Economic Regulation Authority

Final decision on access arrangement for the Goldfields Gas Pipeline (2025 to 2029)

Attachment 7: Return on capital, taxation, incentives

18 December 2024

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Acknowledgement of Country

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Note

This attachment forms part of the ERA's final decision on the access arrangement for the Goldfields Gas Pipeline. It should be read in conjunction with all other parts of the final decision, which is comprised of the following document and attachments:

- Final decision on access arrangement for the Goldfields Gas Pipeline (2025 to 2029) – Overview, 18 December 2024:
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Attachment 7. Summary

Rate of return

The rate of return provides service providers with the funding to pay interest on loans and give a return on equity to investors. The rate of return is expressed as a weighted average cost of capital (WACC).

A gas rate of return instrument is required under the National Gas Law.[1] This gas instrument sets out the methods the ERA and service providers will use to estimate the allowed rate of return and the value of imputation credits for gas transmission and distribution service providers. GGT's proposed rate of return was consistent with the ERA's gas rate of return instrument.

Changing economic and financial conditions are important factors in determining GGT's cost of capital and the regulatory value of its capital base. The rate of return in this final decision was updated for current market conditions, with a 20-trading day averaging period to 27 September 2024. Higher rates of inflation account for 33 per cent of the total increase in revenue between the AA4 final decision and the AA5 final decision. Updated rates of return also account for 33 per cent of the total increase in revenue between the AA4 final decision and the AA5 final decision.

Taxation

A tax building block is included in the annual revenue requirement estimate. The taxation cost is calculated by multiplying the estimated taxable income by the statutory income tax rate of 30 per cent. The estimated taxation payable is calculated by deducting the value of imputation credits.

GGT's method of calculating AA5 taxation was consistent with its approach in AA4.

Incentive mechanisms

The National Gas Rules provide that a full access arrangement may include incentive mechanisms to encourage efficiency in the provision of services by the service provider.[2] An incentive mechanism may provide for the carrying over increments for efficiency gains, and decrements for losses of efficiency, from one access arrangement period to the next.

The current (AA4) access arrangement does not contain any incentive mechanisms, and GGT did not propose any incentive mechanisms for AA5. The ERA's draft decision accepted GGT's proposal and reasons for not including any new incentive mechanism for AA5. The ERA's final decision maintains this position.

Summary of required amendments

7.1 The return on capital base must reflect the weighted average cost of capital parameters in Table 7.8 of this Final Decision Attachment 7.

7.2 The estimated cost of corporate income tax must be amended in accordance with Table 7.12 of this Final Decision Attachment 7.

1 NGL, section 30D, 30E.

2 NGR, rule 98.

Regulatory requirements

1. The *National Gas Access (WA) Act 2009* implements a modified version of the National Gas Law (NGL) and National Gas Rules (NGR) in Western Australia. The rules referenced in this decision are those that apply in Western Australia.[3]

2. The NGR requires the use of the "building block" approach to determine the total revenue requirement for each year of the access arrangement period.[4] The total revenue requirement is the amount that is needed by the service provider to recover the efficient costs incurred in operating the pipeline (that is, the service provider's cost of service).

3. In addition to a forecast of operating expenditure and depreciation on the projected capital base, other components (building blocks) for determining the service provider's total revenue requirement include:

   - A return on the projected capital base for the year.
   - The estimated cost of corporate income tax for the year.
   - Increments or decrements for the year that result from the operation of an incentive mechanism.

4. Rule 87 sets out the formula for calculating the return on the projected capital base ($RPCB_t$) for each year of an access arrangement period as follows. The allowed rate of return must be calculated in the way stated in the rate of return instrument that is approved by the ERA under a separate process:[5]

   $$RPCB_t = a_t \times v_t$$

   where:

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

   vt 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)).

5. Rule 87A sets out the formula for calculating the estimated cost of corporate income tax (ETC_t) for each year of an access arrangement period as follows:

   $$ETC_t = (ETI_t \times r_t)\ (1 - \gamma)$$

   where:

   ETIt is an estimate of the taxable income for that regulatory year that would be earned by a benchmark efficient entity as a result of the provision of reference services if such an entity, rather than the service provider, operated the business of the service provider;

   r_t is the expected statutory income tax rate for that regulatory year as determined by the [ERA]; and

   γ is the allowed imputation credits for the regulatory year.

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3 The current rules that apply in Western Australia are available from the Australian Energy Market Commission: AEMC, 'National Gas Rules (Western Australia)' (online) (accessed December 2024).

4 NGR, rule 76.

5 ERA, *2022 final gas rate of return instrument*, 16 December 2022 (Amended 12 September 2023).

6. Rule 98 allows the service provider to include (or for the regulator to require the service provider to include) one or more incentive mechanisms to encourage efficiency in the provision of services by the service provider.[6] The incentive mechanism may provide for the carry-over of increments for efficiency gains and decrements for efficiency losses from one access arrangement period to the next.[7] Where such carry-overs exist, the increments or decrements that apply must form part of the building block approach to determine the service provider's total revenue requirement (cost of service).

7. Access Arrangement Information (AAI) is information that is reasonably necessary for users (including prospective users) to understand the background to the access arrangement and the basis and derivation of the various elements of the access arrangement. The NGR requires the following cost of service information to be included in the service provider's AAI:[8]

- The allowed rate of return for each year of the access arrangement period (rule 72(1)(g)).
- The estimated cost of corporate income tax calculated in accordance with rule 87A, including the allowed imputation credits referred to in that rule (rule 72(1)(h)).
- If an incentive mechanism operated for the previous access arrangement period, the proposed carry-over of increments for efficiency gains or decrements for efficiency losses in the previous access arrangement period and a demonstration of how allowance is to be made for any such increments or decrements (rule 72(1)(i)).

6 Where an incentive mechanism is included in an access arrangement, the service provider must include the rationale for the proposed incentive mechanism in its Access Arrangement Information (NGR, 72(1)(l)).

7 While an incentive mechanism may provide for the carry-over of increments for efficiency gains and decrements for efficiency losses from one access arrangement period to the next, it must be consistent with the revenue and pricing principles (which are set out in section 24 of the NGL and provide a framework for the construction of reference tariffs).

8 NGR, rule 72.

ERA draft decision

Rate of return

8. GGT's rate of return and inflation estimates were consistent with the methods detailed in the ERA's gas rate of return instrument. GGT proposed an average nominal post-tax WACC of 7.41 per cent for AA5, compared with 4.09 per cent that was approved in AA4.[9]

9. Based on the 2022 gas rate of return instrument, the ERA determined the point estimates for each of the WACC parameters as set out in Table 7.1. The ERA used a 20-trading day averaging period to 30 April 2024 as a placeholder and noted that the final decision would be updated for GGT's final nominated averaging period.

Table 7.1: ERA draft decision rate of return estimate for AA5

Component	AA4 approved	GGT proposed	ERA draft decision
Return on debt (%)			
5-year interest rate swap (effective yield)	0.870	4.285	4.300
Debt risk premium (10-year average)	2.325	1.986	1.952
Debt issuing cost	0.100	0.165	0.165
Debt hedging cost	0.114	0.123	0.123
Nominal return on debt	*3.409*	*6.559*	*6.540*
Return on equity			
Nominal risk free rate (%)	0.72	4.19	4.31
Market risk premium (%)	6.0	6.1	6.1
Equity beta	0.7	0.7	0.7
Nominal return on equity (%)	*4.92*	*8.46*	*8.58*
Other parameters			
Debt proportion (%)	55	55	55
Inflation rate (%)	1.14	2.58	2.51
Corporate tax rate (%)	30	30	30
Franking credits	50	50	50
Nominal after-tax WACC (%)	**4.09**	**7.41**	**7.46**
Real after-tax WACC (%)	2.92	4.71	4.83

Source: ERA Draft decision on revisions to the access arrangement for the Goldfields Gas Pipeline – Attachment 7: Return on capital, taxation, incentives, p. 18.

[9] GGT, *Goldfields Gas Pipeline AA5 – Proposal Overview*, p. 52.

10. GGT's WACC and inflation values were materially higher than those in AA4 due to changes in market conditions that have increased the cost of finance over the past few years.

11. The ERA set out the following draft decision required amendment:

> 7.1 Subject to the nomination of a final averaging period, GGT must update its rate of return to be 7.46 per cent (vanilla nominal after-tax).

Taxation

12. GGT advised that it calculated its estimate of corporate income tax using the method applied in the AA4 final decision. GGT estimated its cost of tax over AA5 to be $13.2 million ($ real 2023) using a corporate tax rate of 30 per cent.[10]

13. The ERA assessed GGT's calculations of the estimated cost of corporate income tax for each regulatory year in AA5 against the requirements of rule 87A of the NGR. The ERA accepted the value that GGT had used for:

- The expected statutory income tax rate for each regulatory year in AA5 of 30 per cent. This value was consistent with expectations for the statutory company tax rate over the access arrangement period.
- Allowed imputation credits (gamma) of 0.5 in accordance with the gas rate of return instrument.[11]

14. A tax building block was included in the annual revenue requirement estimate for each year. The taxation cost was calculated by multiplying the estimated taxable income by the statutory income tax rate of 30 per cent. The estimated taxation payable was calculated by deducting the value of imputation credits.

15. The ERA reviewed GGT's proposed tax asset lives, including the proposed tax asset lives for the two new asset categories[12] As the shared support asset expenditure was considered as non-conforming expenditure, the ERA did not accept GGT's tax asset life proposal for that expenditure.[13]

16. The ERA considered that the tax asset lives for the other existing asset categories, which remained the same as those approved in AA4, were either consistent with the *Income Tax Assessment Act 1997* or TR 2022/1. Accordingly, the ERA accepted the existing tax asset lives for GGT's current capital assets for AA5.[14]

17. GGT continued to apply the diminishing value method to calculate tax depreciation of assets purchased from 1 January 2020 onwards (excluding maintenance bases and depots) in accordance with the AA4 final decision.

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10 GGT, *Goldfields Gas Pipeline AA5 – Proposal Overview*, 1 January 2024, p. 50.

11 ERA, *2022 Final Gas Rate of Return Instrument*, 16 December 2022 (Amended 12 September 2023), p. 23.

12 'Shared support assets – ITOT & cyber security' and 'Shared support assets – net ITOT & cyber security'.

13 ERA, *Draft decision on revisions to the access arrangement for the Goldfields Gas Pipeline – Attachment 7: Return on capital, taxation, incentives*, 25 July 2024, p. 19.

14 ERA, *Draft decision on revisions to the access arrangement for the Goldfields Gas Pipeline – Attachment 7: Return on capital, taxation, incentives*, 25 July 2024, p. 19.

18. The ERA accepted that GGT used the roll forward method to establish the opening value of the tax asset base for each regulatory year in AA5.

19. The ERA estimated the cost of corporate income tax based on its considerations of the tax asset lives, the actual tax asset base for AA4 and the forecast tax asset base for AA5.

20. The annual estimates for the cost of corporate income tax were based on unsmoothed building block revenues.

21. The ERA set out the following draft decision required amendment:

> 7.2 GGT must amend the estimated cost of corporate income tax in accordance with Table 7.11 of the Draft Decision Attachment 7 [Table 7. of this final decision]

Table 7.2: ERA draft decision calculation of the estimated cost of corporate income tax for AA5 ($ million nominal)

	2025	2026	2027	2028	2029
Estimated taxable income	18.08	17.47	18.51	20.09	21.69
Tax payable	5.42	5.24	5.55	6.03	6.51
Value of imputation credit	(2.71)	(2.62)	(2.78)	(3.01)	(3.25)
Estimated cost of corporate income tax	**2.71**	**2.62**	**2.78**	**3.01**	**3.25**

Source: ERA Draft decision on revisions to the access arrangement for the Goldfields Gas Pipeline – Attachment 7: Return on capital, taxation, incentives, p. 22.

Incentive mechanism

22. The current (AA4) access arrangement does not contain any incentive mechanisms and GGT did not propose to include any new incentive mechanisms for AA5.

23. The ERA accepted GGT's proposal and reasons for not including any new incentive mechanism for AA5 because the current incentive-based regulatory framework provided sufficient incentives for the efficient operation of GGT's gas pipeline.

GGT response to draft decision

Rate of return

24. GGT agreed with the ERA's application of the 2022 gas rate of return instrument to determine the ERA's draft decision rate of return. GGT amended the values of all WACC parameters in its revised tariff model to be consistent with the ERA's draft decision. Market-based parameters were to be updated based on an agreed averaging period.

Taxation

25. GGT agreed with the ERA's method of calculating income tax, including tax asset lives of the existing asset categories but did not accept the ERA's draft decision required amendment on the estimated cost of corporate income tax because the values of revenue and expenses included in the calculation had been amended to be consistent with the values in its revised proposal.[15]

26. GGT did not accept the ERA's draft decision to disallow allow its two new asset categories of expenditure and continued to propose the addition of these asset categories to its tax asset base.[16]

27. GGT used the guidance provided by the Australian Taxation Office (ATO) and the Australian Energy Regulator's (AER) final decision for the Victorian Transmission System to apply tax asset lives to its existing and two new asset categories.[17] GGT's proposed tax asset lives for the existing asset categories for AA5 remained unchanged from AA4 and are set out in Table 7.3.

Table 7.3: GGT proposed tax asset lives for AA5 (years)

Asset categories	Years
Current asset categories	
Pipeline and laterals	20
Main line valve and scraper stations	20
Compressor stations	20
Receipt and delivery point facilities	20
SCADA and communications	10
Cathodic protection	10

15 GGT, *Access Arrangement Information (Revised in response to ERA draft decision)*, 5 September 2024, p. 23.

16 GGT proposed to add two new asset categories to its existing tax asset bases: shared support assets – information technology and operational technology and cyber security (ITOT & cyber security) and net ITOT & cyber security.

17 The Victorian Transmission System is owned and maintained by the APA Group. It is a scheme pipeline under the NGL and NGR and has a full access arrangement.

Asset categories	Years
Maintenance bases and depots	20
Other depreciable assets	10
New asset categories	
Shared support assets – ITOT & cyber security	5
Shared support assets – net ITOT & cyber security	20

Source: GGT, AA5 tariff model – public.

28. GGT used the roll forward method to roll forward the value from the tax asset base from the closing value in AA4 into the next access arrangement period (AA5). To calculate the tax asset base for AA5, GGT added forecast capital expenditure and deducted forecast depreciation.

29. Table 7.4 sets out GGT's amended tax asset base over AA4 and its closing AA4 balance to be rolled into AA5. This amendment was consistent with GGT's capital expenditure in its revised proposal. Based on the amended capital expenditure, GGT had determined a closing tax asset base value of $55.3 million (nominal) to be rolled forward as the opening value for the AA5 tax asset base. This compared to a closing tax asset base value of $48.4 million (nominal) in GGT's initial proposal.

30. Table 7.5 sets out GGT's amended calculation of the tax asset base for the AA5 period.

Table 7.4: GGT AA4 proposed tax asset base ($ million nominal)

	2020	2021	2022	2023	2024
AA4 opening tax asset base	16.2	22.80	30.9	38.8	43.6
Capital expenditure	9.2	12.3	13.0	11.7	19.3
Tax depreciation	(2.6)	(4.2)	(5.1)	(6.9)	(7.6)
Asset disposal	0.0	0.0	0.00	0.00	0.00
Closing value	**22.8**	**30.9**	**38.8**	**43.6**	**55.3**

Source: GGT, AA5 tariff model – public.

Table 7.5: GGT AA5 proposed tax asset base ($ million nominal)

	2025	2026	2027	2028	2029
Opening tax asset base	55.3	75.6	76.5	73.9	70.3
Capital expenditure	29.6	12.9	8.9	6.7	3.2
Tax depreciation	(9.3)	(12.1)	(11.5)	(10.3)	(9.3)
Asset disposals	0.0	0.0	0.0	0.0	0.0
Closing value	**75.6**	**76.5**	**73.9**	**70.3**	**64.2**

Source: GGT, AA5 tariff model – public.

31. Based on the amended values of the AA5 tax asset base, GGT revised the estimated cost of corporate income tax for each regulatory year in AA5 (Table 7.6).

32. GGT estimated its amended cost of tax over AA5 to be $15.1 million ($ real 2023) using a corporate tax rate of 30 per cent.[18] This compared to $13.2 million ($real 2023) in GGT's initial proposal.[19] The increase in corporate income tax was consistent with GGT's increased revenue requirement in its revised proposal.

Table 7.6: GGT proposed estimates for the cost of corporate income tax in AA5 ($ million real)

	2025	2026	2027	2028	2029
Estimated taxable income	22.7	20.6	21.8	22.8	23.9
Tax payable	6.8	6.2	6.5	6.8	7.2
Less value of imputation credits	(3.4)	(3.1)	(3.3)	(3.4)	(3.6)
Estimate of corporate income tax ($ nominal 2023)	3.4	3.1	3.3	3.4	3.6
Deflator to $ real 2023	0.947	0.924	0.901	0.879	0.858
Estimate of corporate income tax ($ million real 2023)	**3.2**	**2.8**	**2.9**	**3.0**	**3.1**

Source: GGT, AA5 tariff model – public; GGT, Access Arrangement Information (Revised in response to ERA draft decision), 5 September 2024, p. 23.

Incentive mechanism

33. GGT did not provide further comment on incentive mechanisms for AA5.

[18] GGT, *Access Arrangement Information (Revised in response to ERA draft decision)*, 5 September 2024, p. 23.

[19] GGT, *Goldfields Gas Pipeline AA5 – Proposal Overview*, 1 January 2024, p. 50.

Submissions to the ERA

Rate of return

34. The ERA received one submission in response to its issues paper on the rate of return. Alinta Energy submitted that:[20]

    - GGT's proposed AA5 revenue was substantially higher than its approved revenue for the AA4 period, mainly due to the proposed higher rate of return and inflation rate.
    - The ERA should take the AER's actual debt cost review into account.

35. No submissions were received in response to the ERA's draft decision and/or GGT's revised proposal.

Taxation

36. No submissions were received on matters relating to taxation.

Incentive mechanism

37. No submissions were received on matters relating to incentive mechanisms.

[20] Alinta Energy, *Submission on GGT's proposal and ERA issues paper*, 8 April 2024, pp. 1-2.

Final decision

Rate on projected capital base

38. The ERA published its gas rate of return instrument on 16 December 2022.[21] On 12 September 2023, the instrument was amended due to the cessation of the Reserve Bank of Australia's (RBA) F16 statistical table.[22] The amended instrument applies to this current review.[23] The ERA notes that GGT has used the instrument for its revised proposal.

39. For the market-based parameters, the ERA's final decision has updated the averaging period based on GGT's nominated period. That is, the ERA has updated the rate of return for GGT's nominated averaging period for the 20-trading days to 27 September 2024.

40. The following sections detail the ERA's consideration of each of the rate of return parameters and the ERA's final decision on the rate of return for AA5.

Gearing

41. Gearing is the proportion of a business' assets financed by debt and equity. Gearing is defined as the ratio of the value of debt to total capital (that is, the sum of debt and equity) and is generally expressed as follows:

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

Equation 1

42. The ERA uses the gearing ratio to weight the costs of debt and equity when the WACC is determined.

43. Consistent with the gas rate of return instrument, for the final decision the ERA has applied a gearing of 55 per cent.

Return on debt

44. Consistent with the gas rate of return instrument, the ERA maintains the hybrid trailing average approach to estimate the return on debt. Under the hybrid trailing average approach for estimating the return on debt:

- The benchmark entity enters into the assumed benchmark efficient debt strategy, assumed to be a portfolio of 10-year fixed-rate debt with 10 per cent refinanced each year (the same debt portfolio as the full trailing average approach).

[21] ERA, *Notice – 2022 gas rate of return instrument review: Publication of final gas instrument and explanatory statement*, 16 December 2022 (online) (accessed December 2024).

[22] ERA, *2022 final gas rate of return instrument*, 16 December 2022 (Amended 12 September 2023), p. 16 and p. 22.

[23] It should be noted that the RBA table is now available again. The instrument accommodates this circumstance and utilises RBA data in the first instance.

- The benchmark entity uses derivative arrangements to adjust rates from the efficient debt portfolio to lock in five-year interest rate swaps rates, set on the day at the start of the regulatory period.
- The 10-year trailing average debt risk premium is updated annually.

45. The estimate of the return on debt under the hybrid trailing average approach comprises a risk premium above the risk free rate, plus an additional margin for administrative and hedging costs:

$$Return\ on\ debt = Risk\ free\ rate\ + Debt\ risk\ premium + \ Debt\ raising\ costs\ + Hedging\ costs$$

Equation 2

46. The individual debt components are further discussed below.

Debt risk free rate

47. The risk free rate is the return an investor would expect when investing in an asset with no risk. That is, the risk free rate is the rate of return an investor receives from holding an asset with a guaranteed payment stream (where there is no risk of default). Since there is no likelihood of default, the return on risk free assets compensates investors for the time value of money.

48. Consistent with the hybrid trailing average approach, the ERA has used the interest rate swap rate at the start of a regulatory access arrangement period. The estimate is fixed for the duration of the access arrangement period.

49. For this final decision the ERA estimates a risk free rate for the return on debt of 3.829 per cent for the 20-trading day averaging period to 6 September 2024.

Term of debt

50. To estimate a return on debt, a regulator needs to set a benchmark term for debt.

51. Consistent with the gas rate of return instrument, the ERA has determined a 10-year term for debt that aligns with recent Australian regulatory practices.[24]

52. For this final decision, the ERA applies a benchmark efficient debt strategy as a portfolio of 10-year fixed-rate debt with 10 per cent refinanced each year to determine the return on debt.

Benchmark credit rating

53. The benchmark credit rating is an input required to estimate the debt risk premium.

54. The credit rating is defined as the forward-looking opinion provided by a ratings agency of an entity's credit risk. Credit ratings provide a broad classification of a firm's probability of defaulting on its debt obligations. Therefore, credit ratings represent the risk present in holding a debt instrument.

[24] ERA, *Explanatory statement for the 2022 final gas rate of return instrument*, 16 December 2022, p. 74.

55. Credit ratings provide a broadly uniform measure of default risk. Firms with the same credit rating at a particular point in time should have similar levels of default risk.

56. Consistent with the gas rate of return instrument, the ERA applies a benchmark credit rating of BBB+ to determine the return on debt.

Debt risk premium

57. The debt risk premium is the return above the risk free rate that lenders require to compensate them for the risk of providing debt funding to a benchmark business. The debt risk premium compensates holders of debt securities for the possibility of default by the issuer.

58. Consistent with the gas rate of return instrument, the ERA uses a 10-year term to estimate the debt risk premium.

59. The ERA considers the revised bond yield approach should be used to determine the debt risk premium.

60. Estimating the debt risk premium involves the following steps:

- **Step 1:** Determining the benchmark sample: Identifying a sample of relevant domestic and international corporate bonds that reflect the credit rating of the benchmark efficient entity.
- **Step 2:** Collecting data and converting yields to Australian dollar equivalents: Converting the bond yields from the sample into hedged Australian dollar equivalent yields inclusive of Australian swap rates.
- **Step 3:** Averaging yields over the averaging period: Calculating an average AUD equivalent bond yield for each bond across the averaging period.
- **Step 4:** Estimating curves: Estimating yield curves on this data by applying the Gaussian Kernel, Nelson-Siegel and Nelson-Siegel-Svensson techniques.
- **Step 5:** Estimating the cost of debt: Calculating the simple average of the three yield curves' 10-year costs of debt to arrive at a market estimate of the 10-year cost of debt.
- **Step 6:** Calculating the debt risk premium: Calculating the debt risk premium by subtracting the 10-year interest rate swap rate from the 10-year cost of debt.

61. These steps determine the debt risk premium at a point in time, being the date of calculation.

62. The ERA publishes debt risk premium process documents and accompanying tools for stakeholders on the revised bond yield approach. These documents and tools provide technical steps and details necessary for stakeholders to estimate the debt risk premium.[25]

63. To determine the debt risk premium that should be used to calculate the return on debt, the ERA constructed a 10-year trailing average debt risk premium. This consists of a debt risk premium for the current year and a debt risk premium for each of the nine prior

[25] Technical documents and tools to estimate the ERA's revised bond yield approach can be found on the ERA website.

years. The debt risk premium is then calculated for each year in the 10-year term, to work out an average value to be applied to AA5.

64. Table 7.7 details the ERA's estimated trailing average debt risk premium for this final decision.

Table 7.7: ERA final decision estimated trailing average debt risk premium for AA5

Year	Debt risk premium (%)
2016	2.582
2017	2.553
2018	1.862
2019	1.619
2020	1.725
2021	2.009
2022	1.482
2023	2.209
2024	1.908
2025	1.722*
Trailing average debt risk premium	**1.967**

**Debt risk premium estimate for 20-trading day averaging period to 27 September 2024.*

Source: ERA analysis; GGT, Final Decision on Proposed Revisions to the Goldfields Gas Pipeline Access Arrangement for 2020-2024 – Submitted by Goldfields Gas Transmission Pty Ltd, p. 147.

65. The historical annual debt risk premium estimates that applied in AA4 are unchanged for AA5.

66. For this final decision, the ERA considers a debt risk premium of 1.722 per cent for 2025 (the first year of AA5) based on the 20-trading day averaging period to 27 September 2024.

Debt raising and hedging costs

67. Debt raising and hedging costs are the administrative costs and other charges incurred by businesses when obtaining and hedging debt financing. Historically, the ERA has allowed these costs to be included as part of the return on debt.

68. Consistent with the gas rate of return instrument, the ERA maintains that debt raising costs should be based on direct costs associated with established regulatory practices and that debt raising costs of 0.165 per cent per annum are appropriate.

69. In the gas rate of return instrument, the ERA has applied an allowance of 0.123 per cent per year for debt hedging costs.

70. The debt raising and hedging cost allowance will be added to the return on debt.

Return on equity

71. The return on equity is the return that investors require from a firm to compensate them for the risk they take by investing their capital. There are no readily observable proxies for the expected return on equity. While estimates of the cost of debt can be obtained by observing debt instruments, financial markets do not provide a directly observable proxy for the cost of equity, for either individual firms or for the market.

72. Estimating a forward-looking return on equity, sufficient to enable regulated firms to recoup their prevailing equity financing costs, requires the use of models. The model most used by Australian regulators for quantifying the return on equity has been the Sharpe-Lintner Capital Asset Pricing Model (CAPM).

73. The ERA determines a single point estimate for the return on equity using the Sharpe-Lintner CAPM by applying the following formula:

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

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

β_i is the equity beta that describes how a particular portfolio i will follow the market which is defined as $\beta_i = cov\ (R_i, R_M)/var(R_M)$

$(R_M - R_f)$ is the market risk premium.

Equation 3

74. The individual equity components are further discussed below.

Equity risk free rate

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

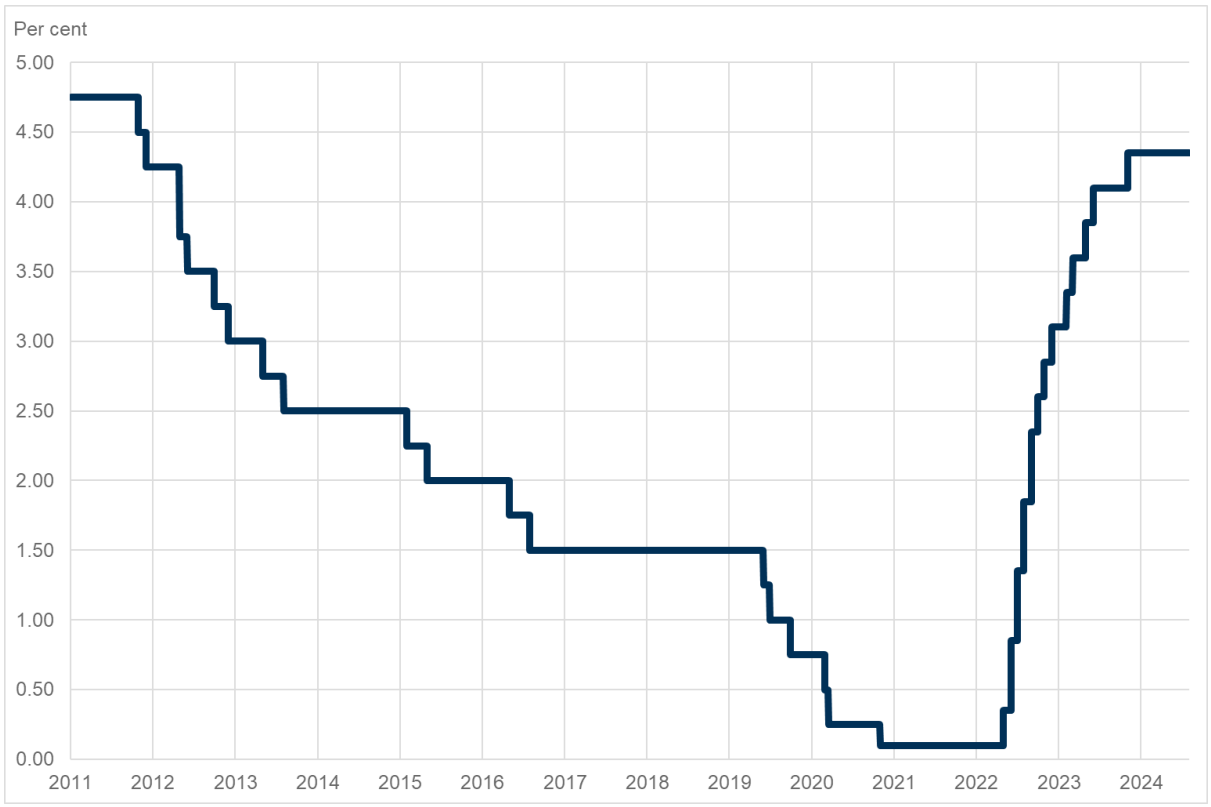
76. Consistent with the gas rate of return instrument, the ERA considers that 10 years is the most appropriate term for the equity risk free rate and considers observed yields from Commonwealth Government Security bonds are the best proxy for risk free assets in Australia.

77. Economic and financial conditions have changed significantly since the ERA's AA4 final decision in December 2019. The risk free rate has been volatile and uncertain as the economy recovers from the COVID-19 pandemic, and there is uncertainty around central bank monetary policy given the persistence of inflation.

78. Inflation in Australia increased to 6.6 per cent in 2022 and the rate of inflation has gradually been declining in response to the central bank's tightening of monetary policy to meet the inflation target band of two to three per cent. However, the rate of decline has been slower than anticipated due to more persistent supply side inflationary factors. Other shocks such as the conflicts in Ukraine and the Middle East and global supply shortages have added to uncertainty of the inflationary environment.

79. The RBA has increased the cash rate between May 2022 and November 2023. The cash rate has been held flat throughout 2024. These monetary policy changes are illustrated in Figure 7.1.

Figure 7.1 Reserve Bank of Australia cash rate target (2011 to 2024)



Source: ERA analysis based on Reserve Bank of Australia F1 statistical tables.

80. The ERA has determined the risk free rate for equity by:

- Using observed yields from 10-year Commonwealth Government Security bonds.
- Using linear interpolation of observed yields of Commonwealth Government Security bonds.

81. For this final decision the ERA estimates a risk free rate for the cost of equity of 3.98 per cent for the 20-trading day averaging period to 6 September 2024.

Market risk premium

82. The market risk premium is a parameter of the Sharpe-Lintner CAPM.

83. The market risk premium is the expected rate of return in excess of the risk free rate that investors require to invest in a fully diversified portfolio. *Ex-ante*, investors always require a rate of return above the risk free rate to invest in a risky asset, therefore the expected market risk premium is always positive. *Ex-post*, the realised return to the market portfolio may be negative. To establish the cost of capital, the *ex-ante* market premium is relevant.

84. The market risk premium compensates an investor for the systematic risk of investing in a fully diversified portfolio. Systematic risk is risk that cannot be diversified away by investors because it affects all firms in the market. This is a forward-looking concept.

85. For this final decision, the ERA has applied a market risk premium of 6.1 per cent consistent with the gas rate of return instrument to determine the rate of return.

Equity beta

86. The equity beta is a parameter that measures the systematic risk of a security or a portfolio in comparison to the market as a whole.

87. Equity beta is the slope parameter β_i in the Sharpe-Lintner CAPM. The slope parameter β_i correlates a specific asset's return in excess of the risk free rate of return to movements in the return on the market portfolio.

88. For this final decision, the ERA has applied an equity beta of 0.7 consistent with the gas rate of return instrument to determine the rate of return.

Inflation

89. Inflation is the rate of change in the general level of prices of goods and services. Forecast inflation can be used to translate the nominal post-tax WACC to a real post-tax WACC.

90. Consistent with the gas rate of return instrument, the ERA will estimate the expected inflation rate using the Treasury bond implied inflation approach. This approach uses the Fisher equation and the observed yield of:[26]

- Five-year Commonwealth Government Securities, which reflect a market-based estimate of the nominal risk free rate.
- Five-year Treasury indexed bonds, which reflect a market-based estimate of the real risk free rate.

91. The Treasury bond implied inflation approach uses linear interpolation to derive the daily point estimates of both the nominal five-year risk free rate and the real five-year risk free rate, using the Fisher equation.

92. The ERA considers that the term of expected inflation should be five years, consistent with the length of the access arrangement period as it offers the best estimate of what inflation is expected to be over the access arrangement period.

[26] The formal Fisher equation is: $1 + i = (1 + r)(1 + \pi^e)$ where: i is the nominal interest rate, r is the real interest rate and π^e is the expected inflation rate.

93. The revenue model takes the best estimate of the five-year inflation forecast out (of the nominal WACC) and puts back in the actual inflation over the five-year access arrangement period (through the indexation of the regulatory asset base).

94. For this final decision, the ERA has used a 20-trading day averaging period to 6 September 2024 to determine a forecast inflation rate of 2.26 per cent to determine the rate of return.

Value of imputation credits (gamma)

95. The imputation tax system prevents corporate profits from being taxed twice. Under the Australian imputation tax system, franking credits are distributed to investors at the time that dividends are paid and provide an offset to those investors' taxation liabilities.

96. The gamma parameter accounts for the reduction in the effective corporate taxation that is generated by the distribution of franking credits to investors. Generally, investors who can use franking credits will accept a lower required rate of return, before personal tax, on an investment that has franking credits, compared with an investment that has similar risk and no franking credits.

97. Consistent with the gas rate of return instrument, for this final decision, the ERA has applied a gamma of 0.5 to determine the rate of return, which will be fixed for AA5.

Final decision on rate of return

Actual debt costs

98. The ERA notes Alinta Energy's comment on the AER's review of actual debt costs. The ERA considered this matter when it reviewed its gas rate of return instrument. Detail on this matter is provided in the ERA's explanatory statement for the gas rate of return instrument.[27]

99. The 2022 gas rate of return instrument is binding for gas networks in access arrangement determinations.

Rate of return for AA5

100. Based on the gas rate of return instrument and the above assessments, the ERA has calculated the rate of return in Table 7.8.

101. For the final decision the ERA determines:

- The nominal after tax cost of equity as 8.250 per cent.
- The nominal cost of debt as 6.084 per cent.
- The nominal after tax rate of return as 7.06 per cent.

[27] ERA, *Explanatory statement for the 2022 final gas rate of return instrument*, December 2022, pp. 75-76.

Table 7.8: ERA final decision rate of return estimate for AA5

Component	GGT's revised proposal	ERA final decision
Return on debt (%)		
5-year interest rate swap (effective yield)	4.300	3.829
Debt risk premium (10-year average)	1.952	1.967
Debt issuing cost	0.165	0.165
Debt hedging cost	0.123	0.123
Nominal return on debt	*6.540*	*6.084*
Return on equity		
Nominal risk free rate (%)	4.31	3.98
Market risk premium (%)	6.1	6.1
Equity beta	0.7	0.7
Nominal return on equity (%)	*8.58*	*8.25*
Other parameters		
Debt proportion (%)	55	55
Inflation rate (%)	2.51	2.26
Corporate tax rate (%)	30	30
Franking credits	50	50
Nominal after-tax WACC (%)	**7.46**	**7.06**
Real after-tax WACC (%)	4.83	4.69

Source: ERA analysis; GGT AA5 revised tariff model.

Recommendation 7.1 Required Amendment

5.1 The return on capital base must reflect the weighted average cost of capital parameters in Table 7.8 of this Final Decision Attachment 7.

Taxation

102. The ERA has assessed GGT's amended estimated cost of corporate income tax for each regulatory year in AA5 against the requirements in rule 87A of the NGR.

103. The ERA accepts the value that GGT has used for:

- The expected statutory income tax rate for each regulatory year in AA5 of 30 per cent. This value is consistent with current expectations for the statutory company tax rate over the access arrangement period.
- Allowed imputation credits (gamma) of 0.5 in accordance with the gas rate of return instrument.[28]

104. A tax building block is included in the annual revenue requirement estimate for each year.

105. The taxation cost is calculated by multiplying the estimated taxable income by the statutory income tax rate of 30 per cent. The estimated taxation payable is calculated by deducting the value of imputation credits.

Tax asset lives

106. The ERA has considered GGT's proposed tax asset lives (as set out in Table 7.3 on page 7). GGT maintains its proposal to add two new asset categories to its tax asset base:[29, 30]

- "Shared support assets – information technology and operational technology and cyber security (ITOT & cyber security)", with the proposed tax asset life of five years. Shorter lives represent the proposed capital expenditure for ITOT and cyber security projects.
- "Shared support assets – net ITOT & cyber security", with the proposed tax asset life of 20 years. Longer lives represent the proposed capital expenditure for a range of APA Group's shared corporate costs from national property costs, national support functions, to programs such as risk-based pressure equipment inspections, SCADA alarm rationalisation and cathodic protection.

107. Final Decision Attachment 4 discusses capital expenditure. As the ERA did not consider that GGT's proposed shared capital expenditure was allowable capital expenditure, the GGT's tax asset life proposal for that expenditure was not allowed by the ERA.

108. The ERA considers that the tax asset lives for the other existing asset categories, which remain the same as those approved in the AA4 period, are either consistent with the Tax Assessment Act or TR 2022/1. Accordingly, the ERA accepts maintaining the existing tax asset lives for GGT's current capital assets over AA5.

109. The tax asset lives used by the ERA to determine tax depreciation and the tax asset base calculation in AA5 are detailed in Table 7.9.

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28 ERA, *2022 Final Gas Rate of Return Instrument*, 16 December 2022 (Amended 12 September 2023), p. 23.

29 GGT, *Goldfields Gas Pipeline AA5 – Proposal Overview*, 1 January 2024, p. 103.

30 GGT, *2025-29 Access Arrangement Revised Proposal*, September 2024, pp. 38-40.

Table 7.9: ERA final decision tax asset lives (years)

Asset categories	Tax asset lives for capital expenditure on or after 1 January 2020
Current asset categories	
Pipeline and laterals	20
Main line valve and scraper stations	20
Compressor stations	20
Receipt and delivery point facilities	20
SCADA and communications	10
Cathodic protection	10
Maintenance bases and depots	20
Other depreciable assets	10

Source: ERA analysis.

Tax asset base

110. The ERA has reviewed GGT's assumptions and calculations and is satisfied that the calculations have been carried out consistently with the method and tax asset lives approved in AA4.

111. The ERA notes that GGT continues to apply the diminishing value method to calculate tax depreciation of assets purchased from 1 January 2020 onwards (excluding maintenance bases and depots) in accordance with the AA4 final decision.[31]

112. The ERA accepts that GGT used the roll forward method to establish the opening value of the tax asset base for each regulatory year in AA5:

- The opening tax asset base for the first regulatory year in AA5 (2025) was calculated by rolling forward the closing value of the actual tax asset base for AA4.
- The ERA calculated the closing value of the tax asset base for each regulatory year in AA4 using the method that was determined in the final decision for AA4.

113. The tax asset base calculated by the ERA for each regulatory year in AA4 is set out in Table 7.10.

[31] In the AA4 final decision, the ERA required that GGT used the diminishing value method as an efficient regulatory benchmark to depreciate assets purchased on or after 1 January 2020, except for maintenance bases and depots and the existing assets purchased prior to 1 January 2020, which are required to be depreciated using straight-line depreciation.

Table 7.10: ERA final decision actual tax asset base for AA4 ($ million nominal)

	2020	2021	2022	2023	2024
Opening tax asset base	16.58	17.36	15.77	14.16	12.37
Capital expenditure	3.36	1.08	0.71	0.50	0.89
Asset disposals	0.00	0.00	0.00	0.00	0.00
Tax depreciation	2.58	2.67	2.32	2.29	1.77
Closing value	**17.36**	**15.77**	**14.16**	**12.37**	**11. 50**

Source: ERA analysis.

114. The ERA calculates the closing value for forecast tax asset base for each regulatory year in AA5 using the following method:

Opening value (equal to the closing value for the previous regulatory year),

plus: forecast expenditure (net of capital contributions) incurred in the regulatory year;

less: depreciation based on forecast capital expenditure incurred in using the diminishing value method for assets purchased on or after 1 January 2020;

less: forecast asset disposals during AA5.

115. The forecast tax asset base calculated by the ERA in this final decision for each regulatory year in AA5 is set out in Table 7.11.

Table 7.11: ERA final decision forecast tax asset base for AA5 ($ million nominal)

	2025	2026	2027	2028	2029
Opening tax asset base	36.83	57.16	59.53	58.54	55.74
Capital expenditure	24.69	9.81	6.63	4.41	1.11
Asset disposals	0.00	0.00	0.00	0.00	0.00
Tax depreciation	4.36	7.43	7.63	7.21	6.70
Closing value	**57.16**	**59.53**	**58.54**	**55.74**	**50.15**

Source: ERA analysis.

Estimated cost of corporate income tax

116. The ERA has estimated the cost of corporate income tax based on its considerations above.

117. The annual estimates for the cost of corporate income tax are based on unsmoothed building block revenue.

118. The estimated cost of corporate income tax will be recalculated in each year of AA5 as part of the tariff variation process. This includes the change to reflect the annually updated debt risk premium.

119. The ERA's final decision calculation of the estimated cost of corporate income tax (net of imputation credits) for each regulatory year in AA5 is set out in Table 7.12.

Table 7.12: ERA final decision calculation of the estimated cost of corporate income tax for AA5 ($million nominal)

	2025	2026	2027	2028	2029
Unsmoothed revenue	**66.21**	**68.15**	**68.94**	**70.90**	**71.57**
Tax expenses					
Operating expenditure	29.28	28.48	28.22	29.36	29.41
Debt servicing cost	13.95	14.30	14.12	13.83	13.46
Tax depreciation	4.36	7.43	7.63	7.21	6.70
Total tax expenses	**47.59**	**50.20**	**49.97**	**50.41**	**49.57**
Tax					
Estimated taxable income	18.62	17.94	18.97	20.50	22.00
Carried forward tax loss	0.00	0.00	0.00	0.00	0.00
Estimated taxable income (net of tax loss)	18.62	17.94	18.97	20.50	22.00
Estimated cost of corporate income tax	5.59	5.38	5.69	6.15	6.60
Value of imputation credits	(2.79)	(2.69)	(2.85)	(3.07)	(3.30)
Estimated cost of corporate income tax	**2.79**	**2.69**	**2.85**	**3.07**	**3.30**

Source: ERA analysis.

Recommendation 7.2 Required amendment

5.2 The estimated cost of corporate income tax must be amended in accordance with Table 7.12 of this Final Decision Attachment 7.

Incentive mechanism

120. GGT did not propose to include any incentive mechanisms for AA5, and the ERA's final decision is to accept GGT's proposal.

Appendix 1 List of Tables

Appendix 2 List of Figures