Draft Gas Rate of Return Guidelines

Stakeholder Forum

3 September 2018

Economic Regulation Authority
WESTERN AUSTRALIA

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Draft Gas Rate of Return Guidelines

Introduction and progress

01

Introduction and progress

Introduction

History of Gas Rate of Return Guidelines (Guidelines):

- 2013 Guidelines released December 2013.
- Following subsequent gas determinations the rate of return process further evolved, with some divergence from the 2013 Guidelines.
- Select rate of return matters have also been the subject of Australian Competition Tribunal and court review.

ERA now required to review the Guidelines.

Final Guidelines are due by December 2018.

New legislation – binding instrument

On 15 June 2018 the CoAG Energy Council agreed to new legislation.

Key features:

- rate of return instrument to be binding
- rate of return to be estimated automatically, either through a formula or value
- binding instrument to supersede existing guidelines
- in place for four years.

Timing of passage through South Australian Parliament is anticipated for this year.

The ERA has designed the Guideline to be consistent with both current and proposed legislation – ultimately achieving the revenue and pricing principles, and the National Gas Objective.

As detailed in Draft Guidelines, the ERA has looked at a number of ways to calculate the market risk premium under a binding framework. The ERA is seeking stakeholder views on this.

Progress

- Draft Guidelines released on 29 June 2018.
- Independent Panel appointed on 23 August 2018.
- The ERA did not undertake public consultation prior to the Draft Guidelines.
  - Given revisions to the 2013 Guidelines and the finalisation of Tribunal review, the ERA had envisioned that this would be a relatively simple process.
  - As a result, the ERA sought to leverage the AER's Rate of Return Guideline consultation processes.
- The ERA is now seeking public submissions on the Draft Guidelines. Submissions due by 28 September 2018 and can be lodged at:

  www.erawa.com.au/consultation

- The ERA looks forward to future stakeholder contributions to assist it to finalise the Guidelines.

Draft Gas Rate of Return Guidelines

High level overview of Draft Guidelines – Matters that remain unchanged

02

High level overview - Matters that remain unchanged

Detailed technical matters can be found in the Draft Guidelines Explanatory Statement.

High level stakeholder comments are welcome as we progress through the WACC parameters.

Comments on detailed technical matters are best reserved for formal submissions.

Matters that remain unchanged:

- overall WACC framework
- risk free rate
- forecast inflation rate
- debt issuing and hedging costs
- equity beta.

Overall WACC framework

Largely remains unchanged from past practice:

- vanilla WACC

$$WACC = Return\ on\ Equity * (1 - Gearing) + Return\ on\ Debt * Gearing$$

- gearing based on current data from the benchmark sample

$$Gearing = \frac{Debt}{Equity + Debt}$$

- equity approach based on Sharpe Lintner CAPM

$$Return\ on\ Equity = Risk\ Free\ Rate + Equity\ Beta * Market\ Risk\ Premium$$

- debt approach based on estimated debt cost

$$Return\ on\ Debt = Risk\ Free\ Rate + Debt\ Risk\ Premium + Issuing\ and\ Hedging\ Cost$$

- imputation credits based on a utilisation approach

$$Value\ of\ Imputation\ Credit\ (\gamma) = Distribution\ Rate(\mathrm{F}) * Utilisation\ Rate(\theta)$$

Risk free rate

The risk free rate represents the return an investor would expect when investing in an asset with no risk.

Risk free rate (cost of equity)

Draft Guidelines use the same approach as recent regulatory practice:

- Yield of a five-year Commonwealth Government Security as a proxy for the nominal risk free rate.
- 20 day averaging period, being as close as possible to commencement of regulatory period and nominated prior to the date.
- 2.37% as at 20 days to 29 March 2018.

Risk free rate (cost of debt)

Draft Guidelines use the same approach as recent regulatory practice:

- Prevailing 5-year interest rate swaps.
- Same averaging period as above.
- 2.59% as at 20 days to 29 March 2018.

Forecast inflation and Debt issuing and hedging costs

Forecast inflation

Consistent with recent regulatory practice, uses the Treasury bond implied inflation approach:

- Applies the Fisher equation

$$Implied\ Inflation\ Rate = \frac{(1 + Nominal\ Interest\ Rate)}{(1 + Real\ Interest\ Rate)} - 1$$

- Calculated from the observed yields of:
  - Five-year Commonwealth Government Securities (market-based estimate of nominal risk free rate)
  - Five-year indexed Treasury bonds (market-based estimate of real risk free rate)
- On balance, the ERA views that this approach is most reflective of inflation expectations for an upcoming regulatory period.
- 1.84% as at 29 March 2018.

Debt issuing and hedging

These are administrative costs and other charges incurred when obtaining debt financing.

Draft Guidelines generally use same approach as recent regulatory practice:

- Debt raising costs of 0.100% per annum (reduced from 0.125%).
- Debt hedging costs of 0.114% per annum.

Equity beta

Equity beta measures the systematic risk of a security in comparison to the market.

Draft Guidelines have used the same approach to the ERA's recent regulatory practices. Based on:

- Henry's study on the equity beta estimation approach
- five-years period.

Conceptually, overall systematic risk of supplying regulated network services is low. Therefore, equity beta should be less than one.

The ERA has recalculated equity beta for:

- updated dataset to 2017
- updated sample
- 55% benchmark gearing.

Analysis indicates that an equity beta of 0.7 is appropriate.

	Mean of firms	Equally weighted portfolio mean	Value weighted portfolio mean	Mean of portfolios	Mean of firms & portfolios
Mean of techniques (OLS, LAD, MM, T-S)	0.715	0.659	0.787	0.723	0.718

Draft Gas Rate of Return Guidelines

High level overview of Draft Guidelines – Matters that change

03

High level overview - Matters that change

Detailed technical matters can be found in the Draft Guidelines Explanatory Statement.

High level stakeholder comments are welcome as we progress through the WACC parameters.

Comments on detailed technical matters are best reserved for formal submissions.

Matters that change:

- gearing
- debt risk premium
- market risk premium
- value of imputation credits (gamma).

Gearing

Gearing is the proportion of a business's assets financed by debt and equity. Required to determine the contribution of the cost of debt and equity towards the WACC.

Draft Guidelines uses the same general empirical approach. Based on:

- the benchmark sample
- five years of data
- market value of equity
- book value of debt as a proxy.

The ERA has refined its debt calculation.

Considers market based gearing level is used to reflect efficient financing. Supported by experts.

Updated estimated benchmark gearing of 55%.

	APA	AST	DUE	SKI	Average
5 year average	48%	56%	62%	56%	55%

Debt risk premium

The debt risk premium represents the return above the risk free rate that lenders require to compensate them for the risk of providing funding.

The debt risk premium approach in the Draft Guidelines largely remains unchanged from recent ERA regulatory practice. The hybrid trailing average bond yield approach, which involves:

- 10-year term of debt
- RBA credits spreads used to calculate debt risk premia to 2016
- bond yield approach used to calculate debt risk premia from 2016 (estimates yields through the utilisation of domestic and international bonds which have a country of risk of Australia)
- averages the debt risk premia over a 10-year period to reflect the staggered nature of a debt portfolio
- each year a new bond yield is calculated and the last year drops off.

What changes: Credit rating moves from BBB-/BBB/BBB+ to BBB+.

Regulators that use a trailing average approach may apply an annual update process. The ERA will continue its annual update process consistent with recent practice.

Market risk premium (MRP)

The MRP can be defined as the return on the market portfolio above the risk free rate. It compensates an investor for the systematic risk of investing in a fully diversified portfolio.

The ERA considered all available information in assessing the MRP. It is the subject of diverse views.

Historic MRP

The Draft Guidelines continues support for historic MRP. Simple and well-accepted method.

Continue to calculate historic MRP with the Ibbotson approach through use of

- Brailsford, Handley and Maheswaran (BHM) and NERA Economic Consulting (NERA) datasets
- six-overlapping time periods
- simple average of lowest arithmetic and highest geometric estimates.

Produced an updated historic MRP of 5.7%.

	Arithmetic Average	Geometric Average
1883-2017	6.65%	**5.29%**
1937-2017	6.27%	4.42%
1958-2017	6.75%	4.42%
1980-2017	6.53%	4.26%
1988-2017	**6.11%**	4.50%
2000-2017	6.13%	4.32%

Market risk premium (continued)

Dividend Growth Model (DGM)

The DGM is considered a forward looking method to estimate MRP.

The Draft Guidelines has simplified DGM calculation through use of 2-stage dividend growth model, which uses a point estimate of 4.6% for the growth rate.

Produces a MRP estimate of 7.6%.

The ERA has evaluated the DGM and considered all available information. This has included the assessment of existing and new information, submissions and further advice.

The ERA considers the DGM approach has some weaknesses:

- no agreement on best form of the model, or its inputs
- sensitive to its assumptions
- biases in analysts' forecasts can bias the model
- upwardly bias due to current low interest rates.

Therefore, the Draft Guidelines places less reliance on the DGM, relative to the historic MRP.

Market risk premium (continued)

Wright approach

The Wright approach is an alternative specification of the Sharpe-Lintner CAPM.

The ERA has considered existing and new evidence to assess the reasonableness of using Wright approach to estimate MRP.

This raised concerns with the continued use of Wright:

- Review of the robustness of the ERA's past statistical analysis of stationarity, which had previously supported the use of the Wright approach.
- Concern with the underlying premise that there is a clear inverse relationship between the risk free rate and MRP.
- Lack of estimable inverse relationship between the MRP and the risk free rate.
- Lack of support for the use of Wright in the AER expert session.
- Lack of use by market practitioners.
- AER's strong view that the model has no theoretical basis in Australia, and is not an appropriate tool for regulatory use.

The Draft Guidelines will not consider the Wright approach when estimating the MRP.

Market risk premium (continued)

Past MRP approach has involved a level of discretion. In moving to a binding instrument the ERA is now considering how best to set a MRP.

For the four-year period of a binding instrument, the instrument should set parameters through a fixed value or a formula.

Current & Fixed (Discretion)	Mechanical approach	Historic approach
More reliance on historic MRP, relative to DGM. Less reliance on DGM, relative to historic MRP. Use conditioning variables. Use of a level of discretion to set point estimate. Under new framework, MRP calculated at start of instrument and fixed for 4 years.	Uses both the historic MRP and DGM. Applies a fixed weight to the two approaches. MRP calculated at each determination.	Solely use historic MRP. MRP would be calculated at start of instrument and fixed for 4 years.

ERA seeks stakeholder comments on the options above.

ERA seeks stakeholder comments on what an appropriate weight may be for a mechanical approach.

Value of imputation credits (gamma)

Gamma accounts for the reduction in effective corporate taxation that is generated by the distribution of franking credits to investors.

In assessing gamma the ERA has considered new and existing information:

- Tribunal and Court decisions in support of utilisation approach
- clarification of the use of ATO data
- additional Lally advice on gamma.

The Draft Guidelines continues the utilisation approach

$$Gamma = Distribution\ Rate * Utilisation\ Rate$$

Distribution rate - represents the proportion of imputation credits generated by a benchmark efficient entity that is expected to be distributed to investors. (firm parameter):

- Relies on Lally's estimate of 20 largest ASX-listed firms (at least 0.83).

Utilisation rate - is the weighted average over the utilisation rates of individual investors, with investors able to fully use the credits having a rate of one and those unable to use them having a rate of zero:

- Relies on equity ownership approach to determine the percentage of domestic investors in the Australian equity market from ABS data (0.6).

Produces a gamma of 0.5.

Draft Gas Rate of Return Guidelines

Next steps

04

Next steps

There have been diverse stakeholder views on some matters expressed through consultation processes. In developing the Draft Guidelines the ERA has considered these conflicting views.

The ERA has assessed the relative merits of available information and views the positions expressed in the Draft Guidelines best meets the National Gas Objective.

The ERA looks forward to receiving further stakeholder submissions on its Draft Guidelines.

Public submissions on the Draft Guidelines are due by 4:00pm (WST), 28 September 2018 and can be lodged at:

www.erawa.com.au/consultation

Independent Panel Report is due by 29 October 2018. The ERA's Independent Panel is being asked:

> *In your view, is the Draft Guidelines supported by sound reasoning based on the available information such that it is capable of promoting the National Gas Objective.*

The Final Guideline is due in December 2018.