SUBMISSION TO AER REVIEW OF INFLATION

29 JULY 2020

Executive summary

The Consumer Reference Group (CRG) for the Australian Energy Regulator's (AER) inflation Review 2020 and Rate of Return Instrument 2022 was appointed by the AER in June 2020. The CRG's role is to represent consumer perspectives and interests in these two reviews. The CRG members bring a wealth of experience across consumer advocacy, research and engagement, and economics, finance and regulatory decision making and will use their expertise to gather evidence of consumer views to inform the CRG submission and presentations to the AER. This includes consulting with consumers and their advocates as well as reviewing existing consumer research, and other evidence of consumer preferences and expectations. Table 1 shows the composition of the CRG. Further details of the CRG members are found on the AER's website[1].

Table 1: CRG for inflation Review 2020 and Rate of Return Instrument 2022

Name	Position
Craig Memery	Chair
Allan Asher	Member
Helen Bartley	Member
Ron Ben-David	Member
Kieran Donoghue	Member
Lynne Gallagher	Member-ECA representative
Bev Hughson	Member
Alex Oeser	Member
Jo De Silva	Member

In May 2020 the AER released a discussion paper[2] on the regulatory treatment of inflation. The discussion paper identified three regulatory issues in relation to its inflation methodology expressed by the following three questions:

1. What methodology should the AER use to estimate expected inflation?
2. Does the AER's regulatory model achieve the target real rate of return?
3. Should the AER target a nominal or hybrid rate of return?

The AER's review of the regulatory treatment of inflation is confined to a subset of the total contributors to the two outcomes of interest to consumers, namely service standards and prices. Accordingly, from a consumer perspective the CRG has contextualised the treatment of inflation to regulatory pricing as show in Figure 1 on the following page. This submission focusses only on the scope provided by the AER's inflation review without explicitly judging the merits of the other

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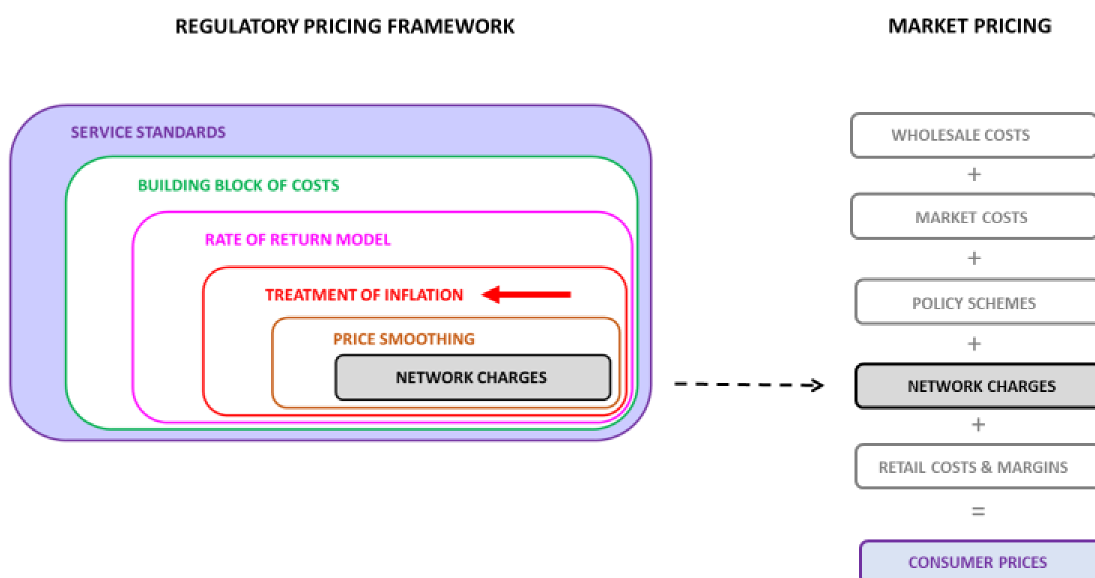
[1] Australian Energy Regulator, *Consumer Reference Group*, https://www.aer.gov.au/about-us/stakeholder-engagement/consumer-reference-group

[2] Australian Energy Regulator, *Discussion Paper: Regulatory Treatment of Inflation*, May 2020. https://www.aer.gov.au/system/files/AER%20-%20Discussion%20paper%20-%20Review%20of%20expected%20inflation%202020%20-%20May%202020.pdf

elements of the regulatory framework or the efficacy of the other costs drivers that contribute to consumer prices.

Figure 1: Inflation in the context of the regulatory framework



In the limited time since being appointed in early June 2020, the CRG has begun to consider how to best gather and evaluate evidence of consumers' views in the AER's inflation methodology review. In this context, the CRG has been careful to frame its analysis to focus on consumer impacts and their long-term interests. The CRG has started to establish a working definition of "energy consumers" that recognises they are a diverse group with a wide range of energy needs, expectations and preferences. The CRG has also undertaken initial engagement activities involving semi-structured interviews with consumer advocates to help inform this submission. Importantly, the CRG acknowledges its engagement activities to date have been limited to consumer advocates due to the timing of the submission and available resources, but nevertheless these early insights highlight a diversity of perspectives among consumers and the challenges in translating the complexities of a highly technical review topic into meaningful consumer engagement.

With respect to the first issue, the CRG considers that rather than asking what methodology should be used to estimate expected inflation, it is more relevant to consider if economic conditions have systemically changed, such that the current methodology no longer achieves its purpose. Even if that is the case, alternative methodologies continue to have well-documented flaws, so it is not clear that they present a superior alternative. It may be more appropriate to consider refinements to the current approach, such as a glidepath back to the midpoint of the RBA target.

Because the CRG does not have the resources to undertake its own economic modelling, the CRG accepts the Sapere[3] finding that networks earn the real rate of review determined in each regulatory decision by the AER. This means that this submission will not address the second issue in detail.

[3] McWha, V., Murray, K., Nutsford, D., van Zijl, T. *Target Return and Inflation*, June 2020. https://www.aer.gov.au/system/files/Sapere%20-%20AER%20Inflation%20Review%202020%20-%20Target%20return%20and%20inflation%20-%2030%20June%202020_Redacted.pdf

Finally, the third issue raised in the AER's discussion paper effectively means the requirement to estimate expected inflation is fully removed under a nominal model, or partly removed using a hybrid model consisting of nominal debt and real equity. The CRG cannot form a definite view on Issue 3 at this stage as this requires more fundamental modelling of the potential impacts on consumers under different economic scenarios. In particular, a change to a nominal or hybrid model may have an immediate impact from, and longer-term consequences under different economic scenarios, such as sustained low-inflation scenarios versus mean-reverting scenarios.

Overall, the CRG considers the regulatory frameworks or inputs into the regulatory model, should only be changed if it can be demonstrated that the current methodology does not advance the NEO/NGO.

In the limited time available to make this submission, and engage with consumers, the CRG recommends that:

1) The AER must ensure that it does not inadvertently promote behaviours that diminish consumer confidence in the regulatory framework. For example, a regulatory process may be conducted openly and transparently in accordance with best practice principles. However, if the parties' behaviours suggest repeated attempts at gaming the regulator, consumers can reasonably conclude the framework is inviting such behaviours. That is, the framework is inviting behaviours which are contrary to consumers' long-term interests.
2) Any change to the regulatory model is thoroughly tested against any detrimental long-term impacts for consumers related to absolute prices and price changes.
3) If the premise of the current methodology for estimating expected inflation has changed because there is an expected longer transition period between current inflation expectations and reversion to the Reserve Bank of Australia (RBA)'s midpoint of the target range, the AER could, subject to evidence that this will not be detrimental to the long-term interests of consumers:
    a) Introduce a glide-path within its existing methodology for a longer transitioning period to the RBA's midpoint of the target range.
    b) Consider reducing the term of the expected inflation estimate from 10 to 5 years.
4) Any change to the regulatory model must be tested against acceptable consumer impacts in relation to service standards.
5) The AER could consider alternative models such as a nominal or hybrid model. However, advocates of such a change must provide appropriate evidence to the CRG of consumers' acceptance of such a change. The CRG's initial modelling suggest that there could be a price impact, at least in the first years of a control period, and further work will need to be done to test the materiality of any increase.
6) Risks should be borne by the party best placed to manage them. However, any change to the regulatory framework to address a change in the level of risk must be considered against who is best placed to manage them. The CRG has undertaken some initial consumer research that indicates consumers are unwilling to take on this risk.
7) This has led the CRG to consider questions about whether the AER should be exploring other approaches that would eliminate these "invited behaviours" and considered an alternative to the current framework in this submission for the AER to consider.

Our views on these matters are preliminary as we work our way through the alternatives. However, and importantly, in this submission we take account of our early investigations into consumer preferences and our understanding of the overall risks and benefits to consumers arising from alternative approaches.

The CRG also asks the AER and stakeholders to provide additional information in time for the draft decision on the following points:

- The AER should specify its criteria, and the corresponding burden of proof it will apply when considering reforms to the treatment of inflation in the regulatory framework.
- The AER or stakeholders should provide material evidence including consumer research that demonstrates in a transparent manner that the current inflation methodology results in an intergenerational transfer as suggested by the ENA[4]. This could then be reviewed and evaluated by the CRG.
- We expect modelling from the AER and stakeholders that identifies the materiality on consumer prices (and welfare) of shifting from a real rate of return model to a nominal or hybrid rate of return model.
- If any proposed change to the AER's methodology is argued on the premise that there has been a systemic shift in economic conditions, the CRG requests to see evidence which clearly sets this apart from cyclical changes and how consumer impacts have been assessed and what the results are if no change is made.

Without this additional information, the CRG will not be able to fully consider the impacts of changing the inflation methodology on consumers.

[4] Energy Networks Australia, *Review of AER's Approach to Inflation Network Sector Views*, Stakeholder Forum, 2 July 2020. https://www.aer.gov.au/system/files/Energy%20Networks%20Australia%20-%20Inflation%20review%20public%20forum%20presentation%20-%202%20July%202020.pdf

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1 CRG purpose and objective

Energy costs can represent a significant expense for residential households and businesses. Research obtained from Energy Consumers Australia (ECA) and the Australian Competition and Consumer Commission (ACCC) indicates that:

- The average electricity bill for small to medium sized businesses ranges from just under $6,000 per annum in Queensland to almost $8,000 in South Australia[5]
- Electricity bills are the second highest concern for households after mortgage or rent payments[6]
- Network costs represents over 40% of consumer's final electricity bills. [7]

The CRG's role in the AER's Inflation Review 2020 and Rate of Return Instrument 2022 is to provide the AER with perspectives on how any proposed changes to the regulatory framework may impact consumers. Accordingly, the CRG has developed some initial overarching objectives and principles for formulating views in its submissions.

1.1 The CRG's approach in this submission

The CRG was appointed to assist the AER to implement an effective consumer consultation process for the Inflation review 2020 and making of the proposed rate of return instrument 2022. In doing this, the CRG's overarching vision is that:

The regulatory framework must ensure that only efficient costs are borne by consumers and that in the long-term productivity and efficiency will reduce prices.

As such, the CRG expects that any changes proposed or considered by the AER are:

- Free of bias in the outcomes they produce
- Impervious to gaming by stakeholders pursuing their own interests.
- In the long-term interests of consumers, as informed by evidence of consumers' needs, expectations and preferences

The AER's review of inflation covers:

- Methodology to estimate expected inflation
- Inflation in the real rate of return
- Alternatives to using a real rate of return

The AER is required to formulate a methodology to determine expected inflation for revenue determinations in 2021 and beyond. The current approach is contested by a number of stakeholders

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[5] Alviss Consulting & Energy Consumers Australia, *Analysis of small business retail energy bills in Australia*, June 2020, p. 7. https://energyconsumersaustralia.com.au/wp-content/uploads/SME-Retail-Tariff-Tracker-Preliminary-Report-October-2017.pdf

[6] Essential Research, ECA, *Shock to the System: energy consumers' experience of the Covid-19 crisis*, June 2020, p. 4. https://energyconsumersaustralia.com.au/wp-content/uploads/Shock-to-the-System_-energy-consumers-experience-of-the-Covid-19-crisis-the-numbers.pdf

[7] Australian Competition and Consumer Commission, *Inquiry into the National Electricity Market*, November 2019, p. 39. https://www.accc.gov.au/publications/inquiry-into-the-national-electricity-market-november-2019-report

and the AER recognises it is good practice to review this methodology to ensure that it still achieves its purpose, namely that consumers only bear the costs of efficient investments. Some of the changes considered by the AER to the approach to inflation can be achieved within the current rules, others would require a change to the rules or law. The CRG is required to advise on the approach that best supports the long-term interest of consumers.

While this is a highly technical review, the CRG believes that it is important that the AER consider how a change of the inflation methodology could impact consumers. The CRG's objectives are therefore to:

- Guide and influence the AER to formulate an approach to determining expected inflation for the purposes of revenue determinations in 2021 and beyond, that considers the long-term interests of consumers.
- Develop evidence of consumer interests and principle-based recommendations for an approach to inflation in which the AER can have a high degree of confidence.
- Recommend changes to the approach in line with consumers' interests that can be achieved within the current rules and law.
- Recommend any changes that would require a change to the rules or law if required to best supports the long-term interest of consumers.

1.2 What principles does the CRG apply to inform its recommendations?

Overarchingly, the CRG accepts the AER should apply a "high bar for change". We are strongly opposed to changes that are adopted in response to short term issues at the cost of longer-term predictability and transparency for investors and consumers.

In particular, any alternative methodology must clearly demonstrate it better contributes to the National Electricity Objective (NEO) and National Gas Objective (NGO), and this improvement is material over time.

For this submission, the CRG has developed some preliminary principles, which it will refine for future submissions. The CRG has also considered the areas where consumers can meaningfully engage as part of this methodological review. However, at this stage we believe that consumers need more guidance on how detailed changes in the inflation methodology could have an impact on the long-term interest of consumers. Consumers care about ultimate impact on the prices they pay and the services they receive[8]. Therefore, for the purpose for this submission, given the limited time at resources available to the CRG, the CRG's consumer engagement activities focus on the latter (Chapter 4) and it has applied best regulation principles to assess the methodologies (Chapter 2).

Our consumers engagement principles are detailed below.

1.2.1 Consumer confidence

It is evident from discussions with the ECA , that energy consumers have diverse preferences in terms of the price they pay, its stability over time and the service they receive. Accordingly, there is

[8] This is apparent in various research reports commissioned by NSPs, advocates and other agencies. For example, the ECA has been monitoring consumer satisfaction with value for money and reliability biannually over nearly five years in its *Consumer Sentiment Survey*, recognising the significance of price and service on consumer sentiment. https://energyconsumersaustralia.com.au/wp-content/uploads/Energy-Consumer-Sentiment-Survey_June-2020.pdf

no "average customer" representing a universal consumer preference. We will endeavour to bring these different views into our consideration and to share these with the AER

Principle 1 -A regulatory framework serving the long-term interests of consumers must promote behaviours that engender consumer confidence in the framework.

This principle focuses on consumer *confidence* rather than consumer *impact*. Whereas impact refers to the outcomes experienced by consumers (typically, through prices and service standards), consumer confidence is derived from the parties' observable behaviours under the regulatory framework. This principle represents an expectation about the conduct of the parties to a regulatory process. In this sense, it goes beyond the standards of conduct implied by usual principles of best practice regulation.

For example, a regulatory process may be conducted openly and transparently in accordance with best practice principles, but if the parties' behaviours suggest repeated attempts at rent seeking, then consumers can reasonably conclude the framework is inviting such behaviours. That is, the framework is inviting behaviours which are contrary to consumers' long-term interests.

1.2.2 Impact on prices

Network costs make up a substantial part of a consumer's energy bills. While the expected inflation input into the regulatory model, and the choice of a real or nominal model could potentially only have a minor impact on absolute price changes, the impact on price stability is less clear. The CRG believes that the first principle guiding its recommendations should be that:

Principle 2 - Any change to the regulatory model must be tested against detrimental consumer impacts in relation to absolute prices and price changes

For example, while a change in the methodology to estimate expected inflation may have a minor impact on the level of prices, it may shift inflation risk to consumers (see principle 4 below) and therefore, in the long-term, result in higher costs to consumers than otherwise would have been the case.

1.2.3 Impact on services

Drawing on its members' diverse experience, the CRG recognises consumers expect certain levels of service quality and reliability, depending on their circumstances. The CRG believes consumers have a fairly good idea of what service levels they expect for the price they are paying but when asked to consider long-term changes or the impact of rare events, they are less likely to be able to reveal their true preferences. This means that in particular in natural monopoly markets, service standards, including reliability are often set by governments. The CRG believes that this trade-off between price and service levels is a fundamental issue where consumer interests are often underrepresented. Therefore, the CRG decided that its third principle should be:

Principle 3 -Any change to the regulatory model must be tested against Acceptable consumer impacts in relation to service standards

At the AER's public hearing on inflation on 2 July 2020[9], Network Service Providers (NSPs) expressed a view that the current model of estimating and treating inflation in the regulatory models breaks down in the prevailing economic conditions. NSPs stated that:

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[9] Energy Networks Australia, July 2020.

- New investment continues to fall at a time when substantial investment is needed to support the transformation of the energy market.
- Existing infrastructure is aging and investment is required for a new energy future. Under-investment today creates a cost burden for future consumers.

This implies that NSPs believe there is some shifting of costs from consumers today to consumers in the future. This further implies the AER's methodology in estimating and treating inflation in the regulatory models impedes the transition of the energy system, which will result in higher costs for consumers in the future. The CRG is concerned that at this stage, no convincing evidence has been produced to substantiate these claims.

1.2.4 Efficient risk allocation

The CRG believes consumer's interest should be expressed in a fourth principle as follows:

Principle 4 -Risks should be borne by the party best placed to manage them

The regulatory framework targets a real rate of return and the AER's models, on balance, achieve the target real rate of return over a regulatory control period.

From an NSP perspective, the efficient rate of return should reflect market conditions during a regulatory period. In setting the real rate of return, the AER takes into account expected market conditions for the cost of debt and equity. However once set, it provides discretion to the networks to determine their preferred financing structures, which is central to incentive regulation.

Concurrently, from a consumer perspective, the incentive regulation regime should mean that consumers pay no more than the efficient cost of financing the ongoing provision of services. This also means it is more efficient to compensate businesses through the rate of return for financial risks rather than shifting these risks to consumers through lower prices when they are unaware or unable to manage these financial risks. Imposing these types of risks on consumers, may, in the long run, result in higher costs to society, without actually improving the quality and reliability of services.

1.3 Where does the CRG provide input at this stage of the AER's review?

For this submission the CRG has:

- Reviewed evidence provided by the AER, its consultants and stakeholders at its public hearing on 2 July 2020 on the different methodologies to estimate expected inflation and assessed them against principles of best regulation (Chapter 3)
- Undertaken some preliminary research on consumer preferences with consumer advocates with respect to price, stability and risk allocation, the CRG's 3 principles outlined above (Chapter 4)
- Considered the issues raised by a shift to a nominal or a hybrid model, with reference to consumers preferences (Chapter 4)
- Reflected whether other options could be developed that better satisfy the regulatory objectives(Chapter 5).

Because of the short lead time available to prepare this submission, at this stage the CRG has not more broadly considered:

- Meaningful engagement to understand if consumers have a clear preference for the methodology to estimate expected inflation, or even whether they can engage at such a detailed level of the regulatory framework

- Whether a 5-year estimate of inflation as suggested by Lally[10] is in consumers' interests
- The financial impacts on NSPs and consumers resulting from a change to a nominal or hybrid model.

The remainder of this submission:

- Addresses how the CRG has approached its consumer engagement activities for the purpose of this submission (Chapter 2)
- Reviews existing research on the proposed methodologies to estimate expected inflation (Chapter 3)
- Summarises the results of CRG's preliminary engagement activities and considers impacts on changing to a nominal or hybrid model (Chapter 4)
- Reframes the problem and discusses an alternative to determine inflationary expectations (Chapter 5).

[10] Lally, M., *Review of the AER's Inflation Forecasting Methodology*, July 2020. https://www.aer.gov.au/system/files/Dr%20Martin%20Lally%20-%20Review%20of%20the%20AERs%20inflation%20forecasting%20methodology%20-%208%20July%202020.pdf

2 Evidence of consumer perspectives

The CRG was formed in June 2020 and its first meeting was held on June 16, 2020. It had six weeks between its inception and the submission deadline to familiarise itself with the AER's inflation methodology questions and implications and consider and gather evidence of consumer perspectives to supplement the existing knowledge of CRG members.

Accordingly, given the time and resource constraints, the CRG decided on a targeted engagement program consisting of two elements:

- A review of consumer perspectives from the AER's *Review of Expected Inflation 2017*
- Semi-structured interviews with six consumer advocates from a range of organisations.

For future submissions, the CRG will further develop its approach to consumer engagement. This is likely to include a combination of direct consumer research and engagement activities with the assistance of ECA, where resources permit and the provision of advice to the AER around additional consumer engagement activities beyond those that the CRG and ECA can resource.

2.1 Desk research

The CRG has reviewed material about consumer perspectives from the AER's *Review of Expected Inflation 2017.* A summary table of consumer perspectives from that review is provided in Appendix A. This summary focuses consumer perspectives on high order issues, rather than presenting views on the different methodologies for estimating expected inflation and alternative methods.

2.2 Preliminary interviews with advocates

Given a short lead time and the technical nature of concepts associated with the Inflation Review and the limited time available to develop questions, the CRG approached known advocates who were familiar with Rate of Return issues. The CRG was able to arrange interviews with six advocates who represented small to large energy consumers, and a diversity of businesses and residential consumers across multiple jurisdictions. They also represented consumers on a breadth of consumer issues, not just Rate of Return. Importantly most provided perspectives supported by direct relationships with end-use consumers (4). The other two advocates provided indirect evidence about consumer preferences via a mixture of engagement with community service workers (such as financial counsellors, homelessness service providers, tenancy advocates) and primary and secondary research.

The CRG's decision to engage with consumer advocates is consistent with the AER's 2017 *Stakeholder Engagement Framework*.[11] In the AER regulatory approach cycle, the CRG's engagement fits in to the "consumer insight" and "ongoing stakeholder dialogue" components. Consumer advocates are viewed as being AER stakeholders who also have consumer insight. The CRG engagement approach in these interviews was aligned to the AER's principles-based approach.

The interview questions were developed collaboratively by CRG members. Given advocates' responses, the CRG acknowledges significant refinement of the questions is needed before further engagement of consumers (refer to Appendix D, question 3). Additionally, information to consumers

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[11] Australian Energy Regulator, *Revised Stakeholder Engagement Framework,* September 2017, https://www.aer.gov.au/publications/corporate-documents/aer-stakeholder-engagement-framework-2017

about the price impacts of the different approaches is required. The CRG is further considering how best to engage with consumers on the *Review of Inflation 2020* within the CRG work program over the next five months.

At least two CRG members were present at all interviews. A list of interviewees and interview questions are provided in Appendix B and Appendix C. The interviews were conducted via a mixture of web conferences (5) and phone calls (1). Each interview lasted for around one hour.

3 Estimating expected inflation and why it matters

While the CRG recognises that its primary role is to provide advice to the AER on consumer preferences, we also note that methodology questions cannot be readily put to consumers in the form of methodological preferences. Therefore, in the context of responding to Issue 1 of the AER's *Discussion Paper*, the CRG has focussed on how different methodologies meet best practice regulatory principles and how such methodologies impact on the risks for current and future consumers with respect to price, quality, reliability and safety.

The CRG's underlying premise in its approach to Issue 1 centres on linking more theoretical analyses to assumptions about consumer preferences. However, the CRG also notes that in responding to the AER's third issue – whether the regulatory target should be a real rate of return or a some other – there is a more direct link to the assessment of consumer preferences. This is covered in detail in Chapter 4.

This chapter:

- Provides some background about the 2017 methodology review
- Assesses potential impacts from differences between expected and actual inflation
- Reviews different methodologies to estimate expected inflation
- Assesses if any one methodology is in the best interest of consumers.

3.1 Background

The AER determines the annual revenue requirement for each NSP for each year in a 5-year regulatory period, by applying three interrelated models, namely the Post Tax Revenue Model (PTRM), the Roll Forward Model (RFM) and the annual pricing CPI-X adjustment process. All three models include a CPI component

Any overall assessment of the AER's approach to estimating expected inflation must take account of the impact and interactions between the three models over time.

In 2017 the AER initiated a review of its approach to estimating expected inflation in response to concerns expressed by a number of NSPs, the Energy Network Association (ENA) and the Australian Gas Pipeline Association (AGPA) with the AER's current methodology. These concerns appear to have emerged as a result of a period of low inflation relative to the AER's estimate of expected long-term inflation and the potential impact of this on their businesses.

The AER and its consultants demonstrated that its current approach, when considered across times and across the three revenue models, very largely delivered on the initial 'promised' real rate of return.

The AER's conclusions were supported by an independent analysis by the AER's Consumer Challenge Panel (CCP)[12] Moreover, the prevailing view at that time was that investors valued the protection

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[12] Australian Energy Regulator Consumer Challenge Panel*, Submission to the Australian Energy Regulator*, November 2017. https://www.aer.gov.au/system/files/CCP%20-%20Submission%20on%20AER%20preliminary%20position%20–%20Inflation%20review%20-%206%20November%202017.pdf

against inflation and the preservation of the real value of their assets that was provided by targeting a real rate of return.

Since 2017, the ENA and some NSPs, such as South Australian Power Network[13] and Jemena[14] have continued to challenge the AER's approach citing the impact of continued low inflation outturns and the impacts on the returns to their businesses.

3.1.1 Should developments since 2017 change the AER's 2017 final position?

Since the AER's *2017 Inflation Review Final Report*[15], a number of developments have occurred:

1. Inflation has continued to decline. The Reserve Bank of Australia (RBA) has suggested inflation may not return quickly to the target range.[16]
2. NSPs are increasingly concerned that the AER's current approach to estimating inflationary expectations is unable to adequately respond to these ongoing economic conditions and thus consistently overestimates expected inflation.
3. NSPs have developed their own modelling to demonstrate their views. For example, they have sought to illustrate a number of interrelated issues:
   i. the AER's historically low allowed return on equity may result in a negative cash flow to equity, even at the benchmark efficient gearing level of 60%.
   ii. this outcome is exacerbated (under the current PTRM framework) when the AER's estimate of expected inflation consistently exceeds actual inflation.
   iii. The AER's initial estimate of the promised real rate of return will be too low if it overestimates expected inflation (compared to outturn inflation).

The AER has recently published three consultant reports to consider aspects of these issues. For example, the June 2020 Sapere report[17] and the July 2020 Lally report[18] confirm the AER's approach largely delivered the promised real rate of return notwithstanding the actual inflation outcomes.

However, Sapere also concluded the AER's current approach could impact on returns to equity holders (given a nominal cost of debt) in an environment of low Commonwealth Government Security (CGS) 10-year bond yields. According to Sapere, this may impact on longer term investment

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[13] SA Power Networks, "Submission to the AER 2020-25 Forecast", May 2020. https://www.aer.gov.au/system/files/SAPN%20-%20Submission%20to%20the%20AER%202020-25%20Inflation%20Forecast%20-%2011%20May%202020_2.pdf

[14] Jemena, "Submission regarding financial models", January 2020. https://www.aer.gov.au/system/files/Jemena%20-%20submission%20on%20regulatory%20models%20-%2020%20Jan%202020%20-%20Redacted.pdf

[15] Australian Energy Regulator, *2017 Inflation Review Final Report*, 2017. ttps://www.aer.gov.au/system/files/AER%20-%20Final%20position%20paper%20-%20Regulatory%20treatment%20of%20inflation%20-%20December%202017%20-%20Web%20upload.PDF

[16] Reserve Bank of Australia, *Statement on Monetary Policy*, May 2020. https://www.rba.gov.au/publications/smp/2020/may/

[17] McWha, V., Murray, K., Nutsford, D., van Zijl, T., June 2020.

[18] Lally, M., July 2020.

decisions.[19] We consider Sapere's analysis in more detail below, while noting that we do not necessarily agree with their conclusions regarding the impact on future investment decisions.

3.1.2 What are the impacts of differences between expected and actual inflation?

Sapere's analysis is based on the AER's most recent regulatory revenue decisions, including the South Australian Power Network's Distribution Determination[20] and found that:[21]

1. The real return on capital achieved by the NSP is the same as the expected real return on capital; it is unaffected by variations in outturn inflation.
2. The realised rate of return on equity varies in the same direction as inflation outturns.
    a. **If outturn inflation is lower than expected inflation**, then the realised real rate of return on equity will be lower than the expected real rate of return on equity.
    b. **If outturn inflation is higher than expected inflation**, the realised real rate of return on equity will be higher than the expected real rate of return on equity.
3. If expected inflation is greater than the percentage of equity multiplied by the expected nominal return on equity, the cash return to equity will be negative.

3.1.3 What does this mean for prices and services?

If Sapere's analysis is correct, then it is consistent with the NSPs' views that the AER's approach has a negative impact on returns to their businesses. For example, Sapere states:

> "Under the current AER approach, equity holders bear the cost of the difference between actual and expected inflation on the debt component of capital. This results in a lower real realised rate of return on equity."

However, the CRG also notes that the AER considered this outcome in its 2017 review, and concluded that:[22]

> "[the current approach] appropriately assigns any risk arising from these financing decisions to the service provider, rather than consumers". It observed that when inflation causes the real return to equity holders to drop below the initial target, the real return to debt holders rises above the initial target – noting that this outcome is a consequence of the decision of the NSP to issue nominal debt."

In addition to the AER's comments, the CRG observes from Sapere's analysis that where inflation is above the AER's expected inflation, the return to equity holders will exceed the initial target return.

In effect, the outcomes are symmetrical depending on whether the AER's estimate is above or below the outturn inflation. Sapere's report does not discuss the implication of this, namely that consumers will bear the risk of funding inefficient levels of equity returns in the case where the

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[19] McWha, V., Murray, K., Nutsford, D., van Zijl, T., June 2020, p.23.

[20] Australian Energy Regulator, *South Australian Power Network Distribution Determination 2020 to 2025*, June 2020. https://www.aer.gov.au/system/files/Final%20decision%20-%20SA%20Power%20Networks%20distribution%20determination%202020-25%20-%20Overview%20-%20June%202020_2.pdf

[21] McWha, V., Murray, K., Nutsford, D., van Zijl, T., June 2020, p 24.

[22] AER, *Regulatory Treatment of Inflation, Final Position*, December 2017, p 88.

AER's estimate of expected inflation is below the outturn inflation. Yet this is the risk that consumers are exposed to if the AER were to adopt market measures such as the break-even methodology (discussed below). Further, the Sapere report fails to consider the "time dimension" and how this may affect outcomes for businesses and consumers. The AER's approach estimates average annual inflation over 10 years. Investors in these long-life assets are also expected to consider long-term returns. Therefore, it follows that lower returns to equity in a particular period should be considered only in the context of long-term investor expectations.

The question remains, if it matters to consumers whether there is a difference between expected inflation and turnout inflation, if the networks are achieving the expected real rate of return - not more or less? In most circumstances, the answer may well be "it does not matter", or "it does not matter much". The exceptions to these conclusions are:

- If there is clear evidence of a consistent and sustained bias in the AER's estimation of average expected inflation over a 10-year estimation period
- If there is evidence of a material and sustained impact on the rate of return, return to equity or cash return to equity that creates financial risk for the business, or (in the event the AER underestimates inflation) a risk to consumers of overcompensating equity holders.

It is worth emphasising that it is not guaranteed that a business will receive its promised real rate of return, or real return on equity each year or even over a number of years. Rather the business can expect to achieve the promised real return on capital overall, and over time.

How the business manages its financial structures and financial risks within this framework is a matter for the NSPs not the AER.

3.1.4 Is there clear evidence of a sustained bias in the AER's approach to estimating average 10-year expected inflation?

The ENA and NSPs argue there has been an extended period of low inflation outcomes below the AER's estimated inflation and that this low inflation will continue (although they do not specify a time). If the AER continued with its current approach it would result in a target rate of return that is too low and negative cash returns to NSPs with future investment consequences. At this stage, the CRG does not believe a sufficiently strong case has been made to indicate a sustained period of average 10-year inflation that is materially below the AER's forecast of expected inflation over the longer term and that would warrant a change in the methodology for estimating long-term expected inflation. The following section highlights a range of evidence supporting the view that long-term expectations remain anchored to the RBA's target band, and that the AER's approach of including forecasts of the first two years provides additional flexibility for the long-term average forecast to include the impact of shorter-term expectations.

Nevertheless, the energy rules and laws[23] require the AER and stakeholders to consider whether there are different approaches that might enhance the AER's estimate of expected inflation and thus contribute to more efficient outcomes for consumers.

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[23] Australian Energy Market Commission, *National Electricity Rules*, n.d., https://www.aemc.gov.au/regulation/energy-rules/national-electricity-rules

3.1.5 Is there market evidence that would indicate the AER's approach is having a material impact on returns to equity for the networks' owners?

Given the concerns expressed by the networks in the lead up to this review, the CRG considers it useful to consider the information that is currently available regarding the networks' current and forecast financial position.

The CRG is aware that of limitations in drawing strong conclusions from the financial data, particularly in the context of the current market volatility and uncertainties arising from the COVID-19 pandemic. For this reason, our observations and conclusions are preliminary. However, based on a variety of market information sources taken together:

- There is no indication of networks experiencing financial distress, and the observed trends in real returns on assets are consistent with the declining costs of funds.
- While dividends to equity holders are expected to decline slightly in 2021 compared to the 2019-20, there are multiple factors other than the regulatory settings that are contributing to this such as COVID-19, expected future investments in regulated and non-regulated assets.
- There is some evidence of a network desire to expand their regulatory asset bases, for instance in response to the expansion of transmission networks anticipated by the ISP process.
- The ongoing high sale prices and RAB multiples for network assets observed in a recent $2B (plus) purchase of a 19.9% stake in TransGrid.

In making these observations, the CRG has drawn on the following sources:

- **AER *Electricity Distribution Network Service Provider Performance Data*[24]**

  This data demonstrates that the return on assets has declined over the period 2014 to 2018. This is in line with general reductions in financing costs for debt and equity. As of 2018, the real pre-tax WACC for the electricity networks clustered around 4% - 4.5%. Although the data in this report was only up to 2018, the networks had already raised the issue of inflation estimation from 2016/17.

- **Spark Infrastructure, Annual Report 2019[25] and APA Investor Presentation.**

  These reports express some concern with the impact of lower rates of return on future earnings, but they appear to remain optimistic in terms of expected distributions to equity holders for the forthcoming year. This is somewhat surprising given the repeated claims of negative returns to equity arising from the AER's treatment of inflation.

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[24] Australian Energy Regulator, *Electricity Distribution Network Service Provider Performance Data*, August 2019. https://www.aer.gov.au/system/files/Electricity%20Distribution%20Networks%20Performance%20data%20report%20-%202006-2018%20-%20PDF_2.pdf

[25] Spark Infrastructure, Annual Report, 2019. https://www.listcorp.com/asx/ski/spark-infrastructure/news/2019-annual-report-2296618.html

In its Annual Report, Spark Infrastructure reported that its 2019 distribution of 15c/security was "fully funded by net operating cash flows".[26] It also retained its half-year guidance for 2020 of 13.5c/security. Spark states that: [27]

> "[The 2020 distribution is] expected to be covered by look-through net operating cash flows consistent with prior years with Spark Infrastructure having achieved an average payout ratio of 71% over the last five years."

In its most recent presentation to investors, the energy infrastructure business, the APA Group reported 2020 half-year results consistent with recent full year results for the 2019 and 2018 financial years. For example, using data from the "5-year financials" table, the APA group reported as follows in Table 3-1[28]. However, we also recognise that the APA results include both regulated, lightly regulated and non-regulated business operations.

Table 3-1: APA Group

Indicator	Half Year 2020	Full Year 2019	Full Year 2018
Operating Cash flows ($m)	511.9	1,012.1	1,031.6
Earnings per Security (cents)	14.8	24.4	23.3
Operating cash flow per security (cents)	43.4	85.8	90.7
Distribution per security (cents)	23.0[1]	47.0	45.0

Additionally the APA forecast a full year distribution per security of 50 cents/security[29]. See Investor Pack. APA's presentation also demonstrated that total shareholder returns had increased above the ASX 100 for the last 10 years for APA and, more relevantly, the ASX utilities index. This is illustrated in in the following figure.[30]

[26] Ibid, p 51.

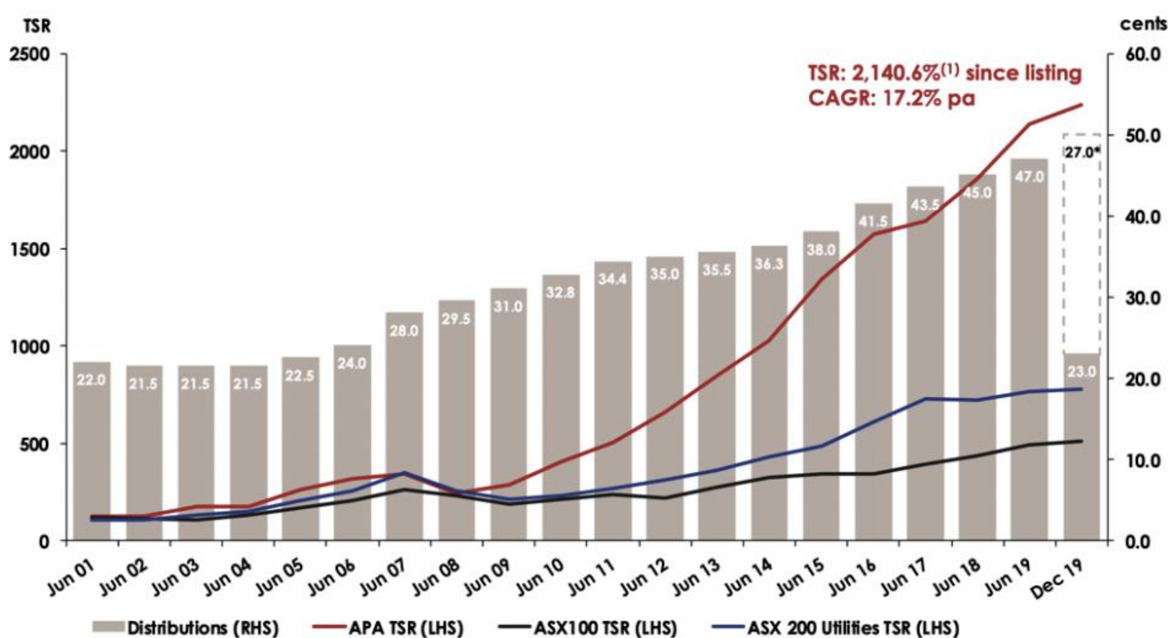
[27] Ibid, p 57.

[28] APA Group, *Investor Pack*, February 2020, p 18. https://www.apa.com.au/globalassets/asx-releases/2020/investor-pack-1h-fy20.pdf.

[29] Ibid, p. 12.

[30] Ibid., p 13.

Figure 3-1: APA distributions and TSR returns



- **TransGrid purchase (May 2020) and RAB multiples**[31]

  In May 2020 that the Canadian Pension Fund (OMERS) confirmed that it had agreed to purchase a 19.9% stake in TransGrid, for some $2 billion or more (subject to Foreign Investment Review Board approval). OMERS is one of Canada's largest pension funds and it is reasonable to assume that offer was made with full awareness of the Australian regulatory environment, the AER's Rate of Return Instrument and the AER's treatment of inflation.

  It is estimated that the purchase offer of at least $2 billion represented a multiple of 1.8 on TransGrid's regulatory asset base and 1.6 on TransGrid's regulatory and contracted asset base. [32] This result is in keeping with the initial sale of TransGrid in 2015 at a RAB multiple of 1.5 to 1.6. This result also suggests that despite the regulatory and economic developments since 2015, investors seeking long-term reliable returns are still willing to invest in the network assets at a sale price premium.

To conclude, the market-based information does not yet suggest that existing equity holders are materially exposed, that the businesses cannot meet their debt payments or that new investment is being withheld.

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[31] Australian Financial Review, "Spark nervous about regulatory settings for COVID recovery", 27 May 2020. https://www.afr.com/companies/energy/spark-nervous-about-regulatory-settings-for-covid-recovery-20200527-p54wsb

[32] Australian Financial Review: "Transgrid investors pass up rights, ready to welcome OMERs", 1 April, 2020. https://www.afr.com/street-talk/transgrid-investors-pass-up-rights-ready-to-welcome-omers-20200401-p54fv7

Nevertheless, the AER has decided to review alternative methods for estimating long-term expected inflation in response to the ongoing concerns by the networks and the more recent comments and trends in reports by the RBA and Consensus Economics.

Preliminary comments on each of these methods, from a technical perspective follow. These comments consider the AER's May 2020 *Discussion Paper*, the three consultants' reports and the material provided by the ENA and APLG at the AER's Public Forum in early July. These comments are *preliminary* as the CRG has identified a need for more modelling by the AER to better understand the full impacts of different approaches and explain these to consumers.

This technical assessment considered both the principle of the congruence of outcomes with actual outturn inflation, and other regulatory best practice principles, including robustness, transparency, replicability and simplicity. The CRG believes consumers' interests are best served when the AER assesses each of the methodologies against these basic regulatory principles.

The CRG's assessment has also have been guided by additional principles more directly related to outcomes for consumers, which will be further developed over the next few months. For example, and as highlighted previously in this submission, an important principle is there must be a strong reason for change and the change must be demonstrably in the long-term interests of consumers. Another principle is any change must be sustainable, so that in for example four years' time, and under different circumstances, NSPs seek further changes.

A third principle is where there is risk, it should sit with the party best able to manage it. For example, the 10-year bond breakeven inflation rate is currently very low, but the economy is also in unique circumstances. I It would be a clear violation of regulatory principles if at another time when inflation rates are higher than the RBA target, the networks seek to revert to the AER's current methodology (as they did when seeking a change away from the breakeven approach in 2007/08).

3.2 Considering methodologies to estimating expected inflation

The AER has identified five potential approaches for estimating the expected 10-year average inflation rate:

- AER's current approach ("RBA approach")
- AER's current approach with the addition of a "glide-path" ("RBA+ approach")
- bond breakeven inflation rate (BBIR)
- inflation swaps (swaps)
- Surveys of key market players, and more particularly the survey by Consensus Economics survey of long-term inflation expectations.

Each methodology has its strengths and weaknesses and these have been discussed at some length in previous reports[33] and are confirmed in a recent report by Deloitte Access Economics.[34] In summary, our preliminary view suggests the following with respect to each of the methods:

- The RBA approach best satisfies the fundamental regulatory principles and the CRG's additional principles
- The option of modifying the RBA approach using a glide-path, is worthy of further consideration by the AER. However, more work is required to address issues of the structure of the glide-path
- The Consensus Economic survey can provide an important cross-check on the RBA method, but should not be used alone as a determinant of expected inflation
- The market base methods (BBIR and swaps) have significant limitations when tested against the regulatory principles. We do not support their use in the regulatory context
- As an alternative, or in addition to using a glide-path, the AER might consider estimating expected inflation averaged over 5 years rather than 10 years. The AER has previously rejected this option.[35] The AER argued that the calculation of the real rate of return, and the expected inflation, both must have the same time horizon. However, Lally's analysis suggests that the AER ought to be estimating expected inflation "over each of the next five years rather than the next 10 years."[36]

These conclusions are now discussed in more detail.

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[33] Australian Competition and Consumer Commission, *ACCC/AER Working Paper Series, Best Estimates of Expected Inflation: A Comparative Assessment of Four Methods*, February 2017. https://www.accc.gov.au/system/files/Working%20Paper%20no.%2011%20-%20Best%20estimates%20of%20expected%20inflation%20-%20v3.pdf

[34] Deloitte Access Economics, *Review of the regulatory treatment of Inflation*, June 2020. https://www.aer.gov.au/system/files/Deloitte%20Access%20Economics%20-%20Inflation%20review%20public%20forum%20presentation%20-%202%20July%202020.pdf

[35] Australian Energy Regulator, *South Australian Power Network Distribution Determination 2020 to 2025*, June 2020, Attachment 3, June 2020, pp. 3-26/27.

[36] Lally, M., July 2020, pp3, 4-6.

3.3 AER's current approach

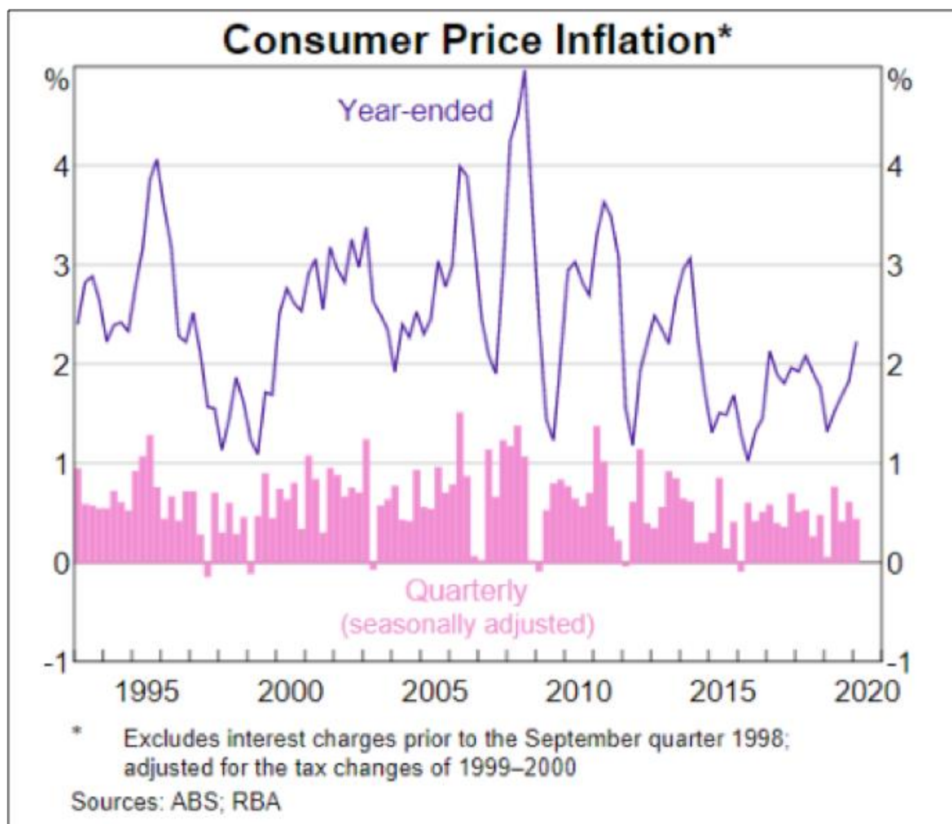
The AER's existing approach was adopted in 2007/08 with network agreement. The approach uses the geometric average of the RBA's forecast of inflation for the first two years, and the mid-point of the RBA's target range of 2% - 3% for the remaining eight years.

As discussed above, this combined approach allows the AER to incorporate market data for the first two years as the RBA's 2-year forecast is based on a survey of market economists and other market data. The AER assumption in adopting the RBA target mid-point for the remaining years is outturn inflationary expectations over time are anchored to the RBAs target band.

A key question then regarding the congruence of the AER's approach is whether the evidence suggests that long-term expectations on inflation are no longer anchored to the RBA's target band. While we cannot directly measure expected inflation outcomes, it is appropriate to consider actual outturn inflation over the longer term in this context.

Historical data on headline inflation over the last 25 years supports the view that inflation has to date centred on the AER's target, as shown in the following figure.. Inflation outcomes in the last five years have been mostly below the RBA's target range.

Figure 3-2: Inflation outcomes and the RBA's inflation target[37]



In addition, the limited evidence on long-term inflation expectations does not provide a consistent view that long-term expectations have shifted in a material way. For example, the more recent

[37] Reserve Bank of Australia, *Statement on Monetary Policy*, May 2020, May 2020, p. 59.

Consensus Economic survey of market experts (discussed below) continue to point to long-term expected inflation as being anchored within the RBA target band.

The RBA has also looked closely at developments in inflation expectations. In its May 2020 Statement of Monetary Policy, the RBA notes that short term inflation expectations have declined, but longer-term expectations remain within the RBA target band:[38]

> "Long-term survey-based measures of inflation expectations are little changed around 2-2 1/2 per cent and remain consistent with the Bank's medium-term inflation target."

Nor is their evidence that the RBA has effectively abandoned the task of intervening through monetary policy to return the economy to the target inflation range over time. For example, in May, the RBA stated:[39]

> "The Board will not increase the cash rate target until progress is made towards fully employment and it is confident that inflation will be sustainably within the 2-3 per cent target band."

Given the AER's approach includes the RBA's forecast for the first two years provides some additional flexibility for the AER to respond to more short-term inflation expectation information. For example, Lally supports this approach, noting that:[40]

> "So long as the RBA's one-year and two-year ahead forecasts are superior to the RBA's Target, this estimator will be superior to exclusive use of the Target."

This greater flexibility is evident in the AER's recent revenue determinations. The AER's estimate of the 10-year expected inflation moved from 2.45% in its Draft Determination, to 2.27% in its Final Determination reflecting the significant decline in the RBA's 2020-21 and 2021-22 forecasts.[41]

3.4 AER's current approach and using a glide-path:

A glide-path approach relies on the RBA's forecast inflation for the first two years then gradually adjusts the expected inflation for a certain number of years to reach the RBA target. This avoids the anomaly of a jump from a low (or high) inflation to the RBA's mid-point in the third year.

In 2017, the AER argued that a glide-path was not necessary as there was evidence that inflation generally reverted to the RBA's target range within 3 years. However, three years on, inflation has not reverted to the RBA's target range.

Moreover, as noted previously, there is a growing consensus by the RBA and others, that inflation may take longer than usual to return to the mid-point of the RBA target range.

Figure 3 below is based on historical CPI data. It also illustrates that the **rate** at which inflation returns to the RBA target range and mid-point is related to the extent to which the initial

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[38] Reserve Bank of Australia, *Statement on Monetary Policy*, May 2020.

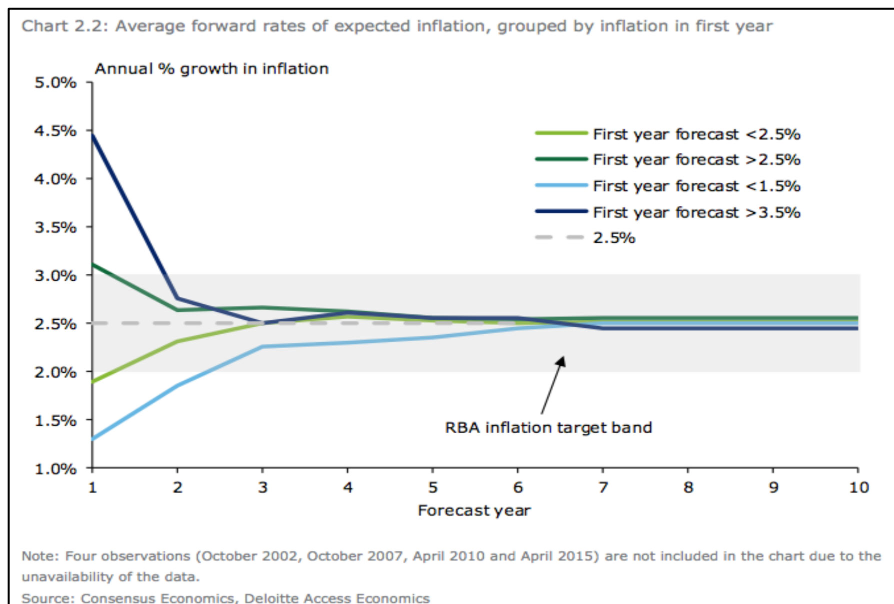
[39] Ibid.

[40] Lally, M., July 2020, p. 19.

[41] Australian Energy Regulator, *South Australian Power Network Distribution Determination 2020 to 2025*, June 2020, p 3-8.

observation deviates from the mid-point. In this instance, when there was very low inflation it too some three years to return to the RBA's target range, and six years to return to the AER's mid-point.

Figure 3-3: Average forward rates of expected inflation, grouped by inflation in the first year[42]



Deloitte also noted commented that there were very few observations at the extreme points so the chart should be interpreted with caution.

3.4.1 How have other regulators dealt with the low inflation issue?

Other regulators using a similar methodology to the AER have introduced a glide-path in response to this concern. These include the New Zealand Commerce Commission and the Essential Services Commission of South Australia (ESCOSA). For instance, in its recent decision on the rate of return for the South Australian Water Commission, ESCOSA adopted a linear glide-path approach in both its *Draft Determination*[43] and *Final determination*.[44] However, as illustrated in Table 3-2, the glide-path was extended by two years in the *Final Determination*.

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42 Deloitte Access Economics, June 2020. page 24.

43 Essential Services Commission of South Australia, *SA Water's water and sewerage retail services: 1 July 2020 – 30 June 2024, Price Determination, Draft for Consultation*, July 2020. https://www.escosa.sa.gov.au/ArticleDocuments/21462/20200304-Water-SAWRD20-DraftPriceDetermination.pdf.aspx?Embed=Y

44 Essential Services Commission of South Australia, *SA Water's water and sewerage retail services: 1 July 2020 – 30 June 2024, Price Determination,* July 2020. https://www.escosa.sa.gov.au/ArticleDocuments/21489/20200611-Water-SAWRD20-FinalPriceDetermination.pdf.aspx?Embed=Y

Table 3-2: ESCOSA path for long-term inflation expectations[45]

Financial year	Draft Determination (%)	Final Determination (%)
2020-21	1.90 (RBA forecast headline inflation)[457]	1.25 (RBA forecast trimmed mean inflation)[458]
2021-22	2.00 (RBA forecast headline inflation)	1.50 (RBA forecast trimmed mean inflation)
2022-23	2.17 (linear glide path)	1.70 (linear glide path)
2023-24	2.33 (linear glide path)	1.90 (linear glide path)
2024-25	2.5 (IMF projection for 2024)	2.10 (linear glide path)
2025-26	2.5	2.30 (linear glide path)
2026-27	2.5	2.50 (midpoint of RBA band)
2027-28	2.5	2.5
2028-29	2.5	2.5
2029-30	2.5	2.5
Geometric average (%)	**2.33**	**2.07**

Sources: RBA; Commission

ESCOSA explains this decision in terms of the more challenging economic conditions during and post COVIC-19 and because of the more recent statements by the RBA and others that it would take a longer time before inflation returns to the RBA's target mid-point. ESCOSA concludes:[46]

> "The glide-path approach recognises there is a degree of uncertainty over the timing of the recovery path for inflation, which may currently be affecting household, firm and investor long-term expectations about inflation. At the same time, the glide-path approach recognises that most available evidence suggests that the flexible inflation targeting framework pursued by the RBA has anchored long-term inflation expectations within the RBA's two to three percent target range."

However, ESCOSA does not suggest that the glide-path approach should be used in every circumstance. Rather, ESCOSA adopts this position to address the prevailing and very specific conditions of very low inflation.

3.4.2 Other expert views

Deloitte and Lally both discuss the possibility of extending the AER's current approach by adopting a glide-path approach. Deloitte suggests if there was evidence of de-anchoring of medium-term expectations as a result of an extended period of inflation, then the glide-path approach is "likely to produce an estimate of 10-year inflation expectations that is closer to market expectations when compared to the AER approach".[47] However, Deloitte also found no evidence of this de-anchoring of long-term expectations in Australia.

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[45] Ibid., p 229.

[46] Ibid., p 224.

[47] Deloitte Access Economics, June 2020, p 7.

Lally observed a case for adopting a slow glide-path from the RBA's forecast to the RBA's target because reversion to the RBA's target is expected to be unusually slow. In making this observation, Lally references a Consensus Economic forecast (April 2020) that reversion to 2.5% will not occur until 2026.[48] However, he qualifies this conclusion, stating this only applies *if* the reversion to the mid-point is *asymmetrical*, i.e. that the rate that the CPI reverts from a very low point to the mid-point is *not likely* to be matched by the rate the CPI reverts from a very high point.[49] Lally illustrates algebraically that if the rates of reversion are similar, there is no benefit in a glide-path. Lally also states that he has no view on whether there is symmetry or asymmetry. [50] Accordingly, Lally concludes:[51]

> "I do not hold a view on whether such symmetry exists. If the AER believes symmetry exists, it should retain its current approach. Otherwise there is a case for the AER's adopting a longer glide-path back to the Target."

Figure 3-3Figure 3-3 above, suggests the asymmetry condition may be met because the rate of returning to the RBA's mid- point differs on the basis of whether the starting point is significantly higher or significantly lower than the mid-point. However, Deloitte notes, there is limited data on this issue.

The CRG has conducted a preliminary assessment of the outcomes of a glide-path under a range of scenarios based on near term RBA forecasts for the first two years of the period. Table 3-3: Summary of outcomes of glide-path options demonstrates that:

- If inflation in year 2 exceeds the midpoint of the target range (2.5 per cent) then a glidepath reduces allowed revenue and vice versa. That is, a glidepath is formally symmetric, although in a low inflation environment it is more likely to result in an increase in allowed revenue.
- A longer glidepath will amplify the impact (as compared to the current approach.
- The further the year 2 RBA estimate used from the midpoint of the target range, the larger the impact of a glidepath.

Table 3-3: Summary of outcomes of glide-path options

Five-year revenue percentage difference from current approach			
Scenario	3-year glide-path	4-year glide-path	5-year glide-path
First two years as per RBA June 20,21: -1%, 2.75%	-0.3	n/a	n/a
First two years as per RBA Dec 20,21: 0.25%, 1.25%	1.6	3.3	4.9
First two years as per RBA June 21,22: 2.75%, 1.5%	1.4	2.9	4.2

48 Lally, July 2020, p 29.

49 Ibid, p 3.

50 Ibid, p 30.

51 Ibid.

3.4.3 Next steps in assessing and applying a glide-path approach

Overall, the CRG believes there is a stronger rationale for adopting the glide-path compared to 2017, due to the persisting very low inflation. Accordingly, it suggests the AER further investigates the use of a glide-path in conjunction with the AER's current approach. Key questions for the AER to address in this investigation include:

- What should be the length of the glide-path?
- What should be the shape of the glide-path (linear or non-linear?)?
- Should a glide-path be adopted in all circumstances or only in extreme circumstances such as persistent observations above or below the RBA target band?
- Is Lally's qualification with respect to asymmetry met?
- Are there unintended consequences for the overall PTRM framework?

One suggestion that may address some of these questions is to implement a cap on the annual change in the glide-path from the RBA's second year forecast to the RBA's mid-point. For example, if there was a cap of 0.25% per year, then it would take two years to move from 2% to 2.5% and 4 years to move from 1.5% to 2.5%. The reverse would apply if inflation was above the RBA mid-point target. Such an approach could be applied automatically where no further judgement was required about the number of years of the glide-path. It could also be applied in both normal and extreme conditions.

3.4.4 Survey methodology

The value of the survey methodology for forecasting long-term inflation expectations is dependent on the quality of the survey itself. A simple survey of individual "experts" is likely to raise more questions than answers.

Rather than using forecasts from specific individual sources, the AER prefers to use the forecasts prepared by Consensus Economics. Consensus Economics develops its inflation forecasts based on bi-annual or quarterly surveys of a panel of forecasters.

In summary, individual forecasts would not be a reliable basis for estimating expected inflation in the regulatory context. However, the aggregation of these forecasts using a panel approach that is adopted by Consensus Economics could be used to validate (or otherwise) the AER's estimates of expected inflation.

3.4.5 Market based measures: break-even inflation and inflation swaps

The two market-based measures (break-even inflation and swaps) have significant limitations. This section mainly deals with the limitations of break-even inflation for calculating the 10-year expected inflation. The CRG would need additional information on how inflation swaps are priced in financial markets, their liquidity and ability to be used as an unbiased estimate for expected inflation.

Using the swap market would result in similar issues as using the BBIR (break-even inflation) approach. For instance, Deloitte concludes that:[52]

> "...both approaches are affected by the presence of material and time varying distortions that limit their use in a regulatory context."

Specifically, Lally currently supports the AER's 2017 conclusions that the main limitations of the market-based approach are twofold:

- The liquidity premium on indexed bonds
- The inflation risk premium in nominal bonds.

Lally cites several studies that demonstrate these two factors may move in the same direction or in opposite directions making the BBIR estimate both volatile and uncertain over time. He concluded that:[53]

> "The most important of these problems are the liquidity premium on indexed bonds and the inflation premium on nominal bonds. The net effect of these two phenomena could be positive or negative, leading to either upward or downward bias in estimating expected inflation..."

Further, there is no agreed methodology for unpicking these premia from the market data on nominal and indexed bonds. Additional subjectivity in the analysis arises from the choice of yield curves to estimate the 10-year inflation expectations. For example, Deloitte notes that the shortage of relevant long-term bonds in the Australian market (particularly indexed bonds) means a yield curve must be constructed to match the AER's 10-year term.[54] The selection of a yield curve may in turn be a source of bias and other errors.

In his 2017 critique of the BBIR approach Vahey summarised his concerns with the BBIR as follows:[55]

> "Unfortunately, the relative liquidity of the indexed securities market is sensitive to expected inflation. As a result, should aggregate demand soften further, the robustness of the BBIR would be an issue. People tend to want indexed securities when they need protection from inflation and demand for the indexed securities can drop if inflation falls. [emphasis added]."

He further notes: [56]

> "The conceptual mismatch between the theoretical construct of "market-expected" inflation and any measure derived from two (very particular) financial markets weakens greatly the

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[52] Deloitte, June 2020, p 8.

[53] Lally, July 2020, p 13.

[54] Deloitte, June 2020, p 27.

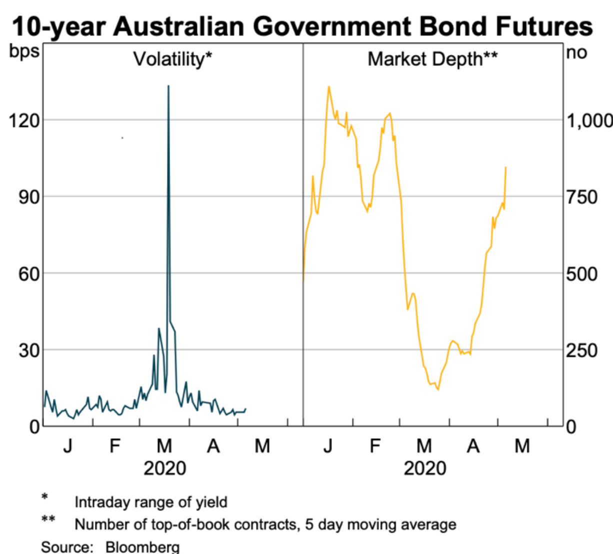
[55] Vahey, S. P., *Report to the AER on Estimating Expected Inflation*, September 2017, pp 16 - 17. https://www.aer.gov.au/system/files/Prof%20Shaun%20P%20Vahey%20-%20Report%20to%20the%20AER%20on%20estimating%20expected%20inflation%20-%2015%20September%202017.PDF

[56] Ibid.

congruency appeal of the BBIR in practice. And, in terms of the other criteria used in the AER/ACCC WP, the BBIR ranks poorly."

Arguably, given low inflation has persisted well into 2020, the issues raised by Vahey in 2017 are even more pertinent today. Certainly, the RBA's recent assessments of the bond market demonstrates the potential for extreme volatility of bond yields and their sensitivity to market depth/liquidity.

Figure 3-4: Volatility and Market Depth for Commonwealth Government 10-year Bonds in 2020[57]



This volatility observed in the estimated long-run inflation, identified using the break-even inflation estimate and estimates from the swaps market, has been evident even after the RBA's CPI target policy effectively removed much of the volatility in outturn inflation itself. A major contributor to this volatility is the inflation and liquidity premia identified above. For example, in 2017, the ACCC concluded that: [58]

> "The existence of potentially significant biases, premia and distortions in the BBIR is widely accepted in the BBIR literature."

The ACCC also concluded that: [59]

> "[While the volatility in] zero coupon inflation swap prices may reflect changes in mark-to-mark expectations of inflation, swap prices may also be affected by some potential biases such as hedging costs and inflation risk premia. The potential biases may be volatile over time such that if they are significant, they may drive a wedge between inflation swap prices and inflation expectations."

In his July 2020 report, Lally highlighted continuing problems in the market-based estimates. For, instance, he concludes that the market-based estimates are "likely to be biased estimates of

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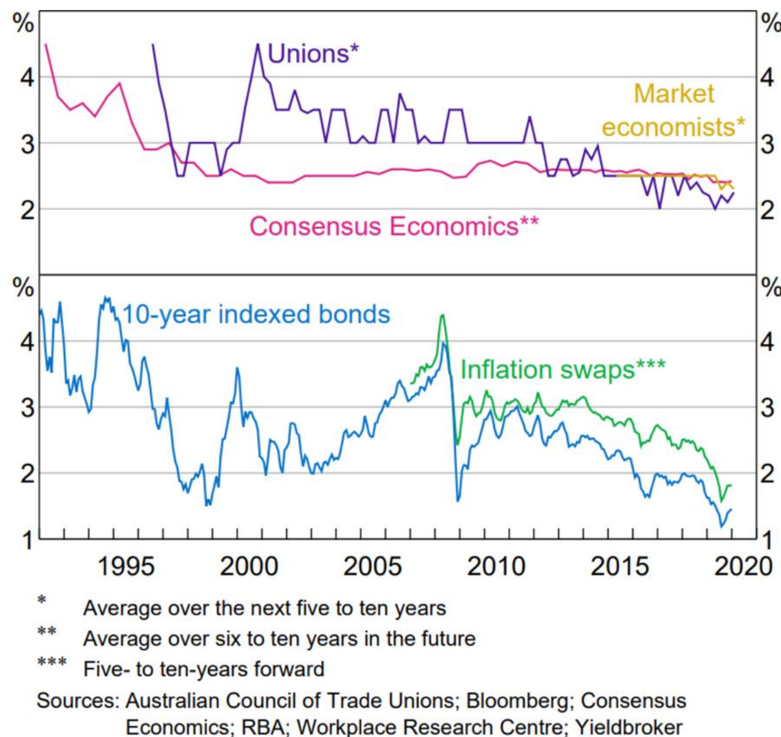
[57] Reserve Bank of Australia, May 2020, p. 60.

[58] Australian Competition and Consumer Commission & Australian Energy Regulator, February 2017, p. 98.

[59] Ibid, p. 99.

expected future inflation, and to degree that [bias] varies over time." [60] In contrast, and as illustrated in Figure 3-5, the Consensus Economics long-term forecasts are more stable and correspond more closely to the outcomes of the AER's current methodology.

Figure 3-5: Long-term inflation expectations[61]



* Average over the next five to ten years
** Average over six to ten years in the future
*** Five- to ten-years forward
Sources: Australian Council of Trade Unions; Bloomberg; Consensus Economics; RBA; Workplace Research Centre; Yieldbroker

The discussion above suggests that the construction of the yield curve, the bond market volatility and the risk and liquidity premia, the inability to isolate these two effects over time and the sensitivity of demand for these securities to expected inflation mean that the market-based approaches are not appropriate for the regulatory task.

At this stage, therefore, the CRG has not seen sufficient evidence of the benefits and assessment of the risks to consumers to justify a change from the AER's current approach to one or other of the market-based approaches.

3.5 Which methodology is in the best interest of consumers?

As previously noted, the CRG has not yet undertaken any targeted consumer engagement to gauge consumer preferences on the choice of methodology to estimate expected inflation. We also expect difficulties in meaningfully engaging with consumers on this highly technical topic. Regardless, at this stage the CRG believes it is reasonable to assume that consumers will be best served by the AER adopting the approach that best matches the regulatory principles. Accordingly, the CRG has relied on the Deloitte's analysis against best regulatory principles in its report to the AER.

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60 Lally, July 2020, p 31.

61 AER, Final Decision, *SA Power Networks Distribution Determination 2020 to 25, Attachment 3*, p. 3-37. https://www.aer.gov.au/system/files/Final%20decision%20-%20SA%20Power%20Networks%20distribution%20determination%202020-25%20-%20Attachment%203%20-%20Rate%20of%20return%20-%20June%202020%20.pdf

Ongoing data from the Consensus Economics Survey is also reassuring at this point, but the CRG awaits the results of future surveys. That is, long-term inflation expectations remain anchored to the RBA target band and that using the RBA's forecast for the first two years will provide sufficient flexibility to reflect more current events. However, the CRG remains an open whether a glide-path would further enhance the AER's approach as discussed above. Deloitte has come to a similar conclusion, based on its review of the methodologies against the AER's regulatory principles, as summarised below.[62]

Table 3-4: Summary of Deloitte ranking of alternative approaches relative to the current approach

Approach	Relative Congruence	Robustness	Transparency and Replicability	Simplicity
AER approach	Good	Excellent	Excellent	Excellent
AER approach & glide-path	Excellent	Good	Good	Excellent
BBIR	Good	Fair	Poor	Poor
Inflation swaps	Good	Fair	Good	Fair
Surveys	Excellent	Good	Poor	Fair

Currently, the CRG believes, within the current framework, the long-term interests of consumers are likely to be best served, by the AER continuing to apply its current methodology to estimating expected inflation. However, this observation is subject to further analysis to establish whether including a glide-path will enhance the outcome given the longer than usual period of low inflation. The CRG's review of the BBIR and swaps approaches suggests they are not suitable for the regulatory purpose and would not be in the long-term interests of consumers.

The CRG's *preliminary* conclusions with respect to the AER's methodology and the alternatives are:

- There should be a high bar for change and that providing certainty regarding the AER's approach over multiple regulatory periods is likely to be in the interests of consumers and investors alike.
- The CRG accepts the evidence that the AER's current approach largely delivers the initial promised real return on capital, irrespective of the difference between the AER's estimate of expected inflation and actual out-turn inflation.
- However, if inflation expectations become de-anchored from the RBA's target band, the AER's approach may result in a biased estimate of the return on equity.
- To date, there is insufficient evidence of de-anchoring. The glide-path modification to the AER's current approach may address this risk in the future.
- As a best practice regulation principle, businesses are best placed to manage inflation risk.
- Market-based approaches (break-even inflation and swaps) do not provide an unbiased view of expected inflation and include unquantifiable and time dependent premia.

[62] Deloitte, June 2020, pp 9-10.

- The AER's current methodology is preferable to the market-based methodologies and in the long-term interests of consumers. In addition, the AER's estimations are largely confirmed by survey data on long-term expectations from Consensus Economics.
- It is appropriate for the AER to review ways to improve its existing approach to estimating expected inflation
- Two options that the AER might further assess for improving their current forecasts of expected inflation and improving the overall operation of the PTRM are:
  (1) Adopting a glide-path to improve the estimation of inflation given the extended period of low inflation
  (2) Switching to a 5-year term to maturity for the inflation estimate.

However, further research is required on both these options to better understand the benefits and risks of such changes and the implications for the overall modelling framework.

4 Is the long-term interest of consumers better served by a nominal or hybrid model?

The AER's discussion paper raised the option of moving to a nominal or hybrid model. A nominal model would effectively eliminate the need to estimate an expected inflation rate and a hybrid model would use a nominal cost of debt and a real cost of equity. This would be consistent with the respective preferences of both debt and equity financiers.

This chapter summarises the results of the CRG's initial consumer engagement activities and provides a preliminary view whether consumer interests would be better served by changing the AER's model from real to nominal or hybrid (nominal cost of debt and real cost of equity).

4.1 Feedback from initial consumer engagement

Preliminary findings from the CRG's consumer advocate interviews about consumer perspectives are summarised in Appendix D. The findings suggest the following:

- A diversity of opinion amongst consumers about moving to an approach which provides less stability
- The closer the link to higher prices, the less consumers appear to want the risks involved in volatility
- Consumers want more detailed information about the price impacts of the different approaches being considered so they can make judgements about materiality when considering the issue of stability versus volatility
- Materiality is measured in different ways by different consumers. For consumers in vulnerable circumstances, a relatively small movement upwards is considered material
- Consumers are highly sensitive to price increases
- Further research about consumer preferences in relation to stability is likely to suggest a diversity of views about moving to an approach which provides less stability, dependent on the circumstances of the consumer. The value of this research, given the diversity, is likely to be higher if consumers can have confidence in the proposed price impacts of the different approaches.

Overall, the preliminary findings provide evidence of a diversity of consumer views on the impacts on price, volatility and service levels arising from a change in the regulatory framework. Hence, the CRG considers that it will be important when planning and conducting further consumer research to include its first principle in its upcoming consumer research activities:

Principle 1 -A regulatory framework serving the long-term interests of consumers must promote behaviours that engender consumer confidence in the framework.

While not based on a direct question, consumer confidence in the regulatory framework arose as a topic of discussion in some interviews. One interviewee related consumer confidence to a need for a high bar before any change in approach to the inflation methodology should be considered. They suggested a high bar for change was needed, or else consumer trust in the regulator and industry would be eroded. They also commented that the AER is empowered by consumers to make the decisions around inflation approaches and too much consultation can erode consumer trust. They

stated that trust is earnt by making the *right* decisions, but constant discussion of issues has negative reactions from consumers.

The evidence from the advocate interviews preliminary findings is consistent with from the AER's 2017 inflation review. The CCP considered the issue of stability extensively in its submission to the AER's preliminary position on the AER's 2017 review.[63] It concluded that the current approach is consistent with the NEO and Allowed Rate of Return Objective (ARORO), as well as provisions in the NER that the RAB is to be indexed for inflation and a nominal WACC is to be determined. The CCP also concluded that the AER resolved this dual compensation issue through the deduction of the increase in the RAB through indexation from the allowed depreciation. It argued this resulted in a contract supervised by the AER, between the networks and consumers expressed in real terms. The consumer benefit of this contract is that prices are linked to inflation which has a positive impact on household budgeting.

The CCP considered the AER's two alternatives:

- Targeting the nominal return on capital, or
- Targeting the real return on equity.

The CCP noted that it had not seen modelling that shows the relative impact of these alternatives on real prices and the real return on capital in relation to the start of the regulatory period benchmarks. It argued that a change in approach is unlikely to best meet the long-term interest of consumers, which requires consideration of the impacts on consumers over multiple regulatory periods. The CCP was concerned that a change in approach would exacerbate energy affordability issues for vulnerable households and businesses. Whereas the current approach enables consumers to hedge their inflation risk against increases in income, consumers are unlikely to be able to hedge against an ex-post inflation risk. The CCP also suggested that evidence of consumers' preferences needs to be balanced against long-term interests of consumers.

In its submission to the AER's 2017 Inflation Review, ECA also emphasised that the AER is required to exercise its functions to achieve the objectives of the NEL and NGL.

The CRG has summarised the evidence from its preliminary research in the following table. Note that:

- **Green** shaded cells in the table indicate a positive impact on consumers
- **Red** shaded cells indicate a negative impact on consumers
- **Yellow** shaded cells indicate both positive and negative impacts for consumers.

[63] Australian Energy Regulator Consumer Challenge Panel*, Submission to the Australian Energy Regulator*, November 2017

Table 4-1: Summary of CRG preliminary consumer research findings

Question	Price impact	Volatility	Risk allocation
Do consumers value stability in prices?	Sensitive to price movements (consensus).	Where income is linked to CPI, generally prefer stability. Some consumers already experience high volatility which is not linked to CPI. Some consumers will trade off stability for lower prices.	Consumers can more readily hedge price rises against increases in their incomes, particularly residential and the most vulnerable. Some consumers want more information about the materiality.
How do consumers feel about volatility if it leads to LOWER prices?	Welcome price reductions. Some consumers expressed strong preference for stability.	Some consumers will trade off stability for lower prices.	Consumers bear risk which they are unable to hedge.
How do consumers feel about volatility if it leads to HIGHER prices?	Averse to price increases (consensus).	Averse to accepting (in some cases, further) volatility for higher prices.	Consumers bear risk which they are unable to hedge.

4.2 Is there merit in considering a nominal or hybrid model?

Supported by evidence from consumer advocates, the CRG considers consumer interests are well-served by a stable regulatory framework. Asymmetry of information and resources means the NSPs are better placed than consumers to prosecute arguments supporting changes to the framework and to specific methodologies. Accordingly, the CRG considers the AER should adopt a high bar for changes to the framework and notes the AER's comment in its *Regulatory Treatment of Inflation Discussion Paper* that an alternative framework would be "a material change with wide-ranging impacts"[64].

Nevertheless, if the AER no longer has confidence that any of the available methods for estimating expected inflation sufficiently meet its criteria of congruence, transparency, robustness, etc then it should explore alternatives that either remove or reduce the need for it to carry out an exercise of

[64] Australian Energy Regulator, *Discussion Paper: Regulatory Treatment of Inflation*, May 2020, p. 14.

estimating expected inflation. An alternative framework would recognise that estimating expected inflation is an inherently fraught exercise that is not susceptible to ex post review for accuracy. The AER only has to carry out this exercise as an artefact of choices made in its revenue determination framework, i.e. there is no underlying necessity to do so in order to fairly determine the revenue path of an efficient network.

Even if an alternative approach resulted in a more complex formula for annual maximum allowed revenue, to the extent it removed the requirement to estimate expected inflation, strip it out of nominal rate of return and then add back actual CPI, it would make the overall framework simpler. As with the stability of the framework, a simpler approach will tend to be in consumers' interests, as NSPs will always be better placed to deal with complexity.

The AER has proposed a nominal or hybrid approach as alternatives, which the CRG understands to mean, respectively:

- Setting a nominal rate of return rather than a real rate of return
- Setting a nominal cost of debt while continuing to set a real cost of equity.

Details of these approaches, such as whether the nominal approach results in setting nominal revenue determinations or continuing to adjust for actual CPI, or how this would affect RAB indexation and the current approach to adjust depreciation, need to be examined to understand the overall impacts. Prima facie, one potential issue with an alternative approach is the revenue allowance would no longer be calculated using a "CPI-X" approach. This would only be an issue to the extent that consumers value knowing prices are linked to CPI, because it indexes their energy costs to the general level of prices, making these costs consistent in real terms and with their income to the extent their income is linked to CPI.

Pertinently, the link between changes in maximum allowed revenue and energy bills is extremely indirect:

1. In practice, maximum allowed revenue does not change year-to-year on a pure CPI-X basis, due to other terms in the formula, such as: unders and overs from the previous year, changes to the trailing average cost of debt, contingent project costs, and pass-through costs such as premium feed-in tariffs.
2. Changes in maximum allowed revenue do not translate precisely into changes in prices, due to factor such as: changes in demand and rebalancing of tariffs across different tariff types.
3. Changes in network prices do not translate precisely into changes in energy bills due to the other components of the bill, which have their own drivers that rarely follow CPI: wholesale costs, Australian Energy Market Operator (AEMO) and ancillary service fees, environmental costs and retail costs. For larger business customers in particular, the volatility of ancillary service costs such as Frequency Control Ancillary Services (FCAS) and the Reliability Emergency Reserve Trader (RERT) has recently outweighed any volatility arising from network charges.

In other words, the "signal" of a CPI term in the maximum allowed revenue formula is clearly outweighed by the "noise" of these other factors. Of course, this does not mean the CPI term *should* be removed. It simply means our preliminary view, to be confirmed by further consumer research, is that it is not especially relevant to consumers. Further research to assist consumers and consumer representatives in forming clear judgments on the desirability of an alternative framework is expected to include:

1. Greater clarity on how the alternative framework would be put into practice
2. Revenue implications, if any, for a typical NSP and thus, its users, and their materiality. These could include – changes in the profiling of revenue, changes in the volatility of revenue or changes in the absolute revenue. One way the latter could occur is if the alternative framework either reduced or increased the systematic risk to which investors in the NSP are exposed.
3. Does the alternative framework better align the rate of return methodology with investors' expectations/preferences regarding real or nominal returns? For example, do debt providers generally require a nominal return (as evidenced potentially by debt instruments more commonly having a nominal coupon rate rather than an indexed one), while equity providers prefer real returns (this appears to be the underlying logic for considering a hybrid approach)? If better alignment is achieved, how do consumers benefit from this? This latter question needs to be addressed to justify a change simply to suit investor preferences, otherwise there is no link back to the NEO/NGO.

4.3 Would a change in the framework better meet the long-term interest of consumers?

The CRG needs more evidence, in particular from NSPs, to demonstrate how a change to a nominal or a hybrid model would impact consumer prices and service levels over more than one regulatory period. Changing the regulatory model from real cost inputs, to nominal or hybrid, is a substantial change and consumers expect to know what the consequent impact on prices and service levels could be in the long run. In particular under different scenarios, where inflation could be rising or falling over one or several regulatory control periods.

Reflecting on the advocate interviews and other evidence, the CRG notes a consistent view that consumers value predictability and consistency in regulatory practice. As previously mentioned, interviewees suggested the bar should be high before any change in approach is considered and constant reopening of the issue could erode consumer trust in the AER and energy networks.

Other themes around long-term interests of consumers include:

- A transition to higher prices could be helpful to consumers if an approach was adopted which lead to higher prices.
- Consumers have limited means to manage price shocks and arrangements that could assist are considered to come in the form of government interventions such as increases to energy concessions.

Overall, the CRG considers the regulatory frameworks or inputs into the regulatory model, should only be changed if it can be demonstrated that the current methodology does not advance the NEO/NGO. Currently, the CRG has not been presented sufficient evidence that this is the case.

The CRG expects stakeholders and the AER to provide sufficient and timely evidence to make informed recommendations about any of the proposed changes to the regulatory models discussed in this chapter. The CRG also expects to recommend and/or undertake further research to add to the evidence of consumer views on whether any proposed changes would impact negatively in consumer's confidence in the regulatory framework. The CRG also expects stakeholders to clearly demonstrate how consumers would benefit from changing the regulatory framework against the costs of a loss in consumer confidence and the associated detrimental effect on the long the interest of consumers.

5 Reframing of the problem of inflationary expectations

This chapter reflects on the relationship between the design of the regulatory framework and consumers' confidence in the framework. The CRG considers it reasonable to assume that if a regulatory framework does not engender consumer confidence, then the framework cannot be said to be promoting their long-term interests.

The CRG is under no misapprehension about the level of public awareness of the regulatory framework, or the AER's treatment of inflationary expectations. However, lack of awareness is not a valid reason to consider a test of consumer confidence. A more helpful test might involve contemplating how a reasonable customer would perceive the ongoing cycle of reviews by economic regulators (including this review by the AER) into a regulatory parameter that can be neither seen nor verified.

In the short time since its inception, the CRG has not had the opportunity to test consumer confidence as a guiding principle in regulatory design – in this case, in relation to the treatment of inflationary expectations. While the CRG expects this principle will gain have widespread support among consumers and advocates, that support remains to be tested in the months ahead.

5.1 The role of expected inflation in the regulatory framework

This review of the appropriate treatment of inflationary expectations is taking place between two guardrails. Between the two guardrails lies a suite of rules and conventions governing the conduct of regulatory decision-making, including a regulatory commitment to open, transparent and inclusive processes.

The first of these guardrails consists of the theoretical foundations of regulatory pricing. This includes economic and financial concepts such as the Capital Asset Pricing Model (CAPM) and the Fisher Equation linking nominal with real rates of return through inflationary expectations. The second guardrail derives from the regulatory models developed by the AER over the course of time, including the PTRM, the roll forward model (RFM) and the CPI-X pricing adjustment model.

While inflationary expectations are central to the theoretical constructs and regulatory models that frame this review, those expectations do not figure in consumers' experience of energy network services or the benefits they derive from consuming energy. There is a long and tenuous chain of causes and effects between the estimation of inflationary expectations and the final prices and services experienced by consumers.

It is against this backdrop – of a narrowly framed problem around a parameter that consumers only experience in the most tangential way – that the CRG has been tasked with representing the long-term interests of consumers with respect to the regulatory treatment of inflationary expectations.

In this section, the CRG asks whether the AER is consulting on the right questions from the perspective of the long-term interests of consumers, and whether the guardrails are limiting the opportunity for innovative solutions.

5.2 Why the AER is reviewing its methodology

On this occasion, the network service providers (NSPs) have raised concerns with the regulatory treatment of inflationary expectations. These concerns are not new. Nor are they unique to energy networks. For 20 to 30 years, economic regulators across Australia have regularly reviewed the methodology they apply to estimate inflationary expectations.

In its discussion paper, the AER identified two strategies for dealing with the perennial problem of estimating inflationary expectations. The first strategy seeks to sidestep the problem by adopting a revenue model which does not require an estimate of inflationary expectations. The discussion paper identifies two options under this strategy. These include replacing the current real rate of return (or Indexed RAB) approach with either a nominal rate of return (Unindexed RAB) approach, or a 'hybrid' approach.

The second strategy considers alternative methodologies for estimating inflationary expectations. The discussion paper identifies five well-established options. These include the current RBA-method, a glide-path, the bond break-even approach, the swaps method and a survey-based approach.

All things being equal, the first strategy can have a greater bearing on customers because it reprofiles the rate at which NSP's recover their investments in assets. This will affect the prices customers pay. For example, a nominal rate of return approach is likely to see customers pay more now and less later, compared to the real rate of return approach.

Which of these profiles is more aligned with consumers' long-term interests? Unhelpfully, the answer is, "it depends." Each customer's preferred approach will depend on their circumstances. Moreover, their preferences may change as their circumstances change. In economic parlance this can be described as consumers displaying a broad (and constantly changing) distribution of time-preferences for money. The same can be anticipated about their preferences toward risk, for example, in response to questions about who is best placed to manage inflationary risk.

The CRG recognises the potential disruption to pricing outcomes experienced by customers that might be caused by a shift from the extant real rate of return approach. At this stage, the CRG has not had sufficient opportunity to explore these concerns with consumers. The following discussion therefore only addresses the AER's first question about the setting of inflationary expectations.

The second strategy contemplated in the discussion paper addresses the setting of inflationary expectations. It consists of five alternative methodologies for estimating inflationary expectations. The two market-based methodologies contemplated in the discussion paper (the bond break-even approach and the swaps method) may be justifiable "in theory", but they have been shown to be highly unreliable in practice. The other three approaches (the RBA-based method, glide-paths and surveys) are based on largely pragmatic considerations.

5.3 Is there an alternative?

Inflationary expectations can be neither reliably observed nor verified. This lack of reliability seems to help explain why the regulatory treatment of inflationary expectations has been subject to repeated reviews since the inception of economic regulation in Australia. Indeed, this lack of verifiability appears to invite stakeholders to repeatedly contest the approach adopted by the regulator. Of course, large and well-resourced stakeholders, who potentially benefit by many millions of dollars, face immeasurably greater incentive and capacity to challenge the AER. This represents a large power imbalance embedded in the core of the regulatory framework. This power imbalance represents a prima facie shortcoming in the framework's design when assessed against the AER's statutory objective of promoting the long-term interests of consumers.

The CRG's consumer confidence principle suggests the long-term interests of consumers should also be assessed with regards to the behavioural incentives the framework creates – including, when dealing with inflationary expectations. The CRG contends that the lopsided incentives, and the

observed response of regulated entities to that incentive, demonstrate the regulatory framework is not operating to promote the long-term interests of consumers.

The discussion paper's alternative methodologies for estimating inflationary expectations are unlikely to allay these behavioural incentives on an enduring basis. The CRG expects networks' preferred methodology for estimating inflationary expectations will change over time, in line with their short-term interests. This will just invite further calls for yet more reviews into the estimation of inflationary expectations.

This has led the CRG to consider whether the AER should be exploring other approaches that would eliminate these "invited behaviours". This reframing of the inflationary expectations problem, as a problem about invited behaviours rather than estimation methodologies, suggests it might be helpful to rethink one or both of the guardrails that presently bound the regulatory framework.

The CRG has not had the opportunity, nor does it have the resources, to re-examine the theoretical foundations of the regulatory framework and the role played by inflationary expectations. A profound re-examination of these theoretical constructs would require a much broader review than the one currently underway.

That leaves the CRG to encourage the AER to consider whether its regulatory pricing models (the second guardrail) can be reconfigured to avoid the behavioural responses it invites. In other words, whether the regulatory model can be reconceptualised so the AER is not required to estimate inflationary expectations as part of each of its price determinations.

Shifting the responsibility for estimating inflationary expectations away from the AER would free it from having to estimate an unobservable and unverifiable input to the pricing model. The obvious alternative would involve transferring this responsibility to networks. They alone know their inflationary expectations so they could become responsible for determining the inflationary expectations built into the regulatory derivation of their revenues and prices.

Obviously, this could lead to a secondary problem. Networks may might not nominate their true expectations of inflation if they consider an alternative nomination would deliver them greater revenues. Such behaviour would be a rational network response, but consumers could be expected to see it as a "gaming of the AER". Consumers will would have little confidence in a regulatory framework if it invited gaming of this nature. Economists refer to this situation as an information asymmetry problem.

The solution to this problem requires identifying a mechanism where the benefits are maximised for networks if their nominated inflationary expectations represent their true expectations of inflation. In other words, the risks of making bids that are contrary to their true expectations are internalised within each network.

Importantly, an optimally designed incentive mechanism would not rely on external thresholds or targets that would need to be set or policed by the AER. All the incentives and disciplines would lie within the network. This means there would be no requirement for the AER to estimate inflationary expectations or review the accuracy of NSPs' nominated values of expected inflation.

Handing responsibility for determining inflationary expectations to the networks could eliminate their behavioural incentive for ongoing review of the AER's methodology for setting inflationary expectations. An effective incentive mechanism could ensure networks do not take advantage of the responsibility handed to them. If both these conditions can be satisfied, then consumers could feel more confident that the regulatory pricing framework was operating in their long-term interests.

The CRG has not had time to consider how such a mechanism might be designed but expects such an incentive would lie in one or more of the PTRM, the RFM and the CPI-X pricing adjustment model. The CRG would welcome the opportunity to work with the AER on the design of an effective incentive mechanism.

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Appendix A: Summary of consumer representative preferences from the *Review of Expected Inflation 2017*

Consumer Challenge Panel	Energy Consumers Australia	Major Energy Users	Uniting Communities
Consumers and long-term investors value consistency and predictability in regulatory practice.	It is "cherry-picking" to review inflation in isolation. Consistency is a priority.	Concerned that changing the approach to estimating inflation was "cherry picking".	Supports the inflation guideline being binding for the specified periods.
Approach must best meet the requirements of the NEO/NGO and ARORO.	The AER is required to exercise its functions to achieve the objective of the NEL and NGL.		
The shifting of risk from consumers to networks as per ECA proposal is better examined as part of a wider review of the regulatory framework.	Consumers should not be exposed to upside inflation risk. Inflation risk should be allocated to investors.	Supports ECA conclusion.	Supports ECA conclusion.
Concerned about approaches which make prices more variable and less predictable for consumers. Consumers would bear a real price risk for which there is not a natural offset in terms of changes in income.		Consumers experience annual price adjustments that bear limited relation to price movements reflecting CPI.	Consumers experience energy price increases that are multiples of CPI.
Supported further research to define the parameters around how a glide-path might be triggered and its operation in "extreme" circumstances.			
Market-based approaches have biases and transaction costs.	Market indicators introduce unnecessary regulatory risk. The appropriate estimate is to use the RBA target band to provide a consistent measure.	Supports ECA conclusion.	Supports ECA conclusion.

Consumer Challenge Panel	Energy Consumers Australia	Major Energy Users	Uniting Communities
May be merit in further consideration of: • Updating the forecast CPI with the actual CPI (lagged) each year in the same manner as the AER updates the cost of debt each year; and/or • Whether the AER should apply the RBA's published short-term forecasts of CPI for Year 1 (and year 2) while applying the mid-point of the RBA's target range for the remaining years of the regulatory period. This approach would replace the use of a constant CPI based on the geometric average of the 10-year CPI forecast.			

Appendix B: Overview of CRG preliminary interviews

Appendix B1. Participants

Interview date	Name	Organisation	About
7 July 2020	Miyuru Ediriweera	Public Interest Advocacy Centre (PIAC) https://piac.asn.au	PIAC conducts test cases and strategic litigation in the public interest, and provides legal assistance, policy advice and training focused on the disadvantaged and marginalised.
7 July 2020	David Headberry	Major Energy Users (MEU) http://meu.asn.au/about.html	In 2005, the MEU brought together a number of regional energy advocacy groups representing the interests of large consumers of energy.
8 July 2020	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.
9 July 2020	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.
10 July 2020	Mark Henley	Uniting Communities https://www.unitingcommunities.org	Uniting Communities works alongside South Australians, supporting them to overcome adversity and disadvantage. It offers a wide variety of services including to families and children, Aboriginal people, people living with mental health issues and people living with disability.
16 July 2020	Gavin Dufty	St Vincent de Paul (Vinnies) https://www.vinnies.org.au	Vinnies in Australia has more than 60,000 members and volunteers, who assist people in need and target social injustice across Australia.

Appendix B2. Interview questions

1. If a change in methodology leads to higher prices, should this impact be smoothed out and if so, how? For example, could the new methodology factor in a gradual transition?
2. If a change in models resulted in price shocks, are there transitional arrangements that could be put in place to protect consumers?
3. Do consumers prefer stability in prices so that they can predict the proportion of their bill relative to income – or do consumers prefer stability in terms of predictable bills from year to year?
4. How important is stability for consumers relative to higher or lower prices?

Appendix B3: Interview findings

A recurring theme in the interviews was that there needed to be a high bar before any change in approach is considered. One interviewee wanted to be presented with evidence that there is a problem and that modelling over multiple regulatory periods indicated this. All interviewees wanted more information about the materiality of any change in approach.

While not a direct question asked of interviewees, the issue of consumer confidence in the regulatory framework arose during some interviews. This was related to the issue of the need for a high bar before any change in approach should be considered for one interviewee. This interviewee said that a high bar for change was needed or consumer trust in the AER and industry would be eroded. They commented that the AER is empowered by consumers to make the decisions around inflation approaches and too much consultation can erode consumer trust. They stated that trust is earnt by making the right decisions, but constant discussion of issues has negative reactions from consumers.

A second interviewee stated that they would not talk directly to consumers about the inflation review. They said that consumers do not want to dive into the details of regulatory processes. They said that in general, consumers trust government and the AER in this context is the government. They said consumers accept government decisions unless it is patently unfair.

Two interviewees also pointed to the way in which consumer advocates are trusted to mediate between consumers and the AER. The implication is that having consumer advocates act in this capacity can be a necessary prerequisite for some to have trust in the regulatory process.

1. If a change in methodology leads to higher prices, should this impact be smoothed out and if so, how? For example, could the new methodology factor in a gradual transition?

Three interviewees responded that if a change in methodology leads to higher prices, smoothing out the impact would be helpful. One of these noted that it did depend on the materiality of the price increase and how burdensome the smoothing out process would be on the AER, energy networks and investors.

A fourth interviewee responded that if a change in approach led to higher prices, they did not want the approach to be adopted. This was a recurring theme in the interviews. The fifth and sicth interviewees indicated that their response to the question would depend on the materiality of the price increase and commented that they were yet to be presented with this information.

In terms of determining the materiality of the price increase, one response was that it would be necessary to review a previous regulatory determination and apply, for example, the bond break even approach to the final decision in order to determine whether that led to additional revenue for the 5-year period.

2. If a change in models resulted in price shocks, are there transitional arrangements that could be put in place to protect consumers?

Interviewees appeared to find this question difficult to answer as they could not readily identify appropriate protections that fell within the remit of the AER. One interviewee responded that revenue smoothing during a regulatory control period could be used or a derogation to allow revenue recovery to be deferred or brought forward. A second interviewee responded that government concessions could be increased. They reported that this would be challenging given that concessions are jurisdictionally administered, except for the Energy Supplement which is

national. A third interviewee noted that this is a public policy question as there are already complimentary measures in place.

One interviewee noted that materiality for consumers in vulnerable circumstances can be a small change in prices. One interviewee noted that the materiality issue was critical and that it was essential for consumers to be presented with information about the potential change in revenue of previous regulatory decisions when considering different models.

3. Do consumers prefer stability in prices so that they can predict the proportion of their bill relative to income – or do consumers prefer stability in terms of predictable bills from year to year?

One interviewee reported that some consumers prefer stability in prices relative to income while others prefer stability in terms of predictable bills from year to year. They stated that this depended on whether their income was pegged to CPI (e.g. pension) or not (e.g. Jobseeker). They also stated it depended on the level of financial literacy. A second interviewee reported that stability was very important to their constituents.

One interviewee noted that consumers have different reference points when answering this question and their response could either be tied to assets or income. They indicated that movement with CPI would generally be considered helpful. They also said that consumers would want investors and networks to experience the same movements consumers do. They said equivalence would be a test that consumers would apply when assessing the fairness of pricing outcomes.

Two interviewees responded strongly to this question. One of these said that the premise was false as it implied consumers currently experience stability. This respondent said that their constituents experienced a lot of volatility in prices, both through annual network pricing and the wholesale component. This response was echoed by the second of these two interviewees. They said that the impact of inflation was not as material on prices as other movements. This respondent felt that the value of inflationary stability has been overrated.

One interviewee reported that the value of stability depended on the relationship to price movements. They reported that their constituents are so caught up in day to day life and the challenges presented to them that they are agnostic about the question of stability. This will be discussed below at question 4.

The CRG observed that the framing of this question presented challenges to interviewees. During the interviews with three respondents, we found that we had to rephrase the question several times in order to elicit a response that was in line with the intent of the question. We found a recurring theme that there were pre-existing notions attached to the word “stability” and that it was difficult at times to get to the question of the impact of a move to target either the nominal return on capital or real return on equity.

One interviewee responded that questions about stability are often asked in the wrong way. For example, they said that a question such as ‘do you want stability or volatility?’ would get the wrong answer.

Given the difficulties we encountered in asking question 3, we established that:

- Question 3 and 4 formed part of a pilot study to test and refine questions for consumers. It is necessary for the CRG to engage in more discussions on the different approaches and their implications for consumers in order to further refine these questions – *before* conducting additional engagement with consumers.

- There is a close relationship between questions 3 and 4. The question of price movements being indexed to CPI appears to be closely linked to both the materiality of the price impacts and the question of whether prices move up or down.

4. How important is stability for consumers relative to higher or lower prices?

In responding to this question, one interviewee raised the issue of risk for consumers. They felt that it was important for the regulatory approach to be long-term. They wanted to consider the issue in terms of inflation exposure for consumers versus inflation exposure for investors. They felt there was a balance between appropriate investment and overinvestment which would lead to gold plating. They considered that the response to this question should relate to what is in the long-term interest of consumers. They reported a sense that the regulatory balance is currently weighted in favour of investors rather than consumers.

Two interviewees reported that their constituents currently do not experience stability and are exposed to a lot of volatility. They reported that they would like to be provided with further information about the materiality of the impact of changing to a different approach.

One interviewee emphasised how important stability is and that their constituents do not want to see any changes at all. They reported that their constituents have a high degree of trust in government and generally feel that government is doing the right thing.

One interviewee reported that there were tradeoffs between stability and lower higher prices. They felt their constituents would accept more volatility for lower prices. They said their constituents would not accept volatility for higher prices.

The CRG further probed the final response to query whether the interviewee felt the need to adopt a long-term approach when representing their constituents on this issue. The interviewee reported that it was necessary to consider long-term considerations over short-term gain. They also said that for their clients a long-term can be a month away.