark gearing ratio unchanged.[202] Despite this implicit recognition of the importance of relative prices, the AER appears to have overlooked their importance when it has contemplated how it estimates the returns required by the different inputs to the WACC.

The AER's decision to reformulate how it prices equity represents a repricing of this source of funds. When debt and equity are viewed as substitutes, the repricing of one input (equity) should automatically trigger the repricing of the substitute input (debt) – or to be more precise, reformulating the method for estimating one input should trigger the reformulation of how the other input is estimated to ensure ongoing consistency between the two estimation methods.

By applying inconsistent terms when estimating the required returns on debt and equity, the AER (rather than the market) is altering the relative prices of these two inputs in the WACC. Lowering the estimation term for equity (and therefore in all likelihood the estimated price of equity) without taking similar action for debt implies the latter will be overpriced – resulting in an upwardly biased overall rate of return.

Fifth, the AER has not explained why it assumes financiers and investors would assess risk over different periods. That is, the AER has not made clear why it believes providers of debt would be concerned about risk over 10 years (so charging a 10-year debt premium) while equity investors would only be concerned with being compensated for risk over 5 years (so charging a 5-year equity premium).

The seeming incongruity of the AER's proposed approach is highlighted by imagining a scenario in which a 'cashed up' third party (say, a retirement fund) is contemplating whether to contribute capital to a network in the form of equity or debt. The AER has not explained why it considers this third party would assess the risk of investing in a network over 5 years when considering taking an equity position in the business, while assessing risk over 10 years when contemplating whether to provide the network with debt funding.

<div align="center">*</div>

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[202] AER, *Draft Rate of Return Instrument: Explanatory Statement*, June 2022, Chapter 4

None of the five concerns described in this section would arise if the AER continued to match its estimation term for the return on debt to its estimation term for the return on equity. We continue this discussion in Chapter 7.

6.3.3   Maintaining the WACC's integrity is consistent with the CRG's *high bar for change*

Because debt is a financial substitute for equity, and so cannot be treated as a mere cost line item (e.g., like labour or materials), then the regulatory treatment of debt cannot be divorced from the regulatory treatment of equity.

The CRG urged the AER, almost two years ago, to consider holistically all elements of the regulatory framework.[203]

> *The CRG is also concerned a pre-emptive decision on estimating inflationary expectations, may prejudice the AER's later decisions regarding the Rate of Return Instrument. Separated decision-making also provides networks with even greater opportunity to 'cherry pick' the regulatory model.*

The CRG's concern about the risk of "cherry picking" becomes even more prescient with the AER's intention to apply different estimation terms for equity and debt.

For the reasons outlined in this Chapter, the proposed different regulatory treatments applied to equity and debt will deepen the fault line already present in the AER's approach to applying a WACC. This "fault line" – whereby debt and equity receive **inconsistent** regulatory treatments despite being substitutes in the AER's WACC-based financing model – was first opened with the adoption of the trailing average for debt in the AER's *Rate of Return guideline* in 2013.

The approach outlined in the 2022 draft decision, will deepen the fault line – thereby further undermining the integrity of the AER's WACC-based approach by introducing additional inconsistencies in the estimated cost of capital. An inconsistent regulatory framework is a weakened regulatory framework. A weakened regulatory framework is more susceptible to strategic manipulation and special pleadings.

The first of the CRG's five principles spoke about behaviours that engender consumer confidence in the regulatory framework. Its fifth principle linked this to applying a high bar for change. These principles were not adopted for their own sake. They were adopted because, above all else, the CRG considers the integrity of the regulatory framework must be protected in order to safeguard it against strategic manipulation and special pleadings. Eroding the integrity of the well-established WACC-based model, while not being clear about what theoretical foundation replaces it, weakens the regulatory framework's future defences against exploitation by well-resourced parties.

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[203] CRG, *Advice to the AER on the Regulatory Treatment of Inflation*, 6 November 2020, p. 13

6.3.4   Conclusion and next steps

In its *Draft Explanatory Statement*, the AER contends that shortening the term used to estimate the return on equity has no bearing on how it estimates the allowed return on debt. This Chapter explains why the CRG finds the AER is wrong and the resultant upward bias in its estimated rate of return if it proceeds as per its draft decision. The AER's intention to shorten the term for estimating the return on equity renders unsustainable its proposal to maintain the estimation term for debt at 10 years. In Chapter 7, we outline four options for how the AER might move forward with its decision on the term of the rate of return.

7 The term of the rate of return

Over the past two years, the AER and the CRG have failed to find a common understanding about the estimation term for the rate of return. The AER has been seeking to understand whether the CRG prefers 5 or 10-year terms for estimating inputs to the rate of return. The CRG has been seeking to understand why the AER considers this to be a meaningful question. Neither side has received the answers to the question it is asking. This Chapter details the CRG's concerns and its final position on the estimation term for the rate of return.

7.1 Summary of CRG advice

This Chapter turns to the question about the estimation terms the AER uses to estimate the capital inputs in its Rate of Return Instrument – namely the estimation term for equity, debt and inflationary expectations. This has been the central topic of contention over the past two years of this rate of return review. It is also the most significant change proposed by the AER in its Draft Decision.

On a number of occasions, AER staff have advised the CRG that the AER Board is unclear about the CRG's position on the question of the appropriate estimation term. That is, the Board wishes to know whether the CRG supports a 10-year or 5-year estimation term for equity. The purpose of this Chapter is to inform the Board of our final position, and our reasons for doing so.

The Chapter proceeds as follows.

- Section 7.2 retraces the debate around term over the course of the past two years, highlighting the CRG's concerns during this time and the AER's responses. This section also reflects on some recent developments that the CRG considers must be taken into account as the AER makes its final decision. These developments include a draft decision from the ERA of Western Australia, advice from Professor Richard Schmalensee and observation made by the Independent Panel.

- Section 7.3 outlines the CRG's final position on the matter of term. For reasons that are explained in this Chapter, the CRG does not provide a single answer to the AER's question about whether the estimation term should be 5 or 10 years. Our response depends on what regulatory positions the AER is prepared to entertain in its final decision. Therefore, we identify the four options available to the AER, should it so choose, and our position on each of those options.

> **_Note_**_: For convenience, this Chapter refers to a choice between 5- and 10-year estimation terms. Our reference to 5-year terms is shorthand for referring to the AER's proposal to adopt an estimation term matching the length of the regulatory period._

7.2 Retracing the two-year debate over term

The following discussion does not represent a comprehensive account of the back and forth between the CRG and the AER on the question of term. Nonetheless, we believe it is important to place on the record the main concerns raised and the AER's response to those concerns over the past two years.

7.2.1 2018 rate of return decision

In its 2018 rate of return decision, the AER confirmed its previous practice of estimating inflationary expectations, the return on equity and the cost of debt using 10-year estimation terms. The reasons given by the AER for applying 10-year estimation terms included:[204]

- Consistency with SL-CAPM theory

- Reasonableness as a proxy for life of long-lived assets

- Consistency with investor valuations (referring to a KPMG market practitioner survey)

- Comparability with investor valuation practices for other assets

- Consistency with estimation methodologies for beta and MRP

The explanatory statement also observed that 10-year estimation terms were standard practice among other Australian utility regulators, with the exception of the Economic Regulatory Authority of Western Australia.

At the time, the AER also considered theoretical arguments for adopting a 5-year estimation term for equity. These arguments were not dismissed out of hand but set aside as there was no compelling evidence to support a shortening of the estimation term for the allowable return on equity.

CRG position

While the CRG was only formed two years later, our subsequent advice contended that the 2018 review held an elevated status relative to other AER-led reviews of the rate of return. The CRG considered the 2018 review to be a 'benchmark' decision as it was the first review following the abolition of limited merits review in 2017.

The CRG's principle of a 'high bar for change' reflected its view that having established this 'benchmark' approach to setting the rate of return, the AER should only adopt changes to its methodology if faced with compelling evidence for change. Above all else, the CRG drew on the AER's commentary around an inefficient estimate of the rate of return leading to under- or over-investment in network infrastructure.

Put simply, the CRG concluded the AER could only consider a change in methodology if it was satisfied its estimated rate of return was resulting in an inefficient level of network investment.

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

AER response

Despite its own emphatic arguments about the investment and operational consequences of applying an inefficient rate of return, the AER has not addressed the CRG's requests that it provides analysis demonstrating the 2018 instrument was leading to inefficient outcomes – therefore necessitating changes to how the AER estimated the rate of return.

Although the AER has not provided supporting evidence of an investment problem emerging as a result of its 2018 decision, it nonetheless accepted in a later position paper,[205] the CRG's 'high bar for change principle' when is adopted two new assessment criteria – namely: materiality and that any proposed change needed to be sustainable in the face of changing circumstances. The CRG was also encouraged by the AER's reference to the need for "compelling evidence" and "clear improvement or benefit" before accepting a change to its approach for estimating the rate of return.

Unfortunately, the AER has not applied these principles in its draft rate of return decision as the CRG had hoped it would.

7.2.2   2020: The term for estimating inflationary expectations

During mid-to-late 2020, the AER consulted on the appropriate term for estimating inflationary expectations. Its clear preference was to shorten the estimation term from 10 years to 5 years. It is worth recalling that at the time, the economy appeared stuck in a low inflation and low interest rate environment. The AER was clearly concerned about these seemingly persistent economic conditions and what they meant for its rate of return framework.

At the time, the AER's 10-year term for estimating inflationary expectations was anticipated to produce a significantly higher estimate than 'common sense' appeared to suggest. Reducing the term to 5 years was expected to produce a lower estimate of inflationary expectations – one that was more in line with 'common sense'. The AER also considered a 5-year inflation forecast was more consistent with its NPV=0 principles given the role of inflation in the process of adjusting the network regulatory asset base in its PTRM.

In its draft decision on the matter, the AER proposed to reduce the estimation term for inflationary expectations from 10 to 5 years, to match the regulatory determination period (for most networks). The AER asserted it was possible and reasonable to shorten the estimation term for inflation without having regard to the estimation terms for other components of the rate of return, namely, equity and/or debt.

CRG position

In its final advice on the matter, the CRG implored the AER not to proceed with a change to the term for estimating inflationary expectations ahead of considering the term for estimating the return on equity (and the cost of debt). The CRG argued:

- Altering the term of one input ahead of considering the term of other inputs to the rate of return risked undermining the consistency and intellectual coherence of the regulatory framework.

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[205] AER, *Rate of return: Overall rate of return. Draft Working Paper*, 15 July 2021, p. 22

- The AER should not amend the application of the regulatory framework in response to current economic concerns (i.e., low inflation and interest rates) as these circumstances would eventually change.

- The AER had not presented any evidence demonstrating (i) the current approach was producing inefficient investment outcomes, and (ii) the consequences for consumers of the proposed change.

In addition, the CRG submitted a mathematical proof demonstrating that applying a 5-year term for expected inflation while relying on 10-year bond yields when estimating the return on equity implied the AER would be holding inconsistent expectations about future inflation.

Based on the available data at that time, the CRG demonstrated that if the AER proceeded as it was proposing, then it would mean the AER simultaneously believed future inflation would reach 1.95 and 2.50 per cent.[206] Although the illogicality identified by the CRG was described in the AER's final decision on the regulatory treatment of inflation, the AER did not engage with the matter. It neither refuted nor accepted (and acted upon) the CRG's proof.[207]

In a letter to the AER supplementing its earlier advice, the CRG urged the AER to undertake empirical analysis and modelling of the consequences of shifting to a 5-year estimation term for inflationary expectations.[208] The CRG was concerned the AER had not provided any material demonstrating the impact on consumers arising from its proposed shortening of the estimation term for expected inflation.

As noted above, the AER considered a 5-year inflation forecast was more consistent with its NPV=0 principles given the role of inflation in the process of adjusting the network regulatory asset base in its PTRM and roll forward model.

At the time, the CRG did not comment extensively on this argument but now finds it conflates the theoretical foundations of a regulatory framework with concerns about how the theoretical framework is implemented. Alternatively stated, if 10-year estimates of expected inflation created problems in the AER's spreadsheet models (with their 5-year outlook), then the appropriate response should have involved re-examining how those models are designed. This option never entered the discussion. Instead, the AER only entertained overturning the theoretical foundations of its regulatory framework in response to an alleged shortcoming in its operational revenue models.

AER response

In its final decision in December 2020, the AER determined to reduce the estimation term for expected inflation to 5 years while committing to examining the estimation term for equity and debt at a later stage of the review.

The AER's final decision did not provide the empirical analysis or modelling requested by the CRG in its September letter to the AER.

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[206] CRG, *Advice to the AER on the Regulatory Treatment of Inflation*, November 2020, Appendix A

[207] AER, *Final position: Regulatory Treatment of Inflation,* December 2020, p. 83

[208] CRG, Letter to AER Chair and Board Members, AER Inflation Review, September 2020

7.2.3   2021: *Term* and *Omnibus* papers

During 2021, the AER released a series of discussion papers on a broad suite of matters relevant to its estimation of an efficient rate of return. The AER repeatedly outlined the consequences of under- or over-estimating the rate of return but provided no evidence to whether its concerns had materialised – that is, whether the 2018 Rate of Return Instrument was resulting in inefficient levels of investment.

Instead of offering empirical support for its concerns about the term for estimating the return on equity, the AER relied almost entirely on the work of Dr Martin Lally and his argument that the term for estimating the cost of equity must match the length of the regulatory period in order to satisfy the NPV=0 condition.

Dr Lally's arguments were not new. They had appeared in various papers he had authored since 2004. These arguments had been considered and set aside by the AER in its 2018, 2013 and 2009 reviews of the rate of return.

Despite the absence of any empirical evidence and no new substantive arguments from Dr Lally, the AER proposed to adopt a 5-year term for estimating the cost of equity. The reason given by the AER was that there had been an "evolution in [its] thinking".[209] The nature of this evolution was not described. It was merely stated.

CRG response

In various CRG submissions and presentations during this period, we stressed it held the following concerns.

- Given its principle of a high bar for change, the CRG argued that overturning established practice should only proceed when there is strong evidence and a clear consensus that an alternative approach is superior.

- The theoretical foundations for moving to a 5-year estimation term for the return on equity had not been settled in the years since the AER's decision in 2018 in favour of a 10-year term for equity. Regulators and experts remained divided.

- The "evolution" in the AER's thinking relied on circular logic.[210]

- The CRG's consultation with consumers and consumer representatives highlighted:

  o An expectation that the "long-term" nature of the regulatory framework implied at least a 10-year outlook when estimating the relevant values of inputs, and

  o Deep suspicion that the AER was motivated to make the changes for reasons that were not in consumers' long-term interests – therefore proceeding would have an adverse impact on consumers' confidence in the regulatory framework and the regulator.

In light of these concerns, the CRG again urged the AER to provide evidence of the consequences of shifting to a 5-year estimation term for equity; and again, implored the AER to consider the term of all inputs holistically rather than on a piecemeal basis.[211]

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[209] AER, *Rate of return: Term of the Rate of Return, Draft Working Paper*, May 2021, pp. 5, 32, 37 & 42

[210] CRG, *Presentation to AER Pubic Frum: Term of the Rate of Return*, slide 12

[211] CRG, *Advice to the Australian Energy Regulator on the Term of the Rate of Return, July 2021,* p. 3 (for example)

7.2.4   2021: Final Working papers and *Information Paper*

In its final working paper on the term of the rate of return in September 2021, the AER stated that one of its reasons for wishing to adopt a 5-year estimation term for the return on equity was because this would be "consistent with the precedent we set in the inflation review."[212]

The purpose of the AER's brief *Information Paper* a little later in the year was to focus stakeholders' attention on the key matters the AER considered remained to be settled. This included the estimation term for equity. In the *Information Paper*, the AER again acknowledged the potential link between its earlier decision on the estimation term for inflation and the estimation terms for equity and debt. The *Information Paper* stated that the earlier decision, "prompted our review of the term of the rate of return including whether we can assess the terms for inflation, debt and equity independently of one another."[213]

The *Information Paper* did not add new material in support of the AER's proposal to shorten the estimation term for equity to 5 years, though it reiterated the AER's acceptance of Dr Lally's arguments.

CRG response

The CRG was stunned by the AER's argument that consistency and precedence with its inflation decision was a reason for adopting a 5-year estimation term for equity. For well over a year, the AER had repeatedly dismissed the CRG's concerns about consistency in the terms of inflation and equity. It had repeatedly insisted these terms could be "independently determined".[214] Suddenly, it was arguing for consistent terms precisely because they should not be considered independently. No reasons were given for the reversal in the AER's position.

In light of the AER 'doubling down' on Dr Lally's proposition, the CRG invested considerable effort in re-examining his arguments. In its advice on the *Information Paper* the CRG identified many concerns with Dr Lally's proposition and the AER's reliance on them. Our primary findings and concerns included:

- Dr Lally's paper did not demonstrate from first principles that the term of equity must equal the length of the regulatory period in order for the NPV=0 condition to be satisfied. In fact, we found that all Lally had shown was that for the NPV=0 condition to be satisfied, the regulator must set the allowed return on equity equal to investors' expected returns over that period. This was hardly revelatory. Lally's papers do not provide a proof for how investors form (or might form) their expectations about their required returns in that period.

- Dr Lally repeatedly referred to a 1989 paper from Professor Richard Schmalensee as providing the basis for his argument that the term of equity should be set equal to the length of the regulatory period. The CRG found that Schmalensee's 1989 paper did not demonstrate (or claim to demonstrate) what Dr Lally purported it demonstrated.

- The CRG identified that if Dr Lally's arguments were correct then substantial arbitrage opportunities should had been available for investors to exploit over the past 20 years because

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[212] AER, *Term of the Rate of Return & Cashflows in a Low Interest Rate Environment. Final Working Paper,* September 2021, p. 53

[213] AER, *Rate of Return, Information Paper and Call for Submissions*, December 2021, p. 16

[214] AER, *Rate of Return: Term of the Rate of Return, Draft Working Paper*, May 2021, p. 4 (for example)

the AER (and its predecessors) had used 10-year bond rates to determine the regulated return on equity. Given the potential scale of these arbitrage opportunities, the CRG contended the AER should be able to empirically find traces of these "tell-tale signs".[215] Doing so would have confirmed that Dr Lally's proposition was correct.

In light of these findings, the CRG reiterated its earlier conclusion that first principles cannot be used to solve the term over which the NPV=0 condition is 'best' satisfied.

Despite having found significant flaws in the AER's case for adopting a 5-year estimation term for equity, the CRG's advice also concluded the AER's persistent reliance on Dr Lally's proposition, as well as its recently stated commitment to consistency and precedent, meant the AER had painted itself into a corner from which it did not wish to exit. In other words, the CRG concluded a decision by the AER to shorten the term of equity to 5 years was now inevitable.

For this reason, the focus of this advice has been to re-examine the *consequences* that using a 5-year estimation term for equity has for other components of the rate of return. While this advice does not restate the CRG's concerns about the AER's flawed justification for moving to a 5-year estimation term for equity, those concerns remain extant.[216]

7.2.5   2022: AER's Draft Decision

The CRG's conclusion about the foregone nature of the AER's position on shortening the estimation term for equity was confirmed by the AER's draft decision released in June 2022. In its draft decision, the AER:

- Did not address the weaknesses the CRG had identified in Dr Lally's proposition. It made no mention of the CRG's concerns and it doubled down once again on Dr Lally's arguments.

- Once again argued it should adopt a 5-year estimation term for the return on equity because this would be "consistent with how we set the term of expected inflation."[217]

- Waved aside the CRG's suggestion that the AER ought to search for tell-tale signs that would confirm Dr Lally's proposition.

7.2.6   Three important developments since the AER's draft decision

There have been three recent developments since the release of the draft decision which have significant consequences for the AER's final decision on term.

(a) Draft decision from the ERAWA

On 17 June 2022, the Economic Regulation Authority (ERA) of Western Australia announced it proposed to abandon a 5-year estimate of the return on equity (and risk-free rate) and revert to its previous practice of relying on 10-year estimates.[218]

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[215] CRG, *Advice to the Australian Energy Regulator, CRG Response to the AER's December 2021 Information Paper, March 2022*, Section 3.4.4

[216] Ibid, Chapter 3

[217] AER, *Draft Rate of Return Instrument Explanatory Statement*, June 2022, pp. 14 and 94

[218] Economic Regulation Authority of Western Australia, *Explanatory Statement for the 2022 Draft Gas Rate of Return Instrument*, June 2022, pp.92-100

If the AER and ERA proceed as flagged in their respective draft decisions, the AER will be the only Australian regulator to apply a 5-year term when estimating the return on equity. The CRG notes the AER has previously cited the ERA's use of a 5-year term in support of its own proposal.[219]

In reaching its draft position, the ERA has systematically considered and refuted many of the arguments the AER is still relying upon, including those made by Dr Lally.[220]

(b) Advice from Professor Schmalensee

The ENA sought advice from Professor Schmalensee about his 1989 paper and Dr Lally's interpretation of that paper. The CRG thanks the ENA for sharing Schmalensee's advice.

Professor Schmalensee's advice confirms the CRG's findings that Dr Lally was misrepresenting the findings of Schmalensee (1989). He writes:

> *Dr. Lally (2021) cites Schmalensee (1989) for the proposition that the NPV=0 condition is satisfied only if the regulator sets allowed rates of return in one particular way. Dr. Lally is simply wrong.*

More generally, Schmalensee refutes Dr Lally's overall proposition (as accepted by the AER) that the estimation term for the allowed return on equity can be formally derived.

> *Economic efficiency of course, requires that the allowed rate of return is always commensurate with the return that investors require… Neither that result nor any of the less formal discussions in the paper have any implications for how the AER or any other regulator should attempt to produce "an unbiased estimate of the expected efficient return, consistent with the relevant risks involved in providing the regulated network services."*

Schmalensee's conclusion confirms the CRG's argument that the term of the rate of return cannot be derived from first principles. Like the CRG, Schmalensee's conclusion might be expressed colloquially as: Investors' required rate of return "is what it is".

The CRG continues to contend the estimation term for the regulated rate of return inescapably remains a matter for the exercise of regulatory judgement. The estimation term for the regulated rate of return is no more settled today than in the past. If the AER wishes to adopt a 5-year estimation term it is free to do so, but it cannot rely on Dr Lally's advice (or similar arguments) when making that decision. Another reason must be found.

(c) Independent Panel

The findings of the Independent Panel are discussed at greater length elsewhere in this advice. For the purposes of this Chapter, the CRG notes the Panel's repeated insistence that the AER has failed to assess the "efficacy" of the 2018 Rate of Return Instrument.

This shortcoming, although expressed in somewhat different terms, reinforces the CRG's frustration that its repeated calls for analysis and/or modelling have gone unheeded by the AER. Put simply, the Independent Panel makes clear that the AER has not identified the problem it is seeking to fix by shortening the estimation term to 5 years.

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[219] AER, *Rate of Return: Term of the Rate of Return, Draft Working Paper*, May 2021, p. 18 (for example)

[220] Ibid

CRG comment on these developments

These three developments reinforce the CRG's concerns about how the AER has treated with the matters we have raised over the past two years.

The ERAWA's draft decision, the advice from Professor Schmalensee and the findings of the Independent Panel vindicate the CRG's concerns with how the AER has approached its task of determining the appropriate estimation terms for expected inflation, equity and debt. The CRG trusts that the AER's final decision will properly address the concerns we have raised over the past two years, as summarised in this Chapter.

In addition to its previous commentary, this advice, our last, has identified additional concerns associated with the AER's apparent determination to proceed with a 5-year estimation term for equity. Most notably, as described in Chapter 6, we no longer accept the AER's assertion that the terms of debt and equity can be considered in isolation from each other. As we highlight in that Chapter, estimating debt and equity on separate terms does not square neatly with the assumption they are directly substitutable sources of capital. We expect the AER also to respond directly to our most recent concerns rather than merely re-asserting its prior position.

7.3 The CRG's final position on term

From the outset of this rate of return review, the CRG has rejected the AER's original position that each estimation term can be determined on a standalone basis. Initially, we argued that all terms needed to be considered together. A little later, we accepted that although inflation and equity needed to be estimated on the same term, debt could be dealt with separately. As outlined in Chapter 6, we no longer consider this to be a sustainable position. The terms of expected inflation, equity and debt need to be considered collectively – even if the final outcome sees different inputs estimated using different terms.

In other words, the CRG does not have a singular answer to the AER's overly simplistic question about whether the CRG would prefer the AER adopt 5 or 10-year estimation term for the return on equity. The CRG's position on this matter depends on how the AER's final decision treats with other elements in the Rate of Return Instrument.

In the following discussion, the CRG describes four options that we consider to be plausible outcomes in the final decision. The discussion provides the CRG's assessment of each option, whether the CRG supports each option, and whether the CRG's support is conditional on further action by the AER.

The CRG considers this conditional approach is the only way open to it because:

- the AER acted pre-emptively when shortening the estimation term for expected inflation
- the AER appears to have already determined it will shorten the estimation term for equity
- the AER has made clear it will not entertain shortening the estimation term for debt.

It is not clear which of the above matters the AER might be prepared to revisit in light of this advice and other developments since its draft decision (as described in Section 7.2.6). On that basis, we present the following four options in good faith.

The four options we have considered and our positions on each are summarised in the table below:

Figure 7-1: Four options and CRG positions

Option	Inflation	Equity	Debt	CRG position	Rationale
1	10 yrs	10 yrs	10 yrs	**SUPPORT <u>subject to the AER</u>:** • Removing the biases that we identified in the AER's estimates of beta, the MRP and the cost of 10-year debt (see Chapters 2, 3 and 4, respectively)	Section 7.3.1
2	5 yrs	10 yrs	10 yrs	**DO NOT SUPPORT**	Section 7.3.2
3	5 yrs	5 yrs	10 yrs	**CONDITIONALLY SUPPORT** **SUPPORT <u>IF AND ONLY IF</u>:** • The AER identifies a mechanism to address the bias introduced by maintaining a longer estimation term for debt than for equity (see Chapter 6), and • The AER removes the biases the CRG has identified in the AER's estimates of beta, the MRP and the cost of 10-year debt (see Chapters 2 ,3 and 4, respectively); or **NOT SUPPORTED in all other circumstances**	Section 7.3.3
4	5 yrs	5 yrs	5 yrs	**SUPPORT <u>subject to the AER</u>:** • Removing the biases that we identified in the AER's estimates of beta and the MRP (see Chapters 2 and 3, respectively[221]), and • Identifying whether a transition mechanism and continuation of a trailing average is required when applying a lower estimation term for the allowed return on debt	Section 7.3.4

7.3.1 Option 1: Inflation: 10 years, Equity: 10 years, Debt: 10 years

This option would reinstate the estimation terms applied in the 2018 rate of return. In this sense, it would reflect an established practice as well as the approach applied by many other regulators. Applying consistent estimation terms across all the rate of return variables would provide a broad coherence to the AER's estimation methodology.

All things being equal, this option could be expected to result in a higher estimated *nominal* rate of return but less volatility in these estimates over time. How it affects estimated *real* rates of return is a little less clear, though they too are likely to be more stable as 10-year estimates of expected inflation are likely to be more stable than 5-year estimates (assuming ongoing inflation targeting by the RBA).

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[221] Note, the matters raised in Chapter 4 (return on debt) would fall away if the AER were to adopt a 5-year estimation term for the cost of debt.

This option would require the AER to reverse its decision in December 2020 to adopt a 5-year estimation term for expected inflation. Given we are no longer in a low inflation or low bond rate environment, the risks previously identified by the AER of negative real returns to the networks, and the are no longer an issue. Nor are the concerns about a significant mismatch between the RAB indexation and the PTRM inputs. Changing the inflation term is also administratively straightforward.

To be clear, the CRG's concerns with biases in the AER's approach to estimating beta, the MRP and the cost of 10-year debt (as outlined in Chapters 2, 3 and 4, respectively) would still need to be addressed by the AER under this option.

7.3.2   Option 2:   Inflation: 5 years, Equity: 10 years, Debt: 10 years

In effect, this option would represent the status quo since the AER's decision in December 2020 to adopt a 5-year estimation term for expected inflation. That is, although a shorter estimation term would be applied to expected inflation, equity and debt would be estimated using 10-year terms.

The AER's *Information Paper* and *Draft Decision* have emphasised the importance of consistency in the terms of inflation and equity (a principle supported by the CRG). Clearly, this option breaches that condition. Moreover, this option implies the AER would be acting illogically by holding inconsistent expectations about the future value of inflation (see Section X.2.2).

If the AER is attracted to this option because it addresses its stated concerns with the mismatch between the term of estimated inflation and RAB indexation in the roll forward model, then the CRG repeats its observation that this concern is no longer significant (see Option 1 above). Moreover, the CRG notes this concern pertains to the design of the model, rather than the theoretical foundations upon which the model is built.

A shorter-term estimate of inflation is likely to be more volatile than estimates using a 10-year term. Applying these more volatile estimates to a relatively stable 10-year nominal return on equity is likely to produce greater volatility in the real return on equity – thus adding volatility to the *real* rate of return without any demonstrable benefit for consumers.

The CRG therefore concludes this option has no redeeming features.

If the AER were inclined to proceed with this option, the CRG would nonetheless expect the AER to address the biases in its approach to estimating beta, the MRP and the cost of 10-year debt – as outlined in Chapter 2, 3 and 4, respectively.

7.3.3   Option 3:   Inflation: 5 years,   Equity: 5 years, Debt: 10 years

This option reflects the AER's preferred position as presented in its Draft Decision. The AER's support for this option rests heavily on the arguments presented by Dr Lally. As discussed above, the ERA of WA, Professor Schmalensee and the CRG have all found shortcomings in these arguments. Moreover, as discussed in Chapter 6 of this advice, applying inconsistent estimation terms to equity and debt introduces further incoherence into the model (i.e.. in terms of the assumed substitutability of these two sources of capital).

Also as shown in Chapter6, the AER's own estimates result in a perverse result for the equity premium which the AER has not identified or explained.

These findings indicate applying a 5-year term for equity and a 10-year term for debt would result in an upwardly biased estimate of the rate of return. This bias must be corrected if the AER proceeds with this option.

In addition, the CRG would expect the AER to address the biases the CRG has identified in Chapters 2 to 4 with the AER's approach to estimating beta, the MRP and the cost of 10-year debt, respectively.

7.3.4   Option 4:   Inflation: 5 years, Equity: 5 years, Debt: 5 years

This option reflects a consistent estimation term across all the rate of return variables thereby providing a coherence to the estimation of the single rate of return. It would allow the AER to proceed with its intention of shortening the estimation term for equity while avoiding the upward bias inherent in Option 3.

This option would require the AER to overcome its unwillingness to consider a shorter estimation term for debt (on the grounds of claimed but untested implementation difficulty). Whether it maintains a trailing average approach would be a separate matter.

All things being equal, this option could be expected to result in a lower but less stable estimated *nominal* rate of return over time. How it affects estimated *real* rates of return is a little less clear, though they too are likely to be less stable because 5-year estimates of expected inflation are likely to be less stable than 10-year estimates. In other words, this option is likely to produce the lowest but least stable and predictable rates of return over successive regulatory decisions.

If this option were adopted, the CRG expects the AER to address the biases we identified in Chapters 2 and 3, respectively, with the AER's approach to estimating beta and the MRP.

7.4   Conclusion

The AER has been keen to hear from the CRG whether it supports the AER's proposal for a 5-year estimation term for the return on equity. It seems the AER has expected the CRG's support because, all things being equal, a 5-year estimation term for equity is likely to produce a lower estimated rate than a 10-year term (albeit with some greater volatility).

The CRG considers this question greatly overly simplifies what constitutes the long-term interests of consumers.

Those interests are not just a function of higher or lower estimates, or more or less stable estimates. Self-evidently, consumers would prefer lower and stable estimates. The CRG's consumer engagement found nothing to contradict this self-evident conclusion.

If consumers can't expect both, then what can, and should, they expect from the regulator?

The answer is surprisingly simple. Energy consumers have told us they expect:

- a regulatory framework that is internally consistent across all its moving parts

- the exercise of regulatory judgement that is unbiased in all its instances, and

- an outcome producing the lowest cost of capital to support required network investment.

It is for these reasons the CRG has not provided a singular answer to the AER's question about whether it prefers a 5- or 10-year estimation term for equity. Our answer depends on how the AER responds to the three expectations noted here.

The AER has options for how it addresses its lack of internal consistency, as identified in this and the preceding chapter. It also has options for how it removes or remedies the upward bias inherent in its proposed approach to estimating the rate of return. But we cannot read the mind of the AER Board and we don't know which of these options and remedies it will entertain. All should be on the table.

So, after two years, we have concluded our advice on the question of term with a range of options and remedies for the AER to consider. We trust our advice will be considered with an open mind.

8   Conclusion

For the past two years, the CRG has participated in the AER-led debates over the estimation methodologies for each of the inputs to a rate of return determination. This may have been a necessary process, but after two years there is little more to be said on such matters. At this final juncture, the CRG has therefore stepped back from these debates. Instead, we have reflected on how the AER is exercising its regulatory judgement when determining its (proposed) final position on each of these estimates.

The way in which the AER's regulatory judgement is exercised (i.e., the merits) is rarely the subject of scrutiny. What remains beyond dispute, however, is that very little in a rate of return decision escapes the need for regulatory judgement by the AER.

In such a highly discretionary environment, consumers' interests are not just a function of higher or lower prices, or more or less stable prices. Self-evidently, consumers would prefer low and stable prices. The CRG's extensive consumer engagement has found nothing to contradict this self-evident conclusion.

So, what should consumers expect from a regulator?

The answer is surprisingly straightforward. Energy consumers should expect:

- a regulatory framework that is internally consistent across all its moving parts

- the exercise of regulatory judgement that is unbiased in all its instances, and

- an outcome producing the lowest cost of capital to support required network investment.

By focussing on the consequences of the AER's proposed decision, rather than revisiting the abstract theoretical debates of the past two years, the CRG has found a **systemic upward bias** in how the AER proposes to exercise its regulatory judgement. These biases variously reflect the AER:

- not giving proper regard to the evidence it has collected[222]

- disregarding upwardly biased estimates that it has identified in its draft decision[223]

- failing to recognise the inconsistencies between different parts of its proposed decision[224]

For one or more of these reasons, the AER is proposing to make decisions that will have the effect of giving the benefit of the doubt to networks across almost every aspect of the rate of return instrument. Consumers will be paying until 2031 for this regulatory permissiveness.

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[222]   Beta (Chapter 2)

[223]   MRP (Chapter 3) and Return on Debt (Chapter 4)

[224]   Equity Premium and WACC (Chapter 6)

Our engagement with consumers highlights they are particularly worried about current and future energy prices. The overarching and consistent messages emerging from our discussions with consumers and advocates are:[225]

- Consumers value stability in process and price – but not at any cost

- Reliability of the network is important but, in current market conditions, the price of network services is a priority

- Significant proportions of business and residential consumers are already having difficulty managing their energy bills, and face the risk of closure (for businesses) and financial distress (all)

- Consumers expect energy prices will increase, and increasing numbers of consumers anticipate they will be in financial distress

- Many consumers are at a point of 'despair'. They feel helpless to take further actions to reduce their energy bills and instead are cutting back on basic health and well-being expenses - including energy use of basic human needs such as heating and lighting

- Some consumers have the capacity to take more action in response to increasing energy prices. These consumers are increasingly looking at ways to accelerate reductions in their dependence on grid electricity

- Consumers need to have confidence in Australia's energy system; however, their confidence is rapidly declining, and this is a serious concern relevant to the AER's exercise of judgement.

Consumers have clearly told us, and reminded the AER, that the rate of return has real effects on their household and business budgets. It is essential that the AER bear this in mind as it exercises its judgement and removes any residual upward bias from its decision.

Beyond these concerns lie the extensive challenges of the so-called, 'energy transition' and the need for new investment in network infrastructure. But the transition will also alter the way in which consumers participate in the energy system – including consumer investment in generation, storage, demand management, energy efficiency and even 'grid defection'.

The CRG has repeatedly expressed its concern that this rate of return review has not given due consideration to the complicated interplay between the incentives created by the rate of return for investors and for consumers. Perhaps in the past regulatory consideration of this interplay was of less importance as consumers' energy use was assumed to be largely fixed. No-one accepts that assumption any longer, including the AER. Despite this, very little effort has been made over the past two years to facilitate a discussion about how "consumption efficiency" should inform a regulatory decision about the rate of return.

The CRG can only conject that had proper regard been given to understanding the role of "consumption efficiency" in informing a rate of return decision, then the upward biases we have identified in the draft decision may have been avoided.

But as the modern idiom states, "We are where we are." A regulatory decision is impending.

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[225] See Appendix B

It is against this complicated and changing background that the AER must exercise its regulatory judgement in the next three months.

In the past, and in other jurisdictions, regulators have thought it prudent to err on the side of investors – that is, knowingly adopt rate of return estimates that were upwardly biased. In May 2021, the AER explicitly rejected this approach in favour of a guiding principle stating that it should pursue an unbiased estimate of the rate of return. This advice has accepted the reasonableness of this principle in the circumstances.

For the avoidance of any doubt, the CRG is not asking the AER to make a biased judgement in favour of consumers. We are only asking the AER to acknowledge and remove or remedy the many upward biases we have identified in this advice. With three months to go, that is the only course of action still open to the AER as it seeks to fulfil its statutory mandate.

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Appendix A: Legislative framework for the RoRI

Section	Provision	Description of legislative provisions
7 (a),(b)	National Electricity Objective	The National Electricity Objective as stated in the National Electricity Law (NEL) is: "to promote efficient investment in, and efficient operation and use of, electricity services for the long-term interests of consumers of electricity with respect to: • price, quality, safety and reliability and security of supply of electricity • the reliability, safety and security of the national electricity system."
7A	Regulatory Pricing Principles (RPP'S)	In addition to determining investment efficiency, the AER also needs to enquire into consumption efficiency to promote efficient investment and operation and use of networks
7A(6)	Regard for costs and risks of under and over investment	Overinvestment or underinvestment could cause the allowed rate of return to deviate from the market cost of capital and the rate of return may not achieve the legislative objectives
7A(7)	Regard for costs and risks of under and over utilisation	Overutilisation or underutilisation could cause the allowed rate of return to deviate from the market cost of capital and the rate of return may not achieve the legislative objectives
23[226]	National Gas Objective	The National Gas Objective as stated in the National Gas Law (NGL) is: "to promote efficient investment in, and efficient operation and use of, natural gas services for the long-term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas."
18I (3)[227]	Legal obligation on the AER in relation to the Rate of Return Instrument (RoRI)	The AER may make an instrument only if satisfied the instrument will, or is most likely to, contribute to the achievement of the national electricity objective to the greatest degree
18I(4)	Methods for calculating weighted average cost of capital (WACC)	The way to calculate a rate of return on capital must include a weighted average of an allowed return on equity and an allowed return on debt
18I5 (a,b)	AER must have regard to Revenue and Pricing Principles (RPP's)	In making a RoRI, the AER must have regard to: (a) the revenue and pricing principles; and (b) other information the AER considers appropriate.
18J(2)	Requirements if RoRI includes way to	The RoRI must:

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[226] The National Gas Objective is found in the National Gas Law
https://legislation.nsw.gov.au/view/html/inforce/current/act-2008-31a#ch.1-pt.3-div.1

[227] Legislative references are to the National Electricity Law which is substantially the same as the National Gas Law. Both laws are applied at the State level mirroring a reference law passed by the Parliament of South Australia. Provisions cited are summaries of the law and not a literal reproduction

Section	Provision	Description of legislative provisions
	calculate rate of return or value of imputation credits	(a) Provide for the same methodology to apply in relation to all regulated network service providers in calculating the rate or value; and (b) Provide for the methodology to apply automatically without the exercise of any discretion by the AER.
18L (d)	AER obligation to consider CRG advice	In making a Rate of Return Instrument, the AER must also regard the advice, recommendations or submissions given by a consumer reference group.
18M (1)	Requirement to form Consumer Reference Group (CRG)	Before making RoRI AER must establish CRG to help AER implement an effective consumer consultation process for making the proposed instrument
18N	Provisions in the law relating to the Consumer Reference Group (GRG)	(1) A consumer reference group for making a Rate of Return Instrument-- (a) is to consist of the members appointed by the AER; and (b) may carry out its activities, including giving advice or recommendations to the AER about the instrument, in the way it considers appropriate. (2) Without limiting subsection (1)(b), the consumer reference group may-- (a) consult with consumers of electricity; and (b) facilitate consumer engagement in the process for making the instrument; and (c) make written submissions to the AER about the content of the instrument and the process for making it. (3) The AER must publish on its website any written advice, recommendations or submissions given to it by the consumer reference group.
18Q	Explanatory information	The AER must publish explanatory information for a Rate of Return Instrument on its website when publishing the instrument under section 18S.

Appendix B: Insights into consumer perspectives

Appendix B1: Findings

1. Stability of process versus price

> **Overarching message: Consumers value stability in process and price – but not at any cost**

Evidence from consumer representatives

Our earlier evidence of consumer representatives support for stability in process and price was outlined in the following CRG papers:

- CRG, *Response to the AER's December 2021 Information Paper*, March 2022, pp. 34-35

- CRG, *Advice to the Australian Energy Regulator, CRG response to the AER's July 2021 Draft Working papers: The Overall Rate of return, Debt omnibus and Equity Omnibus Papers Volume 2: Engagement*, September 2021, pp. 118-119

The strong view from consumer representatives that predictability in price is important was reinforced in our August 2022 workshops with consumer representatives and is summed up in the following quote:

> *One of the critical principles about [the] Rate of Return Instrument and a whole lot of other policy settings is to maximise the amount of predictability as much as affordability in the story.*

Evidence from consumer discussion groups

We held two in-depth discussions with consumers in August 2022. Consumers in both discussions expressed strong support for stability in price – they felt it helped them to plan and budget. Some participants noted that they had taken up bill-smoothing options, so they paid a fixed regular sum. This worked well for them, and other participants expressed interest in bill-smoothing. The caveat was that they would not want to find that the underlying price had changed a lot and that they suddenly had to make a large catch-up payment, but this had not happened to them to date.

The findings about stability in process were somewhat nuanced. The first group had a clear preference for stability in process. Participants in the second group expressed views about the changing nature of the context and that this meant that the framework may also need to change. At the same time, they also expressed a strong view about the importance of the regulator using principles of integrity, accountability and transparency when making decisions about the RoRI. These dual views may be interpreted as consumers being ready to accept a change in process if there are clear explanations for this change. This was echoed in the consumer representatives' workshop where one representative said:

> *It would be easier to determine whether to have confidence if the AER explained in its decision why the decision is in the long-term interests of consumers.*

Evidence from our consumer surveys

Consumer support for fifth principle, "there should be a high bar for change" was tested in Consumer Survey 2, with most consumers (70% of residential consumers and 67% of commercial[228] consumers) agreeing or strongly agreeing that the AER should only change the way it makes decisions when there is strong evidence to do so. Our earlier evidence of consumer support for stability in process and price was detailed in the following CRG papers:

• CRG, *Response to the AER's December 2021 Information Paper*, March 2022, p. 30

We did not feel the need to further test this Claim in Consumer Survey 3.

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[228] Defined in the CRG's Consumer Surveys as business that have less than 200 employees, consistent with the ECA's definition (see also Appendix C).

2. Reliability is important but price of network services is a priority

Overarching message: Reliability of the network is important but, in current market conditions, the price of network services is a priority

Evidence from consumer representatives

Consumer representatives have emphasised extreme sensitivity to price increases for energy consumers throughout the CRG's consumer engagement processes. See for example, the following:

- CRG, *Response to the AER's December 2021 Information Paper*, March 2022, p. 39

Consumer representatives have emphasised extreme sensitivity to price increases for energy consumers throughout the CRG's consumer engagement processes (for example, refer to the CRG advice on the AER's *Information Paper* page 39).

Consumer representatives in the August 2022 workshops continued to express strong views about the price of network services, for example:

> *And the real world is that people are finding great difficulty in affordable electricity. And so the flow on of what [the AER is] doing is only going to aggravate the situation and worsen it.*

> *The AER needs to recognise the cost pressures that are going on everywhere in the community in energy and outside of energy and use that as a factor driving that exercise of discretion.*

All participants in the August 2022 workshops were more concerned about prices now than they were the same time last year.

Evidence from consumer discussion groups

Participants from the in-depth consumer discussions also commented that the price of energy is a priority issue. Many had managed their energy consumption to the extent they felt there was not much more they could do to reduce their bills:

> *How much further down can you go?*

Five of the seventeen participants expressed interest in trading off reliability for price. This rose to 7 if they could pay less and get notice of a few short duration outages that they could plan around.

Evidence from our consumer surveys

In Consumer Survey 3, we asked consumers the following two questions (randomising the order they were asked, to remove any potential for ordering bias):

- *How concerned are you about having a reliable supply of energy [to your business]?*

- *How concerned are you about the cost of energy [to your business]?*

Overall, as shown in the following charts, residential energy consumers are mostly more likely to be concerned about the cost of energy than they are about having a reliable supply, whereas similar proportions of commercial consumers are concerned about the cost of energy and having a reliable supply.

Figure B1-1: Residential consumer concerns about reliability and energy costs

	Very concerned	Quite concerned	Not very concerned	Not at all concerned
Having a reliable supply	23%	43%	28%	5%
Cost of energy	39%	42%	17%	2%
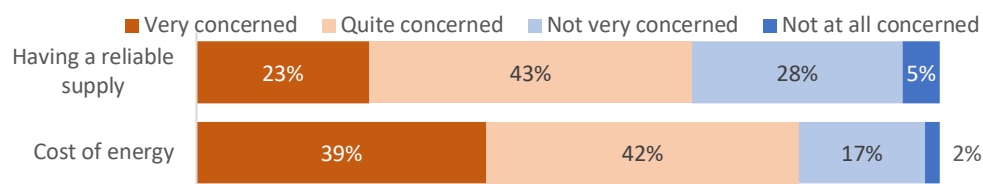
Figure B1-2: Commercial consumer concerns about reliability and energy costs

	Very concerned	Quite concerned	Not very concerned	Not at all concerned
Having a reliable supply	26%	42%	27%	5%
Cost of energy	28%	46%	22%	3%
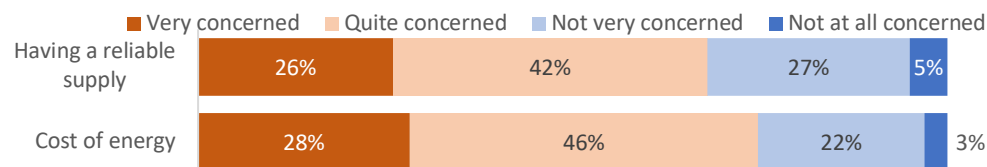
We also considered the trade-off between energy affordability and reliability in Consumer Surveys 2 and 3. In Consumer Survey 2, we asked consumers to trade off the relative importance of "a highly reliable energy supply" against "energy affordability".[229] We asked the same question this survey to test the findings from Consumer Survey 2, given inflation and increases in cost-of-living since August 2021. The following charts comparing our August 2021 and August 2022 results are consistent, demonstrating the importance of network reliability for some customers whereas others prioritise affordability. However, with deteriorating economic conditions compared to 12 months ago greater proportions of consumers are placing greater emphasis on affordability than reliability.

Figure B1-3: Residential consumer trade of between affordability of energy and reliability of service, August 2021 and August 2022

	Highly reliable energy supply	-3	-2	-1	Neutral	1	2	3	Affordable energy
Residents - August 2021 (n=1,257)	6%	5%	7%	10%	26%	14%	10%	9%	12%
Residents - August 2022 (n=1,500)	5%	5%	5%	12%	25%	13%	11%	10%	15%
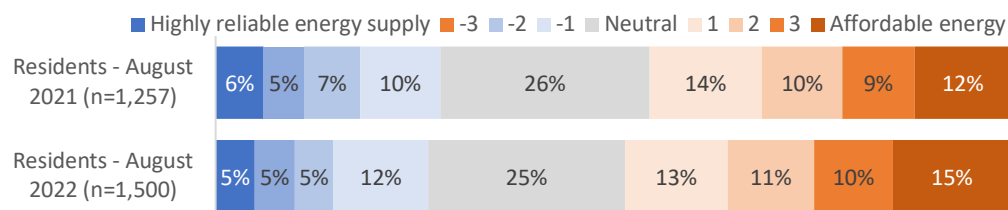
Figure B1-4: Commercial consumer trade of between affordability of energy and reliability of service, August 2021 and August 2022

	Highly reliable energy supply	-3	-2	-1	Neutral	1	2	3	Affordable energy
Commercial - August 2021 (n=200)	7%	8%	13%	11%	19%	13%	16%	7%	9%
Commercial - August 2022 (n=501)	6%	4%	11%	13%	20%	15%	10%	10%	10%

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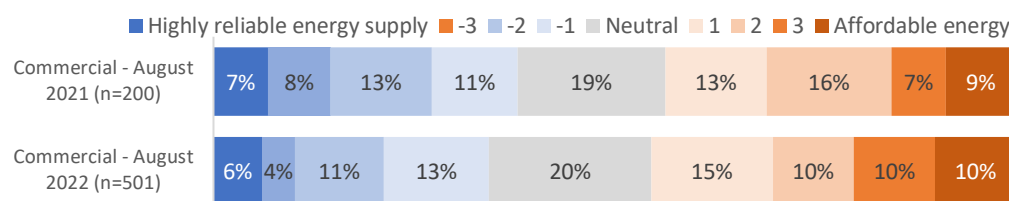
[229] Details of the methodology are found in CRG, *Response to the AER's December 2021 Information Paper*, March 2022, p. 38

This survey we also considered affordability in the context of energy consumers who continue to be financially stressed.[230] The following charts illustrate the greater importance of affordability over reliability to customers who are financially stressed.

Figure B1-5: Residential consumer trade of between affordability of energy and reliability of service, long-term financially stressed and other consumers

Highly reliable energy supply ■ -3 ■ -2 ■ -1 ■ Neutral ■ 1 ■ 2 ■ 3 ■ Affordable energy

Long-term financially stressed (n=241)	7%	4%	4%	12%	17%	13%	13%	13%	17%
Other consumers (n=1,160)	4%	5%	6%	12%	27%	13%	11%	8%	14%
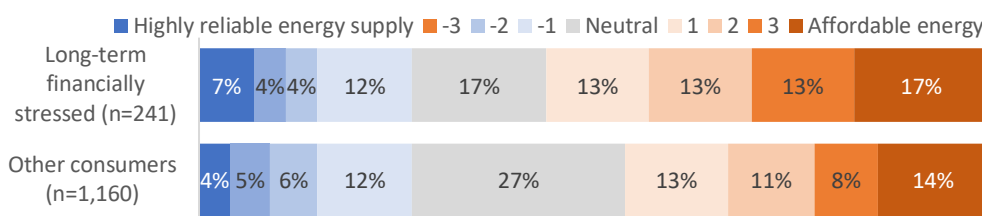
Figure B1-6: Commercial consumer trade of between affordability of energy and reliability of service, long-term financially stressed and other consumers

Highly reliable energy supply ■ -3 ■ -2 ■ -1 ■ Neutral ■ 1 ■ 2 ■ 3 ■ Affordable energy

Long-term financially stressed (n=113)	7%	4%	11%	16%	15%	12%	14%	8%	13%
Other consumers (n=388)	6%	4%	11%	13%	22%	16%	9%	11%	9%

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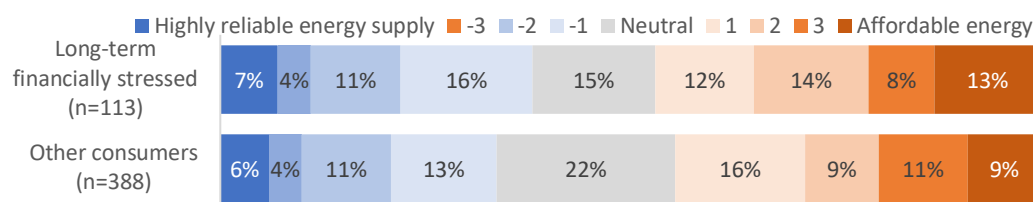
[230] Based on their feedback that over the last 12 months they/their business had difficulties being able to afford to pay their energy bill or other bills **and** they anticipate having difficulties being able to afford to pay their/their business energy bill or other bills in the next few years.

3. Consumer difficulty managing energy bills

> **Overarching message:** Significant proportions of business and residential consumers are already having difficulty managing their energy bills, and face the risk of closure (for businesses) and financial distress (all)

Evidence from consumer representatives

Throughout the CRG's engagement with consumer representatives, difficulties managing energy bills for some consumers has been a consistent theme. See for example, the following:

- CRG, *Response to the AER's December 2021 Information Paper*, March 2022, p. 39

The August 2022 workshops repeated this theme, with participants summarising the experience:

> *There's ample evidence of consumer pain and concern for the general economy as a result of the current economic situation.*
>
> *And the real world is that people are finding great difficulty in affordable electricity.*

Evidence from consumer discussion groups

Most participants were also experiencing financial distress or reported knowing people who were struggling. They reported:

- Older people switching off lights at night to save on electricity and having falls because of poor visibility.
- Vulnerable people with poor quality housing, old appliances, who struggled to get energy concessions, and who were rarely willing to talk about their energy bills to find help.

Participants with children with talked about the difficulty for families to reduce energy consumption – one participant said that she had thought about "camping at home" to give the kids a fun experience of trying to do without.

Another participant had considered an extreme measure to reduce her bills:

> *I have always lived frugally … I don't know if I could cut back. I could get rid of my fridge.*

Evidence from our consumer surveys

This survey we asked consumers:

- *Over the last 12 months have you/has your business had any difficulties being able to afford to pay your energy bill or any other bills?*
- *Have you done anything in the last few years to help reduce your energy bills?*

Significant proportions of **residential energy consumers** have experienced financial vulnerability:

- 28% indicated they had difficulties being able to afford to pay their energy bill or any other bills in the last 12 months, including:
    - 42% of renters
    - 35% of those who are eligible for concessions on their energy bills
    - 73% indicated they have acted in the last few years to reduce their energy bill
        - Including 83% of those who had difficulties being able to afford to pay their energy bill or any other bills in the last 12 months

Like residential consumers, significant proportions of **commercial consumers** have experienced financial vulnerability:

- 30% indicated they had difficulties being able to afford to pay their energy bill or any other bills in the last 12 months

    - 32% of commercial business operators who own their business premises and 27% whose business rents the premises

- 68% indicated they have acted in the last few years to reduce their energy bills

4. Consumers expect energy costs to worsen

Overarching message: Consumers expect energy prices will increase, and increasing numbers of consumers anticipate they will be in financial distress

Evidence from consumer representatives

In the CRG workshops to inform our advice on the AER's July 2021 draft working papers, consumer representatives expressed a strong concern about future price increases:

> *The pensioners are saying the same too; they're frightened of what's going to happen next.*

> *The elephant in the room is increasing interest rates. If interest rates go up from the all-time lows and they could double/triple, they could go 10x what they are now, where does that lead energy prices? Especially as RABs are increasing substantially.*

Evidence from consumer discussion groups

Consumer feedback from the August 2022 in-depth discussions illustrated that consumer concern about the future remains a theme. Consumers in these were also anxious about future energy costs. This was summed up by one participant who said:

> *My concern is…what's going to happen over the next 4-5 years. I'm more concerned about that. Because I've done just about everything I can to minimise my cost. I don't think there is anything left I can do, other than disconnect from the grid and putting a generator in instead. So, I'm more concerned about the future than I am about the way things are today.*

Evidence from our consumer surveys

We sought to better understand energy consumer vulnerability into the future. We asked energy consumers: and the impacts of possible price increases on them.

- *In the next few years do you anticipate having any difficulties being able to afford to pay your energy bill or any other bills?*

- *Are you planning to do anything in the next few years to help reduce your energy bills?*

    o *What are you planning to do [to reduce your energy bills]?*

Significant proportions of **residential energy consumers** anticipate they will experience financial vulnerability:

- 37% anticipate having any difficulties being able to afford to pay their energy bill or any other bills in the next few years (compared to 28% in the last 12 months), including:

    o 47% of renters

    o 45% of those who are eligible for concessions on their energy bills

    o **80% of consumers** who have already had difficulties being able to afford to pay their energy bill or any other bills in the last 12 months also anticipate having any difficulties being able to afford to pay their energy bill or any other bills in the next few years (**i.e. 22% of all residential consumers continue to be stressed financially over multiple years**)

- 68% indicated they plan to act to reduce their energy bills

Like residential consumers, significant proportions of **commercial consumers** anticipate they will experience financial vulnerability:
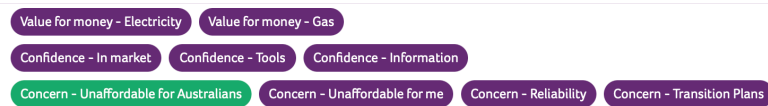
- 39% anticipate having any difficulties being able to afford to pay their energy bill or any other bills in the next few years, (compared to 30% in the last 12 months), including

    - 41% of commercial business operators who own their business premises and 36% whose business rents the premises

    - **76% of commercial consumers** who have already had difficulties being able to afford to pay their energy bill or any other bills in the last 12 months also anticipate having any difficulties being able to afford to pay their energy bill or any other bills in the next few years this equates to 23% of all commercial consumers)

- 65% indicated they plan to act to reduce their energy bills

Other evidence

The ECA's June 2022 *Consumer Sentiment Survey* and June 2022 and July 2022 *Pulse Surveys*, also illustrate consumer concern about the "unaffordability" of energy for some Australians. In its surveys the ECA asked consumers:

- *How concerned, if at all, are you that in the next three years electricity and gas will become unaffordable for some **Australians**? [emphasis added]*

- *How concerned, if at all, are you that in the next three years electricity and gas will become unaffordable for **you**? [emphasis added]*

Using the percentages behind the dark purple bars in the following figure, around 70% of households are highly concerned that electricity will become unaffordable for some Australians (Figure B-7), and 55% of households are highly concerned that electricity will become unaffordable for them (Figure B-8).

Figure B1-7: Concern for future energy issues: Unaffordable for some Australians[231]

National

`Value for money – Electricity` `Value for money – Gas`

`Confidence – In market` `Confidence – Tools` `Confidence – Information`

`Concern – Unaffordable for Australians` `Concern – Unaffordable for me` `Concern – Reliability` `Concern – Transition Plans`

Concern for future energy issues: Unaffordable for Australians

Q. How concerned, if at all, are you that in the next 3 years…?
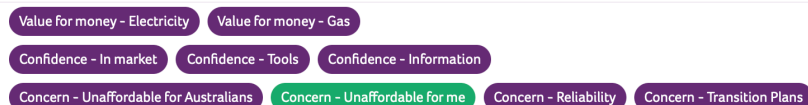
Electricity and gas will become unaffordable for some Australians

■ High concern (Rated 7-10) ■ Moderate concern (Rated 4-6) ■ Low concern (Rated 0-3)
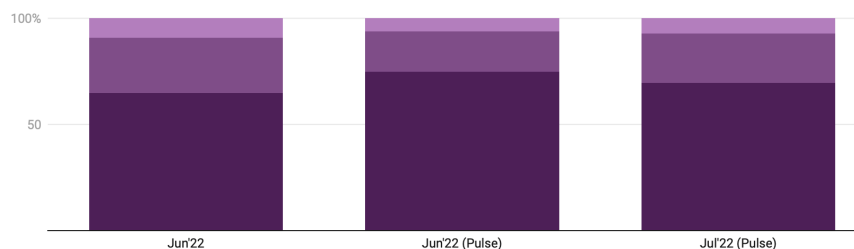
Answered on a 0-10 scale where 0=Not at all concerned and 10=Very concerned

Base: All households (Bi-annual min. n=2,000, Pulse Surveys min. n=1,000)
Our methodology
Chart: Energy Consumers Australia • Source: 2022 Pulse Surveys • Get the data • Created with Datawrapper

Figure B1-8: Concern for future energy issues: Unaffordable for some Australians[232]

National

`Value for money - Electricity` `Value for money - Gas`

`Confidence - In market` `Confidence - Tools` `Confidence - Information`

`Concern - Unaffordable for Australians` `Concern - Unaffordable for me` `Concern - Reliability` `Concern - Transition Plans`

Concern for future energy issues: Unaffordable for me

Q. How concerned, if at all, are you that in the next 3 years…?

Electricity and gas will become unaffordable for you

■ High concern (Rated 7-10) ■ Moderate concern (Rated 4-6) ■ Low concern (Rated 0-3)

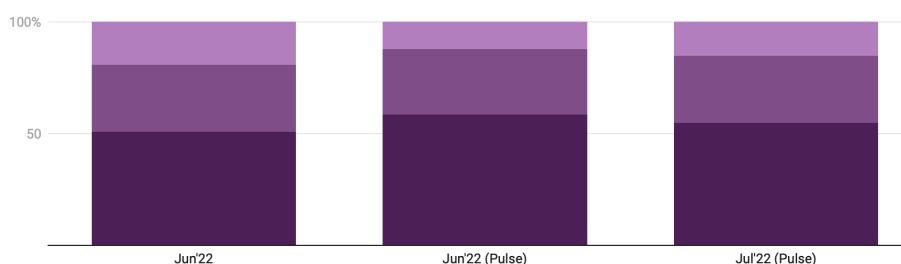*Answered on a 0-10 scale where 0=Not at all concerned and 10=Very concerned*

Base: All households (Bi-annual min. n=2,000, Pulse Surveys min.n=1,000)
Our methodology
Chart: Energy Consumers Australia • Source: 2022 Pulse Surveys • Get the data • Created with Datawrapper

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[231] ECA, *Pulse Surveys June to August 2022*, available from https://ecss.energyconsumersaustralia.com.au/sentiment-survey-june-2022/pulse-surveys-june-to-august-22/#collapse-1

[232] ECA, *Pulse Surveys June to August 2022*, available from https://ecss.energyconsumersaustralia.com.au/sentiment-survey-june-2022/pulse-surveys-june-to-august-22/#collapse-1

5. Many consumers are at a point of 'despair'

Overarching message: Many consumers are at a point of 'despair'. They feel helpless to take further actions to reduce their energy bills and instead are cutting back on basic health and well-being expenses - including energy use of basic human needs such as heating and lighting

Evidence from consumer representatives

Consumer representatives have raised the issue of increasing hardship and prices hurting them throughout our engagement. See for example, the following:

• CRG, *Response to the AER's December 2021 Information Paper*, March 2022, pp. 39-40

Evidence from consumer discussion groups

Consumers in the in-depth discussions felt they were at the limit at what they could do to reduce their energy bills. Comments like "there's not much more we can do" and "I'm as minimal as you can go" reflected a consistent theme. This concern was more pressing for tenants and those without rooftop solar.

Evidence from our consumer surveys

To inform our advice to AER's July 2021 *Draft Working Papers* we wanted to better understand consumers' sensitivity to price increases, so in Consumer Survey 2, participants were asked the following question, in either ascending or descending order of price increase:

• *If the price you pay for energy increased by 1%/2%/5%/10%/15% and 30%, how would you <u>most likely</u> react?* or

• *If the price you pay for energy increased by 30%/15%/10%/5%/2% and 1%, how would you <u>most likely</u> react?*

They were provided with a list of possible responses, and asked to select their most likely response:

- *Do nothing*
- *Look at ways to use less energy*
- *Consider or invest in more energy-efficient appliances/equipment*
- *Consider or invest in alternative energy*
- *Install or expand your rooftop solar*
- *Other*
- *Unsure*

We repeated the same question in this survey, adding in *"Investing in a battery to store your excess energy if you have any"*.
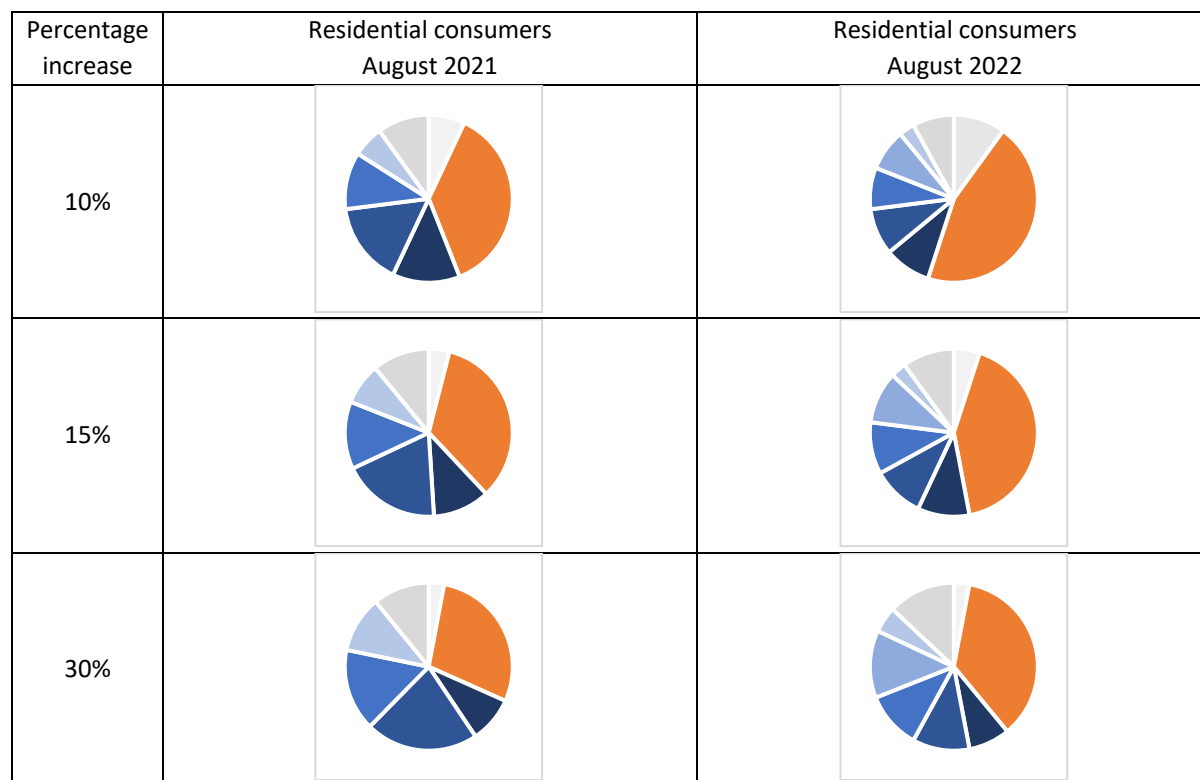
Residential consumers

The following figure compares residential consumers' likely responses to different percentage increases in the price they paid for energy in August 2021 and in August 2022. In 2021, the key message was as the price increases consumers are likely to respond by initially looking at ways to use less energy (orange pie segments), then as the percentage increase gets larger, they consider more significant actions involving a financial investment (blue segments) including investing in alternative energy, installing or expanding their rooftop solar.

Notably, the proportions of residential consumers who are likely to "do nothing" in response to even a 1% increase in the price of energy is larger than in 2021. For example, in August 2021, 43% indicated they would do nothing if the price of energy increased by 1%, compared to 50% in August 2022. However, the proportions of consumers who would look at ways to use less energy is relatively stable. In contrast the proportions of residential consumers who would "invest"[233] in response to price increases has diminished at all price points this survey.

Figure B1-9: Residential consumers' <u>most likely</u> response to energy price increases (August 2021 and 2022)

Percentage increase	Residential consumers August 2021	Residential consumers August 2022
Legend	Do nothing Look at ways to use less energy Consider or invest in more energy-efficient appliances/equipment Consider or invest in alternative energy Install or expand your rooftop solar Invest in a battery to store your excess energy if you have Other Unsure	
1%		
2%		
5%		

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[233] "Invest" includes considering or investing in more energy-efficient appliances/equipment, considering or investing in alternative energy, installing or expanding rooftop solar, and investing in a battery to store excess energy.
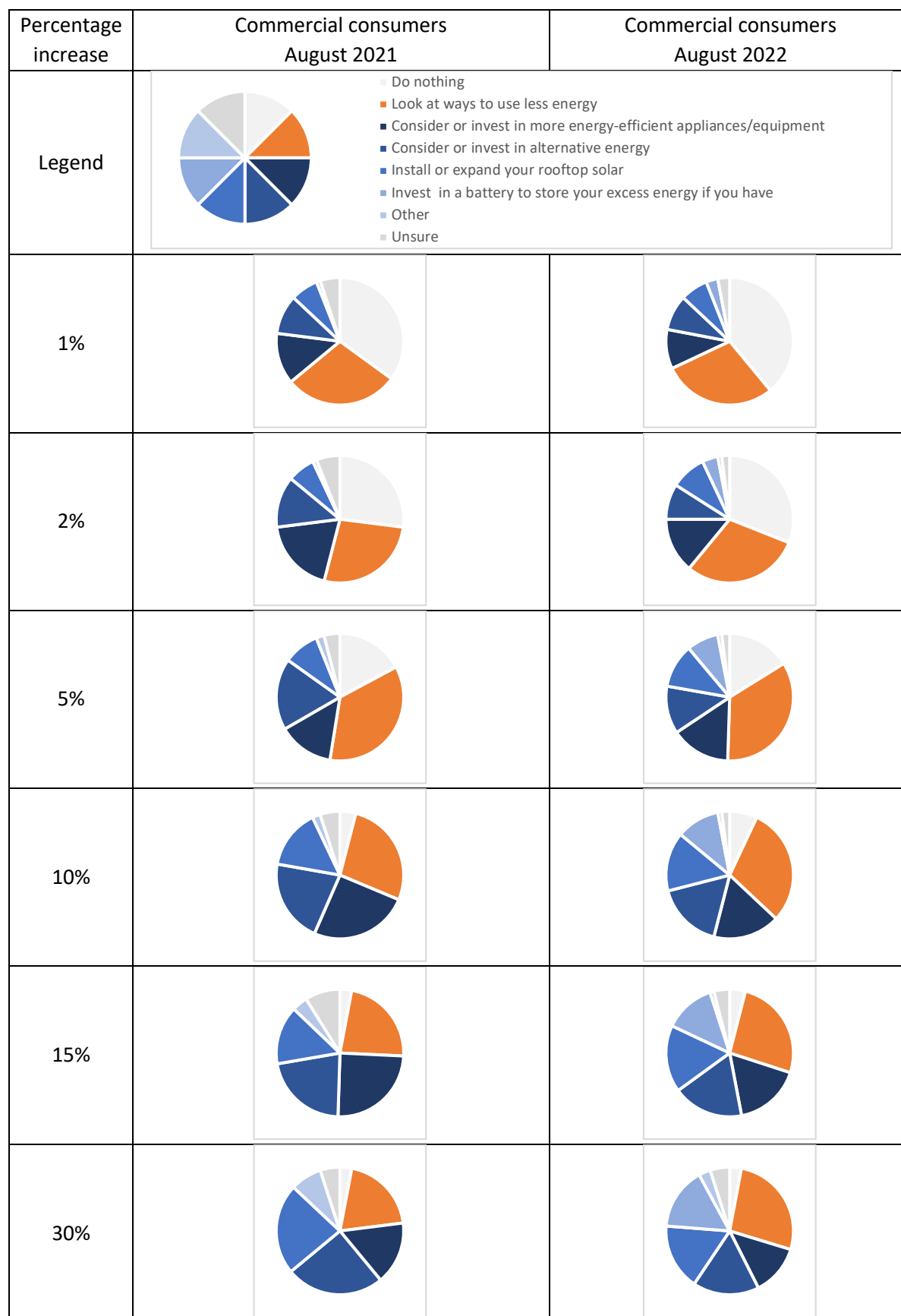
Percentage increase	Residential consumers August 2021	Residential consumers August 2022
10%		
15%		
30%		

Commercial consumers

The following figure compares commercial consumers' likely responses to different percentage increases in the price they pay for energy as at August 2021 and August 2022. As with residential consumers, in 2021, the key message was as the price increases consumers are likely to respond by initially looking at ways to use less energy (orange pie segments), then as the percentage increase gets larger, they consider more significant actions involving a financial investment (blue segments) including investing in alternative energy, installing or expanding their rooftop solar.

Notably, among commercial consumers the proportion who are likely to "do nothing", "look at ways to reduce their energy use" or "invest"[234] at each price point is relatively stable, when comparing the results from last survey and this survey.

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[234] See note 233.

Figure B1-10: Commercial consumers' <u>most likely</u> response to energy price increases (August 2021 and 2022)

Percentage increase	Commercial consumers August 2021	Commercial consumers August 2022
Legend	Do nothing • Look at ways to use less energy • Consider or invest in more energy-efficient appliances/equipment • Consider or invest in alternative energy • Install or expand your rooftop solar • Invest in a battery to store your excess energy if you have • Other • Unsure	
1%		
2%		
5%		
10%		
15%		
30%		

6. Some consumers are looking at ways to reduce energy network dependence

Overarching message: Some consumers have the capacity to take more action in response to increasing energy prices. These consumers are increasingly looking at ways to accelerate reductions in their dependency on grid electricity.

Evidence from consumer representatives

Consumer representatives in the August 2022 workshops emphasised a strong theme of reduced dependency on the grid. They thought there was a high risk of consumers disconnecting because network prices get too high:

> *There's a lot of people now working a lot harder with batteries and the economics and it's getting very close to a tipping point for those people who have got the funds.*

> *We've already got a situation in the energy market where those that have got the opportunity to purchase local scale generation in the form of solar panels are to a large extent avoiding the rapid increasing wholesale electricity prices. And those very same people, if the cost of transmission and distribution starts to go through the roof, all they've got to do is make a small marginal investment and they'll just cut the wires.*

Evidence from consumer discussion groups

Consumers were generally interest in anything that would reduce their reliance on energy suppliers to the extent they would prefer to stop receiving bills. They repeated the view that there's not much more they can do to manage the impact of high prices. Older consumers suggested they would disconnect from grid if they were younger and had the time to recover the cost of disconnecting. They felt that the regulator was only focussed on the supply side.

Evidence from our consumer surveys

Both Consumer Survey 2 and Consumer Survey 3, confirm that as energy prices increase, residential and energy consumers are increasingly likely to invest to reduce their dependence on networked energy. The following charts illustrate this point:

Figure B1-11: Residential consumers who would invest in rooftop solar in response to price increases, August 2021 and August 2022

Figure B1-12: Commercial consumers who would invest in rooftop solar in response to price increases, August 2021 and August 2022

Proportion who would invest in rooftop solar
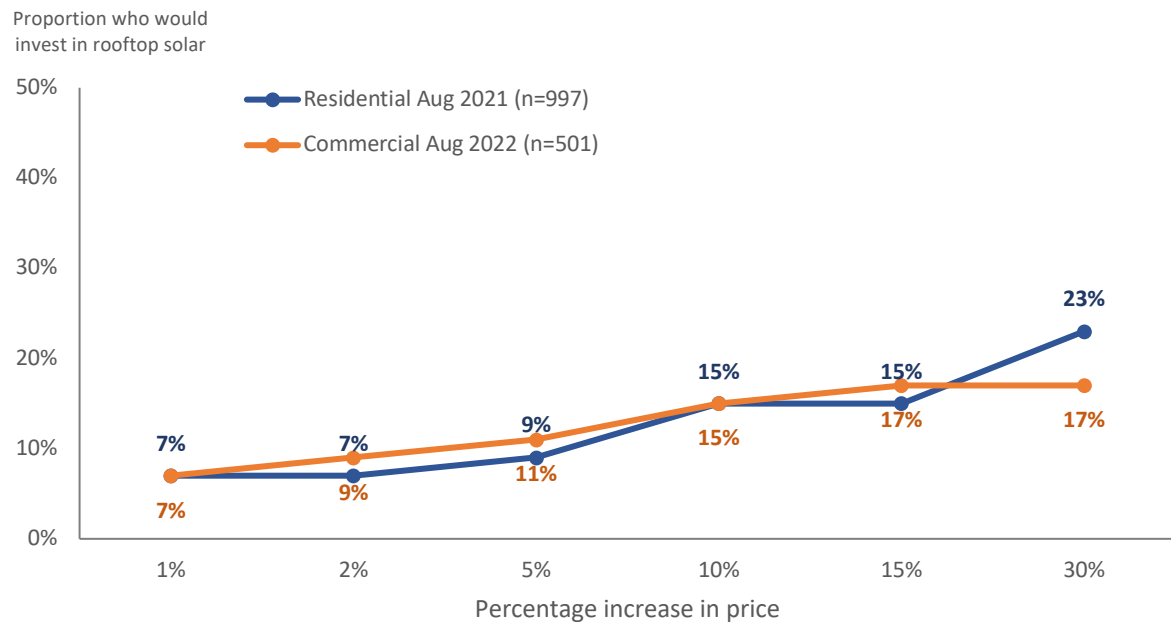
7. Consumers need to have confidence in Australia's energy system

> **Overarching message:** Consumers need to have confidence in Australia's energy system, however their confidence in Australia's energy system is declining, and this is a serious concern relevant to the AER's judgement

CRG's first principle is:

A regulatory framework serving the long-term interests of consumers must promote behaviours that engender consumer confidence in the framework.

We have tested our principle with consumers and consumer representatives on various occasions.

Evidence from consumer representatives

Consumer representatives and investors echo direct support for our consumer-oriented principles. Consumer confidence emerges from a stability of process (see message 1) as well as fairness. See for example, the following:

- CRG, *Response to the AER's December 2021 Information Paper*, March 2022, pp. 30-31, 34-35

Evidence from our consumer surveys

In Consumer Survey 2, we established that 74% of residential consumers and 75% of commercial consumers supported the principle that "energy consumers must have confidence in AER decisions".[235]

Other evidence

ECA has monitored energy consumers' confidence in the energy marked in its biannual *Consumer Sentiment Surveys* and its *Pulse Surveys* that commenced in July 2022. In those surveys, consumers were asked:

- *How confident are you that the overall market is working in your long-term interests?*

The survey findings published on 29 August 2022, show: [236]

- Confidence that the market is working in the long-term interests of consumers decreased from 44% in July 2022 to 37% in August 2022.

- Positive perceptions around the value for money of electricity fell from 62% in July 2022 to 53% in August 2022

- Positive perception around the value for money of gas fell from 66% in July to 57% in August

As reported in its media release on 30 August 2022: [237]

> *Consumer confidence in Australia's energy system has suffered its steepest decline since measurement began in 2016, as Australians respond to rising energy prices.*

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[235] CRG, *Response to the AER's December 2021 Information Paper*, March 2022, p. 30

[236] ECA, *Pulse Survey*, August 2022

[237] ECA, Media Release, 'Consumers losing faith as bills begin to bite', 29 August 2022

The ECA further describes consumers' diminished confidence as "not a blip but a serious and ongoing concern".[238]

This evidence clearly supports the second part of our message that confidence in Australia's energy system is declining, and this is a serious concern relevant to the AER's judgement.

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[238] Ibid

Appendix B2: Sources of evidence

Consumer representative workshop, 10 August 2022

Participants

Name	Organisation	About
Phil Pollard	Queensland Electricity Users Network https://www.qeun.com.au	QEUN represents regional Queensland electricity users including local government, Chambers of Commerce, economic development organisations, retirees, tourism operators, irrigation farmers, dairy farmers, the mining industry and urban developers.
Mark Grenning	Energy Users Association of Australia (EUAA) https://euaa.com.au	The EUAA is the peak national body representing Australian commercial and industrial electricity and gas users. EUAA membership covers a cross-section of the Australian economy including retail, manufacturing, mining, materials, and food processing industries.
Jennifer Brown	Cotton Australia https://cottonaustralia.com.au/	Cotton Australia is the peak body for Australia's cotton growers, representing up to 1,500 cotton farms mainly in New South Wales and Queensland, but also in northern Victoria.
Sherman Chan	Business NSW https://www.businessnsw.com	Business NSW is the peak pro-business organisation in NSW.
Mark Henley	Independent	
Chris Joseph	Independent	

Agenda

1. Welcome and introduction

2. Workshop aims and protocols

3. Overview of draft RoRI

4. Questions for the AER

5. Overview of CRG preliminary response to AER draft RoRI

6. Consumer representatives' feedback and opportunity to express their concerns

7. Exploratory questions for consumer representatives on open positions

Consumer representative workshop, 12 August 2022

Participants

Name	Organisation	About
Pete Newman	Council of the Ageing NSW https://www.cotansw.com.au/	COTA NSW is the peak organisation for people over 50 in NSW
David Prins	Etrog Consulting https://www.etrogconsulting.com.au	Specialist energy consultant - regulation and competition
John Pauley	Council of the Ageing	COTA's role is to promote, improve and protect the wellbeing of older people in Australia as citizens and consumers. It operates at national, state, and local level to represent, advocate for, and serve older Australians.
Stephen Durney	Tasmanian Council of Social Service https://tascoss.org.au/	The peak body for the non-government health and community services sector in Tasmania.
Kevin Cox	Evoenergy Community Reference Council https://www.evoenergy.com.au/consumer- engagement-program/energy-consumer-reference-council	The Energy Consumer Reference Council (ECRC) is an independent forum providing representatives of the community with an opportunity to provide considered input into operations and long-term planning of Evoenergy.
Robyn Robinson	Council of the Ageing (COTA) https://www.cota.org.au	COTA's role is to promote, improve and protect the wellbeing of older people in Australia as citizens and consumers. It operates at national, state, and local level to represent, advocate for, and serve older Australians.
Mark Matheson	Independent (small business)	

Agenda

1. Welcome and introduction
2. Workshop aims and protocols
3. Overview of draft RoRI
4. Questions for the AER
5. Overview of CRG preliminary response to AER draft RoRI
6. Consumer representatives' feedback and opportunity to express their concerns
7. Exploratory questions for consumer representatives on open positions

In-depth consumer discussions

Method

- The CRG used the services of two organisations in the social services sector to recruit participants.

- The discussions were conducted in person in Adelaide.

- One CRG member led the discussion, with one other present as a secondary facilitator and notetaker.

- Permission was sought to record the discussions, so they could later be transcribed – one discussion was recorded and the CRG, with the ECA's assistance, had this discussion transcribed.

- Discussions lasted between 90 minutes.

- The CRG sought to keep the discussion open and centred on the interests of participants as well as draw on their real-world experience.

- Participants were given incentives (gift cards) as a token of appreciation and in line with industry standards.

Participants

Group 1, 16 August 2022

Nine participants were recruited by an organisation which provides services to them. The organisation works with South Australians, supporting them to overcome adversity and disadvantage.

- One participant had solar PV

- Six participants had a gas connection (one has disconnected from the gas network)

- Seven were tenants.

Group 2, 16 August 2022

Eight participants were recruited by a South Australian organisation from its list of individuals who are on the organisation's research panel.

- Participants were aged 55+.

- Six were homeowners, one was a tenant and one lived in a retirement village.

- Three participants had solar PV.

- One participant had a gas connection.

Questions

1. Is price an important priority for you?

2. How would you react if prices increased?

3. Do you value knowing what the price you will pay for energy will be from year to year?

4. Does it concern you that the price you pay for energy may be kept as low as possible but over time the service you get deteriorates?

5. In deciding the amount of money that networks can charge customers, the AER uses a technical framework to make its decision. Some consumers have told us that they feel more confident with a framework that does not change much between each decision. Is a stable framework important to giving you confidence in the AER?

6. What would you need to see in the AER's decision for you to feel your interests have been given due weight?

7. If there is to be a change to the AER's decision making framework, what are some of the reasons which you would accept for the change to occur?

Consumer Survey 2

In August 2021, the CRG conducted an online survey (Consumer Survey 2)[239] involving a sample of 1,500 energy consumers comprising 1,257 residential energy consumers and 240 SME commercial energy consumers. This survey follows our first consumer survey (Consumer Survey 1) which we conducted early in 2021.[240]

Consumer Survey 3

The CRG conducted Consumer Survey 3 in August 2022, to reassess consumer sensitivity to energy price increases, given the changed economic circumstances since August 2021 when we first tested consumer sensitivity to price increases (in Consumer Survey 2).

The resulting Consumer Survey 3 sample of 2,501 energy consumers included:

- 1,500 residential energy consumers, with proportional representation across the states/territories within the NEM and by age and gender

- 501 commercial consumers (businesses that employ less than 200 people), randomly samples across the NEM

The CRG was responsible for the questionnaire and sample design, and the data analysis and reporting. The ECA on behalf of the CRG funded the data collection, which was outsourced to Indeana, online survey data collection specialist. Indeana set up the survey, sourced the sample through research industry accredited research panels, monitored the data collection and provided the CRG with the raw survey data.

The results were separately analysed for residential consumers and commercial consumers.

A separate survey report is attached to this Advice.[241]

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[239] Details of Consumer Survey 2 are contained in CRG, *CRG Response to the AER's December 2021 Information Paper*, March 2022, pp. 140-141

[240] Details of Consumer Survey 1 are contained in CRG, *Advice to the Australian Energy Regulator, CRG Response to the AER's July 2021 Draft Working Papers: The Overall Rate of Return, Debt Omnibus and Equity Omnibus Papers Volume 2: Engagement, September 2021*

[241] CRG, *Consumer Survey 3 Report*, August 2022 is included as Attachment 1 to this Advice.

Appendix C: CRG's guiding principles

Extract from CRG, *Advice to the Australian Energy Regulator, CRG Response to the AER's December 2021 Information Paper,* March 2022, p. 28.

That advice also contains evidence of consumer support for the CRG's guiding principles (pp. 30-31)

Consumers will more likely have confidence in regulatory processes and the RoRI decision if the processes involved in reaching that decision are based on sound principles, especially as most end consumers would arguably struggle to understand the arcane and technical parameters of the RoRI.

The CRG established and tested with consumers and consumer representatives its consumer-oriented principles to guide its advice to the AER and has continued to reference these principles in its written and verbal advice.

The CRG's views its five principles as integral to the AER achieving the second part of its statutory objective, namely the promotion of efficient operation and use of energy for the long-term interests of consumers. They are:

- Principle 1 – A regulatory framework serving the long-term interests of consumers must promote behaviours that engender consumer confidence in the framework.

- Principle 2 – Any change to the regulatory model must be tested against detrimental consumer impacts in relation to absolute prices and price changes.

- Principle 3 – Any change to the regulatory model must be tested against acceptable consumer impacts in relation to service standards.

- Principle 4 – Risks should be borne by the party best placed to manage them.

- Principle 5 – There should be a high bar for change.

Appendix D: List of attachments

The following documents form part of this Advice:

Attachment	Document	Filename
1	Consumer Reference Group, *Consumer Survey 3 Report*, August 2022	CRG Advice Draft RoRI Attach 1 CRG Consumer Survey 3 Report (310822).pdf
2	Partington & Satchell*, Report to the CRG: The Dividend Growth Model, the MRP and the AER's Draft Rate of Return Instrument*, August 2022	CRG Advice Draft RoRI Attach 2 MRP Report to CRG Final.pdf
3a	University of Wollongong, *AER Consideration of Demand Side Issues in Making the Rate of Return Instrument*, report prepared by David Havyatt, Rabinda Nepal and David Johnstone for the CRG, August 2022	CRG Advice Draft RoRI Attach 3a UoW Demand Side Report Final.pdf
3b	Consumer Reference Group, *Improving How the AER Assesses Consumption Efficiency*, September 2022	CRG Advice Draft RoRI Attach 3b CRG Consumption Efficiency and the RoR (020922).pdf