

# **Review of market procedure 2020: the benchmark reserve capacity price**

Market Advisory Committee Working Group

Meeting of 18 August 2020



Economic Regulation Authority

WESTERN AUSTRALIA

# Agenda

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**01**

**Welcome**

**02**

**Meeting apologies/attendance**

**03**

**Summary of the process**

**04**

**Preliminary procedure  
change proposal**

**05**

**Discussion**

**06**

**Next steps**

# Terms of reference for the Working Group

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- WG convened as per the Market Rules
- Responsibilities defined for attendees in section 4 of the [ToR](#).
- Attendees are expected to:
  - *“participate as a general industry representative rather than representing their company’s interests”*.

# 3. Summary of procedure change process

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- The Market Rules (4.16.9) require the ERA to review the BRCP market procedure
  - At least once every five years
  - The Market Rules allow the ERA to review the procedure after 31 October 2017.

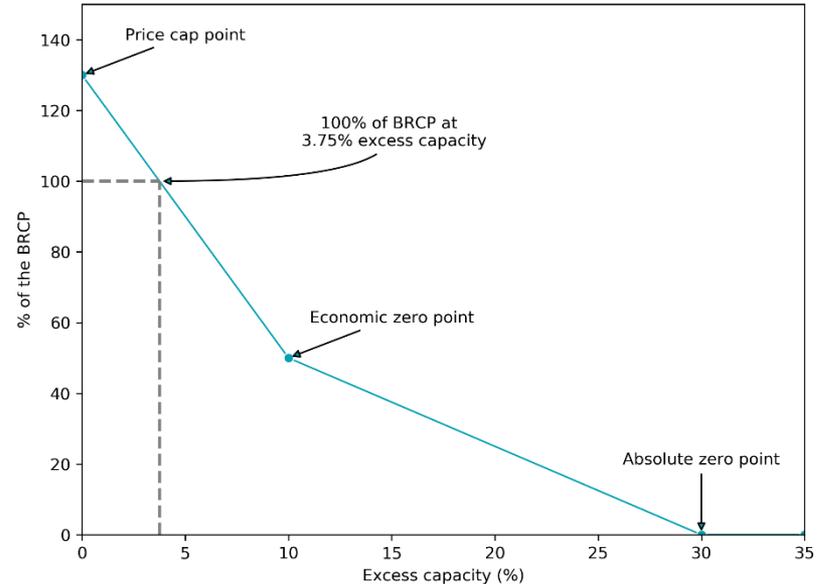
# Procedure change process summary

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- Broad steps for the ERA:
  - Prepares a procedure change proposal (PCP)
  - Seek the advice of the Working Group
  - Consult with the public on the PCP
  - Consider feedback and publish a procedure change report (PCR)

# 5. Preliminary procedure change proposal

- BRCP is the main factor for the calculation of the reserve capacity price.
- The EPWA developed the pricing curve:
  - To ensure sufficient capacity resources, the Reserve Capacity Mechanism must provide remuneration equal to the marginal [fixed] cost of a new [marginal] asset [in an auction for the procurement of capacity] that assures a desired level of reliability.



# BRCP components

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- Identify the facility that best represents the marginal asset in an auction for the procurement of capacity, when the SWIS requires new capacity to meet the desired level of capacity. (reference facility)
- fixed investment costs
- fixed operating and maintenance costs
- a reasonable return on capital invested
- the amount of capacity credits expected to be assigned to the facility

# Overlap with the current reform process

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Review of reference technology:

- Facilities with low cost per capacity credits are suitable candidates
- EPWA is currently reviewing the assignment of capacity credits under constrained network access model.
- EPWA is also developing capacity certification method for storage
- Objective assessment of reference technology is not possible at this stage.

# Scope of review this year

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- Remaining: WACC, fixed O&M
- The ERA's preliminary project timeline (completion of review by February 2021).
- A market participant raised concern:
  - The updated procedure would not be available for the 2021 reserve capacity cycle
  - Concerns with the calculation of the WACC

# Option

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- Limit the scope of the review this year to updating WACC only
  - May allow for a fast-track review
  - Engage with AEMO and consider options for updating the market procedure ready for application to 2021 reserve capacity cycle.
- **Question: Does the Working Group consider that limiting the scope of the review is appropriate?**

# Timing options

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- The ERA Secretariat will discuss the fast-track option with the ERA
  - Expediting the process to the extent possible
- AEMO has already commenced its calculation of the BRCP
  - The ERA consults with stakeholders on updating the WACC method in parallel.
  - AEMO may consider to update the BRCP (in Nov or Dec 2020) with the new WACC method.
  - AEMO may consider extending the timeline for the Reserve Capacity Expression of Interest.

# Review of the WACC

Jason Dignard  
Principal Regulatory Advisor

# Agenda

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**01**

**ERA WACC review**

**02**

**Review high level WACC  
approach**

**03**

**Review of inflation**

**04**

**Discussion components of  
WACC**

# ERA Review of BRCP WACC

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## Informed by

- Recent ERA WACC reviews for electricity, gas and rail
- Stakeholder concerns on the operation of existing procedure

## BRCP WACC Review

- Reviewed the appropriateness of WACC calculation process in the market procedure.
- Reviewed the individual WACC components included in the market procedure.

# High level WACC approach

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## Market procedure

2.9.6 The AEMO shall compute the WACC on the following basis:

- a) The WACC shall use the Capital Asset Pricing Model (CAPM) as the basis for calculating the return to equity.
- b) The WACC shall be computed on a Pre-Tax basis.
- c) The WACC shall use the standard Officer WACC method as the basis of calculation.

2.9.7 The pre-tax real Officer WACC:  $WACC_{real} = \left( \frac{(1 + WACC_{no\ min\ at})}{(1 + i)} \right) - 1$  and

$$WACC_{no\ min\ at} = \frac{1}{(1 - t(1 - \gamma))} R_e \frac{E}{V} + R_d \frac{D}{V}$$

## The ERA continues to support a BRCP WACC calculated:

- On a pre-tax basis.
- Through the standard Office WACC method.

# Inflation

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The ERA holds concern with the BRCP's high level WACC approach and its use of inflation.

Inflation is the rate of change in the general level of prices of goods and services. A nominal WACC incorporates the real WACC, compounded by inflation expectations.

## Market procedure

2.9.7 (k) i is the forecast average of inflation for the 10 year period from the date of determination of the WACC. In establishing a forecast of inflation, the IMO must have regard to the forecasts of the Reserve Bank of Australia and, beyond the period of any such forecasts, the mid-point of the Reserve Bank's target range of inflation.

Stakeholders and AEMO expressed concern that negative real risk free rates and a low WACC, did not reflect Australian market conditions.

Two approaches to address:

1. Update inflation forecast method –
  - The current RBA approach is quite static.
  - The ERA's preferred method is the Treasury bond implied inflation approach. This utilizes market information to derive the market's view on expected inflation, in a consistent way to the risk free rate. It is dynamic and not driven by static targets.

# Inflation (cont...)

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## 2. Real WACC vs nominal WACC

- The market procedure is ambiguous, it just details how to calculate a nominal and real WACC. Not which rate should be used in the annuity calculation.
- What are the arguments for and against real or nominal WACC?
- If the use of real WACC is to continue, the Treasury bond implied inflation approach, based on 10-year bonds, should be used to determine expected inflation.

# Return on equity

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## Market procedure

2.9.7 (a)  $R_e$  is the nominal return on equity (determined using the Capital Asset Pricing Model)

Australian regulators use the Sharpe-Linter Capital Asset Pricing Model (CAPM) to quantify the return on equity:

$$R_i = R_f + \beta_i(R_m - R_f)$$

where

$R_i$  is the required rate of return on equity for the asset, firm or industry in question

$R_f$  is the risk free rate

$\beta_i$  is the equity beta that describes how the return for a particular asset will follow the market return

$R_m - R_f$  is the market risk premium.

## The ERA continues to support the use of CAPM

# Return on debt

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## Market procedure

2.9.7 (b)  $R_d$  is the nominal return on debt and is calculated as:

$$R_d = R_f + DM$$

where

$R_f$  is the nominal risk free rate for the capacity year

$DM$  is the debt margin, which is calculated as the sum of the debt risk premium,  $DRP$ , and debt issuance cost,  $d$ .

**The ERA continues to support this approach to debt.**

# Risk free rate

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The risk free rate is the return an investor would expect when investing in an asset with no risk. The risk free rate is used to calculate both the return on equity and debt.

## Market procedure

2.9.7 (g) The nominal risk free rate, for a Capacity Year is the rate determined for that Capacity Year by the IMO on a moving average basis from the annualised yield on Commonwealth Government bonds with a maturity of 10 years:

- using the indicative mid rates published by the Reserve Bank of Australia; and
- averaged over a 20-trading day period.

2.9.7 (i) Interpolation is to be used if there are no Commonwealth bonds with a maturity of 10 years.

2.9.7 (j) If bond data is unavailable, AEMO may determine the nominal risk free rate by means of an appropriate approximation.

## The ERA continues to support the current risk free rate approach.

- The use of 10 year Commonwealth bonds.
- Interpolation to best calculate a 10-year maturity.
- A annual review frequency.

# Market risk premium

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The MRP is the expected rate of return over and above the risk free rate that investors require to invest in a fully-diversified portfolio.

## Market procedure

2.9.8 Sets MRP at 6.00 with a 5-yearly review frequency.

The ERA reviewed the market risk premium as part of its rail determination. For rail networks, the ERA's forward-looking market risk premium was estimated for a 10-year period, consistent with the long lives of rail networks and the regulatory framework. The MRP was set at 5.9 per cent.

## The ERA supports:

- Updating the MRP to be 5.9 per cent.
- Fixing the market risk premium until the next BRCP review.

# Equity beta

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Equity beta is the 'slope' parameter  $b_i$  in the Sharpe-Lintner Capital Asset Pricing Model.

## Market procedure

2.9.8 Sets equity beta at 0.83 with a 5-yearly review frequency.

In determining an appropriate beta for regulated businesses, the ERA considers that empirical evidence must be used to inform its judgement for equity beta. In determining an equity beta, the ERA first selects a benchmark sample of comparable listed companies and then uses empirical approaches to estimate equity beta.

## The ERA:

- Invites submissions to provide evidence to justify a change to the value of equity beta?

# Debt risk premium

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The DRP is the return above the risk free rate that lenders require to compensate them for the risk of providing debt funding to a firm.

## Market procedure

2.9.7 (h) The DRP for a Capacity Year is a margin above the risk free rate reflecting the risk in provision of debt finance. This will be estimated by the IMO as the margin between the observed annualised yields of Australian corporate bonds which have a BBB (or equivalent) credit rating from Standard and Poors and the nominal risk free rate. The IMO must determine the methodology to estimate the DRP, which in the opinion of the IMO is consistent with current accepted Australian regulatory practice.

AEMO has used the ERA's bond yield approach to estimate the debt risk premium since the 2018 BRCP determination.

The ERA has refined and further developed publicly available tools for its DRP method. This method allows for dynamic current estimates and is based on market information.

## The ERA:

- Supports AEMO's use of the revised bond yield approach on corporate bonds that have a 10-year term, with the DRP updated annually.
- Seeks views on the continued use of a benchmark sample of BBB corporate bonds.

# Debt raising costs

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Debt-raising costs are the administrative costs and other charges incurred by businesses when obtaining finance.

## **Market procedure**

2.9.8 Sets debt issuance costs at 0.125 per cent with a 5-yearly review frequency.

In its recent WACC reviews the ERA adopted an allowance of 0.100 per cent for debt-raising costs. The ERA reviewed the historic use of 0.125 per cent and found that this number included a double counting error.

## **The ERA supports:**

- The recovery of direct costs of debt-raising.
- Updating the debt issuance costs to 0.100 per cent.
- Fixing the market risk premium until the next BRCP review.

# Gearing ratio

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Gearing ratio is the proportion of a business's assets assumed to be financed by debt to equity.

## **Market procedure**

2.9.8 Sets gearing at 40 per cent debt with a 5-yearly review frequency.

In determining gearing the ERA selects a relevant benchmark sample of businesses and observes the gearing levels of these firms. The use of a benchmark sample of firms is consistent with the estimation of equity beta and the credit rating. The ERA considers the benchmark sample approach provides incentives to service providers to adopt efficient gearing structures.

## **The ERA:**

- Invites submissions to provide evidence to justify a change from 40 per cent gearing.

# Value of imputation credits (gamma)

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The gamma parameter accounts for the reduction in the effective corporate taxation that arises from the distribution of franking credits to investors. Generally, investors who are able to use franking credits will accept a lower required rate of return on an investment that has franking credits.

## Market procedure

2.9.8 Sets gamma at 0.25 with a 5-yearly review frequency.

In its energy and rail WACC reviews the ERA considered it was necessary to update the past gamma approach for:

- Contemporary Tribunal and Federal Court judicial reviews.
- Clarification that ATO data should not be applied to all aspects of the imputation system.
- New reports and analysis provided on gamma.

# Value of imputation credits (gamma) (cont...)

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The ERA estimates gamma as the product of the distribution rate and the utilisation rate to provide a gamma of 0.5.

- The distribution rate represents the proportion of imputation credits generated by a benchmark efficient entity that is expected to be distributed to investors. The ERA considers that the distribution rate is a firm-specific rather than a market-wide parameter. The ERA uses a distribution rate of 0.9 informed by the distribution rate from financial reports of the 50 largest ASX-listed firms.
- The utilisation rate is the weighted average over the utilisation rates of individual investors, with investors able to fully use the credit having a rate of 1 and those unable to use them having a rate of zero. The ERA uses a utilisation rate of 0.6 based on the equity ownership approach to determine the percentage of domestic investors in the Australian equity market.

## **The ERA supports:**

- Updating gamma to 0.5
- Fixing the value of gamma until the next BRCP review.

# Other matters

Sara O'Connor  
Assistant Director Market Regulation

# Other matters

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- Do stakeholders consider that another meeting is to be convened before the publication of the PCR?
  - Assuming a WACC only scope
- Does the Working Group consider that it is useful to convene another meeting to discuss other concerns with the calculation of the BRCP?
  - This can assist the ERA in the future review of the BRCP methodology and procedure.

# Thank you

Ask any questions



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