Final position

Regulatory treatment of inflation

December 2020

AUSTRALIAN ENERGY REGULATOR

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Contents

Shortened forms

Shortened form	Extended form
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
CPI	Consumer Price Index
Energy networks	Refers to a network through which a service provider provides electricity network services and/or gas pipeline services.
NEO	National Electricity Objective
NER or rules	National Electricity Rules
Network services	Refers to electricity distribution, electricity transmission, and/or gas pipeline services.
NGO	National Gas Objective
NGR or rules	National Gas Rules
NPV	Net present value
PTRM	post-tax revenue model
RAB	Refers to the regulated asset base for electricity service providers as prescribed in the National Electricity Rules, or a capital base for gas service providers as prescribed in the National Gas Rules.
RBA	Reserve Bank of Australia
Regulatory period	Refers to a regulatory period (for electricity service providers) and/or an access arrangement period (for gas service providers).
Regulatory proposal	Refers to a regulatory proposal, revised regulatory proposal, revenue proposal, revised revenue proposal, access agreement proposal, or revised access arrangement proposal.
RFM	roll-forward model

1 Final position

The National Electricity and National Gas rules (NER or NGR) require us ***determine a method that is likely to result in the best estimates of expected inflation*** (emphasis added).[1] Our ongoing monitoring of market data, cumulatively, indicated that there may be a better way to estimate expected inflation than we are currently using.

We released our draft position on the regulatory treatment of inflation on 1 October 2020. Following consideration of stakeholder submissions, our final position is to change our approach to estimating expected inflation.

Inflation is the term for the changing purchasing power of a dollar. If the rate of inflation is high, a dollar purchases fewer goods and services today than in the recent past. In other words, inflation reduces the purchasing power of the dollar.

There are many factors that might cause inflation, such as changes in fuel prices, changes in exchange rates or the natural progression of wage growth. We need to account for inflation in our decisions so that service providers can recover the efficient cost of their investment over the life of the assets, and therefore continue to invest.

Our current approach to estimate expected inflation uses a 10 year average of the Reserve Bank of Australia's (RBA) headline rate forecasts for 1 and 2 years ahead, and the mid-point of the RBA's target band—2.5 per cent—for years 3 to 10. The period of 10 years matches the term of the rate of return. This approach has worked well in the past, but the current period has highlighted that adjustments are required to improve its performance in periods of economic instability or sustained periods of low or high inflation.

Consistent with our draft position, we consider that our current approach is improved by:

- Shortening the target inflation horizon from ten years to a term that matches the regulatory period (typically five years).
- Applying a linear glide-path from the RBA's forecasts of inflation for years 1 and 2 to the mid-point of the inflation target band (2.5 per cent) in year 5.

We consider that our final position addresses some immediate problems highlighted in stakeholder submissions, but that it will be enduring because it is capable of responding to changing economic circumstances.

Currently there is a mismatch between our estimate of expected inflation over a 10 year term, and our roll forward of the regulated asset base (RAB), which is done over a 5 year term. We consider that shortening the inflation term to match the regulatory period, although creating a mismatch with the term of the rate of return, is the more critical mismatch to resolve. This is because of the sustained decline in the required

[1] NER, cll. 6.4.2(b)(1), 6A.5.3(b)(1); NGR, r. 75B.

rate of return and the increased difference between 5 and 10 year inflation expectations due to short-term fluctuations in inflation expectations.

Applying a glide-path acknowledges that it is likely to take longer than previously for inflation to revert to the mid-point of the RBA's target band following periods of sustained low or high inflation.

We consider that these changes will provide service providers will a reasonable opportunity to more accurately recover their efficient costs in an increasingly changing market to better serve consumers with the energy services they want in the long term. This is because, broadly, through our regulatory models, we take out what we expect to put back into the RAB.

Our draft position was open on the question of whether we should transition to a shorter inflation term and we requested stakeholder views. Having considered submissions on this issue, our final position is to immediately implement the above changes. Not doing so, would not promote efficient investment or use of the energy networks. If we did not adopt a better approach, there would be consequences and distortions – over and under investment and inefficient use of energy networks.

For the reasons set out in this final position and having considered all stakeholder submissions, we consider that our final position sets out a method that is likely to result in the best estimate of inflation expectations and is therefore likely to contribute to the achievement of the National Electricity and National Gas Objectives (NEO/NGO).

The treatment of inflation and the setting of the rate of return are foundational in setting regulated revenues. It is important they are set appropriately to promote efficient investment in, and operation of energy networks.

The approach we are proposing is symmetric and enduring. It is able to operate across a breadth of market conditions and forecasts and is more responsive to changes in market conditions than our current approach. In this way it will advance the NEO and NGO as service providers will more accurately recover their efficient costs in the long term interest of consumers.

Our final position for estimating expected inflation will make it more likely that investors will be able to recover the value of their efficient investment because it more closely aligns with the method we use for setting regulated revenues.

The impact on revenues and prices resulting from our final position will vary from time-to-time depending on market data and forecasts. Sometimes it might produce a higher estimate of expected inflation than our current approach and at other times it might produce a lower estimate.

Clearly, the precise outcome on revenues and prices depends on movements in data and forecasts before our final position is applied. At the current time, market data and forecasts indicate that our final position is likely to generate a lower estimate of expected inflation and therefore higher revenues and prices than our current approach.

The CRG noted that our final position will impact prices for consumers in the years immediately ahead.[2]

While it may be to consumers short-term advantage to have lower prices, we are concerned that in the long-term, not adopting the best method will undermine efficient investment signals and leave consumers with an energy network that does not deliver services that they are seeking in a safe and reliable way. Correcting a scenario of underinvestment is likely to impose higher costs on consumers.[3]

For the reasons set out in chapters 7 to 10 we consider that our approach is clearly superior to surveys and market-based measures including the bond break-even and swaps approaches.[4]

As part of this review, we reconsidered whether the regulatory framework delivers a real rate of return.[5] Consistent with our draft position, we are satisfied that it does deliver a real rate of return as intended under the rules. The Consumer Reference Group's (CRG) submission supported our position.[6] We briefly revisit this issue in chapter 12.[7]

We also considered options to change the regulatory framework to target either a nominal or hybrid rate of return. We are not persuaded that either option is preferable to our final position based on the evidence before us. Further, we consider our proposed change to our estimation method addresses the key issues that motivated submissions to change to a hybrid or nominal framework. We consider these issues in chapter 12.

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2 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 4.

3 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 18.

4 See for further detail: AER, *Draft position on regulatory treatment of inflation – Inflation review 2020*, October 2020, Draft Position, pp.50-63

5 That is, that our approach is consistent with the NER, which conceptually targets a real rate of return.

6 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 14.

7 Should you wish to review our reasons for concluding that the framework delivers a real rate of return, please refer to AER, *Draft position on regulatory treatment of inflation – Inflation review 2020*, October 2020, p. 69 and Appendix I at p. 138.

2 Inflation is important in the regulatory framework

The general inflation rate is applicable across the economy, and it plays a role in determining the amount of money we allow regulated electricity and gas network service providers (service providers) to recover from their consumers and therefore the prices consumers pay. Our current approach to regulation provides a price/revenue path that is linked to inflation, referred to as a 'real' rate of return.[8]

The nominal rate of return on an investment is the return expressed as a percentage of the assets' value unadjusted for inflation. The real rate of return on an investment is the nominal return adjusted for inflation. It is a measure of the income available to the investor after preserving the value of the original investment in real terms.

The total revenue requirement for a service provider is a forecast of the efficient cost of providing electricity or gas distribution services over a 5 year regulatory control period. We determine annual revenue, and the total revenue requirement, in nominal terms. We then adjust for inflation, converting the revenue and rate of return to a 'real' approach, as explained below.

Under our real approach we set the revenue that service providers can recover from consumers in the first year of the regulatory period (typically five years), and then for the remaining four years we adjust the revenue allowance to include movements in actual inflation. As part of this framework, we also escalate the RAB by movements in actual inflation. This approach means that the value of investments in network infrastructure moves in line with actual inflation. As a result we also use a real rate of return (i.e. the rate of return net of inflation).

This real approach has been employed by numerous regulators over many years.[9] In our case it was established in rules developed by the Australian Energy Market Commission (AEMC) in 2006.[10] Since 2006, the framework has successfully supported the provision of network services to consumers.

An alternative approach is a nominal framework where values are set at the start of the regulatory period and not adjusted for movements in inflation but the rate of return used includes inflation.

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8 Information on a real or nominal return is set out in section 8.2.1. Alternatively, our discussion paper contains detailed discussion on real and nominal.

9 Early international examples are Chile and the UK (e.g. regulation of electricity and water by Ofgem and Ofwat), who separately initiated CPI-X regulation using revalued or indexed asset bases. Since then it has been widely adopted in many countries.

2.1 How we use inflation in our decisions

Under the current regulatory framework, we determine a total revenue requirement for each service provider for its regulatory period (typically five years). The total revenue is determined based on a range of building block components including operating expenditure, tax, depreciation of the RAB and a return on the investment in the RAB.

When we calculate the return on the investment in the RAB, we do so looking forward across the upcoming regulatory period. Effectively we ask:

- What return do investors expect to encourage them to invest their capital in energy networks?
- As part of this exercise, we also ask what do investors expect will happen to inflation?

To answer these questions we need to develop a method to estimate expected inflation.

We then smooth the revenue requirement to remove year to year variations and determine a starting revenue in year one of the regulatory period.

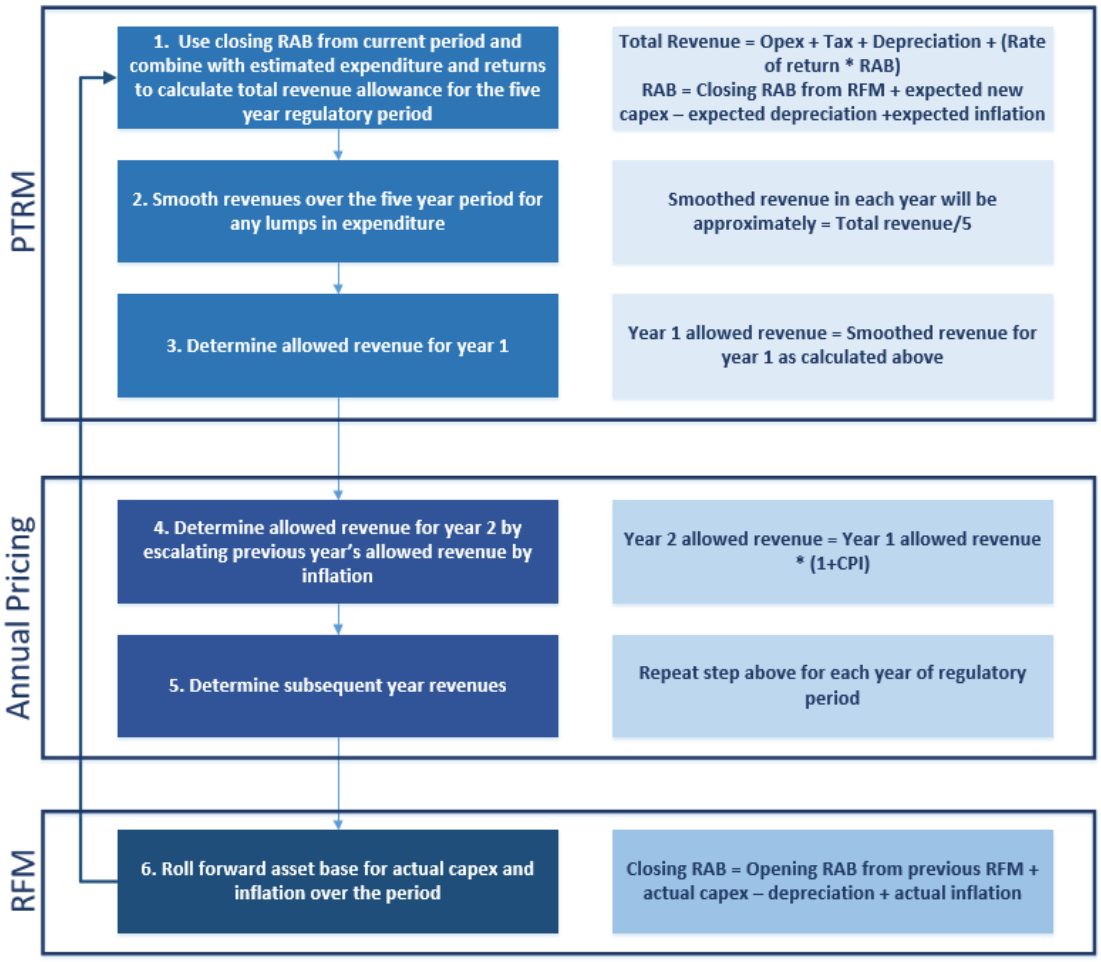
Once we have the starting revenue in year one, we do not use the building block revenue for the regulatory period again. Instead, we escalate the year one total revenue by a consumer price index or CPI-X formula in each subsequent year. The CPI number we use is actual CPI as measured by the Australian Bureau of Statistics and is the measure of actual inflation. The X factor represents the rate of change in $real required revenue each year to recover total building block costs over the regulatory period.

Updating revenues for actual inflation means the purchasing power of the revenue stream is preserved over the regulatory period for both consumers and service providers. The prices that consumers pay vary year to year depending on the value of actual inflation (CPI). This means that prices for electricity and gas services vary in line with the price of other goods in the economy, and more generally movements in incomes.

We also preserve the purchasing power of the investment in the RAB across regulatory periods by escalating the RAB by movements in actual inflation, (although we do this at the end of the regulatory period, rather than year by year).

Figure 1 presents a simplified example to illustrate the operation of the current regulatory framework.

Figure 1 Simplified example of the current regulatory framework operation



The net effect of the framework set by the NER/NGR is:

- Service providers are compensated for movement in inflation because we index the RAB for actual inflation.
- Therefore, service providers receive the ex-ante real return on assets we set in our regulatory determinations.
- Service providers may receive (ex-post) a nominal return above or below the ex-ante nominal return set in the binding rate of return instrument, depending on inflation outcomes.

2.2 How we currently estimate expected inflation

Our current approach to estimate expected inflation uses a 10 year average[11] of the:

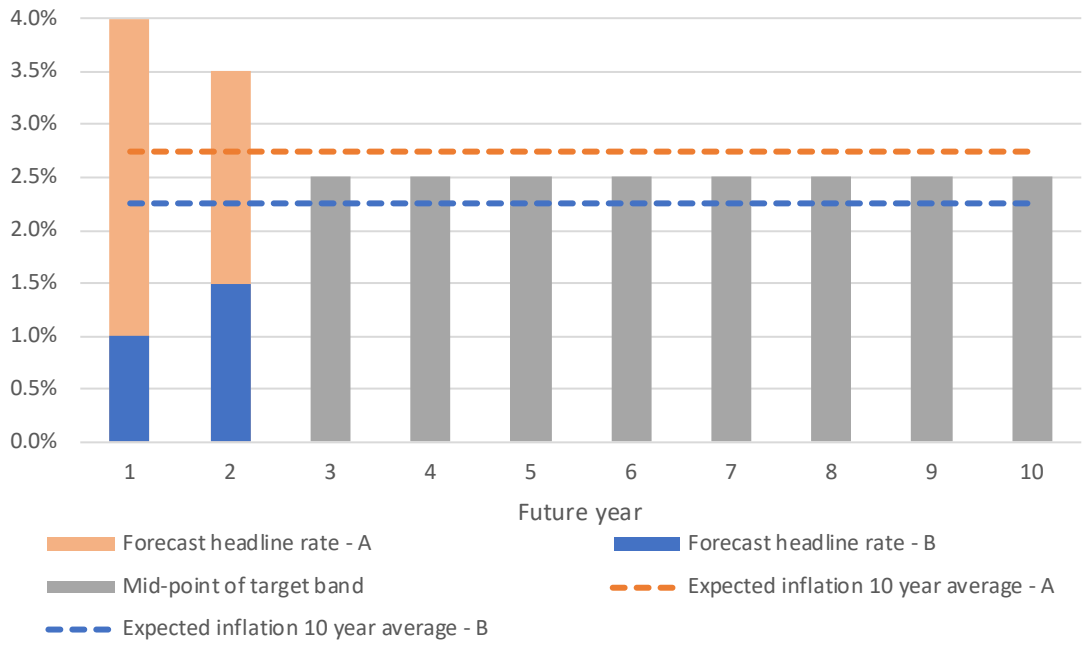
- RBA's forecast headline rate for 1 and 2 years ahead, then

[11] Specifically, a 10 year geometrically annualised average.

- Mid-point (2.5 per cent) of the RBA's target inflation band of 2 to 3 per cent for years 3 to 10.

Figure 2 shows the 10 year average expected inflation estimate under two different forecasts for short-term headline inflation.

Figure 2 Estimate of expected inflation using two different headline forecasts



We consider this approach is transparent and can be replicated easily by stakeholders. Submissions from Major Energy Consumers (MEU),[12] and the CRG[13] supported the retention of our current approach.

Deloitte Access Economics (Deloitte) also found that our current approach, or an adaptation that included a glide path, remained suitable.[14] While the method has some dependencies, (such as the reliance on the anchoring of long-term expectations—discussed in chapter 8), we will continue our monitoring program adopted following our 2017 review as noted in chapter 4.

2.3 Expectations, forecasts and outcomes

It is important to distinguish between expectations, forecasts and outcomes. In a number of submissions, some stakeholders have mixed these concepts and have therefore drawn incorrect conclusions.

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12 MEU, *Submission on draft position – Inflation review 2020*, November 2020, pp. 3-4.

13 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.

14 Deloitte Access Economics, *Review of the regulatory treatment of inflation*, 30 June 2020, p. 38.

We interpret expected inflation to mean investors' expected value of actual inflation over the relevant period (currently in our case, over ten years, but shifting to match the regulatory period in this final position). This is investors' expectations at the point in time when we make our regulatory decision. The expected value of inflation is informed by forecasts of inflation by sources like the RBA, but typically forecasts do not span the entire regulatory period. Investors therefore need to draw on other information beyond the available forecasts to form their expectations.

Both expectations and forecasts are an ex-ante concept. That is, they are made in advance of the actual outcome. The outcome could be lower, the same, or higher.

Importantly, outturn inflation being higher or lower than expected inflation does not mean the estimate of expected inflation was incorrect when it was made. It also does not mean a service provider was incorrectly compensated for inflation. Under our regulatory framework, service providers receive a target real return plus actual inflation. As long as the estimated inflation expectation used to set the real return on assets was accurate and unbiased (in the sense that it reflects investors' expectations) at the time the real rate of return target was set, service providers are correctly compensated irrespective of actual inflation outcomes.[15]

[15] In the sense that the service provider can earn the ex-ante real return on assets.

3 What we sought to achieve in this review

Our role as a regulator, and therefore the outcome we are seeking to achieve in this review, is guided by the NEO and NGO.

NEO:[16]

> …to promote efficient investment in, and efficient operation and use of, electricity services for the long-term interest of consumers of electricity with respect to:
>
> - price, quality, safety, reliability and security of supply of electricity; and
> - the reliability, safety and security of the national electricity system.

NGO:[17]

> …to promote efficient investment in, and efficient operation and use of, natural gas services for the long-term interest of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.

In addition, the revenue and pricing principles are an important consideration. They support the NEO and NGO and we have had regard to these principles in this review. In summary, the revenue and pricing principles are:[18]

- A service provider should be provided with a reasonable opportunity to recover at least the efficient costs the service provider incurs in:
  - providing regulated services; and
  - complying with a regulatory obligation or requirement or making a regulatory payment.
- A service provider should be provided with effective incentives in order to promote economic efficiency with respect to the regulated services they provide. The economic efficiency that should be promoted includes:
  - efficient investment in the energy network with which the service provider provides regulated network services; and
  - the efficient provision of regulated services; and
  - the efficient use of the energy network with which the service provider provides network services.
- Regard should be had to the RAB adopted:
  - in any previous determination or arrangement, or
  - in the rules.

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16 NEL, s. 7.

17 NGL, s. 24.

18 NEL, ss. 16(1)(a) and (2)(b); NGR, ss. 28(1)(a) and (2)(b) and RPPS are set out in NEL, s. 7A; NGL, s. 24.

- A price or charge for the provision of a regulated network service should allow for a return commensurate with the regulatory and commercial risks involved in providing the service.
- Regard should be had to the economic costs and risks of the potential for under and over investment by a service provider in the relevant energy network.
- Regard should be had to the economic costs and risks of the potential for under and over utilisation of the relevant energy network.

In addition, under s 16(1)(d) of the National Electricity Law, where there are two or more possible reviewable regulatory decisions that will or are likely to contribute to the achievement of the NEO, we must make the decision that we are satisfied will or is likely to contribute to the achievement of that objective to the greatest degree.

The NER and NGR provide the framework for how inflation should be reflected in our regulatory decisions.

Under the NER, we are required to publish a PTRM for electricity service providers.[19] Similarly for gas service providers, under the NGR, we are required to publish a revenue model.[20] All service providers must prepare their revenue proposals in accordance with the PTRM or revenue model.[21] The inflation estimation method is a mandatory part of the PTRM under the NER, and the revenue model under the NGR.

The PTRM is used to convert a nominal rate of return on assets to an initial real rate of return when we make a regulatory determination by:

- Setting an allowed nominal rate of return under the binding rate of return instrument.
- Applying the method specified in our PTRM that we determine is likely to result in the 'best estimates' of expected inflation. The estimate is used to reduce the allowed nominal rate of return to a real rate of return.
- Applying this real rate of return to the service provider's RAB.[22] Increasing the service provider's RAB from year to year over the regulatory period by CPI.

To give effect to this framework, the rules require us to determine a method that is likely to result in the best estimates of expected inflation.

Appendix A provides a commentary on relevant NER and NGR requirements.

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19 NER, cll. 6.4.1 and 6A.5.2.

20 NGR, r. 75A.

21 NER, cll. 6.3.1(c)(1) and 6A.4.1(b)(1) and NGR, rr. 72(3) and 73(3).

22 See e.g. NER, cll. 6.4.3(b)(1)(ii) and 6A.5.4(b)(1)(ii).

3.1 Applying the NEO and NGO

As noted in our discussion paper[23] and adopted by Deloitte in its report to us,[24] to assist us in applying the NEO and NGO in determining a method that is likely to result in the best estimates of expected inflation, we intend to have regard to the following factors:

- Relative congruence with the market expected inflation rate (i.e. whether estimates of a particular approach more closely correspond to the market-expected inflation rate). As noted in the ACCC/AER 2017 working paper, an approach may be considered relatively congruent if, for example:
    - There are several or more research findings that this method results in estimates of expected inflation which may contain zero, small or insignificant biases and/or distortions.
    - There are several or more research findings that this method produces estimates that closely mimic the characteristics and processes of market expectations of inflation.
    - There is less evidence that alternative methods produce estimates that more closely correspond to market expectations of inflation.
    - The biases, premia and/or distortions related to alternative methods are well documented in the literature and are difficult to estimate and remove.

  It is not possible to exactly measure the relative congruence of each approach in a way that can be compared. Rather, the above factors facilitate a ranking of the relative merits of the approaches.
- Robustness – An approach is considered robust if it does not change significantly in response to events or data that have little or no influence on market expectations of inflation.
- Transparency and replicability – An approach that is transparent and replicable can be easily verified by stakeholders, improving regulatory certainty for stakeholders and reducing the risk that errors have been made in the calculation of estimates of inflation expectations for regulatory purposes.
- Simplicity – A simple approach is likely to produce estimates of expected inflation that require less effort to construct and check (for both the AER and stakeholders). A simpler method may also provide less scope for contention.

3.1.1 Assessment of submissions

We will have regard to these factors in applying the NEO/NGO, and in a way that is consistent with our final decision of the 2017 inflation review, where we stated that:

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[23] AER, *Discussion paper, Regulatory treatment of inflation*, May 2020, p. 28.

[24] Deloitte Access Economics, *Review of the regulatory treatment of inflation*, June 2020, p. 33.

> …relative congruence and robustness are considered to rank above all other criteria. However, the rankings are not considered to be absolute, there are always trade-offs. Therefore, at the margin, if a particular method is so complex that it is opaque and cannot be reproduced, the uncertainty and controversy over its estimates may result in other methods being ranked as best estimates, even if the other methods are considered to be marginally less congruent and robust.[25]

Professor Vahey similarly agreed, stating:

> There are trade-offs between the criteria, all of which are appealing on an individual basis. For example, a measure that ranks well in terms of simplicity may not be congruent with the market expected inflation rate. The AER draft position sensibly takes a broad perspective of the candidates and applies appropriate judgement to produce the ranking. Economic theory is silent on what represents the best measure of expected inflation and absent a generally accepted econometric procedure to estimate the theoretical concept, the pragmatic perspective shared by both the ACCC/AER working paper and the AER draft position seems right.[26]

We consider a method to estimate expected inflation that achieves the following properties is likely to be capable of achieving the NEO and NGO:

- It results in correct ex-ante compensation over the life of the assets (i.e. cash flows with a present value equal to the total value of the investment in the RAB over the life of the assets).
- It results in an efficient allocation of risk.

We have considered these matters in assessing whether changes will better meet the NEO and NGO. While a change may meet some objectives, it might not be preferable. For example, a hybrid approach might be implemented in a manner that would provide correct ex-ante compensation over the life of the assets. However, we consider that it will not better achieve the NEO and NGO than our proposed real return framework approach due to the risk allocation.

3.2 Importance of 'best estimates' of expected inflation

In order to achieve the NEO and NGO, the method we determine for estimates of expected inflation must be a method likely to produce a 'best estimate'. As noted in chapter 7, we consider the purpose of estimating expected inflation is to deliver the appropriate return and compensate for movements in actual inflation over the regulatory control period. The challenge in determining a method that is likely to result in the best estimate of inflation expectations are that these expectations are not directly observable.

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[25] AER, *Final position paper, Regulatory treatment of inflation*, December 2017, p. 119.

[26] Professor Shaun P Vahey, *Report to the AER on estimating expected inflation*, September 2017, p. 4.

'Best estimate' was first introduced into the NER in 2006 as part of the AEMC's Economic Regulation of Transmission Services rule change (the 2006 rule change process).[27]

We remain of the view that the term 'best estimate' is intended to require the inflation estimate to be an accurate and unbiased estimate of expected inflation.

Unbiased in this context means the estimate is not systematically too high nor too low. In other words, any error between the estimate and true expected inflation is equally likely to be positive or negative. For this reason, it should reflect expected inflation only and should not reflect any risk premiums or other factors that would cause the estimate to not equal expected inflation. We consider that a glide-path provides the best estimate of 5 year expectations, than without, as it improves the estimate relative to expectations in a forward looking process.

Sometimes the actual nominal return will be above the nominal return set in the determination and sometimes it will be below it due to variations between expected inflation and actual inflation. However, this does not result in incorrect compensation as:

- real returns on assets and real prices are not affected, and
- nominal outcomes are reflected in the market data we observe when setting the rate of return, especially in the equity beta and market risk premium.

3.2.1 Variations in actual inflation from our estimated inflation expectation

It is important that we distinguish between expected inflation and actual inflation. At the time we make a determination investors will have an expectation of what inflation might be going forward, but actual inflation will be different to investors' expectations and our estimate of expected inflation. The key questions are:

- Does the estimate of inflation expectations reflect expectations at that point in time?
- Does the regulatory framework still provide the service provider with a reasonable opportunity to recover at least efficient costs?

The merits of an estimate of expected inflation cannot be tested by looking at subsequent inflation outcomes. However, if our estimate of expected inflation is biased or inaccurate, there will be a mismatch between the expectations of investors and our revenue allowance. A bias or error would result in us effectively setting the incorrect revenue allowance. This would not advance the NEO or NGO and may result in too much or too little investment. In addition, consumers will pay too much or too little and may not receive the energy services they want.

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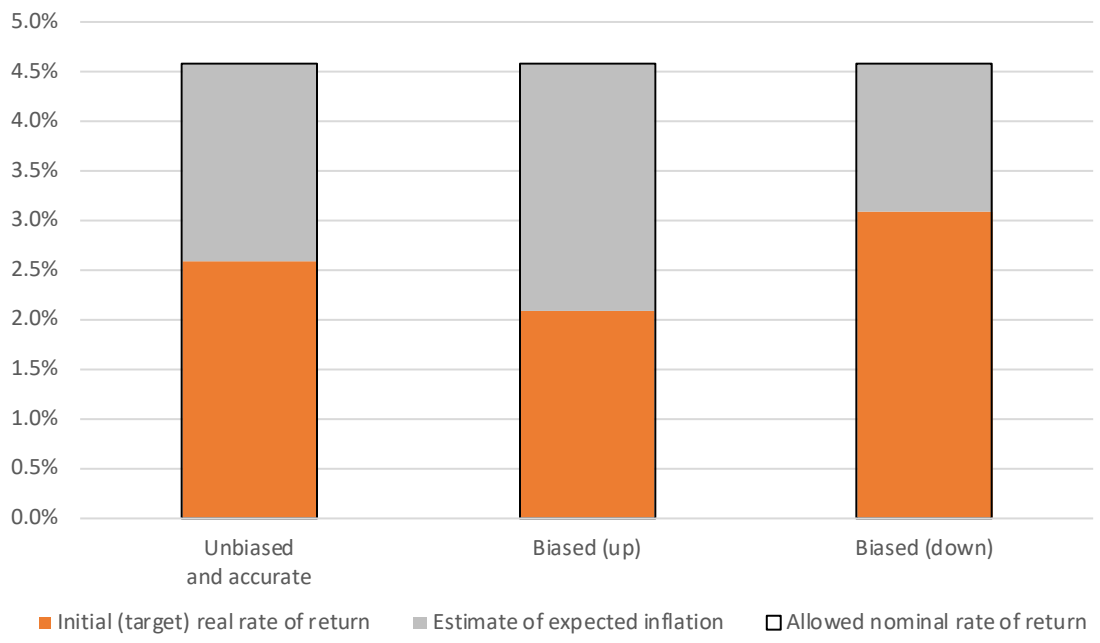
[27] AER, *Draft position on regulatory treatment of inflation – Inflation review 2020*, October 2020, chapter 7 and appendix B.

Figure 3 demonstrates the impact of a biased inflation estimate on the initial rate of return. For example, if expected inflation was 2.5 per cent over a given term, but the method used to estimate expected inflation was biased upwards, the expected inflation estimate observed using this method might be higher than 2.5 per cent —(for example 3 per cent). This would result in the initial real rate of return being set lower than using an unbiased estimate—assuming the same allowed nominal rate of return. This is illustrated in the second bar of figure 3. This may result in under-investment in the energy network, and consumers paying less than necessary for network services. The converse also applies (third bar in figure 3), where a downward bias in the estimate of expected inflation will produce an initial real rate of return that is too high. However, we note that a method that results in an unbiased estimate is not sufficient to be regarded as a good method, as it must also be accurate. A method that simply fixed expected inflation at a historical average may be regarded as unbiased—as it is unlikely to be consistently above or below the correct estimate over the long term—but that does not mean is a good estimate of expected inflation for a given term.

Figure 3 Impact of a biased inflation estimate on initial rate of return



Allowed returns can be expressed as either nominal or real returns. These returns can be specified as either on the total assets or targeted at equity. Once the basis of the allowed returns is determined, the ex-ante (can be thought of as the expected) return on both assets and equity in real and nominal terms can be determined for a given set of inflation expectations. The regulatory framework can be designed to target a constant real return on assets. If so, and actual inflation varies from expected inflation, then the nominal returns on assets and equity and the real return on equity will vary from their expected values. Alternatively, the regulatory framework could be designed to target a constant real return on equity. If so, the real and nominal returns on assets will vary from their expected values if inflation differs from expectations. In other words,

all four measures of return (real/nominal returns on assets/equity) cannot be held constant under a single approach.

The framework in the current rules specifies the return in terms of the ex-ante real return on assets and the framework ensures that this can still be achieved if actual inflation varies from expectations.[28] However this means that ex-post nominal returns will be different from the expected returns. What is important is that investors are compensated for expected inflation and the risk that the expectation might not be achieved. The first is compensated directly in the revenue allowance calculated in our PTRM, the second is compensated in the rate of return we apply.

3.2.2 ENA's proposed objective

ENA submitted that the objective we should target is to match the regulatory allowance (specifically nominal return on debt) to a service provider's efficient financing costs.[29]

As stated in our draft position, we do not agree with this objective. We are guided by the NEO and NGO. This is a broader consideration than financing practices. Moreover we see different approaches to financing from different entities depending on their circumstances and preferences. All financing practices entail some level of risk. What is important is that the total compensation matches expectations, including expectations of risk. We think that service providers are already sufficiently compensated for the risks involved in issuing nominal debt and these risks are best managed by the service providers as part of their overall financing decisions. Further, there is no requirement for us to set allowances that match a particular financing practice such as a nominal return on debt.[30]

Therefore, we are seeking to make a determination that provides efficient compensation for the safe and efficient operation and use of energy services in the long-term interest of consumers.

Specifically, the effect of the NER is the application of an efficient real rate of return rather than a nominal rate of return or to separately apply a nominal debt.[31] The estimation of the cost of debt is an input into the estimation of the rate of return, and not an end in itself. The rules do not require the recovery of costs arising from a specific financing practice, and we do not consider that a decision to do so would advance the NEO or NGO. Rather, we should adopt a method that results in the

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28 This is the framework specified in the NER. The NGR is less prescriptive regarding the framework target, however the same general framework has been applied in all gas determinations made by the AER, and is reflected in the published gas financial models.

29 ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 20, 55-58. ENA, *Submission to discussion paper, 2020 inflation review*, July 2020, p. 6.

30 The optimal financing structure for any entity is contingent on factors specific to an entity, including its risk preferences.

31 The NGR is less prescriptive.

correct ex-ante compensation over the life of the assets and in an efficient allocation of risk.

3.2.3 Consumer Reference Group

As noted in our draft position,[32] the CRG adopted five principles to guide its advice to us. They are:

- A regulatory framework serving the long-term interest of consumers must promote behaviours that engender consumer confidence in the framework.
- Any change to the regulatory model must be tested against detrimental consumer impacts in relation to absolute prices and price changes.
- Any change to the regulatory model must be tested against acceptable consumer impacts in relation to service standards.
- Risks should be borne by the party best placed to manage them.
- There should be a high bar to change.

We have legislated objectives that guide our decision making. Whilst our legislative objectives must take primacy, additional principles can be useful in helping us apply the primary objectives.

The CRG acknowledged that we must exercise judgement in making regulatory decisions, but considered that:[33]

> *…when the CRG's advice indicates the sort of analysis required to give consumers confidence in regulatory outcomes, the AER should accept that a decision **not** to follow this advice harms consumer confidence in the regulatory process*.

The CRG's role is to bring consumer perspectives to the inflation and rate of return reviews that we might not otherwise hear. Stakeholder trust (including consumer trust) in our regulatory processes is vital. We hear the CRG's concerns about declining consumer trust. We are open to further improvements in our processes to build trust, particularly when we are engaging with consumers about technical content.

We remain committed to an even-handed assessment of material from all stakeholders in accordance with the merits of the evidence submitted, and will draw on those aspects that can assist us in making decisions that are consistent with the NEO/NGO. We consider that consistency in decision making will give all stakeholders confidence in us and the regulatory regime.

We consider that stability in the framework is important, but we will continue to evaluate proposed changes carefully to ensure that they better achieve the NEO/NGO.

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[32] AER, *Draft position on regulatory treatment of inflation – Inflation review 2020*, October 2020, p. 32.

[33] CRG, *Submission on draft position – Inflation review 2020*, November 2020, November 2020, p. 6.

It is also important that the regulatory framework remains contemporary to circumstances and changing evidence, and where we think changes are needed to protect the long-term interest of consumers then we should make those changes. This final position on the method likely to result in the best estimates of expected inflation is a change we think is needed in order to achieve the NEO/NGO. We recognise it is a change and that there may be some questioning from consumers, but nevertheless we think not changing on the basis of stability where evidence indicates that a change is needed would ultimately be worse for consumers in the long-term because, as detailed in chapter 7, not doing so, would not promote efficient investment or use of energy networks.

The CRG further submitted that we can only determine the best estimates of expected inflation by having regard to consistent assumptions across all relevant parameters in the rate of return instrument. Further, the CRG acknowledged that we have:[34]

> *…broad discretion for deciding various parameters, including 'best estimate' of expected inflation. This approach allows the AER to consider all its estimation methods in their totality. It assumes the AER will adopt a consistent approach across all its estimation methods.*

We agree with the CRG that ideally, all elements of the regulatory framework should sit together and consistently. This review has identified impacts arising from the mismatch between the terms for expected inflation and rate of return, and in our approach to rolling forward the RAB, and this has been a factor motivating the changes we are implementing. However, there are instances where we need to consider elements, methods or components of the framework individually.

[34] CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 10.

4 Our reasons for undertaking this review

We last ran a comprehensive review of the regulatory treatment of inflation in 2017. Our final position in that review was that we would maintain our current approach.

We also indicated that we would continue to monitor inflation related data, in particular through the Consensus Economics survey of long-term inflation expectations.[35] Our ongoing monitoring to early 2020 indicated broadly consistent observations in the key information we relied on in 2017.

In early 2020 we observed some movements across the spectrum of data and information we examine. While no individual piece of evidence was determinative, when considered in aggregate these movements supported the commencement of the 2020 review.

Whilst not an exhaustive list, some of the changes included:

- Data from Consensus Economics' surveys showing a slower transition over years 3 to 5 back to the mid-point of the target band,
- Inflation outcomes that have been below the mid-point of the RBA's target band for an extended period. Also forecasts of inflation from the RBA for the next 2.5 years in its February 2020 SMP were lower than previously,
- Statements from the RBA including:

> *…the global outbreak in coronavirus is expected to delay progress in Australia towards full inflation and the inflation target.*[36]

The method for estimating expected inflation was also raised at stakeholder engagement sessions in late 2019 and had been the subject of debate in regulatory determinations.[37] The concerns raised with us centred on whether our approach continues to deliver the best outcomes where actual inflation is low and has remained so for an extended period.[38] The CRG submitted that we have undertaken this review in response to current economic conditions, without demonstrating that our current approach is systemically biased.[39] However, we:

- Do not consider that our current approach is systemically biased. Rather, the issue is whether our current method continued to be a method that is likely to result in the best estimates of expected inflation, as required under the NER/NGR.

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35 AER, *Regulatory treatment of inflation, Final position*, December 2017, p. 48.

36 RBA, *Statement by Philip Lowe, Governor: Monetary Policy Decision*, March 2020.

37 See AER website: https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/review-of-expected-inflation-2017/updates and our Inflation review draft position, section 5.1: https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/review-of-treatment-of-inflation-2020/aer-position

38 See AER website: https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/review-of-expected-inflation-2017/updates

39 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.

- Commenced this review after several months considering the observed movements in the range of data we monitor.

Subsequent to our decision to initiate this review, COVID-19 has had significant economic and broader impacts. These impacts are separate to those which led us to initiate this review.

The CRG submitted that we should postpone our final position on our inflation review so it can be considered as part of the 2022 rate of return review.[40] We understand the CRG's concerns. However, in undertaking this review we have identified that our approach to estimating expected inflation does not align with our treatment of the RAB. In the past, this effect has not been material but we are now seeing that in some circumstances (like current market conditions), it can be material and therefore have a flow-on effect to investment incentives. Having now seen the materiality of this potential mismatch we consider that it should be corrected now.

The CRG submitted that switching the term of our estimate of expected inflation would create a mismatch with how we estimate the rate of return. The CRG's submission is correct. However, this aspect is not straight-forward and we have advice from Dr Lally that the term of our estimate of expected inflation should instead be linked to the length of the regulatory period. We discuss the potential mismatches further in chapter 7. We consider that alignment with the regulatory period is more important than alignment with the period over which we measure the rate of return and will consider whether the term of the rate of return should be aligned with the regulatory period as part of the review of the rate of return instrument. The evidence currently before us suggests we should not postpone our final position to the 2022 rate of return review.

[40] CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 13.

5 How we conducted this review

Consultation for this review has been somewhat impacted by the COVID-19 pandemic. Consequently, our public forums and technical workshops were run virtually. Despite these limitations, we have engaged in robust discussions with stakeholders, including the CRG,[41] service providers and investor groups.

Our website contains all material that stakeholders have submitted as part of this consultation, along with models, presentations and expert reports.[42]

The following sections outline stakeholder engagement undertaken since initiating this review.

5.1 Discussion paper

The purpose of our discussion paper was to:

- Set the scope of the 2020 inflation review
- Provide information on key concepts, including details on our inflation models (PTRM and RFM) and pricing mechanisms
- Pose questions[43] and seek stakeholder input.

5.2 Public forum on discussion paper

On 2 July 2020, we held a virtual public forum as part of our industry-wide consultation. This forum involved presentations by us, service provider industry bodies and the CRG.

Due to the high number of attendees at the virtual forum, stakeholders were invited to email questions to presenters. Presenters' responses to all questions were published in our Q&A document following the forum.[44]

At this time, we decided to extend our closing date for submissions to the discussion paper from 15 to 29 July 2020. This extension provided stakeholders with an opportunity to consider consultants' reports that only became available in early July, and for further discussions between all stakeholders.

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41 Information on the Consumer Reference Group, its role and members is available at: https://www.aer.gov.au/about-us/stakeholder-engagement/consumer-reference-group

42 Available at https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/review-of-treatment-of-inflation-2020

43 AER, *Discussion paper - Regulatory treatment of inflation*, May 2020, pp, 16-17.

44 See: https://www.aer.gov.au/system/files/AER%20-%20Inflation%20review%20public%20forum%20Q_A%20-%20July%202020.pdf

5.3 Technical workshop

We invited interested stakeholders to attend a virtual technical workshop to explore various approaches to estimating expected inflation, the mechanics for implementing each scenario and stakeholder impacts.

We held the technical workshop on 13 August 2020, with 19 participants from the AER, service providers, industry bodies and the CRG. We presented simulated modelling for a range of options.

Our presentation and simulated models are available on our website.[45]

5.4 Our expert advice

We obtained independent expert advice to consider a range of issues within the scope of this review. A summary of their respective reports follows.

5.4.1 Deloitte Access Economics

Deloitte was asked to provide an assessment of whether our current approach, or an alternative approach, derives the best estimate of expected inflation in the context of the NER and NGR requirements.

In assessing the five methods included in our discussion paper, Deloitte's report concluded that two approaches suitable for recommendation by us were our current approach and a glide-path approach.[46] Deloitte found the glide-path approach to be 'simple, easily replicated and potentially more congruent with long-term inflation expectations of market participants' provided that the glide-path is clearly defined by the regulator'.[47] In reaching their conclusions, Deloitte assessed options against the following factors we developed in our 2017 inflation review:

- Simplicity
- Transparency
- Replicability
- Congruence and robustness.

In assessing the options, Deloitte noted that the swaps and break-even bond inflation rate provided market-based measures, however their approaches were affected by the presence of material and time-varying distortions that limit their use in a regulatory context.[48] Similarly for surveys, Deloitte noted that although surveys rank high in their relative congruence with market expectations, their use is limited by their lack of

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45 See: https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/review-of-treatment-of-inflation-2020/initiation

46 Deloitte Access Economics, *Review of the regulatory treatment of inflation*, June 2020, pp. 7-10.

47 Deloitte Access Economics, *Review of the regulatory treatment of inflation*, June 2020, p. 23.

48 Deloitte Access Economics, *Review of the regulatory treatment of inflation*, June 2020, pp. 7-10.

transparency and replicability.[49] It attributed the RBA's superior forecasts in the short-term to the RBA possessing information that is not necessarily publicly available,[50] with Deloitte noting that the RBA's forecasts of CPI are relatively accurate and have substantial explanatory power.[51]

In providing this recommendation, Deloitte considered whether inflation expectations have de-anchored from the RBA target band. This involved consideration of a number of research papers, including, notably, recent papers from international studies.

In considering these papers, Deloitte noted that there is little evidence that Australian inflation expectations have been de-anchored from the RBA's target band. In making this conclusion, Deloitte did note that there remains significant limitations in the current academic literature, most noticeably in 2019 and 2020 where some measures of Australian inflation expectations have shown signs of movement.[52]

5.4.2 Dr Martin Lally

Dr Lally was asked to consider estimating expected inflation for various future periods of time, i.e. for each future period, the mean of the probability distribution of all possible outcomes over that period, with the probability distribution reflecting the best currently available information.

The expert report prepared by Dr Lally recommended that we should estimate expected inflation over each of the next five years rather than over the next ten years.[53] Dr Lally's advice stated (our emphasis):

> *The AER (2020, pp. 10–12) offers contradictory rationales for the inflation deduction in the revenue equations. Initially, it argues that the deduction in (say) equation (2) is to offset (on average) the inflating of the RAB in equation (1). It then asserts that the deduction is to convert the nominal WACC in these revenue equations to a real WACC and, given its use of the ten-year WACC, it therefore estimates the expected inflation rate over ten years so that the terms match. The claim concerning conversion from nominal to real is not correct; conversion would require division in accordance with the expectation version of the Fisher formula rather than subtraction.* ***The correct rationale is that noted first by the AER.***[54]

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49 Deloitte Access Economics, *Review of the regulatory treatment of inflation*, June 2020, pp. 7-10.

50 Deloitte Access Economics, *Review of the regulatory treatment of inflation*, June 2020, pp. 6-8; Dr Martin Lally (Capital Financial Consultants), *Review of the AER's inflation forecasting methodology*, July 2020, p. 3.

51 Deloitte Access Economics, *Review of the regulatory treatment of inflation*, June 2020, p. 21.

52 Deloitte Access Economics, *Review of the regulatory treatment of inflation*, June 2020, pp. 30-32.

53 Dr Martin Lally (Capital Financial Consultants Ltd), *Review of the AER's inflation forecasting methodology*, July 2020.

54 Dr Martin Lally (Capital Financial Consultants Ltd), *Review of the AER's inflation forecasting methodology*, July 2020, p. 5.

That is, that the best estimate of expected inflation should match the regulatory period and not the term of the rate of return. Dr Lally then concluded with the view that:

> *Firstly, given that the AER's regulatory cycle is five years, the NPV = 0 principle implies that the AER ought to be estimating expected inflation over each of the next five years rather than over the next ten years.*[55]

Dr Lally proposed this change because:

- Estimating expected inflation for each year over a five year regulatory period matches indexation of the RAB for actual inflation over the regulatory period.
- Estimating expected inflation over each of the next five years provides for the net present value (NPV) = 0 principle to be met if a five year rate of return is also used.[56] In this scenario, there will be no significant gain or loss for a service provider or consumers.[57]
- It may be preferable to estimate expected inflation for each year over a five year period even if you use a ten year time horizon for estimation the rate of return. This is because the rate of return is generally upward sloping as the term of the estimate increases—meaning the rate of return increases as the term lengthens. In contrast, an estimate of expected inflation is as likely to be upward sloping as downward sloping as the term of the estimate increases. Because of this, use of a ten year term for both inflation and the rate of return is unlikely to offset what Dr Lally considers is the incorrect use of a 10 year rate of return instead of a 5 year rate of return. Therefore, there is no advantage in using a ten year estimate of expected inflation as opposed to a five year estimate.[58]

We are inclined to agree with Dr Lally's reasons to the extent they apply to expected inflation.[59] We also note that estimating expected inflation over each of the next five years (although the average over five years is our preference), rather than ten reduces the uncertainty associated with our estimate and gives greater weight to expected conditions in the regulatory period. We acknowledge the point that Dr Lally has made in regard to the alignment with the term for the rate of return estimate. We will further consider the appropriate term for the rate of return in the review of the Rate of Return Instrument 2022.

Further points made by Dr Lally included:

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55 Dr Martin Lally (Capital Financial Consultants Ltd), *Review of the AER's inflation forecasting methodology*, July 2020, p. 31.

56 The 'NPV = 0 principle' is that the current value of all expected revenue minus all expected costs (including the initial investment) is zero, after accounting for the time value of money.

57 Dr Martin Lally (Capital Financial Consultants Ltd), *Review of the AER's inflation forecasting methodology*, July 2020, p. 6.

58 Dr Martin Lally (Capital Financial Consultants Ltd), *Review of the AER's inflation forecasting methodology*, July 2020, p. 6.

59 That is, our draft position on this issue is independent of any change that may be required to the term for the rate of return.

- That the RBA is highly respected and has been generally successful in its inflation targeting, and for calendar years 1994–2019, the arithmetic average of the annual inflation rates was 2.49 per cent.[60]
- That a glide-path approach is appropriate 'because reversion back to the RBA's target is currently expected to be unusually slow'.[61]
- Market prices (comprising the break-even rates and swap prices) are likely to be biased estimates of expected future inflation, and the degree of bias will vary over time.[62]

Dr Lally was also able to mathematically demonstrate how these biases and distortions can exist.[63]

Reports from Dr Lally[64] and Deloitte[65] both noted that the glide-path is not perfect and is subject to potential weaknesses, which includes determining when it is appropriate to use the glide-path approach and how to specify the length and speed of the glide-path. These difficulties arise because there is no clear method for identifying the types of disturbances that would affect medium-term inflation expectations.

5.4.3 Sapere Research Group

The Sapere Research Group (Sapere) was asked to consider whether the regulatory framework successfully delivers the expected real rate of return, and whether we should instead target a nominal or hybrid return. Sapere's conclusion to both questions were 'yes' and 'no' respectively.

In addressing the first issue, Sapere noted that:[66]

- The current regulatory framework for inflation is consistent with the regulatory objective. Sapere tested this outcome through formal modelling (algebraic equations) and by spreadsheet modelling scenarios over multiple regulatory periods. Sapere noted that our current approach delivers the intended real rate of return regardless of whether actual inflation is above or below our estimate of expected inflation.

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60 Dr Martin Lally (Capital Financial Consultants), *Review of the AER's inflation forecasting methodology*, July 2020, p. 25.

61 Dr Martin Lally (Capital Financial Consultants), *Review of the AER's inflation forecasting methodology*, July 2020, p. 3.

62 Dr Martin Lally (Capital Financial Consultants), *Review of the AER's inflation forecasting methodology*, July 2020, pp. 31-32.

63 Dr Martin Lally (Capital Financial Consultants), *Review of the AER's inflation forecasting methodology*, July 2020, pp. 9-16.

64 Dr Martin Lally (Capital Financial Consultants), *Review of the AER's inflation forecasting methodology*, July 2020, p. 30.

65 Deloitte Access Economics, *Review of regulatory treatment of inflation*, June 2020, p. 23.

66 Sapere, *Target return and inflation - Input to the AER Inflation Review 2020*, June 2020, pp. v – vi.

- In assessing whether these models maintain the NPV = 0 principle, Sapere noted that there was a first year pricing effect, which created a small deviation from the target return.[67]

In considering the second issue, Sapere noted that some stakeholders have correctly identified that our current approach may result in negative cash returns to equity if the allowed rate of return on equity is low, or the service provider has high leverage. Sapere stated that it may indicate an inconsistency in our approach if it persists. However, Sapere also noted that the total return on equity, which includes asset revaluation, is positive. Further, Sapere noted that when actual inflation is low relative to expected inflation, then the return on capital might be insufficient to meet the service provider's interest obligations.[68]

Further, when assessing whether we should change approach, Sapere considered two types of hybrid frameworks:[69]

1. Including interest on debt as an expense in setting the annual revenue requirement

Sapere assessed that this type of hybrid would make no difference to the cash rate of return on equity; therefore it would not address the concerns raised by stakeholders.

2. Decomposing the expected revaluation gain into a revaluation gain for equity holders and an expense in setting the annual revenue requirement

Sapere assessed that this would shift the regulatory framework from targeting a real rate of return to targeting a real rate of return on equity. Sapere noted such a change would intervene in the capital structure decision and result in a less efficient allocation of the risk of financing decisions. Chapter 122 discusses some of the implications of changes to the rate of return targeted in the framework.

Although Sapere concluded that we should continue to target a total real return, it does note that a sustained fall in inflation expectations would imply a negative cash flow return on equity for a benchmark efficient entity regardless of actual inflation—before the positive asset revaluation is accounted for. Sapere noted that we should consider whether a projected negative cash return on equity might indicate an underlying inconsistency in one or more inputs into the rate of return and expected inflation.[70]

5.5 Draft position

On 1 October 2020 we published our draft position, which is largely consistent with our final position. Significantly, our draft position left open the issue of transition for stakeholder input.[71]

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67 Sapere, *Target return and inflation - Input to the AER Inflation Review 2020*, June 2020, p. 12.

68 Sapere, *Target return and inflation - Input to the AER Inflation Review 2020*, June 2020, p. 30.

69 Sapere, *Target return and inflation - Input to the AER Inflation Review 2020*, June 2020, p. 30.

70 Sapere, *Target return and inflation - Input to the AER Inflation Review 2020*, June 2020, pp. 27-28.

71 See our draft position at: https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/review-of-treatment-of-inflation-2020/aer-position

5.6 Public forum on draft position

On 21 October 2020, we held a virtual public forum on our draft position. This forum provided an opportunity for us to present our draft position and hear early reactions from service providers, industry bodies and the CRG.[72]

5.7 Consumer perspectives

The CRG, in the limited time since its formation, has sought to engage with consumer representatives. The CRG's submission provided insightful information[73] that has formed part of our considerations on a range of issues in this review.

The CRG stated that greater transparency by us is a common concern among consumer representatives. On that basis, the CRG submitted that before making a final position, we must model and consult on framework features such as length of the estimation period, alternative glide-paths and possible transition options.[74]

As part of this review, we conducted a robust consultation process and sought submissions as detailed above. This included a 'simulator' model to demonstrate a range of options. We are satisfied that we have sufficient evidence and material before us to reach a final position.

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[72] All public forum material is available at: https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/review-of-treatment-of-inflation-2020/aer-position

[73] CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 19.

[74] CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 18.

6 What stakeholders said to us

The following table provides a summary of stakeholder submissions received in response to our draft position. We have grouped these as:

- What inflation term should be used in our decisions? (“Inflation term”)
- Do we need to transition to the shorter inflation term? “(“Transition”)
- Should we introduce a glide-path to estimate expected inflation (“Glide-path”)
- Whether we should consider targeting a hybrid[75] or nominal rate of return (“Regulatory framework”).

We received 22 submissions from consumer groups, service providers, industry bodies and investor groups. We have summarised these submissions in more detail in appendix B and responded to specific points not otherwise addressed in the body of this document. Appendix B includes complete references to each submission summarised below.

Table 1 Stakeholder submissions

Submitter
Consumer representatives
Inflation Term Consumer groups did not support the proposed five year inflation term, with the CRG, MEU and PIAC noting the inflation term should not change before the horizon period for the rate of return is considered. The CRG stated that consumers will lose out because 10-year bond rates will be higher than 5-year bond rates, whilst in the immediate future, switching to a five year inflation estimate will have lower inflation estimates than a 10 year horizon. Noted that this will lead to higher bond rates with lower estimates of expected inflation, higher real rate of returns and higher prices for consumers in the immediate term. **Transition** The CRG stated that ‘implementing the AER’s proposed changes immediately, and in full, clearly benefits the networks at consumers’ immediate expense.’ It noted that its implementation in three to five years when the trajectory of inflation returns to its long-term pattern would have a more neutral impact on consumers, or may not be even necessary. The CRG submitted that a transition mechanism is needed to attenuate the impact on consumers. It stated that before making a final decision the AER ‘must model and consult on framework features such as the length of the estimation period, alternative glide-paths, and possible transition options.’ PIAC noted that the outturns from the current approach may create small deviations or mismatches as there is no structural bias inherent in the framework. Stated its concern that moving to a 5-year term may introduce structural bias against consumers’ interest. MEU submitted that there should be no change to the current approach and therefore no need for a transition. **Glide-path** All consumer groups except PIAC were reserved around the use of a glide-path. Havyatt Associates noted that more time is needed to assess the actuality of the ‘swings and roundabouts’ to evaluate whether the current approach is balanced over time. **Regulatory Framework**

[75] Under the proposed hybrid approach, the framework would target the initial real return on equity and the initial nominal return on debt.

Submitter

The CRG submitted that the real rate of return for calculating revenue allowances has been in operation from the outset of network regulation, with investors making investments into these networks knowing how revenues would be determined. It stated that there is no argument for change, either immediately or in the future.

The CRG stated that it was 'alarmed' that the AER invited support for a nominal rate of return. Noted that a switch to a nominal rate of return would significantly increase consumer prices by bringing forward network revenues, which would be earned in future years.

Service providers and Industry groups

Inflation Term

Service providers and industry groups noted support for a shorter inflation term (typically 5 years). The ENA noted an inflation term that is the same length as the relevant regulatory period would match RAB indexation and that the term of the allowed return in the rate of return instrument is not relevant.

Transition

The majority of service providers and industry groups noted support for immediately applying a shorter inflation term. The ENA submitted that our draft approach is superior to the current approach and it will produce the best estimates of expected inflation that best promotes the NEO/NGO. The ENA also submitted that the proposed change in the inflation term is a change in parameter and not a framework change.

The ENA noted that changes to estimation approach should not be characterised as 'windfall' gains and losses, as these do not occur when the regulatory allowance is above or below the AER's assessment of benchmark efficient costs. Noted that 'windfall' gains and losses also does not occur because the AER revises its 'best' estimate of a particular parameter, and a windfall gain or loss does not occur because allowed revenues or prices might change.

Glide-path

Service providers supported a glide-path as it is an improvement on the current method. The ENA, AGPA and other service providers submitted that the glide-path could be further improved with the use of market-based measures. APGA noted the 'proposed approach (with a 5 year inflation term) reflects a compromise that we can accept at the current time as it will help reduce the systematic under compensation faced by gas pipelines today.'

Regulatory Framework

The ENA, Ausgrid and Endeavour Energy submitted that a hybrid approach would require a rule change, which may be a separate process to the inflation review.

APA Group stated that our draft position reinforced its doubts about the workability on the hybrid approach. It submitted that the nominal approach remains a possibility, but would require further investigation and specification before it could be implemented. Jemena noted that that an immediate implementation of a 5 year inflation term to estimate expected inflation means that there is no urgency for framework change.

The ENA and SA Power Networks submitted that the hybrid approach has merits, and that the low-inflationary environment has highlighted problems with our current approach. Ausgrid asked us to provide further information on a series on questions on how a hybrid framework would operate.

Other

Inflation Term

Investor and other groups supported adopting a shorter inflation term.

Transition

Aurizon submitted that there was no justification for a transition arrangement.

QTC noted there was no reason to delay the application of a glide-path approach and the Network Shareholder Group stated that the implementation of the proposed changes should be adopted at the earliest practical opportunity.

Glide-path

Investor and other groups noted support for a glide-path or stated it was an improvement on the current method.

Aurizon submitted that we should consider setting the inflation anchor at year 5 having regard to other inflation forecasts such as those published in the RBA's Statement on Monetary Policy. Aurizon and QTC submitted that there is market-based evidence against the anchoring of long-term expectations for year 5 at 2.5 per cent, whilst the Network Shareholder Group submitted that inflation targeting policy does not necessarily require the mid-point of the target band to be achieved.

Regulatory Framework

The Network Shareholder Group noted that the real rate of return is only delivered if the estimate of expected inflation included in the nominal return is reflective of the inflation implicit in the estimate of the nominal cost of debt

Submitter
and nominal cost of equity. It noted that current market conditions have revealed that the current regime does not achieve this when our estimate of expected inflation differs materially from market expectations of inflation. The Network Shareholder Group stated that the 'hybrid' approach seeks to better match compensation with the efficient financing practice. It noted that in this approach equity holders will continue to bear the risk of our estimate methodology and also the costs of any estimation error. Submitted that this has a direct impact on the confidence of equity holders to provide further capital to support network investments.

7 The inflation term to be used in our decisions

Our final position on the term of expected inflation is to use a term that matches the regulatory period rather than our current approach of using a 10 year term. This allows us to match the expected inflation term over the regulatory control period and the nominal rate of return set out in the rate of return instrument in expectation.

We will immediately apply a term that matches the regulatory period. As a result, there is no delay in the benefits of implementing the shorter inflation term.

This chapter details:

- The mismatch problem when selecting the expected inflation term,
- Our draft position on the term length and transition,
- Why we have changed to align the term to the regulatory period,
- Why it is appropriate to make this change immediately, and
- A summary and response to select stakeholder submissions.

7.1 The mismatch problem

When selecting a term for expected inflation there are two approaches available to us, either matching the regulatory period term (typically 5 years) or matching the rate of return term (currently 10 years).

This choice results from the service providers primarily receiving compensation for inflation through the rate of return and through the indexation of the asset base. Inflation is thus accounted for in both returns on and of capital. To avoid double compensation for inflation we adjust our initial estimate of the nominal rate of return by removing a best estimate of expected inflation. We subtract this amount from the building block revenue. However, as the term lengths do not match, a choice must be made to either target the regulatory period or the rate of return term.

Both approaches have advantages. For example, our current approach has operated successfully for many years in a context where there has been substantial investment in energy networks. However, within each option there is a potential for mismatches of varying importance. Below we provide more detail on how these mismatches arise and why they have been increasing in importance.

7.1.1 What is the mismatch and how does it arise?

To illustrate how the mismatch occurs algebraically, we can consider the received return on assets in a stylised equation as shown below. This stylised equation abstracts away from impacts on the annual received return on assets other than those arising from the return on capital building block and inflation, and from less material inflation effects such as those on operating expenditure, incentive regimes, lag effects, etc.

$$\begin{aligned} Annual\ received\ return\ on\ assets\ &= Nominal\ 10\ year\ allowed\ return \\ &- \boldsymbol{Expected\ X\ year\ inflation} \\ &+ Outturn\ inflation\ (each\ year\ for\ 5\ years) \end{aligned}$$

Where:

- the $Nominal\ 10\ year\ allowed\ return$ is the rate of return determined in accordance with the rate of return instrument for a given year (received each year),
- $\boldsymbol{Expected\ X\ year\ inflation}$ is the estimate of expected inflation (annualised expected inflation over X years and deducted each year) used in our PTRMs, and
- $outturn\ inflation\ (each\ year\ for\ 5\ years)$ is the annualised indexation of the asset base that occurs during the regulatory period in the RFM (a typical regulatory period is 5 years in length).

To observe how the implicit inflation expectations are incorporated into our 10 year nominal rate of return, the Fisher equation can be used. The Fisher equation separates the nominal return into its real return and inflation components. Using the Fisher equation for a 10 year rate of return:

$$\begin{aligned} Nominal\ 10\ year\ allowed\ return &= Real\ 10\ year\ allowed\ return \\ &+ Real\ 10\ year\ allowed\ return\ \times \\ &Expected\ 10\ year\ inflation \\ &+ Expected\ 10\ year\ inflation \end{aligned}$$

Substituting in the Fisher equation into the stylised formula for received return on assets gives:

$$\begin{aligned} Annual\ received\ return\ on\ assets\ &= Real\ 10\ year\ allowed\ return \\ &+ Real\ 10\ year\ allowed\ return\ \times \\ &Expected\ 10\ year\ inflation \\ &+ Expected\ 10\ year\ inflation \\ &- \boldsymbol{Expected\ X\ year\ inflation} \\ &+ Outturn\ inflation\ (each\ year\ for\ 5\ years) \end{aligned}$$

It can be seen here that it is possible to either match the 10 year expected inflation implicit in the nominal rate of return or the expectation of the $outturn\ inflation\ (each\ year\ for\ 5\ years)$. However, it is not possible to match both without either reducing the rate of return term to 5 years or by increasing the length of the regulatory periods to 10 years.

7.1.2 How material is the issue?

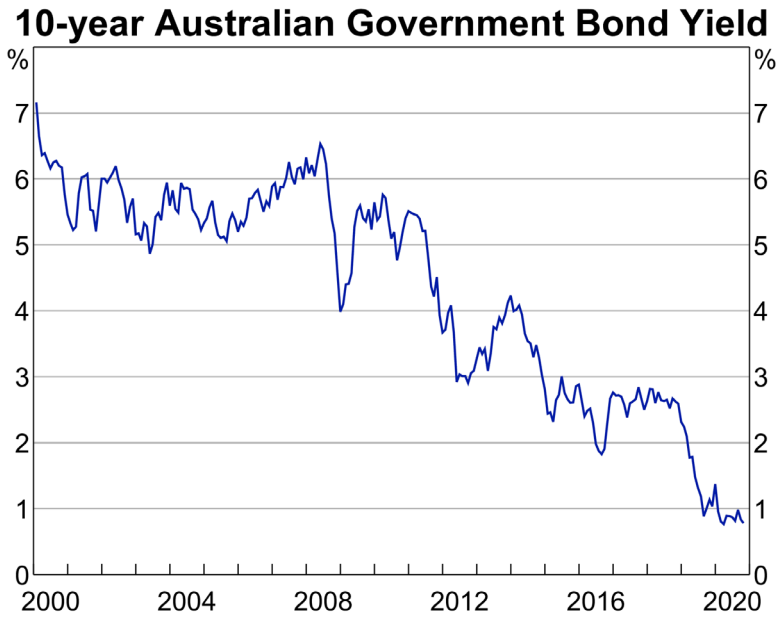
The importance of this issue has recently become more prominent. This is due to both the sustained decline in the required nominal rate of return (the $Nominal\ 10\ year\ allowed\ return$ in the stylised equation above), and the increased difference between 5 and 10 year inflation expectations for given short-term fluctuations in inflation expectations.

This decline in the allowed nominal rate of return can be observed through the falls in the risk free rate, as the rate of return on equity in the rate of return instrument is directly related to the risk free rate.[76]

The risk free rate has fallen significantly over the past decade (see figure 4) and, as a result, the set rate of return has also fallen.

Due to this fall, the size of the difference between 5 and 10 year expected inflation deducted through the PTRM now has a larger proportional impact on overall revenues received by service providers (assuming other building blocks such as operating expenditure, etc. are relatively stable).

Figure 4 10 year risk free rate



Sources: RBA; Yieldbroker

The use of a glide-path leads to larger differences between 10 and 5 year expected inflation terms than under the current approach for a given short-term forecast from the RBA.

[76] AER, *Rate of Return Instrument*, December 2018, p. 3.

Using current (December 2020) data and the glide-path approach in our draft position, we estimate the current 5 year inflation expectation to be 1.95 per cent and the 10 year inflation expectation to be 2.30 per cent.[77] Therefore, the size of the potential mismatch is equivalent to 0.35 per cent. This compares to a spot rate of return (current rate of return which does not include the effects of the debt trailing average) of around 3 per cent as at the time of the draft positon.

7.2 Our draft position

Our draft position on inflation term was to match the regulatory period (typically 5 years). We considered that this approach and the 10 year term have advantages and disadvantages, and found that either term could be valid and reasonable. On balance, in the draft position we considered that an inflation term tied to the length of the regulatory period is likely to result in the best estimates of expected inflation and contribute to the achievement of the NEO/NGO. This was because:

- Adopting an inflation term that is the same length as the relevant regulatory period (typically, 5 years) would, in expectation match RAB indexation over the regulatory period. This is desirable because service providers will in expectation receive the same allowance during RAB indexation in the RFM as the amount (expected inflation) deducted from total revenue in the PTRM. Thus, service providers are expected to receive the nominal return set in the rate of return instrument over the regulatory period.
- Use of an inflation term matching the length of the regulatory period is more responsive to changes in market circumstances. This increases the extent to which our approach depends on specific RBA forecasts and diminishes reliance on the assumption that investors anchor expectations to the mid-point of the RBA's target band in the long-term. While we consider the evidence continues to support anchoring, we see a benefit of using a term matching the length of the regulatory period.[78]

In our draft position we also considered whether the move to matching the regulatory period should occur immediately or through a transition.

We did not have a position on this issue, seeking stakeholder views on whether a transition is required given that a change in inflation term may create a once-off impact for service providers and consumers. We did, however, consider some of the advantages and disadvantages of immediately adopting a shorter inflation term.

The following advantages of immediately applying a shorter inflation term were noted:

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[77] We have assumed 1.75 per cent in year 2 (2022–23) based on 1.25 per cent linearly reverting to 2.5 per cent in 2024–25 and the RBA rounding to the nearest 0.25 per cent. Individual values are: 1.25%, 1.75%, 2%, 2.25%, 2.5% (and 2.5% for years 6-10 for the 10 year expectation).

[78] An exploration of the differences between the two inflation terms were detailed out in the draft position and can found in AER, *Draft Position – Regulatory Treatment of Inflation*, October 2020, pp. 46-49.

- An inflation estimation term matching the length of the regulatory period occurs immediately for all future revenue determinations. It would avoid delays in matching the inflation estimate to the term of the regulatory period and therefore to targeting inflation matching RAB indexation.
- Immediately removes the ex-ante mismatch between the allowed return on capital and the expected nominal return (including RAB indexation) over upcoming regulatory periods.
- It would reduce potential problems arising for service providers from (possible) negative cash returns to equity and low cash flow during a period of low inflation.

We also detailed advantages of transitioning to a shorter inflation term at a later time:

- It would still result in correct compensation in NPV terms over the life of the assets. In this sense, it should still result in efficient investment.
- It avoids or reduces any potential gains or losses that may occur as a result of an immediate change in methodology. In particular, it would avoid or reduce any potential impact of an immediate change in our upcoming decisions where the new approach is likely to change the present value of revenue over the next regulatory period.
- Depending on the form of transition, it may allow the change to be deferred to a date where there is no material expected cost to consumers or service providers from the change.
- It allows us to simultaneously consider the appropriate term for rate of return in the upcoming rate of return instrument process. If we decide to change the term we use in the rate of return, we can change inflation at the same time and avoid any potential ex-ante mismatch.

7.3 Why we have chosen to adopt a shorter inflation term in the final position

In our determinations we first estimate the appropriate required rate of return in nominal terms. The market data we rely on is typically presented in nominal terms. To date, we have effectively used these nominal rates of return in a 10 year term Fisher equation. This produced a real return over assets for service providers (with some minor deviations).

However, the use of the Fisher equation has meant, as a consequence of the term of the rate of return being different to the regulatory period, that there may be an ex-ante nominal return mismatch over the regulatory period. Recent market outcomes have illustrated that this mismatch can be material in some circumstances as described in section 7.1.2.

Below we detail the consultant advice given to us suggesting we mitigate this mismatch and our considerations of impacts to investors and consumers.

7.3.1 Dr Lally's advice

As part of his advice provided on the best estimate of expected inflation, Dr Lally advised that we should change the term to target the length of the regulatory period rather than the current practice of matching the rate of return.[79] We found Dr Lally's advice compelling to the extent it applies to expected inflation.[80] A summary of this advice and our considerations are in section 5.4.2.

The CRG's submission on our draft position questioned our interpretation of Dr Lally's advice.[81] Our considerations of this are in section 7.6.

7.3.2 The impact on investors of changing to a shorter inflation term

A question we considered when determining whether to change the inflation term was whether matching the regulatory period or the rate of return term better promotes efficient pricing and investment.

The change does not alter what the estimates of expected inflation are expected to be in the long-term (after the next few years), due to our best estimate of long-term expectations being 2.5 per cent. However, adopting a shorter inflation term will allow us to better align the inflation adjustments within the regulatory period and enhance ex-ante consistency with nominal debt costs. This could lower financeability risks for service providers.

The ENA and CEG submitted that it is better to target a nominal return for the debt component (5 year approach). While we have adopted a shorter term that aligns with the regulatory period, we have not changed the target to a nominal return on debt. We also note that CEG stated that targeting 10 years as a real return for equity is 'perfectly appropriate'.[82]

7.3.3 The impact on consumers of changing to a shorter inflation term

Consumers benefit from efficient investment by ensuring that they do not pay too much or too little for the services that they require. It also encourages the service providers not to underinvest, which could lead to concerns around reliability of providing the required services of consumers.

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79 Dr Martin Lally (Capital Financial Consultants Ltd), *Review of the AER's inflation forecasting methodology*, July 2020, p. 31.

80 That is, our draft position on this issue is independent of any change that may be required to the term for the rate of return.

81 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 15.

82 CEG, *Response to AER draft position paper on inflation - A report for Jemena*, November 2020, pp. 6-7.

Our proposed approach allows for prices and revenues to continue to move along with inflation as is currently the case. It also maintains the current indexation of the RAB to allow intergenerational equity between consumers.

This review has highlighted the materiality of the mismatch between our estimate of expected inflation and the indexation of the regulatory asset base. We have come to the view that this mismatch could mean that service providers are not able to achieve their regulatory returns in expectation. If this mismatch is not addressed then it could lead to insufficient investment going forward. This is more pronounced in an environment where we are seeing transformation of energy services and ongoing investment is needed to support the services sought by consumers.

In the short-term, our changed approach is likely to result in consumers paying more than they would under our current approach. Over time the relationship between the two approaches will vary depending on market data and inflation expectations. The importance of this decision is that it is a better estimate – more robust to changing market circumstances than our current approach and is therefore more likely to lead to correct compensation and efficient investment in the interests of consumers, hence better promoting the NEO and NGO.

7.4 Which ‘5 years’ is the most appropriate to target?

After selecting the term for the best estimate of inflation expectations to be used in the PTRM, there is then a question of which 5 years are the most appropriate to estimate expected inflation.

Broadly, we consider there are two options when attempting to match the number of years within the regulatory period:

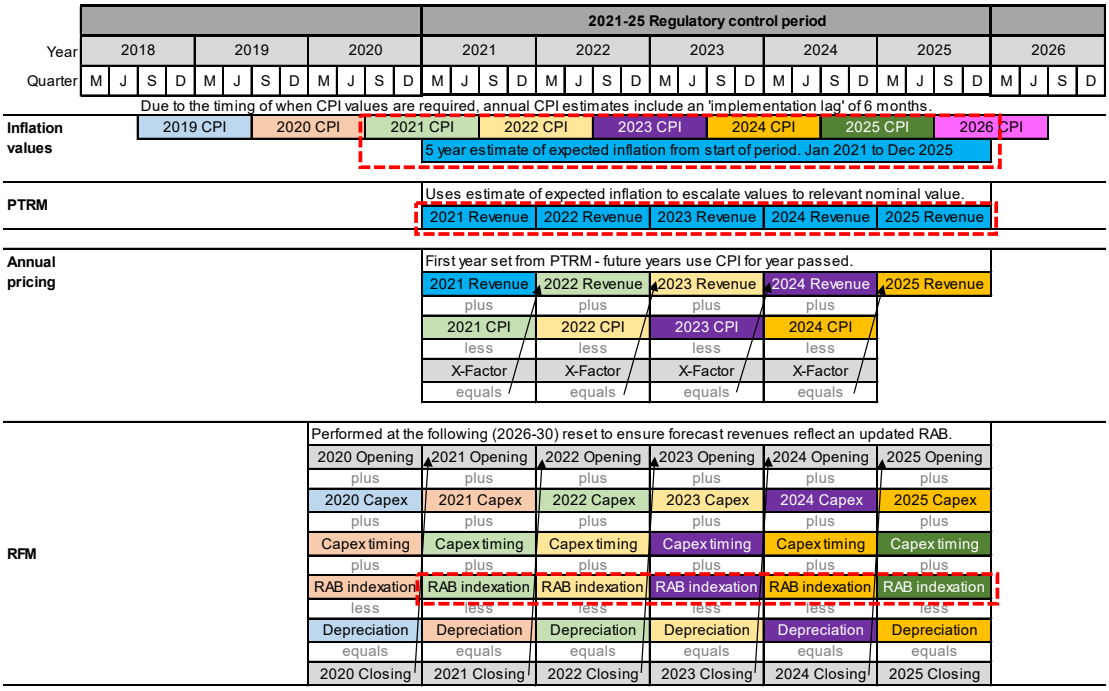
1. The best estimate of inflation expectations for each year occurring during the regulatory period; or
2. The best estimate of expectations for the inflation used to index the asset base in the RFM.

We consider that both of the options have advantages and disadvantages. Matching the years to the regulatory period has the advantage of being purely forward looking and only reflecting expected movements in inflation in the estimate—protecting returns from unexpected movements in inflation. On the other hand, matching the expected indexation of the RAB in the following period has the advantage of more closely matching the expected nominal rate of return over the period. We consider that an estimate of inflation that is purely forward looking better compensates for actual inflation movements during the regulatory period, which is a key element of a real return framework. We also consider it preferable as the associated disadvantages are able to be substantially mitigated through consistent use of inflation lags. We discuss the options in more detail below.

Due to lags used in the RFM, these are not necessarily the same estimates. This is shown in Figure 5, which provides an overview of the inflation values used across various parts of our regulatory models under our preferred ‘partially-lagged’ approach to inflation—updated for our final position. The values circled in red highlight that the

values used in the RFM to index the RAB do not exactly match the regulatory year due to an 'implementation lag' which allows for published CPI data to be implemented in the annual pricing approval process.[83]

Figure 5 Overview of inflation values implemented in different stages of regulatory framework under partially-lagged approach to RFM inflation



Note: For Victorian service providers, an all-lagged approach is applied (RFM indexation is lagged a further year) due to the continuation of the treatment applied by the previous regulatory determination to avoid double counting of inflation.

If we choose to match the inflation expectations of the regulatory period, the estimate is purely forward looking. This means that the estimate only reflects expected movements in inflation. It is likely that there will be some deviation from what is expected, but this approach allows us to maintain protections from unexpected movements in inflation outcomes. For example, if there was a one-off unexpected increase in outturn inflation in the final year of a regulatory period, matching to the regulatory period ensures that this unexpected movement does not impact the estimate of expected inflation for the future period. This means that movement in actual inflation still gets reflected in a higher value of the RAB when rolled forward to compensate for the unexpectedly high inflation, but the expected future real rate of return is not reduced due to an unexpected high actual inflation observation. We consider this protection from unexpected movements is likely to result in a real rate of return that is more likely to be in the long-term interest of consumers.

[83] The NER requires the RFM to be adjusted for actual inflation, consistently with the method used for the indexation of the pricing control mechanism or maximum allowed revenue. In general a 6 month lagged indexation is applied in order for prices to be finalised in time for the regulatory year; NER, cll. 6.5.1(e)(3) and 6A.6.1(e)(3).

If instead we were to use a best estimate of the inflation to be used in the RFM, this protection is somewhat weakened. This is because there are known lagged values of inflation that will be used in the roll forward process at the start of the regulatory period.[84] If we were to use these lagged inflation values to form best estimates of inflation expectations then this protection from unexpected movements in inflation is not available for the years (or part-years) where inflation is known. As with the previous example, if there was a one-off unexpected increase in outturn inflation in the final year of a regulatory period, matching to RFM indexation would result in this movement being reflected in a higher estimate of expected inflation for the period after the unexpected movement. This would reduce the allowed real rate of return for the following period and offset the compensation provided for in the RFM indexation (meaning no adjustment to the overall returns for this unexpected outcome).

We do, however, note that choosing an estimate made to match the expected indexation in the RFM would more closely match the nominal rate of return during the period. This is because it aligns the 'Expected 5 year inflation' more closely with the 'Outturn inflation (each year for 5 years)' noted in the stylised equation in section 7.1.1. While choosing to match the inflation expectations of the regulatory period reduces somewhat the expected alignment with the nominal rate of return, we consider this effect should be mitigated through the inclusion of consistent lags and consistent inflation series' to ensure each year is only included once. Using this method, there will be no double counting of years in inflation expectations, so over time the nominal return should be achieved in expectation (with minor deviations).

We therefore consider it appropriate to target the years in the regulatory period and not the lagged values expected to be included in the RFM. We consider the protection from unexpected movements in inflation that this approach provides is more likely to be in the long-term interest of consumers, and the disadvantages can be substantially mitigated through consistent use of inflation lags.

7.5 Our reasons for applying the term change immediately

Whether to apply the change to a term matching the regulatory period immediately or to instead apply a transition is a matter of regulatory discretion. In this instance, we have determined that an immediate change is most appropriate and is likely to result in the best estimate of expected inflation.

Immediately shifting allows the benefits of the five year approach to be applied as soon as practicable. This includes allowing service providers to immediately receive, ex-ante, the nominal rate of return set out in the rate of return instrument. This should, in

[84] In general only a 6 month lagged indexation is applied, however for Victorian service providers, further year's lag is applied due to the continuation of the treatment applied by the previous regulatory determination to avoid double counting of inflation.

expectation, reduce financeability concerns with the service providers' debt, as detailed earlier in this chapter.

Moving immediately will also contribute to immediately changing the incentives for efficient investment. As discussed earlier in this chapter, efficient investment is in the long term interests of consumers.

While we agree that immediately shifting will have an impact on the prices charged to some consumers in the short-term, immediately moving to the 5 year approach for future decisions is a more appropriate choice based on the advantages outlined above.

We have also carefully considered whether we should delay changing the term of expected inflation until we have the capacity to adjust the rate of return in the 2022 Instrument. We have decided to change the inflation term now rather than wait because:

- Current market conditions illustrate that the impact can be material,
- The case for changing the term of the rate of return requires further consideration.
- Changes to the expected inflation take time to flow through as they are built into each determination (typically 5 years).

7.6 What stakeholders said to us

Submissions on whether to use a shorter term or 10 years were split between industry bodies, service providers and investor groups and consumer representatives. Service providers and investor submissions supported a shorter term.[85] Consumer groups preferred to retain a 10 year approach.

Submissions on whether we should apply this change immediately or transition were also split between consumer representatives and service providers. Consumer representatives were generally in favour of a transition if we were to move to a shorter inflation term. Service providers submitted that a transition should not take place and that a change to a shorter inflation term for expected inflation should occur immediately.

A summary of each stakeholder submission is at chapter 6 and appendix B.[86] Responses to select stakeholder concerns are below.

Inflation term: Service providers and investors

The ENA, APGA and service providers' submissions are generally supportive of our decision to move to a term that matches the regulatory period. However, we do not agree with some aspects of their submissions.

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[85] NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.

[86] Appendix B also includes responses to specific submissions not otherwise addressed in the body of this document.

The ENA and supporting service providers submitted that the inflation term is set by the length of the regulatory period and not the inflation expectations set in the rate of return instrument.[87] The ENA also submitted that there is no dependency between inflation term and the rate of return term. This is an issue we will explore further in the upcoming rate of return instrument.

We do not agree with the ENA that the purpose was always to target the indexation in the RFM. It is only in the course of this review that we have identified the importance of matching the indexation in the RFM. As such, we broadly agree with the ENA's proposition in its submission that it is appropriate to target an approach where 'we are take out what we expect to put back in', but with some minor deviations for items such as lags and other effects.[88]

Jemena engaged CEG to review Dr Lally's advice to us.[89] CEG agreed that adopting a 5 year term is logical and consistent with what is required to generate NPV=0 outcomes.[90] We agree with CEG, that to achieve NPV=0 outcomes using the nominal rate of return as the required rate of return would require us to use a 5 year term approach.

We do not agree that service providers have been undercompensated over the last couple of regulatory periods. In expectation, when we moved to the 10 year inflation expectations approach in 2008, they had an equally likely opportunity to receive more or less than the expected nominal rate of return due to short-term fluctuations for regulatory periods starting from 2011.[91]

Inflation term: Consumer representatives

Unlike service providers and investors, consumer representatives submitted that we should retain our current approach of using a 10 year term. We outline some of their concerns and our responses below.

The CRG submitted that 10 year nominal bond rates will almost always be higher than 5 year bond rates, while in the immediate future, switching to a 5 year inflation estimate, will provide lower estimates of inflation than the current approach.[92] The CRG stated that this will result in a higher real rate of return for service providers and higher prices for consumers in the immediate term.

While we note and agree that bond yield curves usually slope upward, we are considering the change in inflation term and rate of return term separately. This is because we are now matching the term of expected inflation to the asset indexation rather than the rate of return. We do not consider that continuing to match the 10 year

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87 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 5.

88 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 5.

89 Jemena, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.

90 CEG, *Response to AER draft position paper on inflation - A report for Jemena*, November 2020.

91 AER, *Final decision for SP AusNet transmission determination 2008–09 to 2013–14,* January 2008, p. 104.

92 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 11.

term for expected inflation is appropriate, even if we continue to use a 10 year rate of return approach.

The CRG questioned our interpretation of Dr Lally's advice, in particular in using it to inform us that an inflation term matching the regulatory period is likely to result in the best estimates of expected inflation.[93] We remain of the view that our interpretation was accurate. Excerpts of Dr Lally's report's conclusion recommending us to move to match the regulatory period/asset indexation are available in section 5.4.2.

We note and agree with the CRG that Dr Lally has also asked us to review the term length of the rate of return, which we will do as part of the 2022 rate of return process.

The CRG submitted that changing from a 10 year to 5 year inflation term removes the 'technical coherence and integrity of the regulatory model' and this term change should be considered in conjunction with the rate of return instrument 2022.[94] We consider that shortening the inflation term to the regulatory period would add coherence with another part of the regulatory model, namely the term length of the indexation of the asset base (the regulatory period), while also achieving the nominal rate of return in expectation (with minor deviations). We consider that our final position will provide a more accurate estimate of expected inflation, therefore promoting the NEO and NGO.

Both the CRG and Havyatt Associates submitted that if our final position may result in reduced regulatory risk for service providers then we must explain how it will be reflected in their revenue allowances.[95] We will consider this issue as part of the 2022 rate of return instrument process.

PIAC submitted that there is no structural bias inherent in the 10 year framework (but there may be some small deviations or mismatches in particular aspects). PIAC is concerned that a shift to a shorter term may introduce a structural bias against consumers' interests.[96] As noted above, we have not adopted a shorter term to address a bias in the estimate of inflation expectations but to address a mismatch within the regulatory period. We consider our current approach was an unbiased estimate of inflation expectations within a 10 year framework and the proposed approach is an unbiased estimate of inflation expectations within a 5 year framework. Both estimators are improved by the inclusion of a glide-path.

The CRG and MEU submitted that there must be consistency between all elements that determine the revenue that service providers receive and that this means that the averaging period for forecasting inflation should be the same as the term used for all financial inputs.[97] We disagree with this conclusion, as inflation is present in many of the inputs that we use to calculate service providers' revenues, and not just financial

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93 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 15.

94 CRG, *Submission on draft position – Inflation review 2020*, November 2020, pp. 11 & 13.

95 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 12; Havyatt Associates, *Submission on draft position – Inflation review 2020,* November 2020, p. 3.

96 PIAC, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.

97 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 4.

inputs. We have found that that it is more appropriate to match the term of the regulatory period and asset indexation instead.

Transition: Service providers and investors

The ENA supported an immediate switch to a shorter inflation term and stated that if we consider that this method will achieve the NEO/NGO that we should immediately apply it. We agree that immediately applying a shorter inflation term in this instance is consistent with NEO/NGO.

The ENA submitted that the change in approach maintains the NPV=0 principle as you should expect to get the nominal rate of return in expectation and that hence no transition is required.[98] We agree that after the change we will achieve the nominal return in expectation (with relatively minor variations).

ATCO suggested moving to a nominal approach and using market-based measures. ATCO submitted that a transition to a nominal approach would be appropriate. ATCO did agree that a 5 year approach is warranted.[99] As discussed in chapter 12 and our draft position at chapter 16, our current assessment of a purely nominal approach is that it is not warranted under the current evidence. If we were to move to a nominal based approach we would assess the need for a transition at that time.

APGA submitted that a transition is not permitted under the rules, and that even if it was, the disadvantages of a transition outweighed any advantages.[100] We do not agree that a transition would be unavailable to us under the rules if we determined it would best achieve the NEO/NGO. However, we agree that moving immediately is appropriate in this case.

We also note that investors had similar arguments that a transition is not appropriate.[101]

Transition: Consumer representatives

The CRG submitted that if we were to move to a shorter term of inflation, that a transition would be more appropriate than moving immediately. The CRG implicitly suggested two transition methods in its submission: first, that the implementation should be delayed until the rate of return instrument process in 2022 and alternatively, that a capitalisation technique might be appropriate so consumers do not face immediately higher prices.[102]

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98 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 45.

99 ATCO, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.

100 APGA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 10-14.

101 NSG, *Submission on draft position – Inflation review 2020,* November 2020, p. 7. QTC, *Submission on draft position – Inflation review 2020*, November 2020, p. 9.

102 CRG, *Submission on draft position – Inflation review 2020*, 6 November 2020, p. 20.

As discussed earlier in this chapter, we find that targeting a nominal rate of return ex-ante is appropriate and we would not achieve this in the short-term if we were to delay until the 2022 rate of return instrument process concluded. Without implementation details, it is not clear how a capitalisation transition could be implemented under the NER/NGR. To our knowledge it would not be possible for us to complete the capitalisation transition method under the current NER/NGR.

The CRG also submitted that we should dismiss the service providers' claims that we adopt a shorter inflation term immediately because it better reflects a market-based estimate of expected inflation.[103] We agree with the CRG that applying the approach immediately to get closer to unadjusted market-based estimates is not a reason for us in making our decision (otherwise we would just apply the unadjusted market-based measures instead). Rather, we are applying the new term approach immediately to achieve the benefits detailed earlier in this chapter.

The CRG also submitted to us that consumer representatives that it interviewed considered that moving to a shorter term of expected inflation disrupts the overall regulatory cycle of 'ups and downs' and doing so now will disadvantage consumers.[104] While we accept that using a 10 year approach will approximate a 5 year approach on average due to the anchoring of long-term inflation expectations, we consider that it is appropriate to achieve this ex-ante nominal return immediately.

7.7 Overall assessment

We consider that it is more appropriate to match the length of the regulatory period rather than the term in the rate of return. Current market conditions have illustrated that not doing so may have a material impact on investment returns. In turn, this could lead to consumers paying more than necessary in the long run. Matching the term of the regulatory period allows service providers to receive, ex-ante, the nominal rate of return set out in the Instrument and may reduce financeability concerns. We believe this decision is likely to be sustainable because it provides a measure of expected inflation that is responsive to changing economic conditions.

We also consider that the benefits of this change should be implemented immediately, and that the long term interests of consumers are best served if this change is applied without a transition.

We note that Dr Lally suggested that the term length of the rate of return should also be shortened to the length of the regulatory period. We will investigate this issue as part of our 2022 rate of return instrument process.

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[103] CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 8.

[104] CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 20.

8 The best indicators of expected inflation

Our final position is to estimate inflation expectations using the RBA's short-term forecasts, and the mid-point of its target band. Having regard to the available evidence, our view is that the RBA's short-term forecasts remain the best indicator of expected inflation, and investors' expectations remain anchored to the mid-point of the RBA target band in the longer-term. That is, we consider the evidence supports a position that investors expect inflation should eventually return to 2.5 per cent. This is consistent with our draft position and our findings in the last inflation review. Nonetheless, we recognise that there are a range of reasonable conclusions that could be reached on how quickly investors expect inflation to return to that point.

Some stakeholder submissions to our draft position continued to state that market-based measures (especially inflation swaps) are a better indicator of expected inflation.[105] Based on the material before us, we disagree with these submissions. We outline our reasons below.[106]

8.1 Using RBA forecasts and mid-point of band

Our consultants (Deloitte[107] and Dr Lally[108]) along with the CRG and PIAC,[109] in their submissions to our draft position, agreed that:

1. the RBA's short-term forecasts provide the best basis for estimating expected inflation in the short term
2. the mid-point of the target band in estimating inflation expectations provide an appropriate anchor for estimates of expected inflation in the long term.[110]

Major Energy Users (MEU) also supported the continued use of the RBA's forecasts, but did not support the use of the RBA's mid-point to estimate expected inflation.[111]

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105 APGA, *Submission on draft position – Inflation review 2020*, November 2020, p. 4; Aurizon, *Submission on draft position – Inflation review 2020*, November 2020, p. 2; Endeavour Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 1; AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 3; ATCO, *Review of expected inflation 2020 – Draft position paper*, November 2020, p. 1; EQL, *Submission on draft position – Inflation review 2020*, November 2020, p. 1; CEG, *Response to AER draft position paper on inflation - A report for Jemena*, November 2020, pp. 10-13; QTC, *Submission on draft position – Inflation review 2020*, November 2020, p. 1; ENA *Submission on draft position – Inflation review 2020*, November 2020, pp. 24-25; CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, pp. 2-3; Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 7; SA Power Networks, *Submission on draft position – Inflation review 2020*, November 2020, pp. 3-4; NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.

106 Further detail on surveys and market-based measures is at chapter 11 and appendix H of our draft position.

107 Deloitte Access Economics, *Review of the regulatory treatment of inflation*, June 2020, p. 8.

108 Dr Martin Lally (Capital Financial Consultants), *Review of the AER's inflation forecasting methodology*, July 2020, p. 3.

109 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p.15; PIAC, *Submission on draft position – Inflation review 2020*, 6 November 2020, p. 2.

110 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 15.

111 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 5.

MEU stated that our draft position did not explain how we concluded that expected inflation would revert to the RBA's mid-point by year 5. At chapter 12.2 of our draft position, we said 'currently, the data we have suggests that expected inflation might take around five years to return to 2.5 per cent'.[112] The data we review is proprietary and confidential in nature. More recent updates of this data continue to support our conclusion.

Furthermore, both Deloitte and Dr Lally found that RBA forecasts are the best estimate of short-term inflation expectations, and that long-term inflation expectations remain well anchored at 2.5 per cent (see chapter 5). The ENA also noted that the RBA's forecasts 'are made in light of all evidence available at the time, including market evidence'.[113]

As such, we consider that the RBA forecasts remain the best estimates of short-term expected inflation, and that long-term expected inflation remains anchored at the mid-point of the RBA's target band. They are congruent with the market's inflation expectations and remain robust. On this basis, our final position is to continue to use an approach based on the RBA's short-term forecasts—for the longest term published by the RBA—and a longer term estimate based on the mid-point of the target band. That is, we would use the RBA's short-term forecasts in preference to other approaches discussed in this paper and our draft position in setting our estimate of expected inflation.

The ENA (endorsed by eight submissions) submitted that the RBA's short-term forecasts are systematically biased upwards in a low inflation environment.[114] However, the ENA acknowledged that the RBA's forecasts might be unbiased over the long run.[115]

SA Power Networks stated, 'such a bias might eventuate from the fact that the RBA has a clear imperative to drive inflation upwards towards the target band, and that 'talking up' inflation can assist in that regard.'[116]

We do not accept the ENA's submission (along with AusNet Services, Ausgrid and SA Power Networks[117]) that the RBA's forecasts are biased. The RBA reviews the full range of information when developing its forecasts (including estimates derived from market measures). We consider the RBA is best placed to understand and balance the strengths and limitations of the available material when developing its forecasts. In contrast, we do not accept the ENA's proposal that we should place primary reliance

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112 AER, *Draft position – Regulatory treatment of inflation*, October 2020, p. 60.

113 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 28.

114 ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 29-30; Endorsed by ATCO, Ausgrid, Endeavour Energy, EQL, Essential Energy, SA Power Networks, TransGrid, AusNet Services.

115 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 29.

116 SA Power Networks, *Submission on draft position – Inflation review 2020*, November 2020, pp. 2-4.

117 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 3; Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 7; SA Power Networks, *Submission on draft position – Inflation review 2020*, November 2020, pp. 3-4.

on market measures. This would place too much emphasis on a single approach with material deficiencies.

8.2 Would it be better to use market measures of inflation?

The ENA supported our draft position to adopt a shorter inflation term and a glide-path stating that it 'contains a significant move towards bringing regulatory inflation estimates toward the best estimate of future inflation'.[118] APGA also supported our draft position, stating that 'although it could be improved, it reflects a reasonable compromise that addresses key failings with the current approach'.[119]

The ENA and APGA submitted that to obtain the 'best' estimate and improve our glide-path, we should include market data (such as swaps), which they consider provides a better indicator of what the market expects than the RBA.[120]

In contrast, the CRG and MEU continued to raise concerns about the use and limitations of market-based measures.[121] MEU questioned the motives of service providers, given the move away from market-based measures was initiated by them in 2008.[122] We made a similar observation in our draft position.[123]

Submissions in response to our draft position seeking the inclusion of market-based measures do not adequately address the above concerns or how the deficiencies previously identified[124] with market-based measures may be managed to mitigate distortions and biases, particularly in the prevailing market conditions.

Further, the volatility of swaps noted in the 2017 inflation review, has increased since the outbreak of COVID-19. In the RBA's August 2020 Statement on Monetary Policy, the RBA noted that short and long-term market-based measures of inflation expectations have declined since the outbreak of the pandemic in early 2020. The RBA noted that these measures have been significantly affected by dysfunction in these markets in the months following the initial shock of COVID-19.[125]

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118 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.

119 APGA, *Submission on draft position – Inflation review 2020*, November 2020, p. 4.

120 APGA, *Submission on draft position – Inflation review 2020*, November 2020, p. 7; ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 34.

121 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p.8; MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.

122 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.

123 AER, *Draft position on regulatory treatment of inflation – Inflation review 2020*, October 2020, pp. 24-25.

124 See AER, *Draft position – Regulatory treatment of inflation*, Appendix H, October 2020, pp.133-135; ACCC/AER Working Paper #11, *Consideration of best estimates of expected inflation: comparing and ranking approaches*, April 2017.

125 RBA, *Statement on Monetary Policy - August 2020 - Inflation*, August 2020, p. 86.

Deloitte and Dr Lally re-examined the swaps approach in their respective reports, concluding that the issues with the swaps method remain and are substantial (see chapter 5).

QTC's submission suggested an approach to addressing these biases and distortions, but after reviewing its submission, we are not convinced that the biases and distortions are immaterial or safe from time variance. The uncertainty and volatility in financial markets caused by COVID-19 means relying on swaps (or any market-based measures) alone would likely result in a poor estimate of expected inflation. None of the submissions that supported market-based measures provided a solution to this problem. QTC's submission stated that 'to the extent that liquidity effect are an issue, a 20-40 day average of the published closing Zero Coupon Inflation Swap mid-rates (half way between the bid and ask rates) as suggested in Moore (2016) should be used'.[126] However, Moore (2016) noted that 'the main liquidity-related concern with inflation swaps is that the market is not particularly active and so prices are not broadly representative and are not always based on actual transactions.'[127]

The ENA submitted that inflation swaps have outperformed the RBA 1 year ahead and 2 year ahead forecasts over the last nine years.[128] Likewise, analysis by Jemena's consultant CEG suggested that the bond break-even approach was more accurate than swaps and our proposed approach in predicting outturn inflation over June 2010 to June 2019.[129] We are not satisfied that the analysis indicates that market-based measures are a superior indicator of expected inflation. A short sampling period was used, and neither the ENA nor CEG submitted evidence that shows market-based measures outperform RBA short-term forecasts since inflation targeting started.

We also note that the sampling period CEG used for the Root Mean Square Error test excluded the effect of the Global Financial Crisis, and did not match the time period used to generate its figures.[130] We want a method that is robust for all market conditions, and therefore, it is important to consider the effects that financial market crisis have on the methods used to estimate expected inflation.

As long as these biases and distortions remain material and unquantified, we do not consider it suitable to use market-based measures as an indicator of expected inflation or as an input to the glide-path because they would not provide the best estimate of expected inflation and therefore, would not be in the long-term interest of consumers.

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126 QTC, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.

127 Moore, *Measures of Inflation Expectations in Australia*, December 2016, p. 29. Available at: https://www.rba.gov.au/publications/bulletin/2016/dec/3.html

128 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 33.

129 CEG, *Response to AER draft position paper on inflation - A report for Jemena*, November 2020, p. 25.

130 ENA, *Submission on draft position – Inflation review 2020*, November 2020, Figure 1, p. 30; ENA, *Submission on draft position – Inflation review 2020*, November 2020, Figure 2, p. 32; CEG, *Response to AER draft position paper on inflation - A report for Jemena*, November 2020, Figure 3-1, p. 12.

9 Introducing a glide-path

The material before us indicates that the RBA's target band remains a critical influence on expectations of future inflation.[131] In particular, the RBA remains committed to managing inflation within the target band, and expectations trend to the mid-point of the target band in the medium-term.[132]

However, there is evidence from the current period that the transition back to the mid-point of the RBA's target band following a period of sustained low or high inflation may take longer than previously assumed. This is supported by:

- Statements from the RBA including:

  > *…the global outbreak in coronavirus is expected to delay progress in Australia towards full inflation and the inflation target,*[133]
  >
  > *Inflation is not likely to be within the 2-3 per cent target range for at least three years*[134] *and*
  >
  > *…while inflation can move up and down for a range of temporary reasons, achieving inflation consistent with the target is likely to require a return to a tight labour market. On our current outlook for the economy – which we will update in early November – this is still some years away. So we do not expect to be increasing the cash rate for at least three years.*[135]

- Statements in the Federal Government's 2020–21 Budget Paper No.1,[136] including:

  > *…Consumer price inflation is forecast to increase to 1¾ per cent through the year to the June quarter 2021, driven by the unwinding of childcare policies and administered price changes in the second half of 2020. Measures of underlying inflation are expected to be near record lows over the first two years of the forecast period, reflecting that there will remain significant additional capacity in the economy for some time and weak wage growth. Consumer price inflation is not expected to return to the bottom of the RBA's target band of 2 to 3 per cent until the end of the forward estimates.*

- Data from Consensus Economics' surveys showing a transition over years 3 to 5 back to the mid-point of the target band.
- Inflation outcomes that have been below the mid-point of the RBA's target band for an extended period.

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131 Deloitte Access Economics, *Review of regulatory treatment of inflation*, June 2020, pp. 16–17.
132 Deloitte Access Economics, *Review of regulatory treatment of inflation*, June 2020, p. 24.
133 RBA, *Statement by Philip Lowe, Governor: Monetary Policy Decision*, March 2020.
134 RBA, *Opening Statement to the House of Representatives Standing Committee on Economics*, August 2020.
135 RBA, *Speech by Philip Lowe, Governor: The recovery from a very uneasy recession*, October 2020.
136 See: https://budget.gov.au/2020-21/content/bp1/download/bp1_w.pdf, Budget 2020–21, *Budget Strategy and Outlook Budget Paper No. 1*, 2020–21, pp. 2-24.

On the basis of this evidence, our final position is to introduce a glide-path which, in combination with the five year term, will provide the best estimate of expected inflation. The glide-path approach is a modified version of our current approach, and is based on the proposition that it may take a number of years for inflation to return to the mid-point of the RBA's target band following a substantial disturbance. To some extent the glide-path approach is self-adjusting. When the RBA's forecasts are close to 2.5 per cent the glide-path adjustments are immaterial. This means that our glide-path will work well even if economic circumstances change and is therefore likely to be a lasting component of our economic regulation. The CRG reported that half of the consumer representatives interviewed supported a glide-path.[137]

The use of a glide-path approach is supported by both Deloitte[138] and Dr Lally's[139] reports as detailed in sections 5.4.1 and 5.4.2 respectively.

Specifically, our final position is to use a simple linear glide-path approach where inflation is expected to revert to the RBA's mid-point in a linear pattern (i.e. at equal steps for each year of the glide). We consider that this provides a glide-path that will be both enduring and symmetric in its application. The CRG and PIAC supported these aspects.[140] We discuss these further in sections 9.3 and 9.4.

However, the CRG also submitted that our draft position to apply 'the glide-path, and potentially the entire proposal to change the estimation methodology, is motivated by an immediate short-term concern rather than an ongoing bias'[141] in our current method. As noted in chapter 7, we do not consider that our current method is biased but rather that our final positon is likely to provide the best estimates for expected inflation when targeting a match in RAB indexation over the regulatory period.

Commentary from the RBA and Federal Government along with Consensus Economics data indicate that reversion will take some time. Estimating expected inflation is forward looking so it is impossible to be precise, however our observations of movement in the data we monitor, amplified by the impacts of COVID-19, indicate that it will take time for inflation to settle. We consider that the benefits of our glide-path is that it can withstand significant disruptions to the market in the future, but also apply under stable market conditions.

For a typical five year regulatory period, adopting a linear glide-path, and based on the RBA's current practice of forecasting inflation for two years, our estimate of inflation would be:

- Year 1: RBA forecast

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137 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 19.

138 Deloitte Access Economics, *Review of regulatory treatment of inflation*, June 2020, p. 23.

139 Dr Martin Lally (Capital Financial Consultants), *Review of the AER's inflation forecasting methodology*, July 2020, p. 3.

140 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 16; PIAC, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.

141 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 9.

- Year 2: RBA forecast
- Year 3: Glide value
- Year 4: Glide value
- Year 5: 2.5 per cent.

The APA Group submitted that 'applying a linear glide-path from the RBA's forecast of inflation for years 1 and 2 to the mid-point of the Bank's target band (currently 2.5 per cent) in year 5, is a reasonable way of using the available information to estimate expected inflation'.[142]

PIAC's submission supported our glide-path as outlined above, noting that it is appropriate that the glide-path be symmetric and enduring to withstand sustained high or low inflation.[143]

Submissions from APGA and the Network Shareholder Group also supported the introduction of a glide-path, but submitted variations to our proposed glide-path.[144] We discuss these below.

There are however, a number of precedents for the use of glide-path approach in the regulatory treatment of inflation, with the Commerce Commission of New Zealand and the Essential Service Commission of South Australia (ESCOSA) both using a form of linear glide-path to estimate expected inflation.[145]

9.1 Form of the glide-path

There are numerous alternative forms the glide-path may take. These options include, but are not limited to:

- a simple linear glide-path,
- a non-linear glide-path,
- a linear glide-path with a mechanism which restricts or caps movement in the glide-path from year to year, or
- a non-linear glide-path with a mechanism which restricts or caps movement in the glide-path from year to year.

Our final position is to adopt a simple linear glide-path. This means the change in expected inflation from year to year will be gradual and consistent and move in one

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142 APA Group, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.

143 PIAC, *Submission on draft position – Inflation review 2020*, November 2020, p. 2. PIAC did not specifically comment on the use of RBA or market-based data.

144 APGA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 6-7; NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.

145 Commerce Commission New Zealand, *Electricity Distribution Services Input Methodologies Determination 2012*, 20 May 2020, p. 112; Essential Services Commission of South Australia, *SA Water Regulatory Determination*, June 2020, p. 5.

direction toward to the RBA's mid-point at equal steps for each year of the glide. In contrast, a non-linear glide-path is when inflation is expected to revert to the mid-point at an increasing or decreasing rate. For example, inflation might be expected to make large movements toward the mid-point initially, followed by smaller movements before finally arriving at the target.

While a number of forms of glide-path may be equally transparent and replicable once parameters of the glide-path are set, we acknowledge that setting the parameters requires judgement. Our choice of the linear glide-path over alternatives has been informed by data from Consensus Economics' surveys.

The MEU submitted that using historical annual movements in inflation provides a more statistically robust approach to how long it will take to move from the RBA's estimate for year 2, to the mid-point of the target band, than for us to 'guess' when the mid-point will be reached. The MEU submitted that using the observed standard deviation for past inflation movement changes capped at between 60 and 80 basis points is a preferred option to arbitrarily assuming a fixed point in time.[146]

We acknowledge that MEU's approach may better reflect past movements of inflation reverting to the mid-point, it is not clear that its approach better captures the change in inflation expectations (from year to year) than our linear glide-path. The evidence before us does not support using a capped historical standard deviation to estimate future inflation expectations in preference to a linear glide-path. Therefore, our final position is to use a simple linear glide-path.

9.2 Length of the glide-path

The length of the glide-path is dependent on how long it is expected to take for inflation to return to the RBA's mid-point of 2.5 per cent. Our final position is to apply a glide-path to the RBA's mid-point in year 5. This reflects the data currently available to us that suggests expected inflation might take around five years to return to 2.5 per cent. Although PIAC submitted that we should retain a 10 year inflation term, it did support a glide to 2.5 per cent in year 5.[147] CRG's 'middle road' approach (see chapter 10) also supported a glide to 2.5 per cent in year 5.[148]

As estimating expected inflation is forward looking there are naturally differences of opinion among stakeholders on when inflation might revert to the RBA's mid-point. Some stakeholders proposed a variable end point for the glide-path rather than a fixed end point of 2.5 per cent.

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146 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.

147 PIAC, *Submission on draft position – Inflation review 2020*, November 2020, p. 2

148 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 16.

Similarly, APGA and QTC submitted that market-based measures (preferably inflation swaps) be used as the end point of the glide-path.[149] They submitted that a fixed end point is not responsive to market conditions. Given our concerns with market-based measures (detailed in chapter 8), and the RBA's recent commentary (also quoted above), we do not consider this would result in the best estimate of expected inflation.

The Network Shareholder Group and TransGrid submitted that the glide-path should be dependent on the RBA year 2 forecast.[150] That is, if the RBA forecast at year 2 is:

- below 2 per cent, then expected inflation would glide to 2 per cent at year 5 (the lower bound of the RBA target band)
- between 2 to 3 per cent, then expected inflation would glide to 2.5 per cent at year 5 (RBA mid-point)
- if above 3 per cent, then expected inflation would glide to 3 per cent at year 5 (the upper bound of the RBA target).

Under this approach, expected inflation would revert to the RBA's target band of either 2 per cent or 3 per cent by year 5, when the RBA forecasts inflation to be outside of the target band at year 2.

Overall, we consider that our linear glide-path will allow us to determine the best estimates of expected inflation in each determination. As mentioned in 8.1, investors' long- term inflation expectations are anchored at the RBA's mid-point, and not at the upper or lower bound of the RBA's target band. Importantly, our glide-path does not result in service providers being undercompensated as submitted by the ENA.[151] In fact, when compared to the latest Consensus Economics data, it shows that our final position is not materially above the latest Consensus Economics data. Since our proposed glide-path is symmetric and enduring, any errors are expected to average out over multiple regulatory periods.

For the above reasons, our final position is to glide to 2.5 per cent in year 5. Sometimes regulatory periods could be longer or shorter than five years. For shorter periods, we propose to use the relevant points from the RBA's forecasts and any applicable values from the linear glide-path. For longer regulatory periods, we propose to use the estimates noted above (chapter 8) plus the mid-point of the RBA's target band thereafter. The length of the glide path is informed by the available data so as to provide an unbiased estimate of expected inflation, and is not linked to the length of the regulatory period.

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149 APGA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 6-7; QTC, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.

150 TransGrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 2; NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.

151 ENA, *Memorandum to AER*, 20 November 2020, p. 3.

9.3 Symmetric application of glide-path

Our final position is to implement a glide-path that is symmetric in its application. This means that a glide-path back to the mid-point of the target band would be applied in the same manner whether short-term forecasts are above or below the mid-point. Submissions from the CRG, PIAC, CitiPower/Powercor/United Energy and the Network Shareholder Group agreed with this proposition.[152]

Applying a glide-path only when short-term inflation forecasts are below the mid-point is likely to result in an estimate of expected inflation that is biased downward in the long-term, based on the evidence before us. As discussed in section 3.2, the best estimate of expected inflation should be unbiased, and we consider that this is only achieved when the glide-path is applied symmetrically.

We note Dr Lally's recommendation that 'if the AER believes symmetry exists, it should retain its current approach'—that is, we should not adopt a glide-path.[153] This statement by Dr Lally appeared to be focused on the relative prevalence of fast versus slow reversion to the mid-point, from either a high or low inflation starting point. If an equal proportion of high and low inflation scenarios show slow reversion, any error in a non-glide-path approach will average out over multiple regulatory periods.[154]

Based on the symmetric pattern of the Consensus Economics data before us, we consider that it is reasonable to expect the relative balance of fast or slow reversion to be equivalent above and below the target band. However, rather than rely on any errors to balance out (as Dr Lally suggested), we consider that applying the glide-path will allow us to determine the best estimate of expected inflation in each determination.

9.4 Enduring application of glide-path

Our final position is that a linear glide-path, applied symmetrically, should be applied on an enduring basis as it provides a robust method that can be used regardless of wide-reaching events or disturbances to market data. The CRG, PIAC and the Network Shareholder Group submissions agreed.[155]

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[152] PIAC, *Submission on draft position – Inflation review 2020*, November 2020, p. 2; CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 16; CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, p. 2; NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.

[153] Dr Martin Lally (Capital Financial Consultants), *Review of the AER's inflation forecasting methodology*, July 2020, p. 30.

[154] If, for example, a high proportion of above-target-band inflation scenarios show slow reversion, but only a low proportion of below-inflation scenarios show slow reversion, the errors arising from applying a non-glide-path inflation estimate will not cancel out and the overall estimate will be biased. However, in such an example, applying a symmetric glide path in all cases would not result in an unbiased estimate either – it would be necessary to selectively identify which scenarios should use a glide path and which should not.

[155] PIAC, *Submission on draft position – Inflation review 2020*, November 2020, p. 2; CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 16; NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.

Compared with our current approach, the glide-path has a larger impact on the estimate of expected inflation when the RBA's short-term forecast is further removed from the mid-point of the target band, and a minimal impact when it is already close to the mid-point. As such, the glide-path approach is flexible and adaptable to market uncertainty and different economic environments. Relative to our current approach, we expect it will perform better during periods of sustained high or low inflation when the short-term estimates remain substantially different from the mid-point of the target band. However, in more normal circumstances there will be little difference between the current approach and the glide-path approach.

Adopting the glide-path approach as a temporary measure would raise a number of concerns, including how the timeframe of application is determined and potential gains (or losses) with determinations within that timeframe (or outside). Unless we established clear rules now on when we would revert to the current approach, it would reduce the consistency and predictability of a regulation and require a further review to determine its removal. It may also be perceived to result in asymmetric outcomes that could disadvantage consumers over the long-term.

While supporting our glide-path approach, the CRG submitted that symmetry will not be sustainable —that it manifests over time, spanning multiple regulatory periods and could be undone in the future if changes or 'tweaks' were made to our method for estimating expected inflation.[156] This means that our glide-path approach may not be enduring.

We note the CRG's concerns that were also reflected by consumer representatives they interviewed,[157] and are cognisant of the potential for stakeholders to pursue select aspects of the regulatory framework. Changes to the method of estimating expected inflation that might be proposed in the future will be assessed carefully to ensure that they better promote the NEO and NGO. Sustainability is a key consideration when considering any change to our framework. As such, should there be cause to revisit this issue in the future based on material before us at that time, we would give significant weight to the sustainability of the framework to avoid any potentially unbalanced changes which are unlikely to be in the long-term interest of consumers.

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156 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 16.

157 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 19

10 Combining a shorter term and glide-path to estimate expected inflation

Our final position that is likely to result in the best estimates of expected inflation is to employ both a shorter target inflation term (by matching the length of a regulatory period) and a glide-path over five years. Albeit that these two positions have been reached sequentially and on different basis.

Introducing a shorter inflation term

As explained in chapter 7, we consider that using a term that matches the regulatory period will ex-ante match expected inflation over the regulatory period, and that this is a better approach than matching the 10 year term of the rate of return. This means that in expectation, the nominal rate of return and real rate of return is achieved over the regulatory period.

Use of a glide-path

Following our final position on the appropriate term to estimate expected inflation, there is a subsequent question of the best method to estimate expected inflation over that term. On this point, our final position is that applying a glide-path is likely to result in a better estimate of expected inflation if short-term market conditions impact the time it will take for expected inflation to revert to the RBA's mid-point. The glide-path also provides an adjustment mechanism to accommodate market uncertainty. Our final position is that a glide-path will run until year five.

Final position on the method to determine the best estimate of expected inflation under the NEO/NGO

Our final position is that, a term that matches the length of the regulatory period together with a glide-path as outlined above, will provide a method likely to result in the best estimates of expected inflation, and therefore achieves the NEO/NGO.

Specifically, changing the length of the inflation term without including a glide-path would result in a method that maintained the expectation of inflation at 2.5 per cent from year three.

Conversely, applying a glide-path while maintaining the 10 year term means the issue of expected inflation not matching expected RAB indexation over the regulatory period remains. This is why our final position is to adopt an inflation term that matches the regulatory period.

We consider that these two positions, when applied together, address a number of the issues and stakeholder concerns that led to this review. These primary concerns that were raised with us and their mitigation are outlined in table 2.

Table 2 Concerns with current approach and mitigation with final position

Issue/concern	Mitigation
That our ten year rate of return may be upwardly biased in a period of extended low inflation outcomes.	We consider that a term that matches the length of the regulatory period will largely address this concern by being more responsive to short-term inflation estimates than long-term estimates. Additionally, a glide-path acknowledges that it may take longer than three years for expected inflation to revert to the mid-point of the RBA's target band.
The inconsistent use of inflation across the PTRM and RFM over the regulatory period because of the use of a ten year estimate of expected inflation.	We consider that using an estimate of expected inflation that is based on a term that matches the regulatory period in the PTRM will ex-ante match expected RAB indexation over the regulatory period. This ensures that ex-ante the expected nominal return (and real return) will be delivered over the regulatory period.
Expected inflation will not revert back to 2.5 per cent by year 3 based on current market data.	We consider that the use of a glide-path approach accounts for inflation taking longer than two years to revert to the RBA's target band.
RBA forecasts are unreliable. Therefore, market-based measures should be adopted.	RBA forecasts remain best available. Shorter term improves responsiveness, glide-path addresses market uncertainty but removes the volatility, biases and distortions of market-based measures.

The CRG's 'middle of the road' approach

The CRG submitted that it would prefer that we adopt a 'middle of the road' approach.[158] That is, retaining the 10 year term, and employing a linear glide-path that glides from the RBA's year 2 forecast to 2.5 per cent in year 5 and then remain at 2.5 per cent for years 6 to 10.[159]

The CRG considered that this approach would provide greater flexibility in our estimates of expected inflation in response to short-term volatility without surrendering the framework's long-term focus. The CRG also submitted that this would lessen the need for transition, and allow the inflation term to be considered with the 2022 rate of return review.[160]

While we have reduced the term for the estimate of inflation expectations, the framework remains focused on the long-term interests of consumers. If we are achieving the best estimate in each period, we will achieve the best estimate over the long-term. Thus, our approach is in the long-term interest of consumers, because it

[158] CRG, *Submission on draft position – Inflation review 2020*, November 2020, pp.16-17.
[159] CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 17.
[160] CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 17.

would likely promote efficient investment in energy networks, and thus provide consumers with safe and reliable services for efficient costs.

11 Stakeholder impacts of our final position

Estimating expected inflation is a forward looking approach, therefore it is difficult to quantify stakeholder impacts with a high degree of specificity. However, we have outlined a range of potential scenarios.

Notwithstanding that we are unable to define specific stakeholder impacts, we consider that our approach will deliver the following positive properties:

- It will better match to RAB indexation.
- There will be less uncertainty for service providers and investors as we are estimating expected inflation over a shorter period.
- It will be more responsive to short-term RBA forecasts.
- It is adaptable when inflation is far from the RBA's target band.
- It is more responsive to market conditions.

11.1 Scenarios

Table 3 sets out the impact of our final position with different short-term RBA inflation forecasts for years one and two (above or below 2.5 per cent). It shows that a change to an inflation term that matches the regulatory period, combined with a glide-path, has the effect of providing an estimate that is more responsive to short-term inflation forecasts. This makes revenues recovered, and consumer prices more volatile in response to changes in short-term RBA inflation forecasts.

In times of low forecast RBA inflation, the estimates of expected inflation are lower than the current approach of using a 10 year inflation expectation. Likewise, if RBA inflation forecasts are high, the estimates of expected inflation are higher than the current approach. However, the results are the same where you do not expect the RBA short-term forecasts to be different to 2.5 per cent.

Table 3 Estimates of expected inflation using final position method versus current method

Method	Estimate of expected inflation
Current term (10 years) with RBA forecasts of inflation of 1.25% in year 1 (2021-22) and 1.75% in year 2 (2022-23)	2.30%
Proposed term (5 years) with glide-path and with RBA forecasts of inflation of 1.25% in year 1 (2021-22) and 1.75% in year 2 (2022-23)[161]	1.95%
Current term (10 years) with RBA forecasts of inflation of 2.5% in year 1 and year 2 (2021-22 and 2022-23)	2.5%
Proposed term (5 years) with glide-path and with RBA forecasts of inflation of 2.5% in year 1 and year 2 (2021-22 and 2022-23)	2.5%
Current term (10 years) with RBA forecasts of inflation of 3.75% in year 1 (2021-22) and 3.25% in year 2 (2022-23)	2.70%
Proposed term (5 years) with glide-path and with RBA forecasts of inflation of 3.75% in year 1 (2021-22) and 3.25% in year 2 (2022-23)[162]	3.05%

Table 4 shows the potential outcome of the final position given the current RBA inflation forecast for 2021–22 of 1.25 per cent and assuming an RBA inflation forecast of 1.75 per cent for 2022–23. We have assumed 1.75 per cent in 2022–23 based on 1.25 per cent linearly reverting to 2.5 per cent in 2024–25 and the RBA rounding to the nearest 0.25 per cent. As shown in table 4, combining a shorter term with a glide-path results in a lower estimate of 1.95 per cent—based on the latest RBA estimates—compared to 2.30 per cent using the current method.

To provide context we have applied our final position to the draft Victorian electricity distribution determinations for 2021–26.[163] Using our final position method, we calculate an estimate of expected inflation of 1.95 per cent using the latest RBA figures.[164] This estimate is calculated as:

$$1.95\% = [(1 + 1.25\%) \times (1 + 1.75\%) \times (1 + 2.00\%) \times (1 + 2.25\%) \times (1 + 2.50\%)]^{\frac{1}{5}} - 1$$

This compares to an estimate of 2.30 per cent with the current method using the same short-term estimates.

$$2.30\% = [(1 + 1.25\%) \times (1 + 1.75\%) \times (1 + 2.50\%)^{8}]^{1/10} - 1$$

[161] Individual values are: 1.25%, 1.75%, 2%, 2.25%, 2.5%.

[162] Individual values are: 3.75%, 3.25%, 3%, 2.75%, 2.5%.

[163] Our draft distribution determinations for the five Victorian distributors were released on 30 September 2020. See: https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements

[164] This figure uses the December 2021 and December 2022 values (1.00% and 1.50% respectively). The final decision for the Victorian service providers will use the June 2022 and June 2023 values once available.

Table 4 Estimates of likely expected inflation numbers for the Victorian distribution decisions using current and final position methods.

Method	Estimate of expected inflation
Current method (10 years) – 2021-22 to 2030-31	2.30%
5 year + glide-path (final position) – 2021-22 to 2025-26	1.95%

Adopting 1.95 per cent for our draft Victorian distribution determinations would result in about an extra $300 million ($real 2021) in allowed revenue over the next five years, compared to adopting 2.30 per cent using the current method. This is the result of applying a higher real rate of return to the RAB due to a lower estimate of expected inflation being removed from the nominal rate of return. The average estimated nominal rate of return across the five Victorian service providers is 4.05 per cent. Combining this with our estimate of expected inflation using our draft position results in an expected real rate of return of 2.07 per cent, compared to 1.71 per cent using the current approach.

This higher real rate of return results in smaller real price reductions for distribution network services compared to using the current method (around 12 per cent over the period, compared to 14 per cent). This difference equates to around $8 more per annum on a (Victorian) customer's bill than using the current method—holding all else constant.

We are conscious that the final position, applied immediately, will have a material impact on revenues recovered, and prices for consumers if current short-term estimates persist. At the same time, we consider that the final position addresses the submitted issues with our current method and is likely to result in us calculating the best estimates of expected inflation as required by the NER/NGR from the point of commencement. This in turn is in the long-term interests of consumers as service providers are more accurately able to recover their efficient costs, leading to an efficient level of investment in energy networks.

12 Our views on substantial changes to the regulatory framework

We are satisfied that the current regulatory framework delivers a real rate of return consistent with the rules. We have considered the material put to us throughout this review and are not persuaded that we should pursue a change to the regulatory framework through a rule change proposal to the AEMC.

Our draft position discussed in detail the current real return framework and how it compared to alternative target frameworks.[165] We considered at that stage that we should maintain our current framework but sought further feedback and reasoning from stakeholders on whether an alternate framework should be considered.[166] Our final position is to maintain the current framework that delivers an expected real return on capital to investors (in aggregate). We consider that maintaining the current framework—and combining this with a term of expected inflation that matches the regulatory period—ensures that the allowed nominal rate of return is expected to be delivered over the regulatory period, while returns to investors and prices for consumers are maintained in real terms. Our reasons for arriving at our final position are outlined below.

12.1 Current real rate of return framework

In our regulatory determinations we set an allowed rate of return so that service providers can attract the necessary funds from capital markets. The underlying objective for the service provider is to achieve a real return consistent with the opportunity cost of capital. Since the revenue recovered by the service provider will be in nominal dollars, it also expects to be compensated for inflation. At the time of making a decision for the regulatory period, the initial nominal rate of return reflects the joint assessment of expected real returns and expected inflation. However, receiving inflation compensation is not an end to itself; it matters only because it determines whether or not the underlying initial real rate of return is received. The current regulatory framework therefore focuses on this outcome. This approach also results in network charges that are more stable in real terms for consumers, and more stable real returns to investors (in aggregate).

Further, targeting a real rate of return is consistent with the requirements of the NER.[167] Changes in the framework will require a rule change by the AEMC in order to

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165 AER, *Draft position on regulatory treatment of inflation – Inflation review 2020*, pp. 71–82 and 138–140.

166 AER, *Draft position on regulatory treatment of inflation – Inflation review 2020*, p. 78.

167 The negative adjustment in the building blocks under clauses 6.4.3(b)(1)(ii) and 6A.5.4(b)(1)(ii) of the NER off-sets the indexation of the RAB. The effect of the negative adjustment is that conceptually the return on capital can be seen as calculated based on the real rate of return. The NGR is less prescriptive regarding inflation.

implement. This is acknowledged in stakeholder submissions on this matter.[168] The rules require (and investors expect) that the value of the RAB is maintained in real dollar terms. This is particularly important with long lived assets such as those in the electricity and gas sectors. A framework that targets the initial real rate of return plus actual inflation outcomes will generally require indexation of the RAB to reflect actual inflation. This also aligns with the real straight-line depreciation which spreads the depreciation cost equally across consumers over the life of the assets to minimise inter-generational equity issues.[169]

As discussed in chapter 7, our final position is to set an estimate of expected inflation with a term that matches the regulatory period. Combining this inflation term with the current real return framework means that the allowed nominal rate of return is expected (ex-ante) to be delivered over the regulatory period, while maintaining the benefits of a framework that ensures the delivery of a real rate of return ex-post.

In conclusion, we consider that the current framework has a range of desirable qualities that are to the advantage of service providers, investors and most importantly consumers, including:

- The treatment and estimation of inflation is explicitly factored into our decisions and can be tested and monitored.
- Our decisions preserve purchasing power for all. Network charges for consumers move in line with their incomes and wages. Investor capital is preserved.
- There is automatic adjustment for movements in actual inflation. Any surprise changes in inflation are handled automatically. This mitigates a key source of risk.
- The allowed nominal rate of return is expected to be delivered over the regulatory period.
- Service providers and their investors face a clear regulatory framework that has operated successfully and been tested over many years. They are able to make informed decisions about how to finance their operations. The risks associated with these financing decisions reside with the agents that are best placed to manage them.

12.2 Alternative target frameworks

Broadly, there are two alternative approaches to rate of return targeting that have been raised by stakeholders:

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[168] Ausgrid, *Submission to draft position - 2020 inflation review*, November 2020, p. 3; Endeavour Energy, *Submission to draft position - 2020 inflation review*, November 2020, p. 2; ENA, *Submission to draft position - 2020 inflation review*, November 2020, p. 60; NSG, *Submission to draft position - 2020 inflation review*, November 2020, p. 5.

[169] Real straight-line depreciation means that we calculate the decrease in the value of the opening asset base by assuming an equal decline in real terms each year until the asset expires (so real asset value divided by remaining life). This real amount is then adjusted for inflation and labelled nominal straight line depreciation.

- Target a real rate of return on equity and nominal rate of return on debt (referred to as a hybrid approach)
- Target a nominal rate of return on capital (referred to as a nominal approach).

In our draft position we invited further stakeholder submissions on the direct benefits for consumers of a change in methodology to a hybrid approach.[170] In submissions to our draft position industry bodies, the Network Shareholder Group and a number of service providers maintained support for a hybrid approach.[171] They considered that it has advantages over the current framework as debt is predominantly financed on a nominal basis, and the hybrid approach means the recovery of the allowed nominal return of debt. They also noted that the model proposed by the ENA has no impact on short-term revenues and prices, and no impact on consumers on average over the long-term if the estimate of expected inflation is unbiased.

While this submission suggested minimal impact on consumers, it did not provide evidence on the consumer value of a change in approach as requested in our discussion paper,[172] draft position and follow up meeting with the ENA.[173] We also note the ENA and its members have not provided evidence that they have effectively engaged with consumers on the proposed hybrid approach.[174] Further, with the changes we are making there is little to no expected additional benefit to moving to a hybrid approach over the long-term. It is expected to result in revenues and prices that are in line with this final position, while also representing a significant framework change requiring a rule change process by the AEMC. In its late submission, the ENA provided data from Consensus Economics that is broadly consistent with the estimates we would estimate under our new approach.[175]

In its submission, the CRG agreed with our draft position to maintain a real rate of return framework.[176] It noted that the current framework has been in operation from the outset of network regulation and that investors bought into the networks knowing how revenues would be determined. It also noted a general agreement from consumer representatives that there should be a high bar that must be cleared before considering changes to the regulatory framework.[177] Submissions from other consumer representatives in response to the draft position did not comment further on this issue.

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170 AER, *Draft position on regulatory treatment of inflation – Inflation review 2020*, p. 78.

171 SA Power Networks, *Submission on draft position – Inflation review 2020*, November 2020, pp. 5–6; Endeavour Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 2; AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, pp. 6–7; Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, pp. 3–6; APGA, *Submission on draft position – Inflation review 2020*, November 2020, p. 16; ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 53–60; NSG *Submission on draft position – Inflation review 2020*, November 2020, p. 5.

172 E.g., AER, Discussion paper on regulatory treatment of inflation, May 2020, p. 15.

173 AER, *Draft position on regulatory treatment of inflation – Inflation review 2020*, October 2020, p. 78.

174 ENA, *Memorandum to AER*, 20 November 2020, p. 3.

175 ENA, *Memorandum to AER*, 20 November 2020, p. 3.

176 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 14.

177 CRG, *Submission on draft position – Inflation review 2020*, November 2020, pp. 19 and 25.

However, initial concerns raised by these stakeholders prior to the draft position reflected similar concerns.

MEU noted in its submission to the discussion paper that the current approach has been in place for the life of the NEM, and any change warrants deep analysis as to the benefits and detriments.[178] EUAA noted that this review was not the appropriate forum to consider profound changes to the framework such as alternative target returns.[179] PIAC noted that any framework change must be backed by thorough modelling showing how such a change is in consumers' interests.[180] ECA noted at that stage that the case for change had not been made sufficiently and research on consumer preferences should be conducted by the party that is proposing a change in the current arrangements (being the service providers).[181]

We noted in the early stages of this review that before we propose any changes to the framework that would require changes to the current rules we would want to see substantial evidence to demonstrate that such a change is in the long-term interest of consumers and consistent with the NEO/NGO.[182] Having considered the limited material put to us throughout this review, we are not persuaded that such a change is in the long-term interest of consumers.

In their submissions to the draft position paper, TransGrid, APA Group and ATCO supported moving to a nominal approach, however they each noted that this required further investigation and consultation with stakeholders regarding implementation. APA Group submitted that the draft position reinforced its earlier doubts about a workable hybrid approach, and suggested that continuing the current regulatory treatment of inflation is appropriate while maintaining a preference for a nominal approach.

The CRG supported our decision to not adopt a hybrid approach but was 'alarmed' by a statement in our draft positon 'which appears to invite support for a nominal rate of return model'.[183] At section 16.6 of our draft position[184] we stated:

> *At the time of this draft position, our view is that a change to a nominal approach may be more appropriate than a change to a hybrid approach. This is primarily due to:*
>
> - *The lack of precedents in using a hybrid approach. To our knowledge, the hybrid approach being untested by regulators and so may have unforeseen consequences. The nominal approach is, however, used by other monopoly regulators.*

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178 MEU, *Submission to discussion paper - 2020 inflation review*, July 2020, p. 9.
179 EUAA, *Submission to discussion paper - 2020 inflation review*, July 2020, p. 4.
180 PIAC, *Submission to discussion paper - 2020 inflation review*, July 2020, p. 1.
181 ECA, *Submission to discussion paper - 2020 inflation review*, July 2020, p. 4.
182 AER, *Discussion paper – Regulatory treatment of inflation*, May 2020, p. 36.
183 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 14.
184 AER, *Draft position on regulatory treatment of inflation – Inflation review 2020*, October 2020, p. 82.

- *The nominal approach also has the advantage of not requiring a best estimate of expected inflation. This is not the case for the hybrid approach.*

To be clear, our preference was limited to a comparison of the two alternative frameworks proposed, being a hybrid or nominal approach. Our draft position was that substantive changes to the framework should be well supported, as proposed by the CRG and supported by consumer representatives it interviewed.[185] We were not persuaded to pursue a change to the regulatory framework from the current real rate of return on capital and that the current real framework works best for consumers.[186] However, before a change to a hybrid approach was made we considered that a change to a nominal framework should also be examined and that the nominal approach might be superior to the hybrid. However, shifting to a nominal approach raise challenges, such as transitional arrangements to minimise the impact on prices of the change in revenue profile.

12.3 Financeability

Service providers reiterated concerns in their submissions to the draft position that in current market conditions our current approach can deliver a negative cash return to equity.[187] In our draft position we discussed the reasons that negative cash return on equity can potentially arise in our regulatory modelling. We consider that our final position to match the term of expected inflation with the regulatory period can minimise the potential for this to occur. Our final position is more responsive to current market conditions, and means that (ex-ante) the nominal rate of return is expected to be delivered over the regulatory period.

We also note that to any degree that negative cash returns to equity are considered an issue, the hybrid approach proposed by the ENA does not adjust cash flows during the immediate regulatory period. As such, the ENA's proposed hybrid approach would not further alleviate it compared to our final position. Service providers may be able to mitigate forecast negative cash returns through efficiencies in other areas, or by adjusting their specific financing practices.

The rules require us to determine a method that is likely to result in the best estimates of expected inflation, not a method that guarantees positive cash returns to equity over a regulatory period.[188] Deriving an appropriate method to estimate expected inflation is the key driver of this review and in coming to our final position.

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185 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 6 and 19.

186 See for example: AER, *Draft position on regulatory treatment of inflation – Inflation review 2020*, October 2020 at p. 7, 71, 72, 73, 75 and 85.

187 SA Power Networks, *Submission on draft position – Inflation review 2020*, November 2020, pp. 6; Endeavour Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 3; AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, pp. 6; Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, pp. 6; ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 61–66.

188 NER, cll. 6.4.2(b)(1) and 6A.5.3(b)(1); NGR, r. 75B(2)(b).

In our draft position we also highlighted the importance of looking at total return. There is no question that the total return we allow remains positive and appropriate. To the extent there might be negative cash-flows in the short-run, they are offset by the promise of future capital gains through the indexation of the RAB. This future revenue stream is valued by equity holders and an important feature of our regulatory approach.

We do not consider that negative cash returns imply that there is a fundamental issue with the method of estimating expected inflation, or on the total returns provided over the life of asset. However, we acknowledge that in practice, this may require management of cash flows by the service providers and this is an appropriate role for them. The structure of cash flows is also an issue that is currently being considered by the AEMC in rule change requests related to financing of Integrated System Plan (ISP) projects. The AEMC is considering rule change requests from TransGrid and ElectraNet to change the profile of cash flows for their respective ISP projects.[189] The proposed rule changes include amendments to the NER that would remove indexation of the RAB and bring forward the timing of cash-flows. We have made a submission to the AEMC on its consultation paper on the proposed rule changes and will continue to be involved in this process where relevant.[190] At this stage we do not think the rule change proponents have made the case for an adjustment to the structure of returns.

[189] AEMC, *Joint consultation paper - Financeability of ISP investments - TransGrid (ERC0320) and ElectraNet (ERC0322)*, November 2020.

[190] AER, *Submission – Consultation on the TransGrid and ElectraNet participant derogations – Financeability of ISP projects*, December 2020.

13 Implementing our final position

We are not intending to specify the form of inflation forecast we will use from the RBA's Statement on Monetary Policy. While we consider CPI should generally be used and it is the measure used to escalate the RAB, in exceptional circumstances it may be appropriate to consider the use of trimmed mean inflation (TMI) forecasts from the RBA. TMI was used for some recent determinations due to the exceptional circumstances at the time.[191]

We sought stakeholders' views on this point in our draft position. Ausgrid recommended no change, and noted that 'the flexibility to use TMI where appropriate is important in extreme circumstances such as those experienced in 2020.'[192] We agree with Ausgrid on this point and therefore will stipulate 'inflation' without defining the form we will use from the RBA's Statement on Monetary Policy. Stakeholders will have a further opportunity to comment on this issue as part of our consultation on amendments to the PTRMs to implement this final position as outlined below.

We will commence formal processes under the NER and NGR for amendments to the method for estimating expected inflation in the PTRMs and the revenue model.[193] While there will be further stakeholder consultation as part of the process for making changes to the regulatory models, we expect that this consultation will be mainly focussed on correctly implementing the final position reached in this review.

The model change process is illustrated in figure 6.

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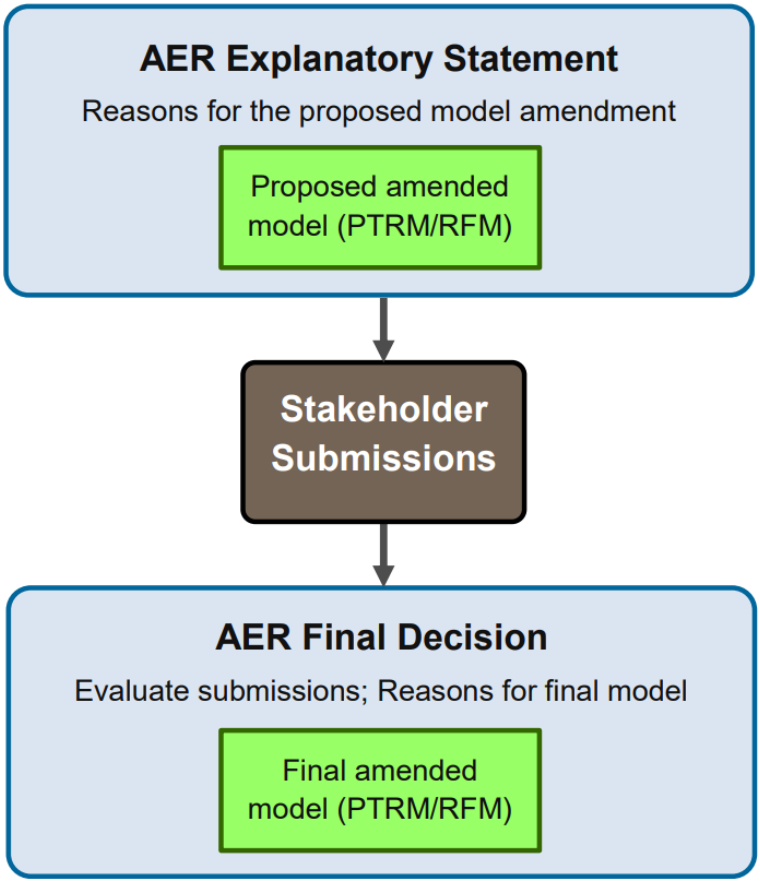
191 SA Power Networks, *Final decision — Distribution determination 2020-25*, *Overview*, June 2020, p. 27; Directlink, *Final decision — Transmission determination 2020-25*, *Overview*, June 2020, p. 21; Energex, *Final decision — Distribution determination 2020-25*, *Overview*, June 2020, p. 27; Ergon Energy, *Final decision — Distribution determination 2020-25*, *Overview*, June 2020, p. 29; Jemena Gas Networks (NSW), *Final decision — Access arrangement 2020-25*, *Overview*, June 2020, p. 35.

192 Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, pp. 7-8.

193 NER, cll. 6.4.1(b) and 6A.5.2(b); NGR, r. 75A(3).

Figure 6 Consultation leading to a model change



We are publishing explanatory statements that include the proposed model changes and the reasons for those changes alongside this final position paper. As the changes only relate to the method used to estimate expected inflation, changes are only required to the PTRMs. The function of the RFMs remains unchanged as a result of this review.

We invite stakeholder submissions on the proposed model changes and the reasons for those changes for a period of 30 business days. After considering submissions, we will publish our decision on amendments to the models and accompanying reasons. The final decisions will be made no more than 80 business days after the publication of the proposed amendments.

Consistent with our discussion paper and draft position, our intention is to apply these model changes to the final decisions for the Victorian electricity distribution determinations due by 30 April 2021. Changes to the models will not apply to regulatory decisions that have concluded.

A Rule requirements

This appendix sets out the relevant National Electricity Rules and National Gas Rules requirements.

Rule requirements on inflation estimation method

The inflation estimation method forms part of the post-tax revenue model under the NER and the revenue model under the NGR.

Under the NER, the AER is required to publish a post-tax revenue model for distribution network service providers and transmission network service providers (clauses 6.4.1 and 6A.5.2). Under the NGR, the AER is required to publish a revenue model (rule 75A).

Under the NER, a distribution network service provider's building block proposal and a transmission network service provider's revenue proposal must be prepared in accordance with the post-tax revenue model (clauses 6.3.1(c)(1) and 6A.4.1(b)(1)).

Under the NGR, the access arrangement information for a full access arrangement proposal must be provided using the financial models (including the revenue model) published by the AER, and all financial information must be provided, and all calculations made, using these models (rules 72(3) and 73(3)).

A post-tax revenue model under the NER and a revenue model under the NGR must include a method for estimating expected inflation.

Electricity distribution

6.4.2 Contents of post-tax revenue model

…

(b) The contents of the post-tax revenue model must include (but are not limited to):

(1) a method that the AER determines is likely to result in the best estimates of expected inflation; …

Electricity transmission

6A.5.3 Contents of post-tax revenue model

…

(b) the post-tax revenue model must specify:

(1) a methodology that the AER determines is likely to result in the best estimates of expected inflation; …

Gas rules

75B Contents of the financial models

…

(2) The revenue model must include (but is not limited to):

…

(b) the method that the AER determines is likely to result in the best estimates of expected inflation; …

Application of inflation under the NER

Under the NER, the building blocks for the annual revenue requirement for a distribution network service provider and the building blocks for the annual building block revenue requirement for a transmission network service provider must include indexation of the regulatory asset base and a negative adjustment equal to the amount indexation.

Electricity distribution

6.4.3 Building block approach

(a) Building blocks generally

The annual revenue requirement for a Distribution Network Service Provider for each regulatory year of a regulatory control period must be determined using a building block approach, under which the building blocks are:

(1) indexation of the regulatory asset base – see paragraph (b)(1); …

(b) Details of the building blocks

For the purposes of paragraph (a):

(1) for indexation of the regulatory asset base:

(i) the regulatory asset base is calculated in accordance with clause 6.5.1 and schedule 6.2; and

(ii) the building block comprises a negative adjustment equal to the amount referred to in clause S6.2.3(c)(4) for that year; …

Electricity transmission

6A.5.4 Building block approach

(a) Building blocks generally

The annual building block revenue requirement for a Transmission Network Service Provider for each regulatory year of a regulatory control period must be determined using a building blocks approach, under which the building blocks are:

(1) indexation of the regulatory asset base – see paragraph (b)(1); …

(b) Details of the building blocks

For the purposes of paragraph (a):

(1) for indexation of the regulatory asset base:

(i) the regulatory asset base is calculated in accordance with clause 6A.6.1 and schedule 6A.2; and

(ii) the building block comprises a negative adjustment equal to the amount referred to in clause S6A.2.4(c)(4) for that year; …

The regulatory asset base is indexed when rolling forward from one regulatory year to the next regulatory year within the same regulatory control period, and it is also indexed when rolling forward from one regulatory control period to the next regulatory control period.

At the time of determining the annual revenue requirement for distribution or the annual building block revenue requirement for transmission, actual inflation for the regulatory years in the upcoming regulatory control period is not known, and estimated inflation is used in indexing the regulatory asset base for the roll forward of the regulatory asset basis from one regulatory year to the next.

Electricity distribution

S6.2.3 Roll forward of regulatory asset base within the same regulatory control period

…

(c) Method of adjustment of value of regulatory asset base

The value of the regulatory asset base for a distribution system as at the beginning of the second or a subsequent year (the later year) in a regulatory control period must be calculated by adjusting the value (the previous value) of the regulatory asset base for that distribution system as at the beginning of the immediately preceding regulatory year (the previous year) in that regulatory control period as follows:

…

(4) The previous value of the regulatory asset base must be increased by an amount necessary to maintain the real value of the regulatory asset base as at the beginning of the later year by adjusting that value for inflation.

Electricity transmission

S6A.2.4 Roll forward of regulatory asset base within the same regulatory control period

…

(c) Method of adjustment of value of regulatory asset base

The value of the regulatory asset base for a transmission system as at the beginning of the second or a subsequent year (the later year) in a regulatory control period must be calculated by adjusting the value (the previous value) of the regulatory asset base for that transmission system as at the beginning of the immediately preceding regulatory year (the previous year) in that regulatory control period as follows:

…

(4) The previous value of the regulatory asset base must be increased by an amount necessary to maintain the real value of the regulatory asset base as at the beginning of the later year by adjusting that value for inflation.

The negative adjustment in the building blocks under clauses 6.4.3(b)(1)(ii) and 6A.5.4(b)(1)(ii) off-sets the indexation of the regulatory asset base. The effect of the negative adjustment is that conceptually the return on capital can be seen as calculated based on the real rate of return, derived from the rate of return determined under the rate of return instrument and the expected inflation.

When the regulatory asset base is rolled forward from one regulatory control period to the next regulatory control period, actual inflation is used to index the regulatory asset base.

Electricity distribution (emphasis added)

6.5.1 Regulatory asset base

...

Contents of roll forward model

...

(e) The roll forward model must set out the method for determining the roll forward of the regulatory asset base for distribution systems:

… under which …

(3) the roll forward of the regulatory asset base from the immediately preceding regulatory control period to the beginning of the first regulatory year of a subsequent regulatory control period entails the value of the first mentioned regulatory asset base being adjusted for actual inflation, consistently with the method used for the indexation of the control mechanism (or control mechanisms) for standard control services during the preceding regulatory control period.

Electricity transmission (emphasis added)

6A.6.1 Regulatory asset base

...

Contents of roll forward model

...

(e) The roll forward model must set out the method for determining the roll forward of the regulatory asset base for transmission systems:

… under which …

(3) the roll forward of the regulatory asset base from the immediately preceding regulatory control period to the beginning of the first regulatory year of a subsequent regulatory control period entails the value of the first mentioned regulatory asset base being adjusted for outturn inflation, consistent with the methodology that was used in the transmission determination (if any) for the first mentioned regulatory control period for the indexation of the maximum allowed revenue during that regulatory control period.

Clauses 6.5.1(e)(3) and 6A.6.1(e)(3) refer to adjustment of the regulatory asset base for actual inflation, consistent with the methodology for the indexation of the control mechanisms for standard control services for distribution or the indexation of the maximum allowed revenue for transmission during the previous regulatory control period.

For both electricity distribution and transmission, the CPI - X methodology is used to index the allowed revenue.

Electricity distribution

6.2.6 Basis of control mechanisms for direct control services

(a) For standard control services, the control mechanism must be of the prospective CPI minus X form, or some incentive-based variant of the prospective CPI minus X form, in accordance with Part C.

Electricity transmission

6A.5.3 Contents of post-tax revenue model

…

(b) The post-tax revenue model must specify:

…

(5) the CPI-X methodology that is to be applied in escalating the maximum allowed revenue for the provider for each regulatory year (other than the first regulatory year) of a regulatory control period.

Clauses 6.5.1(e)(3) and 6A.6.1(e)(3) have the effect that the actual inflation used to index the regulatory asset base in rolling forward the regulatory asset base from one regulatory control period to the next is also used to index the allowed revenue.

The effect of the provisions relating to inflation discussed above is that conceptually the return on capital from the second regulatory year onwards can be seen as calculated based on the real rate of return (derived from the rate of return determined under the rate of return instrument and the expected inflation) compounded up for actual inflation.

The application of inflation under the NGR

The NGR is less prescriptive regarding inflation. It does not expressly state how the capital base is to be indexed and it does not expressly refer to a negative adjustment in the building block revenue to account for the indexation of the capital base.

The following provisions in the NGR relate to inflation estimates and application of inflation.

In the context of access arrangement information, rule 74 requires forecasts and estimates to represent the best forecast or estimate possible in the circumstances. This requirement applies to inflation estimates.

74 Forecasts and estimates

(1) Information in the nature of a forecast or estimate must be supported by a statement of the basis of the forecast or estimate.

(2) A forecast or estimate:

(a) must be arrived at on a reasonable basis; and

(b) must represent the best forecast or estimate possible in the circumstances.

Adjustment for inflation is specifically mentioned in the NGR in the context of depreciation.

89 Depreciation criteria

(1) The depreciation schedule should be designed:

…

(d) so that (subject to the rules about capital redundancy), an asset is depreciated only once (i.e. that the amount by which the asset is depreciated over its economic life does not exceed the value of the asset at the time of its inclusion in the capital base (adjusted, if the accounting method approved by the AER permits, for inflation)); …

National electricity/gas objective and revenue and pricing principles

The national electricity objective, the national gas objective and the revenue and pricing principles in the NEL and NGL are relevant to the AER's decisions regarding inflation.

16 Manner in which AER performs AER economic regulatory functions or powers

(1) The AER must, in performing or exercising an AER economic regulatory function or power—:

(a) perform or exercise that function or power in a manner that will or is likely to contribute to the achievement of the national electricity objective;

…

(2) In addition, the AER—

(a) must take into account the revenue and pricing principles—

(i) when exercising a discretion in making those parts of a distribution determination or transmission determination relating to direct control network services; …

(b) may take into account the revenue and pricing principles when performing or exercising any other AER economic regulatory function or power, if the AER considers it appropriate to do so.

Equivalent provisions are included in section 28 of the NGL.

The national electricity objective is stated in the NEL as follows.

7 National electricity objective

The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long-term interest of consumers of electricity with respect to—

(a) price, quality, safety, reliability and security of supply of electricity; and

(b) the reliability, safety and security of the national electricity system.

The national electricity objective is stated in the NGL as follows.

23 National electricity objective

The objective of this Law is to promote efficient investment in, and efficient operation and use of, natural gas services for the long-term interest of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.

The relevant revenue and pricing principles set out in section 7A of the NEL are as follows.

7A Revenue and pricing principles

…

(2) A regulated network service provider should be provided with a reasonable opportunity to recover at least the efficient costs the operator incurs in—

(a) price, quality, safety, reliability and security of supply of electricity; and

(b) the reliability, safety and security of the national electricity system.

(3) A regulated network service provider should be provided with effective incentives in order to promote economic efficiency with respect to direct control network services the operator provides. The economic efficiency that should be promoted includes—

(a) efficient investment in a distribution system or transmission system with which the operator provides direct control network services; and

(b) the efficient provision of electricity network services; and

(c) the efficient use of the distribution system or transmission system with which the operator provides direct control network services.

…

(5) A price or charge for the provision of a direct control network service should allow for a return commensurate with the regulatory and commercial risks involved in providing the direct control network service to which that price or charge relates.

(6) Regard should be had to the economic costs and risks of the potential for under and over investment by a regulated network service provider in, as the case requires, a distribution system or transmission system with which the operator provides direct control network services.

Equivalent revenue and pricing principles are included in section 24 of the NGL.

B Summary of stakeholder submissions

This appendix contains summaries of all stakeholder submissions received in response to our draft position. A high level summary version is provided in chapter 6.

. We have grouped these as:

- What inflation term should be used in our decisions? ("Inflation term")
- Do we need to transition to the shorter inflation term? ("Transition")
- Should we introduce a glide-path to estimate expected inflation ("Glide-path")
- Whether we should consider targeting a hybrid[194] or nominal rate of return ("Regulatory framework").
- Whether the proposed changes to the regulatory treatment of inflation affects the risk parameters used to determine each service provider's regulated returns ("Risk parameters").
- Other comments on the regulatory treatment of inflation ("Other').

Table B.1 Detailed summary of all stakeholder submissions received

Submitter	
Consumer Representatives	
CRG	Submitted that the AER cannot make a decision on its methodology for estimating inflationary expectations ahead of its consideration of the rate of return instrument.[195] Noted that inflation expectations and the rate of return are 'completely interwoven' and a decision could pre-empt of prejudice a later decision on the rate of return instrument.[196] Submitted that separated decision-making also provides the service providers with even greater opportunity to 'cherry pick' the regulatory model.[197] *We have responded to the CRG's submission on whether the best estimate of inflation can be decided independently of the rate of return instrument in section 3.2.3.* **Inflation term** Noted that if the AER was to continue with its proposal, it would create a 'blended' model, where expected inflation would be estimated with a 5-year estimation period, while the rate of return would be determined using a 10 year outlook.[198] Submitted that this scenario would continue until the conclusion of the review of the rate of return instrument and consumers will incur the worst of 'all worlds', at least in the near term. [199] Stated that consumers will lose out because 10- year bond rates will be higher than 5-year bond rates, whilst in the immediate future, switching to a five year inflation estimate will have lower inflation estimates than a 10 year horizon.[200] Noted that this will lead to higher bond rates with lower estimates of

194 Under the proposed hybrid approach, the framework would target the initial real return on equity and the initial nominal return on debt.

195 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 13.

196 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 13.

197 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 13.

198 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 11.

199 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 11.

200 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 11.

Submitter	
	expected inflation, higher real rate of returns and higher prices for consumers in the immediate term.[201] Submitted that the AER 'adopting a 5-year estimation period for inflationary expectations, while retaining a 10-year outlook for calculating the rate of return, would represent a logically inconsistent set of assumptions by the AER.'[202] Stated that this would undermine the integrity of the framework and the confidence of consumers.[203] Noted that the proposed methodology does not meet the objectives of matching investors' expectations of inflation over the next 10 years and has submitted mathematical calculations to demonstrate this in Appendix A of the submission.[204] Stated that the use of Dr Lally's report to support matching the estimation period for the expected inflation with the length of the regulatory period, misrepresents Dr Lally's advice to the AER.[205] Submitted that Dr Lally's advice was that the "NPV=0 principle" implies the estimation term to derive the nominal discount rate should match the regulatory period,[206] and that the estimation period for expected inflation should also match the regulatory period.[207] Noted that the AER was wrong to infer that Dr Lally's advice supported its own conclusion that 'an inflation term matching the regulatory period is likely to result in the best estimates of expected inflation.'[208] Submitted that Dr Lally's advice neither supports nor contradicts the AER's proposal, but rather addressing a different concern.[209] Noted that the draft position failed to explain why 'matching' the regulatory period has suddenly emerged as concern after lying dormant for almost 20 years.[210] Stated that the CRG has not formed a view of the merits of shifting to a 5 year horizon for the rate of return.[211] Stated that the CRG is of the view, that there is no merit in shortening the time horizon for expected inflation before the horizon period for the rate of return is considered.[212] *We have responded to the CRG's submission on the length of the inflation term in section 7.6.* **Transition** Stated that 'implementing the AER's proposed changes immediately, and in full, clearly benefits the networks at consumers' immediate expense.'[213] Noted that its implementation in three to five years when the trajectory of inflation returns to its long-term pattern would have a more neutral impact on consumers, or may not be even necessary.[214] Noted that a transition mechanism is needed to attenuate the impact on consumers.[215] Stated that before making a final decision the AER 'must model and consult on framework features such as the length of the estimation period, alternative glide-paths, and possible transition options.' *We have responded to the CRG's submission on whether we need to transition to a shorter term in section 7.6.* **Glide-path**

201 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 11.
202 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 12.
203 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 12.
204 CRG, *Submission on draft position – Inflation review 2020*, November 2020, pp. 12-13.
205 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 15.
206 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 15.
207 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 15.
208 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 15.
209 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 15.
210 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 15.
211 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 15.
212 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 15.
213 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 17.
214 CRG, *Submission on draft position – Inflation review 2020*, November 2020, pp. 17-18.
215 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 18.

Submitter	
	Noted that the proposal to move to the proposed glide-path represents a marked realignment in the importance the AER attaches to long-term expectations of inflation.[216] Stated that the sudden and extreme reduction in the emphasis placed on long-term considerations would represent a fundamental shift by the AER away from the requirements and expectations established by the NEO/NGO.217 *We have responded to the CRG's submission on why the glide-path was introduced in chapter 9.*Agreed with the draft decision in relation to the symmetry of the glide-path, however noted that symmetry only occurs over time and this involves multiple business cycles and numerous regulatory periods.[218] Noted concern that service providers could seek to 'tweak' or abandon the [219]glide-path in the future to their benefit when it appears to over-estimate inflationary expectations at times of high inflation.[220] *We have responded to the CRG's submission on whether the glide-path would be symmetric in its application in section 9.3.* Noted a defensible 'middle road' where the AER would retain the present 10-year estimation period but provide a glide-path for years 3 and 4.[221] Stated that this would reduce service providers' incentive to pursue abandonment of the glide-path in the future and lessen the need for a transition period.[222] *We have responded to the CRG's submission on the 'middle of the road approach' in chapter 10.* **Regulatory framework** Noted that the real rate of return for calculating revenue allowances has been in operation from the outset of network regulation, with investors making investments into these networks knowing how revenues would be determined.[223] Summarised that there is simply no argument for change, either immediately or in the future.[224] Stated that the CRG was alarmed that the AER is inviting support for a nominal rate of return.[225] Submitted that a switch to a nominal rate of return would significantly increase consumer prices by bringing forward network returns that would otherwise be earned in future years.[226] Stated that the AER must clarify its comments in relation to supporting a nominal rate of return.[227] *We have responded to the CRG's submission on alternative target frameworks in section 12.2.* **Risk Parameters** Noted that the AER's proposed methodology is aimed at reducing variance in regulatory estimates and therefore it follows the AER is seeking to reduce regulatory risk.[228] The revenue and pricing principles would then oblige the AER to reflect this reduction in regulatory risk in service providers' revenue allowances.[229] Stated that the draft position paper is silent on how the AER proposes to do this.[230]

216 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 16.
217 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 16.
218 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 16.
219 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 17.
220 CRG, *Submission on draft position – Inflation review 2020*, November 2020, pp. 16-17.
221 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 17.
222 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 17.
223 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 14.
224 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 14.
225 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 14.
226 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 14.
227 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 14.
228 CRG, *Submission on draft position – Inflation review 2020*, November 2020, pp. 11-12.
229 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 12.
230 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 12.

Submitter	
	Stated that the CRG has not considered how the AER should reflect the reduced regulatory risk when determining service providers' revenue allowances.[231] Noted that it will presumably be addressed as part of the rate of return instrument.[232] Stated that splitting these two decisions, increases the likelihood the matter would 'fall through the cracks', to consumers' detriment.[233] **Other** Submitted that the regulatory model was developed to 'look through' the peaks and troughs of the business cycle and is to reflect the long-term interest of consumers and not be swayed by short-term economic conditions.[234] Noted that the regulatory framework was designed to be free of systemic bias,[235] and that neither the AER nor service providers have demonstrated that the AER's current estimates of inflationary expectations are subjective to systemic bias.[236] Submitted that the CRG is concerned by the AER's proposal to alter its methodology in response to the current economic conditions,[237] and this was at odds with the long-term view of the framework and the NEO/NGO's focus on long-term outcomes.[238] Appendix A provided mathematical calculations to prove the logical inconsistency of the AER's proposed methods.[239] Appendix B provided an overview of the interviews between the CRG and consumer representatives which have been used to support its response to the draft position.[240]
David Havyatt (Havyatt Associates)	**Glide-path** Noted that the AER is proposing a very significant change to the way it delivers its 'best estimate of expected inflation.'[241] Submitted that the AER's task is not to determine the best forecast of inflation and the draft position shows the AER are delivering a real rate of return irrespective of the accuracy of the estimation to forecast future inflation.[242] **Risk Parameters** Noted that lenders denominate their instruments in nominal returns, and any deviations inflation expectations between the AER and lenders result in risk being borne by the equity investors.[243] Stated that the discussion of inflation shows that network returns are not 'risk free' and that AER applies the CAPM to assess how the equity markets price this risk.[244] Submitted that the removal of the Limited Merits Review crystallised an aspect of regulatory risk and the AER made no adjustment to its approach in determining allowed revenues.[245] Noted that without adjustments to the Rate of Return, the proposed changes to inflation will result in service providers getting an increase in their revenues relative to their risks.[246] Noted that the AER could quantify the impact of reduced risk and return on equity using a service provider's previous regulatory determinations, however it has not presented this analysis.[247] Stated that although data was provided on the future value of the RAB, more

231 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 12.
232 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 12.
233 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 12.
234 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.
235 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.
236 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.
237 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.
238 CRG, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.
239 CRG, *Submission on draft position – Inflation review 2020*, November 2020, pp. 22-23.
240 CRG, *Submission on draft position – Inflation review 2020*, November 2020, pp. 24-26.
241 Havyatt Associates, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
242 Havyatt Associates, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
243 Havyatt Associates, *Submission on draft position – Inflation review 2020*, November 2020, pp. 1-2.
244 Havyatt Associates, *Submission on draft position – Inflation review 2020*, November 2020, pp. 1-2.
245 Havyatt Associates, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
246 Havyatt Associates, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
247 Havyatt Associates, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.

Submitter	
	data and modelling should be provided by the AER as it has the resources, expertise and obligation to provide it.[248] *We have responded to Havyatt Associates' submission on the impact of changes in risk on the rate of return instrument in section 7.6.* **Other** Noted that since the commencement of the Inflation Review there has been a number of significant changes in market conditions and policy settings that warrant the proposed changes.[249] Submitted commentary by the RBA on future movements in the cash rate and low wage growth and assessed whether government action could result in a rapid reversal in inflationary trends.[250] Noted that the prudent approach 'may well be the change of approach developed by the AER, so long as the allowed rate of return is reduced commensurate with the reduction in risk faced by the network businesses.'[251]
MEU	**Inflation term** It does not agree with the change to a five year inflation term. Considered there must be consistency between all elements that determine service providers' revenues.[252] Submitted that service providers proposed the use of a 10 year averaging period in 2008 and the AER concurred. Noted that moving to a 5 year averaging period will result in an increase in revenue of service providers.[253] Stated that by the AER making a change to the regulatory approach at the behest of service providers when it benefits them, there is an effective implementation of Limited Merits Review by stealth.[254] **Transition** Stated preference would be no change to current approach and therefore no need for a transition.[255] Noted that if a change is to be made it should occur at the same time as the implementation of the next rate of return instrument. Stated that a change to the inflation term should not be introduced as a separate activity to a new rate of return instrument.[256] **Glide-path** Noted that the last ten years of historical data shows that the annual change in inflation can swing significantly.[257] Submitted that if the AER decides that a glide-path is to be used, it should reflect the statistical rate of change historically and not assume a fixed point in time.[258] Noted that it was not clear how the AER determines at what point in time the mid-point will be reached.[259] Stated that it was implied in the draft position that the mid-point would be reached by year 5 of the regulatory period but there is no explanation how the AER has reached this decision.[260] *We have responded to the MEU's submission on what time the mid-point would be reached in section 8.1.* Noted that the current approach to setting inflation has only been in operation for 2 to 3 years and more time is needed to assess the actuality of the 'swings and roundabouts' to evaluate

248 Havyatt Associates, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
249 Havyatt Associates, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
250 Havyatt Associates, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
251 Havyatt Associates, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
252 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 4.
253 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 4.
254 MEU, *Submission on draft position – Inflation review 2020*, November 2020, pp. 4-5.
255 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 5.
256 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 5.
257 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
258 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
259 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
260 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.

Submitter	
	whether the current approach is balanced over time.[261] Noted that although inflation forecasts will remain low for the near term, this offsets the periods where inflation was higher than the mid-point in previous years and where the service provider benefitted.[262] Noted the biases in the other indicators used to estimate expected inflation and considered that the RBA data for forecast inflation is the most appropriate method to estimate expected inflation.[263] Stated that the recent history of annual movements in inflation provides a more statistically robust approach 'to how long it will take to move from the RBA estimate for year 2 to reach the mid-point of the target band.[264] Noted that using the standard deviation for past inflation movement changes of between 60 and 80 basis points is a preferred option to a more arbitrary setting.[265] *We have responded to the MEU's submission on the form that the glide-path may take in section 9.1.* **Regulatory framework** Noted support for a model where there is an annual adjustment of forecast inflation to actual inflation.[266] Noted that the AER should provide reasons why it is not using this apparent nominal approach. [267] **Other** Noted the observations from our draft position on service providers' supporting the use of market-based measures to estimate expected inflation despite previously claiming these were bias.[268] *We have responded to the MEU's submission on the use of market-based measures in section 8.2.*
PIAC	**Inflation term** Stated that it does not support changing to a five year term to estimate expected inflation as the current approach remains appropriate.[269] Noted concerns that the current approach can result in a mismatch between the expected inflation removed from the nominal return and the RAB indexation.[270] Submitted AER commentary from the draft position to state that it does not consider that the mismatch warrants changes to the inflation estimation term.[271] Submitted that the outturns from current approach may create small deviations of mismatches as there is no structural bias inherent in the framework.[272] Stated that there is concern that moving to a 5-year term may introduce structural bias against consumers' interest.[273] *We have responded to PIAC's submission on the length of the inflation term in section 7.6.* **Transition**

261 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
262 MEU, *Submission on draft position – Inflation review 2020*, November 2020, pp. 3-4.
263 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 5
264 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 4.
265 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 4.
266 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 4
267 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 4
268 MEU, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
269 PIAC, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
270 PIAC, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
271 PIAC, *Submission on draft position – Inflation review 2020*, November 2020, p. 1
272 PIAC, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
273 PIAC, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.

Submitter	
	Recommended that the AER introduce these changes in parallel with changes arising from the upcoming Rate of Return Instrument.[274] **Glide-path** Stated support for the AER's proposed glide-path and considered it appropriate that it be symmetric and enduring.[275] *We have responded to PIAC's submission on whether the glide-path would be symmetric in its application in section 9.3 and whether the glide-path should be enduring in section 9.4.* **Regulatory Framework & Risk Parameters** Considered that to ensure fair and efficient outcomes, risk should be borne by the party who is best able to manage that risk and consumer are not well-placed to manage the inflation risk.[276] Noted that any change that materially shifts the risk between consumers, service providers and investors must be backed by modelling, which shows it is in consumers' interests.[277] *We have responded to PIAC's submission on changes to the regulatory framework and risk in section 12.2.*
Service Provider and Industry Groups	
APA Group	**Inflation term** Noted that the AER's proposal to change a five year inflation term is entirely appropriate.[278] Submitted that expected and actual inflation will be better aligned and there will be reduction in the extent there is an under or over recovery of capital. Stated that this will benefit both service providers and consumers.[279] **Transition** Submitted that in the current economic conditions estimating expected inflation over a shorter period will result in a lower estimate of expected inflation and a higher real rate of return.[280] Noted an immediate change will lead to an increase in tariffs in the next round of regulatory decisions, and a phase-in should limit the impact on consumers. Stated this date might be at a future date when inflation is close to the "target" of 2.5 per cent to ensure there is no material effect on consumers.[281] Stated that they disagree that a deferral until inflation is close to 2.5% will have no material effect on service providers.[282] Submitted that service providers have under recovered by consumers benefitting from lower tariffs as estimates of expected inflation have been too high and targeted real rate of returns too low.[283] Stated that this will continue during any period of deferral, as delaying until inflation is around 2.5% in Australia could result in an indefinite deferral.[284] NGR precludes the phase-in or deferral of the proposed change, as the situation results in the estimate of expected inflation not being the best estimate during the period of the phase-in or deferral.[285] **Glide-path**

274 PIAC, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
275 PIAC, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
276 PIAC, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
277 PIAC, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
278 APA Group, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
279 APA Group, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
280 APA Group, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
281 APA Group, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
282 APA Group, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
283 APA Group, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
284 APA Group, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
285 APA Group, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.

Submitter	
	Noted that the glide-path approach is a reasonable way to use actual information to estimate expected inflation.[286] *We have responded to APA Group's submission on the glide-path approach in chapter 9.*
	Regulatory framework The draft position reinforced doubts about the workability of the hybrid approach.[287] Submitted the nominal approach remains a possibility, but would require further investigation and specification before it could be implemented.[288] Stated that the current regulatory framework is an appropriate way to proceed despite its deficiency as it is well understood by investors, service providers and consumers.[289] *We have responded to APA Group's submission on the possible use of alternative target frameworks in section 12.2.*
APGA	**Inflation term** Submitted support for the shorter inflation term as an improvement on the AER's current approach,[290] citing commentary from Dr Lally's report.[291] *We have responded to APGA's submission on the length of the inflation term in section 7.6.* **Transition** Does not support a potential transition to a shorter inflation term.[292] Stated that a transition would effectively delay the point when the best estimate can be achieved, which it would not promote the NGO, or be consistent with the NGR.[293] Noted it is not open to the AER to implement a transition to provide the method which gives the best estimate of expected inflation.[294] Submitted it is inappropriate for the AER to contemplate a transition unless it can be said that a transition gives the best estimate.[295] Disagreed with the AER that whether to apply a transition is a matter of regulatory judgment.[296] Noted 'the rules do not allow for a transition.'[297] Submitted that the transition for trailing average approach on debt contrasts to a potential transition to a five year horizon. Noted that a transition was needed for the trailing average approach on debt as it involved a movement of a theoretical financing practice from one to another,[298] however this was not occurring for this proposed change.[299] Stated that the advantages provided for a transition in the draft position paper are negated, noting:[300]

286 APA Group, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
287 APA Group, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
288 APA Group, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
289 APA Group, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
290 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 6.
291 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 7.
292 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 9.
293 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 9.
294 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 9.
295 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 10.
296 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 10.
297 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 10.
298 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 10.
299 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 11.
300 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 11-14.

Submitter	
	• there is no clear basis for the presumption that a transition will give the correct compensation in NPV terms over the life of the asset, and that stakeholders would be affected by extended period of under compensation. • the avoidance of any potential gains or losses appears to be an advantage to one set of stakeholders to avoid or reduce a potential loss. Noted that by listing this as an advantage the AER is favouring these stakeholders over others, which is inconsistent with its statutory objective. • delaying the proposed approach until there was no expected cost is imprecise and inappropriate, as expected cost is a multi-period concept and it is unclear how this would apply to individual determinations. • there is no basis for aligning the term of forecast inflation should align with the term underpinning the rate of return in the NGR or NGL. Noted it is inappropriate to link the inflation term to the term of the rate of return and also to wait until the next rate of return instrument before applying the new inflation estimation method. *We have responded to APGA's submission on whether there should be a transition in section 7.6.* **Glide-path** Submitted support for the glide-path approach as an improvement on the AER's current approach.[301] Submitted that this proposal recognises that it is unrealistic that inflation would reach 2.5% after three years, as there was no supporting market-based evidence.[302] Noted that this change means that expected inflation will respond more effectively to change in market conditions, to the extent these are reflected in the RBA forecasts.[303] Stated that this will reduce potential errors between the expected inflation used in the regulatory models when compared to actual inflation.[304] Noted this alignment ensures that gas pipelines are not over or undercompensated nor consumers over or under charged for efficient costs,[305] which promotes efficient investment and ensures fairer outcomes in the long-term.[306] Submitted that the year 5 estimate of expected inflation should use market data, rather than adopting a fixed target of 2.5%.[307] *We have responded to APGA's submission on variations of the glide-path in section 9.2.* Supported market-based measures as an improvement on the current method.[308] Discussed comments made by REU in relation to whether there are biases inherent in market-based measures.[309] *We have responded to APGA's submission on the possible use of market-based measures to estimate expected inflation in section 8.2.* Noted that the 'proposed approach (with a 5 year inflation term) reflects a compromise that we can accept at the current time as it will help reduce the systematic under compensation faced by gas pipelines today.'[310] **Regulatory framework** Noted the hybrid approach would benefit consumers in the long run as it matches the way efficient debt and equity finance is raised.[311] Submitted the current approach creates a risk of

301 APGA *Submission on draft position – Inflation review 2020,* November 2020, p. 6.
302 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 6.
303 APGA, *Submission on draft position – Inflation review 2020, November 2020*, p. 6.
304 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 6.
305 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 7.
306 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 7.
307 APGA, *Submission on draft position – Inflation review 2020*, November 2020, p. 8.
308 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 6.
309 APGA, *Submission on draft position – Inflation review 2020,* November 2020, pp. 15-16.
310 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 8.
311 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 15.

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	a mismatch, and this undermines efficient investment by either under or over compensating debt finance costs and under or over charging consumers.[312] Stated that this concern remains unresolved and the AER could seek to address it in other forums, including its 2020 rate of return instrument review.[313]
ATCO	Endorsed the ENA's submission.[314] **Inflation term** Submitted that the proposed five-year glide-path method improves the estimate of inflation when compared to the current method and reduces the mismatch between inflation deducted from revenue and inflation added back to the RAB.[315] Noted that the current regulatory treatment of inflation is needed to be assessed for the same five year period as the access arrangement.[316] Submitted that consistent with the NGO and the revenue pricing principles, matching what is taken out of revenue to what is added back to the RAB, ensures the service provider is allowed a reasonable opportunity to recover at least the efficient financing costs.[317] **Glide-path** Submitted that the proposed five-year glide-path method improves the estimate of inflation when compared to the current method.[318] Noted that market-based estimates are a better estimate of inflation than the RBA forecast of inflation used in the proposed glide-path.[319] Submitted that market-based measures have the following benefits:[320] • Unbiased forecast – market-based measures don't require the use of judgment, and are therefore unbiased. • Better estimate of year two inflation – market-based measures have outperformed the RBA forecast in year 2 of the proposed glide-path. Notes that year 2 is critical to setting inflation measures in years 3 and 4. • The RBA target of 2.5% is unrealistic in the current economic environment based on recent market data. Noted that the current approach was adopted due to liquidity issues in the real CGS market, and stated this is no longer the situation.[321] Stated that the Economic Regulation Authority reverted back to using the treasury bond implied inflation approach once liquidity returned to indexed CGS.[322] *We have responded to ATCO's submission on the possible use of market-based measures to estimate expected inflation in section 8.2.* **Regulatory framework** Submitted that TransGrid has identified that there are features of the regulatory framework that have significant implications for the financeability of large scale projects.[323] Noted that this was due to the deduction of expected inflation on the RAB from revenue in the PTRM

312 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 15.
313 APGA, *Submission on draft position – Inflation review 2020,* November 2020, p. 15.
314 ATCO, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
315 ATCO, *Submission on draft position – Inflation review 2020*, November 2020, Attachment 1, p. 3.
316 ATCO, *Submission on draft position – Inflation review 2020*, November 2020, Attachment 1, p. 3.
317 ATCO, *Submission on draft position – Inflation review 2020*, November 2020, Attachment 1, p. 3.
318 ATCO, *Submission on draft position – Inflation review 2020*, November 2020, Attachment 1, p. 3.
319 ATCO, *Submission on draft position – Inflation review 2020*, November 2020, Attachment 1, p. 3.
320 ATCO, *Submission on draft position – Inflation review 2020*, November 2020, Attachment 1, p. 3.
321 ATCO, *Submission on draft position – Inflation review 2020*, November 2020, Attachment 1, pp. 3-4.
322 ATCO, *Submission on draft position – Inflation review 2020*, November 2020, Attachment 1, pp. 3-4.
323 ATCO, *Submission on draft position – Inflation review 2020*, November 2020, Attachment 1, p. 5.

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	and the indexation of the RAB in the RFM resulting in a deferral of revenue.[324] Stated that TransGrid has lodged a rule change with the AEMC that is seeking the adoption of a nominal model for its Integrated System Plan.[325] Stated encouragement for the AER in consultation with policy makers, consumers and other stakeholders to develop a roadmap towards adopting the full nominal approach.[326] Submitted that a transition to full nominal approach is in the long-term interest of consumers as it will ensure the required investment to move to a low emissions energy future and continued safe and reliable provision of services.[327] Submitted that the advantages of a nominal approach include:[328] • better value for consumers as they are better off in NPV terms, the long-term absolute costs are lower and there is an equitable price path. • reduced complexity as the inflation and real returns do not have to be estimated and the RAB does not need to be indexed. • creates better investment signals as service providers recover efficient financing costs. Investment and financing risks are correctly allocated to the party that can best manage the risk. Period on period windfall gains and losses to consumers and service providers are eliminated. *We have responded to ATCO's submission on changes to the regulatory framework in section 12.2.*
Ausgrid	Supported ENA's submission[329] **Inflation term** Noted that the five-year estimation period is an improvement that will benefit stakeholders over the long-term.[330] **Transition** Do not support a transition mainly because the AER has assessed that the five-year term is 'likely to achieve the NEO/NGO.[331]' Submitted that to delay the implementation of a superior estimated method seems to counter achieving the NEO/NGO.[332] **Glide-path** Noted that the glide-path is an improvement that will benefit stakeholders over the long-term[333] and suggested that the AER consider glide-path alternatives, which are provided in other submissions.[334] **Regulatory framework** Submitted that a change to a nominal or hybrid approach would require a rule change, however noted it is not clear the AER evaluated all evidence that was presented.[335] Noted a number of comments in relation to how the real framework operates as compared to the hybrid and asked for the AER to provide further information on:[336]

[324] ATCO, *Submission on draft position – Inflation review 2020*, November 2020, Attachment 1, p. 5.
[325] ATCO, *Submission on draft position – Inflation review 2020*, November 2020, Attachment 1, p. 5.
[326] ATCO, *Submission on draft position – Inflation review 2020*, November 2020, Attachment 1, p. 5.
[327] ATCO, *Submission on draft position – Inflation review 2020*, November 2020, Attachment 1, p. 5.
[328] ATCO, *Submission on draft position – Inflation review 2020*, November 2020, Attachment 1, p. 6.
[329] Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
[330] Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.
[331] Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 8.
[332] Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 8.
[333] Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.
[334] Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.
[335] Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
[336] Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, pp. 3-5.

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	• how there would be a loss of transparency in inflation and its compensation in change from the current approach to a hybrid framework • in relation to the management of risk between consumers and service providers, explain how compensating for efficient nominal debts costs through RAB indexation is a transfer of risk to consumers • the volume, timing, rating and sector of the hedges which the AER cited that toll road entities use to hedge some of the debt costs to better match their revenue streams • how the AER assessed the impact that the current framework is having on credit metrics at the benchmark credit rating • whether there are any further implementation or customer impact concerns or how regulatory precedents affect the assessments of the NEO/NGO criteria • how a change to a hybrid would intervene in capital structure decisions. Noted that a hybrid does not transfer risk from equity holders to consumers, but would rather smooth out gains and losses from period to period.[337] Submitted that a hybrid would also assist in the financeability concerns, where the current framework is causing extended periods of negative NPAT and negative cash equity returns.[338] Noted that these outcomes do not accord with real-world requirements to maintain credit metrics and debt covenants.[339] Highlighted that the draft position noted that equity return is provided through RAB indexation which increases capital value, however noted that it is not assessed in calculating profit and loss, credit metrics or debt covenants.[340] Noted that the principle of cash flows achieving NPV=0 can be compatible with differing cash flows in different scenarios.[341] Submitted that low levels of cash flows in early years could lead to financial difficulty and that in addition to the NPV=0 principle, there must be an appreciation of financeability factors in a world with low inflation and low interest rates.[342] *We have responded to Ausgrid's submission on changes to the regulatory framework in section 12.2.* **Other** Stated that inflation swaps should have a role in inflation estimation.[343] Noted that the RBA second year forecast appears to be biased upwards when compared to inflation swaps and this affects the outturn inflation estimates being higher than true expectations.[344] *We have responded to Ausgrid's submission on the use of RBA's forecasts to estimate expected inflation in section 8.1 and the possible use of market-based measures in section 8.2.* Noted support in having flexibility in determining the form of inflation forecast that is used in the RBA's Statement on Monetary Policy, noted the flexibility of using TMI in the extreme circumstances of 2020.[345] *We have responded to Ausgrid's submission on specifying the form of inflation forecast from the RBA's Statement on Monetary Policy in chapter 13.* Noted that the current framework is causing extended periods of negative NPAT and negative cash equity returns.[346] Noted that these outcomes do not accord with real-world requirements to maintain credit metrics and debt covenants.[347]Stated that the AER could

337 Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.
338 Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.
339 Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.
340 Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.
341 Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 6-7.
342 Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.
343 Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.
344 Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.
345 Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 7-8.
346 Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.
347 Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.

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	respond to the problem raised by service providers on how negative NPAT and equity returns fits with how service providers operate and are funded in the actual economy.[348] *We have responded to Ausgrid's submission on financeability of service providers in section 12.3.*
AusNet Services	Supported the ENA's submission.[349] **Inflation Term** Agreed the term of inflation estimate is most appropriately set by the RFM rather than the term of debt or equity set out in the rate of return instrument.[350] Noted that the term of the estimate is not conceptually or mathematically linked to the term of either component of the rate of return.[351] Submitted that there is not currently a mathematical relationship between the debt benchmark term of 10 years and the term of the inflation estimate.[352] **Transition** Noted that it is essential that the changes provided for in the Draft Position are applied immediately with no transition.[353] Submitted that applying a transition will extend existing 'windfall losses' for investors. Noted that the 2016-2020 regulatory period, the impact of the overestimate of inflation in AusNet Services' decision has resulted in revenues being $111m lower.[354] Stated that if the AER has applied the industry's proposed market-based measure it would have reduced the gap to $25m.[355] Submitted that there is significant disparity between the AER's current and proposed inflation approaches and the actual inflation used for RAB indexation.[356] Stated that it is difficult to see how investors could expect to receive the allowed nominal rate of return in the 2022-2026 period.[357] Noted that correcting a known bias and improving a forecast methodology immediately cannot be construed as a windfall by any reasonable independent observer.[358] Stated that there is no compelling case for a transition,[359] and that the advantages for a transition provided in the draft position are speculative.[360] Noted that the in the absence of clear evidence that a transition will better contribute to the achievement of the NEO and NGO, the AER should adopt the proposed approach immediately.[361] Submitted that the AER's decision to adopt a staged transition for its return on debt calculations to a trailing average approach is distinguishable from the proposed changes.[362] Noted that the changes to the trailing average approach was supported by evidence that the service providers' actual debt-financing practices would change and this transition prevented windfall gains or losses.[363] Stated that in contrast, the proposed changes to inflation

348 Ausgrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.
349 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
350 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
351 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
352 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
353 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
354 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 3
355 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
356 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 3-4.
357 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 4.
358 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 4.
359 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 4.
360 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 4-5.
361 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 4-5.
362 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 5.
363 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 5.

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	forecasting methodology does not change industry practices and a transition would exacerbate windfall gains and losses.[364] Stated that consumers benefit when there are efficient incentives for network investment.[365] Noted without an efficient rate of return being delivered, there will be underinvestment resulting in lower levels of services and higher costs in the long-run.[366] Stated that a transition is not consistent with the NER and the Revenue and Pricing Principles require it to 'provide a network business with a reasonable opportunity to recover at least the efficient costs it incurs in providing direct control network services and comply with regulatory obligations or requirements or making a regulatory payment.[367] Noted commentary in the draft position which was inconsistent with this comment, as it did not provide that service providers would be given a 'reasonable' opportunity to recover at least its efficient costs.[368] **Glide-path** Submitted that the current approach to setting inflation expectations assumes inflation returns to 2.5% (mid-point of the RBA's target band) from the third year of the estimate onwards.[369] Noted that the draft position has appropriately revised this assumption in response to a lack of evidence to support this expectation.[370] Noted that a glide-path is an improvement on the current methodology,[371] however without the change to the inflation term also occurring, there is an insufficient change to deliver an unbiased estimate of actual inflation and to fix the current problem.[372] Noted that the proposed approach is a material improvement on its current approach, it still it expected to overestimate inflation and under-deliver the nominal rate of return.[373] Noted that they are not aware of any evidence that indicates inflation will return to 2.5% in year 5. Submitted that market data indicates that the current 5 year inflation swaps are at around 1.6%,[374] whilst Deloitte expected inflation to be at 2.2% in FY25.[375] Noted ENA submission which stated that the RBA's second year inflation forecast has over-estimated actual inflation for a decade. Submitted that there is strong evidence that the use of RBA's short-term forecasts is likely to overstate expected inflation,[376] and inflation swaps have not exhibited such bias.[377] Stated that biases with RBA forecasts means service providers will not achieve the nominal rate of return over the forthcoming regulatory period. *We have responded to AusNet Services' submission on the possible use of market-based measures to estimate expected inflation in section 8.2.* Stated that the Governor of the RBA has stated that due to the high levels of current uncertainty, the RBA will be placing more weight on actual than on forecast inflation.[378] *We have responded to AusNet Services' submission on the use of RBA's forecasts to estimate expected inflation in section 8.1.* **Regulatory Framework** Stated that a move to a hybrid framework would minimise risk to both consumers and investors by avoiding over/under payment and over/under compensation for efficient debt

364 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 5.
365 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 5.
366 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 5.
367 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.
368 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.
369 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
370 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
371 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
372 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
373 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
374 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
375 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
376 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
377 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 3
378 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.

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	costs.[379] Noted that some investors value the inflation protection of the RAB delivered by the current regime.[380] *We have responded to AusNet Services' submission on changes to the regulatory framework in section 12.2.*
CitiPower, Powercor & UE	**Inflation term** Submitted that investors would only expect to earn the regulated nominal rate of return if inflation used in PTRM to calculate the negative revenue adjustment was an expectation of actual inflation that will be used to adjust the RAB in the RFM for the five years of the regulatory period.[381] Concluded that it is correct to use a five year term for PTRM inflation forecasts.[382] Stated that as the proposed approach is likely to result in the best estimate of expected inflation, the AER has a duty to amend the PTRM.[383] **Transition** Stated that the continued use of a ten year estimate without a glide-path will result in an expectation of the under-compensation of service providers over their upcoming regulatory periods.[384] Noted it will deliver higher inflation estimates than the proposed approach,[385] and will result in service providers expecting to receive a lower allowance for RAB indexation over the upcoming regulatory period in the RFM than the amount of expected inflation deducted from the revenue allowance in the PTRM.[386] Submitted that the impact of a deferral means that Victorian distribution service providers could face an estimated $300m windfall loss,[387] which has a material impact on the real rate of return provided to equity holders.[388] Stated that this material under-compensation would result in distributors coming under pressure to spend less than efficient costs, which is unlikely to be in the long-term interest of consumers.[389] Stated that windfall gains and losses are only avoided if the AER immediately adopts the best estimate, with a transition or deferral resulting in an expected windfall loss or gain.[390] Concluded that there is no connection between the inflation term and the next rate of return instrument, and a decision on the inflation term can be made independently.[391] Noted that there was no transition for changes to the equity risk premiums, value of imputation credits and estimate of regulatory tax allowance.[392] Contrasted these changes to the transition which was required for the 10 year trailing average debt approach.[393] **Glide-path** Agreed with the draft position that applying a glide-path is likely to result in a better estimate of expected inflation as it may take a number of years for inflation to return to the mid-point of

379 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.
380 AusNet Services, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.
381 CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
382 CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
383 CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, p. 4.
384 CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
385 CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
386 CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
387 CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
388 CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, p. 4.
389 CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, p. 4.
390 CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
391 CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, p. 4.
392 CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, p. 5.
393 CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, p. 5.

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	the RBA's target band.[394] Noted that the approach is symmetric as it can accommodate disturbances that result in sustained periods of high and low inflation.[395] *We have responded to CitiPower, Powercor and UE's submission on whether the glide-path would be symmetric in its application in section 9.3.* Noted that the glide-path is currently likely to overstate inflation, as the RBA forecast for year 2 has been persistently and materially higher than actual inflation outcomes.[396] Submitted that in the current low inflation environment, the draft position approach is likely to over-estimate inflation,[397] and there should be consideration of inflation rate swaps.[398] *We have responded to CitiPower, Powercor and UE's submission on the use of RBA's forecasts to estimate expected inflation in section 8.1 and the possible use of market-based measures in section 8.2.*
ENA	**Inflation Term** Supported the 5 year term for estimating expected inflation.[399] Stated that long-term interest of consumers are best promoted by implementing the approach that the AER considers to be the best estimate that best promotes the NEO and NGO.[400] Stated that the regulatory framework must either 'take out what is expected to be put back in' or convert nominal returns to real returns.[401] Noted that the draft position is clear about the regulatory framework adopting the 'take out what is expected to be put back in,' and as the term of inflation is 5 years in the RFM, 5 years must be deducted as this is what is 'put back in.'[402] Submitted that term of the allowed return in the rate of return instrument is not relevant, as the inflation term is determined by the RFM and not the rate of return instrument.[403] Supported conclusion that there is no requirement for the inflation term to be consistent with the term used for the determination of the rate of return. Noted that the 10 year inflation term does not achieve the objective of preserving real return,[404] and its method for estimating expected inflation results in an estimate which is unresponsive to market conditions.[405] *We have responded to the ENA's submission on the length of the inflation term in section 7.6.* **Transition** As the AER has concluded that the proposed new approach is superior to the 'old' approach and will produce the best estimate of expected inflation that best promotes the NEO/NGO,[406] the AER should implement the new approach immediately as there is no merit in prolonging the use of an inferior approach.[407]

394 CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
395 CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
396 CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, pp. 2-3.
397 CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, pp. 2-3.
398 CitiPower, Powercor & UE, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
399 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 25.
400 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 68.
401 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 26.
402 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 26.
403 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 26.
404 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 27.
405 ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 27-28
406 ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 36-38.
407 ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 36-38.

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	Submitted that the transition is a change in parameter and not a framework change.[408] Considered that the proposed change to be altering the relative weight it places on different pieces of evidence used to inform individual parameter estimates.[409] Stated that the change in the inflation term is not a framework change.[410] Noted that as the 10 year period doesn't have any effect beyond the current regulatory period, the AER is not breaking any series by immediately adopting its current approach.[411] Cited that in various times in the past the Queensland Competition Authority and NSW Independent Pricing and Regulatory Tribunal have changed their approach to estimating the risk-free rate from using the yield on 5-year government bonds to using the yield on 10-year government bonds.[412] Submitted that neither statutory authorities considered any transition period, nor considered this to be a 'framework change.' Noted that these statutory authorities implemented the change at the next available regulatory determination.[413] Submitted that the proposed change is designed to 'fix a problem' where 10 year inflation is deducted and five year inflation is added back.[414] Noted that the AER has a choice between persisting with an approach that produces a mismatch and adopting a new approach that has been designed to correct the mismatch problem.[415] Stated that the default should be to adopt a new approach that the AER considers to be a superior 'best' estimate that best promotes the NEO and NGO rather than maintain a problematic approach.[416] Noted that no compelling case for a delay has been provided for the consideration of stakeholders.[417] Considered that the approach to estimating expected inflation is no different conceptually to the changes that were made to the approaches for estimating beta and the market risk premium in the 2018 rate of return instrument.[418] Noted that in both cases the new superior estimate was adopted immediately.[419] Contrasted that the change to a trailing average return on debt involves a change in the AER's assessment of the efficient debt financing practice of the benchmark efficient entity and was therefore a framework change.[420] Submitted that the AER's draft position discussed NPV neutrality as the difference between two expected revenue streams, however noted that the appropriate objective is to achieve NPV=0, where expected revenues equal expected costs.[421] Submitted that NPV neutrality is the wrong reference point.[422] Submitted that changes to estimation approach should not be characterised as 'windfall' gains and losses, as these do not occur when the regulatory allowance is above or below the AER's assessment of the benchmark efficient costs.[423] Noted that 'windfall' gains and losses also does not occur because the AER revises its 'best' estimate of a particular parameter, and a windfall gain or loss does not occur because allowed revenues or prices might change.[424] Stated that the proposed change is designed to end a period of windfall losses and stated that the difference between expected and outturn inflation has resulted in permanent losses for service providers which can never be recovered.[425] Concluded that

408 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 39.
409 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 39.
410 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 40.
411 ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 40-41.
412 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 41.
413 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 41.
414 ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 41-42.
415 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 42.
416 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 42.
417 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 42.
418 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 43.
419 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 43.
420 ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 43-44.
421 ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 44-46.
422 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 46.
423 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 46.
424 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 46.
425 ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 46-48.

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	there is no basis for any suggestion that the AER's proposed changes could be construed as a 'windfall gain' for any service provider.[426] Suggested the transition triggers would inevitably be arbitrary or uncertain in their operation as a 'return to normal' trigger would inevitably see further uncertainty given the unobservability of the current central inflationary expectations.[427] Submitted that there is no basis to wait until the new approach produces an estimate close to 2.5% or until a decision on the rate of return instrument is made.[428] *We have responded to the ENA's submission on whether we need a transition to a shorter term in section 7.6.* **Glide-path** Supported the 5-year glide-path as it reduces the weight applied to the mid-point of the RBA's policy target range.[429] Submitted support for the increased weighting applied to market estimates (as opposed to policy targets) under the proposed approach.[430] Submitted evidence to note that the 5 year glide-path approach places 60% weight on RBA forecast, and that these forecasts have been persistently and materially higher than actual inflation outcomes.[431] Stated that RBA forecasts be unbiased over the long run, but there appears to be a systematic upward bias in the present low-inflation conditions.[432] Noted that the outturn inflation being lower than forecast may be due to random chance.[433] Submitted REU commentary in the draft position in relation to whether market-based measures could be used to estimate expected inflation.[434] Noted that the AER should state whether it agrees with the REU on the use of market-based measures based on concerns with potential biases or because it considers that other approaches produce superior forecasts of outturn inflation.[435] Noted that the RBA year 2 forecast has been consistently above inflation, and that inflation swaps have provided a superior forecast on inflation relative to the RBA forecast.[436] Stated that the RBA year 2 forecast has been consistently above actual inflation, the five year glide-path estimate will also over-state inflation.[437] *We have responded to the ENA's submission on the use of RBA's forecasts to estimate expected inflation in section 8.1.* Supported the increased weighting to market estimates under a 5 year glide-path.[438] Noted the current approach uses 20% of inputs to regulatory inflation reflected any market evidence, whilst in the proposed approach this rises to 60%.[439] Submitted a modified glide-path approach that uses inflation swaps in a 5 year glide-path, rather than RBA forecasts for year 1 and 2.[440] *We have responded to the ENA's submission on the possible use of market-based measures to estimate expected inflation in section 8.2.* **Regulatory Framework** Stated that continue to see merit in the hybrid approach and considered that it has a number of advantages for consumers, as it ensures that all consumers pay the efficient cost of the

426 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 48.
427 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 48.
428 ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 48-49.
429 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 5.
430 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 28.
431 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 29.
432 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 29.
433 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 29.
434 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 31.
435 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 31.
436 ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 31-33.
437 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 33.
438 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 28.
439 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 28.
440 ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 34-35.

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service that is provided to them.[441] Agreed that a hybrid approach would require a rule change, which involves a separate process, which would be independent to the inflation review.[442]

Noted that a hybrid approach might be attractive to consumers as the hybrid approach:[443]

- has zero impact on prices over the first regulatory period
- has no impact on long-term average prices or the volatility of prices and
- ensures that the allowed return matches the AER's estimate of the benchmark efficient cost of providing the service in each regulatory period.

Submitted the rationale for the proposed hybrid approach being that the AER sets the benchmark efficient allowance and service providers bear the risk that actual costs could be above (or below) the regulatory allowance.[444] Noted that the regulatory allowance must be commensurate with the cost the AER considers to be the efficient financing practice, citing commentary provided by the AER in the 2013 rate of return guidelines.[445] Highlighted that the extraordinary low-inflation environment has highlighted a problem with the AER's current approach, and stated that the outcome would seem to violate the principle of matching the regulatory allowance to the AER's estimate of the benchmark efficient cost.[446]

We have responded to the ENA's submission on the possible use of alternative target frameworks in section 12.2.

Risk Parameters

Noted that the impact of a hybrid approach would be unnoticeable, by providing that even a 30 basis point difference between expected and actual inflation would result in a price impact of less than 0.09% for consumers.[447] Noted that the submission included modelling of the proposed hybrid approach which indicated that the proposed approach has no noticeable impact on average prices or volatility.[448]

Other

Concerned that the recent regulatory decision produced negative net profit after tax in every year of the regulatory period.[449] Submitted responses to comments made in the draft position paper, noting that:[450]

- negative profit allowances are an issue, as there are ramifications in terms of credit ratings and the ability to attract investment.
- the negative cash return allowances have to be 'plugged; by cash from other sources, noting that the additional sources of cash could be depreciation allowances, borrowings against an assumed increasing RAB, incentive payments and also income from unregulated assets. Stated that in the absence of these sources of cash, the negative cash allowance will have to be plugged by an injection of equity capital.
- utility regulation cannot be compared to large technology companies with significant net profit after tax, and
- the Sapere report does not conclude that the AER should maintain its current approach of providing negative cash returns such that the benchmark firm incurs a negative net profit in every regulatory year.

We have responded to the ENA's submission on financeability of service providers in section 12.3.

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441 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 53.
442 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 53.
443 ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 53-54.
444 ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 54-55.
445 ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 55-56.
446 ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 56-57.
447 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 60.
448 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 60.
449 ENA, *Submission on draft position – Inflation review 2020*, November 2020, p. 61.
450 ENA, *Submission on draft position – Inflation review 2020*, November 2020, pp. 64-66.

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Endeavour Energy	Endorsed the ENA's submission.[451] **Inflation term** Noted support for the AER's proposed adoption of a 5-year estimation period.[452] **Transition** Submitted that there is no need or logical basis for a transition, and that the AER should immediately implement the new method in full.[453] Noted that the draft position will produce a better estimation of inflation so any dilution of it would violate the NPV=0 principle.[454] Stated that the AER's proposed approach resolves the mismatch problem (10-year inflation is deducted but 5-year inflation is added back) and should therefore be implemented to avoid windfall gains or losses and ensure the NEO and RPP are met.[455] **Glide-path** Supported the AER's proposed adoption of a glide-path method.[456] Recommended the AER have further regard to market-based estimates, submitting that it does not consider that market-based measures will diminish the new approach.[457] *We have responded to Endeavour Energy's submission on the possible use of market-based measures to estimate expected inflation in section 8.2.* **Regulatory Framework** Accepted that implementing a framework change to adopt a full nominal or hybrid return framework will not be progressed via this inflation review.[458] Submitted that regardless, the hybrid approach proposed by the ENA has a number of advantages, and remains worthy of further consideration.[459] *We have responded to Endeavour Energy's submission on changes to the regulatory framework in section 12.2.* **Other** Submitted that the AER's proposal goes some way to addressing financeability issues.[460] *We have responded to Endeavour Energy's submission on financeability of service providers in section 12.3.*
EQL	**Glide-path & Inflation Term** Endorsed the adoption of a 5-year glide-path approach[461] Concerned that the proposed approach is unlikely to result in the best estimate of expected inflation as required by the NER.[462] Submitted that a reversion to a mid-point of the RBA's band by year 5 is unlikely based on recent inflation outcomes and the RBA has consistently over-forecast inflation in year 2.[463] Stated that the proposed approach could be significantly improved by placing weight on market-based measures.[464]

451 Endeavour Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
452 Endeavour Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
453 Endeavour Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
454 Endeavour Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
455 Endeavour Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
456 Endeavour Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
457 Endeavour Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
458 Endeavour Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
459 Endeavour Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
460 Endeavour Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
461 EQL, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
462 EQL, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
463 EQL, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
464 EQL, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.

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	We have responded to EQL's submission on the possible use of market-based measures to estimate expected inflation in section 8.2. **Transition** Considered that the 5-year glide-path approach should be adopted without any transition as the AER should not persist with an approach that does not result in the best estimate of expected inflation.[465] Stated that the new approach does not give rise to any windfall gains but rather reduces the losses that service providers have incurred under the AER's current approach.[466]
Essential Energy	Supported the ENA's submission.[467] Encouraged further engagement by the AER with consumers, to demonstrate the logic and benefits of the proposed changes.[468] **Inflation term** Supported the proposal to shorten the inflation period to match the regulatory period (typically five years) as it is likely to result in a better estimate of expected inflation.[469] Submitted that the longer the period, the more difficult it is to forecast potential inflation rate movements.[470] **Transition** Noted support for an immediate implementation of the proposed changes.[471] Submitted that a transition is not considered necessary given there is no requirement for service providers to adjust operationally (as was seen with the trailing average cost of debt).[472] Noted that the immediate change also aligns with the implementation of parameter changes in the Rate of Return Instrument.[473] Agreed that no transition is required for the change to a simple linear glide-path, as it is not a framework change and is aimed at achieving the best estimate of expected inflation over the regulatory period.[474] **Glide-path** Stated support for the application of a linear glide-path approach from the RBA's forecasts of inflation. Noted data from the RBA indicates that it is likely to take more time for inflation to return to the RBA's target band than previous envisaged.[475] Submitted that the proposed approach represents a pragmatic, symmetrical response to reducing the variance between expected forecast inflation and actual inflation. [476]
Jemena	**Glide-path and Inflation term** Agreed with the AER that the 5 year glide-path is an improvement on the current forecast method and makes the PTRM and RFM internally consistent and capable of delivering an NPV=0 outcome.[477] Noted advice from Competition Economists Group (CEG) that the 5 year glide-path generates NPV=0 outcomes, with the conclusion in agreement with Dr Lally's advice to the AER.[478] *We have responded to Jemena's submission on the length of the inflation term in section 7.6.* **Transition**

465 EQL, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
466 EQL, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
467 Essential Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
468 Essential Energy, *Submission on draft position – Inflation review 2020*, November 2020, pp. 1-2.
469 Essential Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
470 Essential Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
471 Essential Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
472 Essential Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
473 Essential Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
474 Essential Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
475 Essential Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
476 Essential Energy, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
477 Jemena, *Submission on draft position – Inflation review 2020*, November 2020, p 1.
478 Jemena, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.

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	Recommended that the AER does not apply any transition or delay in adopting the 5 year forecast using a glide-path approach.[479] Noted advice from CEG which provided that there is no rational to delaying the implementation of this change with the PTRM inflation forecast because:[480] • the NER and NGR require that the best method is implemented and the five year glide-path is the best method • delaying implementation would result in a windfall loss on Victorian service providers • the low inflation from the eighteen month period of 1 January 2020 to 30 June 2021, will result in Victorian service providers facing an 0.4% per annum under compensation of their funding costs over 5 years. Noted this will occur even with the immediate introduction of the AER 5 year term. • a delay would further impact Victorian service providers who are dealing with very low cost of equity estimates. **Regulatory Framework** Noted that an immediate implementation of a 5 year inflation term to estimate expected inflation means that there is no urgency for framework change.[481] **Consultant Report** Jemena also submitted a consultant report from CEG as an attachment to its submission. Referenced the recommendations[482] from this expert advice in its submission.[483] CEG noted that the bond break-even approach was more accurate than swaps and our proposed approach in predicting outturn inflation over June 2010 to June 2019.[484] We have responded to the CEG's *submission on the possible use of market-based measures to estimate expected inflation in section 8.2.*
SA Power Networks	Endorsed the ENA's submission.[485] **Inflation term** Supported the move to 5-year term to estimate inflation.[486] Noted that the draft position is clear that the regulatory framework adopted by the AER is a deduction for inflation set equal to what is expected to be added via RAB indexation.[487] Submitted that because the RFM adds back 5 years of inflation, the PTRM deduction must be set equal to the expected value of 5 years of inflation.[488] **Glide-path** Supported additional weight being applied to current market data and the reduction in weighting applied to policy targets by the RBA under the glide-path approach.[489] Submitted that RBA forecasts of inflation have been persistently and materially higher than actual inflation outcomes, and the final position should contain an analysis of potential biases in the RBA Year 2 inflation forecasts in a low inflation environment.[490] Noted this will ensure

479 Jemena, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
480 Jemena, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
481 Jemena, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
482 CEG, *Response to AER draft position paper on inflation - A report for Jemena, November 2020*, pp. 1-3.
483 Jemena, *Submission on draft position – Inflation review 2020*, November 2020, pp. 1-2.
484 CEG, *Response to AER draft position paper on inflation - A report for Jemena, November 2020*, p. 25.
485 SA Power Networks, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
486 SA Power Networks, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
487 SA Power Networks, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
488 SA Power Networks, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
489 SA Power Networks, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
490 SA Power Networks, *Submission on draft position – Inflation review 2020*, November 2020, pp. 2-5.

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	stakeholders have confidence in the regulatory regime, and explain why the AER does not propose to adapt a swaps estimate despite these estimates being superior to the RBA estimates over the last decade.[491] *We have responded to SA Power Network's submission on the use of RBA's forecasts to estimate expected inflation in section 8.1 and the possible use of market-based measures to estimate expected inflation in section 8.2.* **Regulatory Framework** Noted the hybrid approach proposed by ENA has the benefit of ensuring that the regulatory regime delivers an allowed return that is commensurate with the AER's estimation of the benchmark efficient cost of debt.[492] Stated continued support for the hybrid approach, as it would at least allow recovery of their efficient 2020-25 debt costs through an adjustment to RAB in 2025.[493] Noted that they are 'seeking to recover the benchmark efficient debt costs - no more and no less - via appropriate indexation of the RAB in 2025.'[494] *We have responded to SA Power Network's submission on changes to the regulatory framework in section 12.2.* **Other** Noted that AER's June 2020 final decision embeds a negative net profit after tax.[495] Considered this to be a critically important issues that requires the AER's urgent attention.[496] *We have responded to the ENA's submission on financeability of service providers in section 12.3.*
TransGrid	Endorsed the ENA's submission.[497] **Inflation term** Agreed with the AER that a five year estimation term:[498] • better enables changes in market conditions and expectations to be captured in the forecast, and • better matches the expected value of indexation of the RAB in the next regulatory period with the indexation deducted from the building block revenue in the current regulatory period.[499] Submitted that recent statements from the RBA Governor suggest that the mid-point of the RBA's target range, no longer represents a solid anchor for inflationary expectations, especially over the AER's proposed averaging period of five years.[500] Submitted that anchoring longer term inflationary expectations to 2.5 per cent, even allowing for the use of a glide-path, is still likely to overestimate inflation to the current market conditions.[501] **Transition** Supported the immediate adoption of a forecast methodology that is expected to provide the best estimate of inflation:[502]

491 SA Power Networks, *Submission on draft position – Inflation review 2020*, November 2020, pp. 2-5.
492 SA Power Networks, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.
493 SA Power Networks, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.
494 SA Power Networks, *Submission on draft position – Inflation review 2020*, November 2020, p. 8.
495 SA Power Networks, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.
496 SA Power Networks, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.
497 TransGrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
498 TransGrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
499 TransGrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
500 TransGrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
501 TransGrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
502 TransGrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.

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- NEL, NER, and NEO require the AER to adopt the best estimate of inflation and provide service providers a reasonable opportunity to recover at least the efficient cost of providing their services
- it does not introduce windfall gains and losses in future periods without removing the gain or loss that has occurred in the past period
- it is consistent with the AER's approach to updating other ex-ante forward looking cost estimates, and
- it would promote efficient investment, which is in the long-term interest of consumers.[503]

Submitted that although the AER has previously applied transition arrangements for other parameters such as the trailing average cost of debt, in the case of the forecast of expected inflation:[504]

- the estimate is forward looking and the change in method does not include past estimates or enable bias in historical averaging periods that impact the forecast
- a transition would result in windfall gain or loss being the difference between the forecast of inflation the AER adopts in its decision and its best estimate of expected inflation, and
- market expectations (and costs incurred) in past periods do not affect market expectations (or costs to be incurred) in future periods.[505]

Glide-path

Submitted that a better alignment with market expectations could be achieved if the end-point of the glide-path better reflected the current stated position of monetary policy – that is, that employment, not inflation, is currently the primary focus of monetary policy.[506]

Proposed the following glide-path such that if the RBA's short-term forecast of inflation in year 2 is: [507]

- below 2 per cent, then the end point of the glide-path is the lower bound of RBA band (2 per cent)
- above 3 per cent, then the end point of the glide-path is the upper bound of RBA band (3 per cent), and
- between 2 and 3 per cent, then the end point is the mid-point of the RBA band (2.5 per cent).

Submitted that this proposal recognises that inflation could track well above or well below the mid-point of the RBA's target range for an extended period of time, and would satisfy the AER's criteria for the glide-path being:[508]

- symmetrical over time, this would avoid any estimation bias over the long-term, and
- enduring – so that it provides a 'robust method that can be used regardless of wide-reaching events or disturbances to market data'.

We have responded to TransGrid's submission on variations of the glide-path in section 9.2.

Regulatory Framework

Accepted that the AER considers a rule change by the AEMC is required to introduce either a hybrid regime, which involves targeting a nominal return on debt and a real return on equity; or a nominal regime, which involves a nominal rate of return unadjusted for actual inflation (this regime therefore does not require an estimate of expected inflation).[509]

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503 TransGrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
504 TransGrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 4.
505 TransGrid, *Submission on draft position – Inflation review 2020*, November 2020, pp. 3-4.
506 TransGrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
507 TransGrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
508 TransGrid, *Submission on draft position – Inflation review 2020*, November 2020, pp. 2-3.
509 TransGrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 4.

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	Submitted that further consideration of these issues can occur outside of, and independent of, the AER's decision on the methodology to be adopted to produce the best estimate of inflation.[510] *We have responded to TransGrid's submission on the possible use of alternative target frameworks in section 12.2.* **Other** Submitted that although the AER's approach to forecasting expected inflation will reduce revenue under-recovery, it will not address the timing of revenue recovery and therefore the financeability of Major ISP Projects.[511] Noted that it has submitted a rule change proposal to the AEMC to remove the requirement to index the RAB for Major ISP Projects to address this issue.[512] *We have responded to TransGrid's submission on the rule change proposal to the AEMC in section 12.3.* Noted that the purchasing power for consumers is not necessarily preserved under the real approach because the forecast indexation deducted from revenue can result in a permanent gain or loss where the forecast of expected inflation differs to the expected inflation to be applied to the RAB.[513]
Other	
Aurizon	**Inflation Term** Noted that alignment of the term of inflation estimate with the regulatory period removes a material source of error, due to the presumption that the regulatory model is consistent with achieving a real rate of return when the shorter term inflation expectations differ from longer-term expectations.[514] Supported the draft position to reduce the estimation period for inflation to 5 years.[515] **Transition** Noted that there is no justification for a transition arrangement as:[516] • if the AER's draft position produces the best estimate of the market expectations for inflation then it is necessary to adopt the draft position in order to satisfy the NEO. • any potential decrease in the market expectations of inflation from the application of the AER's draft position is a function of current market conditions and the lower inflation forecasts in the risk-free rates. Noted it would be erroneous to consider the impact of a non-transition on consumers when there is consumer price benefits arising from lower risk-free rates. **Glide-path** Supported the changes made to the current method, on the assumption that inflation will not revert to the mid-point of the RBA's target band within 3 years.[517] Noted that the AER may wish to undertake a more fulsome assessment of bias and premia with all feasible methods, including the RBA's forecasts.[518] Submitted that the AER should consider setting the inflation anchor at year 5 having regard to other inflation forecasts such as those published in the RBA's Statement on Monetary Policy.[519] Noted that there is no conclusive evidence of anchoring of long-term expectations at 2.5% and that there are more

[510] TransGrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 4.
[511] TransGrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 5.
[512] TransGrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 5.
[513] TransGrid, *Submission on draft position – Inflation review 2020*, November 2020, p. 5.
[514] Aurizon, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
[515] Aurizon, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
[516] Aurizon, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
[517] Aurizon, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
[518] Aurizon, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
[519] Aurizon, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.

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	reliable forward looking measures such as surveys and market-based measures over the medium to long-term.[520] **Other** Noted the draft position which provided inflation swaps and bond break even inflation rate are subject to biases and premia which render them unreliable.[521] Stated that the AER has not undertaken the necessary empirical analysis to demonstrate the presence of any biases or premia in market-based measures over an inflation term of five years.[522] *We have responded to Aurizon's submission on the possible use of market-based measures to estimate expected inflation in section 8.2.*
Network Shareholder Group	**Inflation term** Supported an inflation term which matches the regulatory period (five years).[523] **Transition** Stated that the implementation of the proposed changes should be adopted at the earliest practical opportunity, being the commencement of the next regulatory period.[524] Noted that a delay is not supported as it introduces consequences and distortion in investment, causes windfall gains or losses to consumers and investors and would not comply with the NEL, NER, NEO or be consistent with the rate of return instrument.[525] Submitted that the regulatory framework and AER practice is to set revenue at each regulatory period to match the ex-ante estimate of efficient costs.[526] Noted if the best estimate was not immediately adopted, service providers would not have an opportunity to recover their efficient costs. Stated that a delay would also result in the expected return being different to the allowed returns under the rate of return instrument.[527] Noted that there would be windfall gains or losses to consumers if not changed. Submitted that there would be no impact on investors and consumers if the best estimate is adopted as:[528] • the indexation deducted from the RAB is likely to match the indexation added to the RAB • the allowed real return is more likely to match the expected real return • consumers are more likely to pay the efficient costs of the service providers, rather than more or less than the efficient costs. *We have responded to the Network Shareholder Group's submission on whether we need a transition to a shorter term in section 7.6.* **Glide-path** Supported the glide-path,[529] however noted that the RBA's inflation targeting policy does not necessarily require the mid-point of the target band to be achieved.[530] Noted that inflation expectations are more likely to increase to 2% or decrease to 3% in low and high inflationary environments respectively, than be at the mid-point.[531]

[520] Aurizon, *Submission on draft position – Inflation review 2020*, November 2020, p. 3.
[521] Aurizon, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
[522] Aurizon, *Submission on draft position – Inflation review 2020*, November 2020, p. 2.
[523] NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.
[524] NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 8.
[525] NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 8.
[526] NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 8.
[527] NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 8.
[528] NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.
[529] NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.
[530] NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.
[531] NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.

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	We have responded to Network Shareholder Group's submission on variations of the glide-path in section 9.2. Supported a glide-path which was symmetrical in its application and enduring.[532] *We have responded to Network Shareholder Group's submission on whether the glide-path would be symmetric in its application in section 9.3 and whether the glide-path should be enduring in section 9.4.* **Regulatory Framework** Noted that the real rate of return is only delivered if the estimate of expected inflation included in the nominal return is reflective of the inflation implicit in the estimate of the nominal cost of debt and nominal cost of equity.[533] Submitted that the current market conditions have revealed that the current regime is not successful when the AER's estimate of expected inflation differs materially from market expectations of inflation,[534] and noted that this divergence can be significant.[535] Stated that the 'hybrid' approach seeks to better match the compensation with the efficient financing practice.[536] Noted that in this approach equity holders will continue to bear the risk from the AER's forecast methodology and also the costs of any estimation error.[537] Submitted that this has a direct impact on the confidence of equity holders to provide further capital to support network investments.[538] *We have responded to Network Shareholder Group's submission on the possible use of alternative target frameworks in section 12.2.*
QTC	**Inflation term** Supported a 5 year glide-path for estimating expected inflation.[539] **Transition** Stated that there is no reason to delay the application of a glide-path approach or to progressively transition away from the current approach.[540] Noted that the outcome of the glide-path should apply in full from the start of a service provider's next regulatory control period.[541] Contrasted the need for a transition which was needed for the 10-year trailing average cost of debt approach.[542] *We have responded to QTC's submission on whether we need a transition to a shorter term in section 7.6.* **Glide-path** Submitted that the assumption that expected inflation will revert to the RBA mid-point in year 5 is currently not realistic.[543] Reiterated views of de-anchoring of inflation expectations from the RBA target band due to constrained monetary policy and asymmetric inflation risks.[544] Noted that for the glide-path to produce reasonable estimates, it is important for the estimate of expected inflation to be consistent with market expectations for year 5.[545] Noted and provided evidence of the potential use of zero coupon inflation swaps for year 5 to state that

532 NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 7.
533 NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 9.
534 NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 9.
535 NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 9.
536 NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 9.
537 NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 9.
538 NSG, *Submission on draft position – Inflation review 2020*, November 2020, p. 5.
539 QTC, *Submission on draft position – Inflation review 2020*, November 2020, p. 1.
540 QTC, *Submission on draft position – Inflation review 2020*, November 2020, p. 9.
541 QTC, *Submission on draft position – Inflation review 2020*, November 2020, p. 9.
542 QTC, *Submission on draft position – Inflation review 2020*, November 2020, p. 9.
543 QTC, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.
544 QTC, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.
545 QTC, *Submission on draft position – Inflation review 2020*, November 2020, p. 6.

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	the expected inflation for year 5 is likely to be significantly lower than 2.5%.[546] Submitted that the expected inflation in year 5 is likely to range between 1.75% and 2%.[547] *We have responded to QTC's submission on the possible use of market-based measures to estimate expected inflation in section 8.2.* Stated that the glide-path approach should not be delayed and should apply in full from the start of a service providers' next regulatory control period.[548] **Other** Noted that the issue of negative net profit after tax was discussed in detail in the Draft Position.[549] Submitted that this is an important issue to be discussed as part of the financeability working paper in the 2022 rate of return instrument review.[550]

546 QTC, *Submission on draft position – Inflation review 2020*, November 2020, pp. 6-9.
547 QTC, *Submission on draft position – Inflation review 2020*, November 2020, p. 9.
548 QTC, *Submission on draft position – Inflation review 2020*, November 2020, p. 9.
549 QTC, *Submission on draft position – Inflation review 2020*, November 2020, p. 9.
550 QTC, *Submission on draft position – Inflation review 2020*, November 2020, p. 9.