

## ***Terms of Reference***

### **REFERENCE: AER INFLATION REVIEW 2020**

The Australian Competition and Consumer Commission (ACCC)/Australian Energy Regulator (AER) seeks quotations from suitably qualified experts to inform the AER's treatment of inflation in the regulatory framework that applies to regulated electricity network and gas pipeline service providers (service providers).

### **Background**

We last ran a comprehensive review of inflation in 2017. This process included extensive stakeholder consultation through public forums, workshops, and written submissions. Our final position at the conclusion of the 2017 review was that we would maintain our existing inflation approach. That is:

- We estimate an expected rate of inflation over a 10 year period to ensure consistency with the benchmark term of our nominal rate of return. The inflation estimation method involves calculating the geometric mean of 10 annual inflation rates. The RBA's short term inflation forecasts are used as the annual inflation rates for the first two years of the 10 year period. The mid-point of the RBA's inflation target band (2.0 to 3.0 per cent) is used as the annual rate for the remaining eight years.
- We deliver a real rate of return (derived from a nominal rate of return and an estimate of expected inflation) through the combined effects of our regulatory models (post-tax revenue model and roll forward model) and annual pricing processes. We found that our existing treatment of inflation successfully delivers this real target with only minimal deviation.
- We should continue to target the delivery of a real rate of return. There was broad stakeholder support for this target and no clear case for any of the alternatives (that is, targeting a nominal rate of return; or a hybrid model targeting nominal debt return and real equity return). It is also consistent with the relevant legislation, which requires an inflation adjustment (indexation) to the value of the regulatory asset base.
- Our existing approach delivers appropriate compensation for inflation (i.e. a real return).
- That we should not target a different kind of return for investors (e.g. a nominal or hybrid approach (i.e. target the initial real return on equity and the initial nominal return on debt). Stakeholder submissions failed to provide evidence to support a change in the balance of risk between service providers, investors and customers.

At the conclusion of our 2017 review, we indicated that we would continue to monitor inflation related data, and in particular surveys of inflation expectations.

Since mid-2019, we have received a number of stakeholder submissions asking us to undertake a new inflation review. Several energy networks have proposed specific changes to our inflation approach as part of regulatory determinations that are already underway.

Until recently, our ongoing monitoring has indicated broadly consistent observations in the key information we relied on in 2017. We now observe that there have been some movements across the spectrum of data and information we examine. While no individual piece of evidence is determinative, when considered in aggregate these movements support the commencement of a new review. Further, commencing the review now means that any recommendations from the inflation review will feed into development of the 2022 rate of return instrument. There are many interrelationships between inflation and the rate of return instrument.

On 7 April 2020, we published an initiation notice announcing our review of our inflation approach.<sup>1</sup> We will shortly publish a discussion paper seeking stakeholder submissions.<sup>2</sup>

## **Project scope**

### **Summary**

Consistent with our initiation notice, the AER seeks an expert advisor(s) to examine three key issues:

1. What method should we use to estimate expected inflation over a 10 year horizon? (Issue 1)
2. Does the regulatory framework successfully deliver the current target—a real rate of return outcome? (Issue 2)
3. Should we instead target a nominal or hybrid return? (Issue 3)

A number of service providers have raised concerns with our existing method for estimating expected inflation. These stakeholder submissions can be largely divided into two high level aspects. One is whether the current method derives the best estimate of expected inflation. Second, irrespective of the method chosen, whether the AER's revenue and price modelling provides an efficient allocation of inflation risk and appropriate compensation for this efficient allocation of inflation risk.

The third issue that we consider must be explored is whether efficient allocation of inflation risk between service providers, investors and customers should be changed.

**Suppliers may tender for any one, or combination, or all, of the issues identified above.** Each issue tendered for must be addressed in a separate Statement of Work Part 2. The ACCC may engage separate suppliers (if any) for any or all of the work required to address each of the issues identified above.

### **Details**

#### ***Issue 1 – What method should be used to estimate expected inflation?***

We seek a Consultant who is an expert in macroeconomics or financial economics and monopoly regulation, with particular expertise in expected inflation and market implied estimates, or knowledge of inflation products in cash and derivatives markets to review and comment on stakeholder submissions the AER has received since 2019 and expect to receive in response to the AER's Discussion Paper as part of the AER's Review of Expected Inflation 2020.

### **Services required**

Expert advice is sought to assist the project team in understanding and analysing the stakeholders' perspectives on the AER's existing method of estimating expected inflation over a 10-year horizon.

The Consultant's advice should be provided in the form of a publishable report to the standard of the Federal Court requirements for expert reports. The advice required, without in any manner directing the Consultant, should include the following:

- A summary of developments in academic literature on the formation and estimation of inflation expectations and the ability to adjust for premiums and biases in market based measures having particular regard to data since the conclusion of our 2017 review.
- Review of and comment on stakeholder submissions the AER receives in response to its Discussion Paper as part of stakeholder engagement for our review of expected inflation 2020.

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<sup>1</sup> [https://www.aer.gov.au/system/files/AER%20-%20Initiation%20notice%20-%202020%20Inflation%20review%20-%207%20April%202020\\_0.pdf](https://www.aer.gov.au/system/files/AER%20-%20Initiation%20notice%20-%202020%20Inflation%20review%20-%207%20April%202020_0.pdf)

<sup>2</sup> Progress/material on our 2020 inflation review is available at: <https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/review-of-treatment-of-inflation-2020>

- Expert opinion (and reasons) regarding the extent to which our existing estimation method and any other method canvassed in the submissions are likely to result in the best estimate of expected inflation and are appropriate in the context of the NER and NGR rule requirements (specifically NER rule 6.4.2(b)(1), 6A.5.3(b)(1) and NGR rules 75B(2)(b) and 74).

The consultant's advice should be provided following consideration of:

- The AER discussion paper to be published in May 2020.
- Submissions received from numerous stakeholders through 2019 seeking a review. These submissions are available at: <https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/review-of-expected-inflation-2017/updates>. While the AER has addressed [service provider submissions in the respective regulatory determinations, reviewing these submissions will provide a sense of the issues being raised by some stakeholders.](#)
- The relevant National Electricity Rules and National Gas Rules requirements are outlined in appendix A.

**Issue 2 – Does the regulatory framework successfully deliver the current target?**

**Issue 3 – Should we instead target a nominal or hybrid return?**

We consider that issues 2 and 3 fit together.

### **Services required**

The Supplier is required to provide advice on whether the AER's revenue and price modelling provides an efficient allocation of inflation risk, appropriate compensation for this efficient allocation of inflation risk, and efficient allocation of inflation risk between regulated businesses and end users. These issues were considered in our 2017 review of expected inflation in reports prepared for us by Sapere Research Group. The Supplier is required to provide updates on those reports.

Specifically, the Supplier is required to provide the advice in the form of a written memorandum with all models and workings attached. The advice required, without in any manner directing the Supplier, should include consideration of the following matters (considered in the 2017 Sapere Research Group reports):

- How do service providers perceive inflation risk (or not) in their revenue requirements (including the impacts on the building blocks)? Explanation of such risk should consider the following sources/perceptions:
  - The risk of unexpected future changes in inflation impacting the present value of the firm's cash flows.
  - The risk of the regulator setting expected inflation not equal to the best estimate of expected inflation.
  - Forecasting risk associated with actual outcomes differing from *ex ante* forecasts.
- How do service providers manage (or not) such risks? As part of this risk management who currently carries, and who pays for, the inflation risk (regulated businesses and/or consumer)? In considering this, the consultant should also evaluate the possibility for consumers to pay service providers to bear inflation risk but to still bear it themselves. Therefore, the Supplier would need to consider these as separate (but related) issues.
- Is there an adjustment to the post-tax revenue model (PTRM), roll-forward model (RFM), and/or annual pricing mechanisms that would remove debate about estimating inflation expectations, while also efficiently compensating for inflation and risk?
- What are the implications of determining the level of regulated returns to asset owners in real terms compared to making a determination in nominal terms? Is a hybrid approach possible, and what would be the implications of such an approach? Is there an approach that best achieves the National Electricity and Gas Objectives?

- What are the implications for the efficient rate of return if changes are made to the manner in which regulated revenues compensate for inflation?
- We typically used lagged CPI in our determinations for practical reasons around the timing of our decisions. What implications do think the use of lagged CPI may have on your advice?

The advice should be accompanied with modelling that has regard to the PTRM, RFM and annual revenue/pricing modelling processes. In doing so, the modelling must present both the real revenues and nominal revenues under the current CPI–X framework employed by the AER in the context of regulated businesses' proposed changes and their implication (using one or more relevant models submitted by regulated businesses).

The Supplier is required to consider the following information currently before the AER:

- The AER Inflation Review Final Position Paper published on 20 December 2017.
- The AER's discussion paper on the regulatory treatment of inflation to be published in early May 2020.
- Submissions received from numerous stakeholders through 2019 seeking a review. These submissions are available at: <https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/review-of-expected-inflation-2017/updates>
- The AER's final decision and submissions received from stakeholders during our recent PTRM and RFM update.<sup>3</sup>

Further, the Supplier is required to attend the AER's stakeholder engagement workshops and consider any oral submissions made there.<sup>4</sup> The Supplier is expected to attend other stakeholder engagement meeting(s), when requested by the AER's project team.

We note that the Supplier is being tasked with a responsive component of work of considering submissions received in response our discussion and draft position papers. At this time, we do not know the size of this component of work, but will arrange a fixed price once further details become apparent. This component of work will form part of the second stage of this review (July-December 2020).

The Supplier is expected to have a good understanding of the relevant clauses in the National Electricity Law and Rules, and the National Gas Law and Rules that interact with the expected inflation estimate under the CPI–X incentive regulatory framework.

### **Project Deliverables**

A publishable report containing preliminary analysis, including recent developments leading to the initiation of this review.

The AER provides the following **indicative** timetable for its review of inflation:

- By 30 June – preliminary analysis report due
- May – publish AER discussion paper
- Early July – Stakeholder forum #1
- 15 July – Submissions on AER discussion paper close

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<sup>3</sup> For gas: <https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/gas-financial-models-roll-forward-and-revenue-2020>. For electricity: <https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/electricity-roll-forward-models-transmission-and-distribution-2020-amendment>

<sup>4</sup> Stakeholder engagement activities will be responsive to the COVID-19 environment.

- August – window for further stakeholder engagement
- Late August – Expert report #1 due (accompanies AER draft position)
- Oct – Submission on AER draft position close. Scope for secondary reports from experts.
- Early Dec – Expert report #2 due (accompanies AER final position).

### **Judicial review**

The regulatory determinations made by the AER under the National Electricity Rules and the National Gas Rules are subject to judicial review in the Federal Court of Australia. Accordingly, the consultant's services and the consultant's final report must be performed to a professional standard which is robust, transparent, well-reasoned and defensible.

## Appendix A to Terms of reference

The relevant National Electricity Rules and National Gas Rules requirements for Issue 1 are as follows:

### National Electricity Rules:

#### *Electricity distribution*

##### 6.4.2 Contents of post-tax revenue model

- (a) The *post-tax revenue model* must set out the manner in which the Distribution Network Service Provider's annual revenue requirement for each regulatory year of a regulatory control period is to be calculated.
- (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...

##### 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*:

...

- (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*.

##### 6.5.2 Return on capital

The return on capital for a *Distribution Network Service Provider* for a *regulatory year* (**RC<sub>t</sub>**) is to be calculated using the following formula:

$$RC_t = a_t \times v_t$$

where:

$a_t$  is the *allowed rate of return* for the *Distribution Network Service Provider* for the *regulatory year*, and

$v_t$  is the value, as at the beginning of the *regulatory year*, of the regulatory asset base for the *distribution system* owned, controlled or operated by the *Distribution Network Service Provider* (as established in accordance with clause 6.5.1 and schedule 6.2).

##### 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

1. 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:

2. ...

- (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**

#### **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

#### **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*.

#### **6A.6.2 Return on capital**

The return on capital for a *Transmission Network Service Provider* for a *regulatory year* (**RC<sub>t</sub>**) is to be calculated using the following formula:

$$RC_t = a_t \times v_t$$

where:

$a_t$  is the *allowed rate of return* for the *Transmission Network Service Provider* for the *regulatory year*; and

$v_t$  is the value, as at the beginning of the *regulatory year*, of the regulatory asset base for the transmission system owned, controlled or operated by the *Transmission Network Service Provider* (as established in accordance with clause 6A.6.1 and schedule 6A.2).

#### **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;

#### **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**

3. 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.

## **National Electricity Law:**

### **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 interests 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.

### **7A Revenue and pricing principles**

...

- (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 [regulated] 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.

## **National Gas Rules:**

### **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.



## 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;

## 87 Rate of return

The return on the projected capital base for a service provider for a regulatory year of an *access arrangement period* for an applicable access arrangement (**RPCB<sub>t</sub>**) is to be calculated using the following formula:

$$\text{RPCB}_t = a_t \times v_t$$

where:

$a_t$  is the *allowed rate of return* for the regulatory year; and

$v_t$  is the value, as at the beginning of the regulatory year, of the projected capital base for the regulatory year (as established under rule 78 and subject to rule 82(3)).

## 89 Depreciation criteria

...

- (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)); and

## National Gas Law:

### 23 National gas 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 interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.

### 24 Revenue and pricing principles

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

- (a) efficient investment in, or in connection with, a pipeline with which the service provider provides reference services; and
- (b) the efficient provision of pipeline services; and
- (c) the efficient use of the pipeline.

...

- (5) A reference tariff should allow for a return commensurate with the regulatory and commercial risks involved in providing the reference service to which that tariff relates.

- (6) Regard should be had to the economic costs and risks of the potential for under and over investment by a service provider in a pipeline with which the service provider provides pipeline services.