Economic Regulation Authority

Final decision on access arrangement for the Mid-West and South-West Gas Distribution Systems (2025 to 2029)

Attachment 7: Return on capital, taxation, incentives

8 November 2024

D283313

Acknowledgement of Country

At the ERA we value our cultural diversity and respect the traditional custodians of the land and waters on which we live and work.

We acknowledge their continuing connection to culture and community, their traditions and stories. We commit to listening, continuously improving our performance and building a brighter future together.

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Note

This attachment forms part of the ERA's final decision on the access arrangement for the Mid-West and South-West Gas Distribution Systems. 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 Mid-West and South-West Gas Distribution Systems (2025 to 2029) – Overview, 8 November 2024:
  - Attachment 1: Access arrangement and services
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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] The 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. ATCO's proposed rate of return was consistent with the gas rate of return instrument.

Changing economic and financial conditions are important factors in determining ATCO's cost of capital. 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 have increased the value of the AA5 asset base, which has led to a total revenue requirement that is 16 per cent above the approved AA5 requirement. Updated rates of return account for 34 per cent of the total increase between AA5 approved revenue and AA6 revenue.

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.

ATCO's method to calculate AA6 taxation was consistent with its approach in AA5.

Incentive mechanisms

The National Gas Rules provides 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 carrying over increments for efficiency gains and decrements for losses of efficiency from one access arrangement period to the next.

The current AA5 access arrangement does not contain any incentive mechanisms, and ATCO did not propose any incentive mechanisms for AA6. The ERA's draft decision accepted ATCO's proposal and reasons for not including any new incentive mechanism for AA6.

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 7.11 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

   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)).

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:

[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 November 2024).
At the time of this decision, *National Gas Rules – Western Australia version 12 (1 February 2024)* was in effect.

[4] NGR, rule 76.

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

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

where:

ETI_t 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.

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. ATCO's rate of return and inflation estimates were consistent with the methods detailed in the ERA's gas rate of return instrument. ATCO proposed an average nominal post-tax WACC of 7.33 per cent for the AA6 period, compared with 4.16 per cent approved in AA5.[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 14 February 2024 as a placeholder and noted that the final decision would be updated for ATCO's final nominated averaging period.

Table 7.1: ERA's draft decision rate of return estimate for AA6

Component	AA5 approved	ATCO proposed	ERA draft decision
Return on debt (%)			
5-year interest rate swap (effective yield)	0.961	4.274	4.179
Debt risk premium (10 year average)	2.273	2.020	1.936
Debt issuing cost	0.100	0.165	0.165
Debt hedging cost	0.114	0.123	0.123
Nominal return on debt	*3.448*	*6.582*	*6.403*
Return on equity			
Nominal risk free rate (%)	0.82	3.97	4.20
Market risk premium (%)	6.0	6.1	6.1
Equity beta	0.7	0.7	0.7
Nominal return on equity (%)	*5.02*	*8.24*	*8.47*
Other parameters			
Debt proportion (%)	55	55	55
Inflation rate (%)	1.14	2.66	2.51
Corporate tax rate (%)	30	30	30
Franking credits	50	50	50
Nominal after-tax WACC (%)	**4.16**	**7.33**	**7.33**
Real after-tax WACC (%)	2.98	4.54	4.71

Source: ERA Draft decision on revisions to the access arrangement for the Mid-West and South-West Gas Distribution Systems – Attachment 7: Return on capital, taxation, incentives, p. 19.

[9] ATCO, *2025-29 Plan*, 1 September 2023, p. 233.

10. ATCO's WACC and inflation values were materially higher than those in AA5 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, ATCO must update its rate of return to be 7.33 per cent (vanilla nominal after-tax).

Taxation

12. ATCO advised that it calculated its estimate of corporate income tax using the method applied in its AA5 final decision. ATCO estimated its cost of tax over AA6 to be $31.6 million ($ real 2023) using a corporate tax rate of 30 per cent.[10]

13. The ERA assessed ATCO's calculations of the estimated cost of corporate income tax for each regulatory year in AA6 against the requirements of rule 87A of the NGR.

14. The ERA accepted the value that ATCO had used for:

- The expected statutory income tax rate for each regulatory year in AA6 of 30 per cent. This value was consistent with expectations for the statutory company tax rate over the AA6 period.
- Allowed imputation credits (gamma) of 0.5 in accordance with the gas rate of return instrument. [11]

15. A tax building block was included in the annual revenue requirement estimate for each year.

16. 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.

17. The ERA accepted maintaining the existing tax asset lives for capital assets over the AA6 period as they were still consistent with Australian Taxation Office schedules.

18. The ERA noted that ATCO continued to apply the straight-line method to calculate tax depreciation while ATCO was proposing accelerated depreciation for its regulatory asset base. Tax asset lives were generally around 20 years or less, which were shorter than the economic lives of most assets in the regulatory asset base. The ERA noted that ATCO's tax asset base was separate from its regulatory asset base.

19. The ERA accepted that ATCO used the roll forward method to establish the opening value of the tax asset base for each regulatory year in AA6.

20. The ERA estimated the cost of corporate income tax based on its considerations of the tax asset lives, the actual tax asset base for AA5 and the forecast tax asset base for AA6.

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10 ATCO, *2025-29 Plan*, 1 September 2023, p. 216.

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

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

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

> 7.2 ATCO must amend the estimated cost of corporate income tax in accordance with Table 7.10 of Draft Decision Attachment 7 [Table 7.2 of this final decision].

Table 7.2: ERA's draft decision calculation of the estimated cost of corporate income tax for AA6 ($ million nominal)

	2025	2026	2027	2028	2029
Estimated taxable income	20.4	31.5	33.0	34.4	36.2
Tax payable	6.1	9.4	9.9	10.3	10.9
Value of imputation credits	(3.1)	(4.7)	(4.9)	(5.2)	(5.4)
Estimated cost of corporate income tax	**3.1**	**4.7**	**4.9**	**5.2**	**5.4**

Source: ERA Draft decision on revisions to the access arrangement for the Mid-West and South-West Gas Distribution Systems – Attachment 7: Return on capital, taxation, incentives, p. 22.

Incentive mechanism

23. The previous (AA5) access arrangement did not contain any incentive mechanisms and ATCO did not propose to include any new incentive mechanisms for AA6.

24. The ERA accepted ATCO's proposal and reasons for not including any new incentive mechanism for the AA6 period as the current incentive-based regulatory framework provided sufficient incentive for the efficient operation of ATCO's gas network.

ATCO response to draft decision

Rate of return

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

Taxation

26. ATCO agreed with the ERA's method of calculating income tax including tax asset lives but did not accept the ERA's draft decision required amendment to the estimated cost of corporate income tax as the values of revenue and expenses included in the calculation had been amended to be consistent with the values in its revised plan.[12]

27. ATCO used the guidance provided by the Australian Taxation Office to apply tax asset lives to its tax asset base.

28. ATCO's proposed tax asset lives and asset categories for AA6 remained unchanged from AA5 and are set out in Table 7.3.

Table 7.3: ATCO's proposed tax asset lives (years)

Asset categories	AA6 proposed
Current asset categories	
HP Mains – Steel	20
HP Mains – PE	20
Medium and Low Pressure Mains	20
Regulators	20
Secondary Gate Stations	20
Buildings	40
Meter and Services Pipes	15
Equipment and Vehicles	10
Information Technology	5
Equity Raising Cost	5
Telemetry	10

[12] ATCO, *2025-2029 Revised Plan*, 10 June 2024, p. 243.

Asset categories	AA6 proposed
Historical asset categories (no longer used for new expenditure)	
Medium Pressure Mains	20
Low Pressure Mains	20

Source: ATCO, 2025-29 Plan, p.217.

29. ATCO used the roll forward method to roll forward the value of the tax asset base from the closing value in AA5 to the AA6 period. To calculate the tax asset base for AA6, ATCO added forecast capital expenditure and deducted forecast depreciation.

30. Table 7.4 sets out ATCO's amended tax asset base over the AA5 period and its closing AA5 balance to be rolled into AA6. This amendment was consistent with ATCO's capital expenditure in its revised proposal. Based on the amended capital expenditure, ATCO had determined a closing tax asset base value of $675.9 million (nominal) to be rolled forward as the opening value for the AA6 tax asset base. This compared to a closing tax asset base value of $690.2 million (nominal) in ATCO's initial proposal.[13]

Table 7.4: ATCO's proposed tax asset base (AA5) ($ million nominal)

	2020	2021	2022	2023	2024
AA5 opening tax asset base	603.3	606.6	620.9	641.0	659.3
Capital expenditure	61.6	74.5	80.8	81.5	82.5
Tax depreciation	(57.7)	(59.7)	(60.4)	(62.8)	(65.9)
Asset disposal	(0.60)	(0.5)	(0.4)	(0.3)	0.0
Closing value	**606.6**	**620.9**	**641.0**	**659.3**	**675.9**

Source: ATCO, 2025-2029 Revised Plan, p. 244.

31. Table 7.5 sets out ATCO's amended calculation of the tax asset base for the AA6 period.

Table 7.5: ATCO's proposed tax asset base (AA6) ($ million nominal)

	2025	2026	2027	2028	2029
Opening tax asset base	675.9	713.6	762.1	786.2	804.7
Capital expenditure	106.3	124.0	107.3	105.1	105.0
Tax depreciation	(68.6)	(75.4)	(83.3)	(86.6)	(88.4)
Asset disposals	0.0	0.0	0.0	0.0	0.0
Closing value	**713.6**	**762.1**	**786.2**	**804.7**	**821.4**

Source: ATCO, 2025-2029 Revised Plan, p. 244.

[13] ATCO, *2025-29 Plan*, 1 September 2023, p. 218.

32. Based on the amended values of the AA6 tax asset base, ATCO revised the estimated cost of corporate income tax for each regulatory year in AA6 (see Table 7.6). ATCO estimated its amended cost of tax over AA6 to be $36.7 million ($ real 2023) using a corporate tax rate of 30 per cent.[14] This compared to $31.6 million ($ real 2023) in ATCO's initial proposal.[15] The increase in corporate income tax was consistent with ATCO's increased revenue requirement in its revised proposal.

Table 7.6: ATCO's proposed estimates for the cost of corporate income tax in AA6 ($ million real)

	2025	2026	2027	2028	2029
Estimated taxable income	51.9	54.3	55.8	54.5	57.2
Tax payable	15.6	16.3	16.7	16.3	17.2
Less value of imputation credits	(7.8)	(8.2)	(8.4)	(8.2)	(8.6)
Estimate of corporate income tax ($ nominal 2023)	7.8	8.2	8.4	8.2	8.6
Deflator to $ real 2023	0.940	0.917	0.894	0.872	0.851
Estimate of corporate income tax ($ million real 2023)	**7.3**	**7.5**	**7.5**	**7.1**	**7.3**

Source: ATCO, 2025-2029 Revised Plan, p. 244.

Incentive mechanism

33. ATCO did not provide further comment on incentive mechanisms for AA6.

[14] ATCO, *2025-2029 Revised Plan*, 10 June 2024, p. 244.

[15] ATCO, *2025-29 Plan*, 1 September 2023, p. 216.

Submissions to the ERA

Rate of return

34. Two of the submissions received by the ERA in response to the draft decision commented on the rate of return.

35. Alinta Energy:[16]

- Noted that ATCO's regulatory rate of return on capital used the method in the ERA's gas rate of return instrument.
- Submitted that due to current market conditions, the rate of return ATCO would receive on its regulatory asset base in AA6 was significantly higher than the rate in AA5. Should a provider be able to attain a cost of funding lower than its regulatory rate of return, it was essentially able to keep the difference. Consumers should not underwrite the costs of improving the terms of ATCO's access to finance when consumers did not share in the savings stemming from those reductions in financing costs.

36. The WA Expert Consumer Panel submitted that:[17]

- While acknowledging a large proportion of the increases in both the total revenue and reference tariffs (relative to current AA5 levels) was driven by changes in the values of inflation and other market derived rate of return parameters, the overall increases were being proposed in a context where vulnerable consumers were currently facing significant cost of living pressure.
- Given this context, the fact that these changes in market parameters alone contributed to such significant increases meant that every effort should be made to look at other approaches to offset these increases and to limit other drivers that increased the level of both the total revenue and reference tariffs.

Taxation

37. None of the submissions received by the ERA commented on taxation.

Incentive mechanism

38. None of the submissions received by the ERA commented on incentive mechanisms.

16 Alinta Energy, *Submission on ERA draft decision and ATCO revised proposal*, 8 July 2024, p. 15.

17 WA Expert Consumer Panel, *TRAC Partners Technical Report on ERA draft decision and ATCO revised proposal*, 8 July 2024, p. 4.

Final decision

Rate on projected capital base

39. The ERA published its gas rate of return instrument on 16 December 2022.[18] On 12 September 2023, the instrument was amended due to the cessation of the Reserve Bank of Australia's (RBA) F16 statistical table.[19] The amended instrument applies to the current review of ATCO's sixth access arrangement.[20]

40. The ERA notes that ATCO has used the instrument at the time of its revised proposal. For the market-based parameters, the ERA for the final decision has updated the averaging period based on ATCO's nominated period.

41. This final decision is consistent with the gas rate of return instrument.

42. For this final decision the ERA updates the rate of return for ATCO's nominated averaging period for the 20-trading days to 27 September 2024.

43. 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 AA6.

Gearing

44. 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:

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

Equation 1

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

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

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

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

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

Return on debt

47. 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).
- 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.

48. 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

49. The individual debt components are further discussed below.

Debt risk free rate

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

51. The risk free rate is the rate of return an investor receives from holding an asset with a guaranteed payment stream (that is, 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.

52. 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.

53. For this final decision the ERA estimates a risk free rate for the return on debt of 3.759 per cent for the 20-trading day averaging period to 27 September 2024.

Term of debt

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

55. Consistent with the gas rate of return instrument, the ERA has determined a 10-year term for debt that aligns with the recent Australian regulatory practices.[21]

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

56. 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

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

58. 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.

59. 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.

60. 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

61. 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.

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

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

64. 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.

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

66. 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.[22]

67. 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 years.

68. 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 AA6.

69. 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 AA6

Year	Debt risk premium (%)
2016	2.467
2017	2.326
2018	1.689
2019	1.663
2020	1.770
2021	2.075
2022	1.562
2023	2.215
2024	1.924
2025	1.722*
Trailing average debt risk premium	**1.941**

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

Source: ERA analysis; ERA final decision on proposed revisions to the Mid-West and South-West Gas Distribution Systems access arrangement for 2020 to 2024 – Submitted by ATCO Gas Australia, p. 286.

70. The historical annual debt risk premium estimates that applied in AA5 in Table 7.7 are unchanged for AA6.

71. For this final decision, the ERA considers a debt risk premium of 1.722 per cent for 2025 (the first year of AA6) based on the 20-trading day averaging period to 27 September 2024.

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

Debt raising and hedging costs

72. Debt raising and hedging costs are the administrative costs and other charges incurred by businesses when obtaining and hedging debt financing.

73. Historically, the ERA has allowed these costs to be included as part of the return on debt.

74. 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.

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

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

Return on equity

77. 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.

78. 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.

79. Estimating a forward-looking return on equity – sufficient to enable regulated firms to recoup their prevailing equity financing costs – requires the use of models.

80. The model most used by Australian regulators for quantifying the return on equity has been the Sharpe-Lintner Capital Asset Pricing Model (CAPM).

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

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

Equation 3

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.

82. The individual equity components are further discussed below.

Equity risk free rate

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

84. 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.

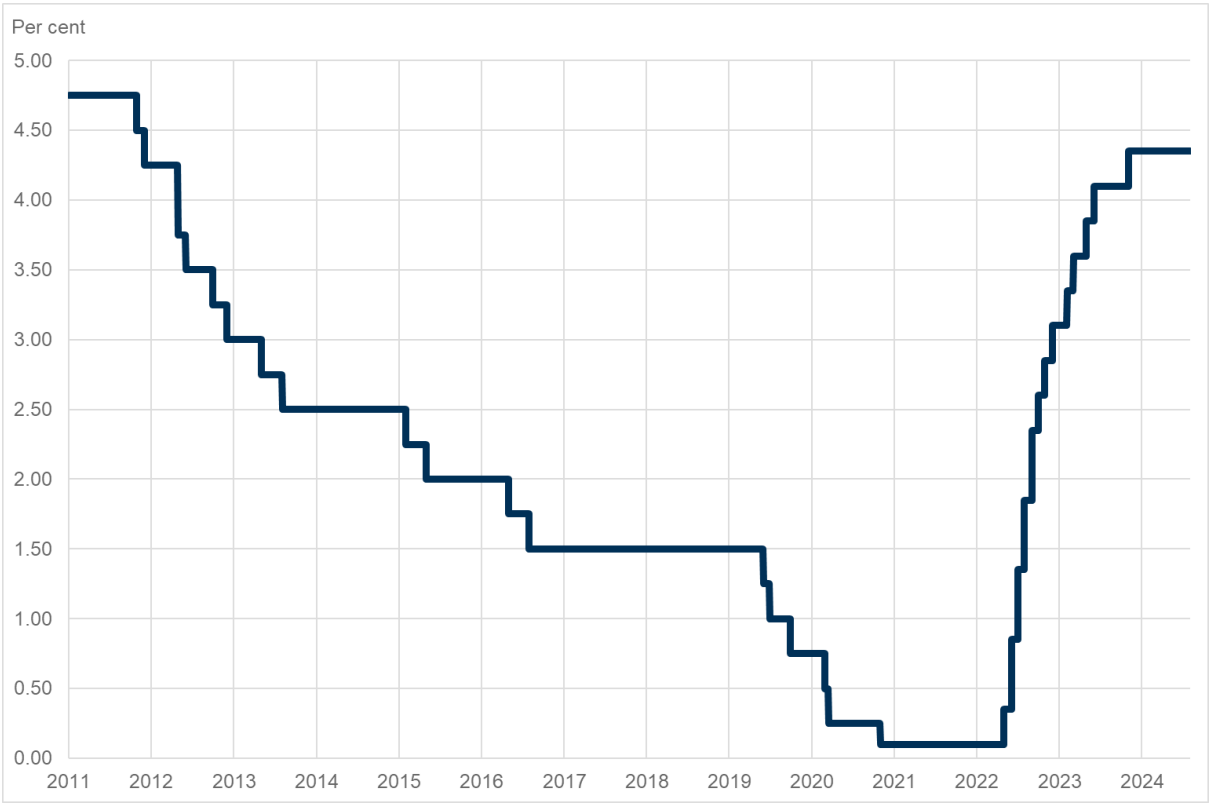
85. Economic and financial conditions have changed significantly since the ERA's AA5 final decision in November 2019.

86. The risk free rate has been volatile and unpredictable as the economy recovers from the COVID-19 pandemic, and there is uncertainty around central bank monetary policy given the persistence of inflation.

87. 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.

88. 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.

89. 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.

90. For this final decision the ERA estimates a risk free rate for the cost of equity of 3.955 per cent for the 20-trading day averaging period to 27 September 2024.

Market risk premium

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

92. 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.

93. 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 by investors because it affects all firms in the market. This is a forward-looking concept.

94. 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

95. 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.

96. 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.

97. 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

98. Inflation is the rate of change in the general level of prices of goods and services.

99. Forecast inflation can be used to translate the nominal post-tax WACC to a real post-tax WACC.

100. 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:[23]

- 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.

101. 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.

102. 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.

103. 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).

104. For this final decision, the ERA has used a 20-trading day averaging period to 27 September 2024 to determine a forecast inflation rate of 2.24 per cent to determine the rate of return.

Value of imputation credits (gamma)

105. 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.

106. 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.

107. 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 AA6.

Final decision on rate of return

Changes in economic and financial conditions

108. The ERA notes the WA Expert Consumer Panel's comment on the magnitude of changes in the market-based WACC parameters and its contribution to the increases in both the total revenue and reference tariffs.

[23] 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.

109. The ERA also notes Alinta Energy's comment on the rate of return that ATCO would receive on its regulatory asset base in AA6, which was significantly higher than the rate in AA5.

110. The ERA's gas rate of return instrument is binding for gas networks. As a binding instrument, the gas rate of return instrument uses market information to estimate the prevailing returns that compensate investors for holding assets with a similar risk of return as the regulated asset.

111. It is common regulatory practice to use a benchmark efficient entity to inform the WACC parameters for a regulated entity. This is consistent with incentive regulation and ensures that a regulator does not compensate a regulated service provider for its actual costs but compensates it as if it were operating efficiently.

112. Changing economic and financial conditions are important factors in determining ATCO's cost of capital and inflation of the capital base and drive a large increase in the proposed revenue.

Rate of return for AA6

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

114. For the final decision the ERA determines:

- The nominal after tax cost of equity as 8.225 per cent.
- The nominal cost of debt as 5.988 per cent.
- The nominal after tax rate of return as 6.99 per cent.

Table 7.8: ERA's final decision rate of return estimate for AA6

Component	ATCO's revised proposal	ERA final decision
Return on debt (%)		
5-year interest rate swap (effective yield)	4.179	3.759
Debt risk premium (10 year average)	1.936	1.941
Debt issuing cost	0.165	0.165
Debt hedging cost	0.123	0.123
Nominal return on debt	*6.403*	*5.988*
Return on equity		
Nominal risk free rate (%)	4.200	3.955
Market risk premium (%)	6.1	6.1
Equity beta	0.7	0.7
Nominal return on equity (%)	*8.470*	*8.225*
Other parameters		
Debt proportion (%)	55	55
Inflation rate (%)	2.51	2.24
Corporate tax rate (%)	30	30
Franking credits	50	50
Nominal after-tax WACC (%)	**7.33**	**6.99**
Real after-tax WACC (%)	4.71	4.65

Source: ERA analysis; ATCO AA6 revised tariff model.

Required Amendment

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.

Taxation

115. The ERA has assessed ATCO's amended estimated cost of corporate income tax for each regulatory year in AA6 against the requirements in rule 87A of the NGR.

116. The ERA accepts the value that ATCO has used for:

- The expected statutory income tax rate for each regulatory year in AA6 of 30 per cent. This value is consistent with current expectations for the statutory company tax rate over the AA6 period.

- Allowed imputation credits (gamma) of 0.5 in accordance with the gas rate of return instrument.[24]

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

118. 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

119. The ERA has reviewed ATCO's proposed tax asset lives, as detailed in Table 7.3.

120. ATCO proposes the same tax asset lives for new capex in AA6.

121. The ERA accepts maintaining the existing tax asset lives for capital assets over the AA6 period as they are still consistent with Australian Taxation Office schedules.

Tax asset base

122. The ERA has reviewed ATCO's assumptions and calculations and is satisfied that the calculations have been carried out consistently with the method and tax asset lives approved in AA5.

123. The ERA notes that ATCO continues to apply the straight-line method to calculate tax depreciation while ATCO is proposing accelerated depreciation for parts of its regulatory asset base. Tax asset lives are generally around 20 years or less, which are shorter than the economic lives of most assets in the regulatory asset base. The ERA notes that ATCO's tax asset base is separate from that of its regulatory asset base.

124. The ERA accepts that ATCO used the roll forward method to establish the opening value of the tax asset base for each regulatory year in AA6.

- The opening tax asset base for the first regulatory year in AA6 (2025) was calculated by rolling forward the closing value of the actual tax asset base for AA5.
- The ERA calculated the closing value of the tax asset base for each regulatory year in AA5 using the method that was determined in the final decision for AA5.

125. The tax asset base calculated by the ERA for each regulatory year in AA5 is set out in Table 7.9.

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

Table 7.9: ERA's final decision actual tax asset base for AA5 ($ million nominal)

	2020	2021	2022	2023	2024
Opening tax asset base	603.3	606.6	620.9	641.0	659.3
Capital expenditure	61.6	74.5	80.8	81.5	79.9
Asset disposal	0.6	0.5	0.4	0.3	0.0
Tax depreciation	57.7	59.7	60.4	62.8	65.9
Closing value	**606.6**	**620.9**	**641.0**	**659.3**	**673.3**

Source: ERA analysis

126. The ERA calculates the closing value for forecast tax asset base for each regulatory year in AA6 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 straight-line method;
>
> ***less:*** forecast asset disposals during AA5.

127. The forecast tax asset base calculated by the ERA in this final decision for each regulatory year in AA6 is set out in Table 7.10.

Table 7.10: ERA's final decision forecast tax asset base for AA6 ($ million nominal)

	2025	2026	2027	2028	2029
Opening tax asset base	673.3	711.4	759.0	785.7	806.6
Capital expenditure	106.5	122.6	108.7	106.1	106.7
Asset disposal	0.0	0.0	0.0	0.0	0.0
Tax depreciation	68.4	74.9	82.0	85.2	87.1
Closing value	**711.4**	**759.0**	**785.7**	**806.6**	**826.3**

Source: ERA analysis

Estimated cost of corporate income tax

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

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

130. The estimated cost of corporate income tax will be recalculated in each year of AA6 as part of the tariff variation process. This includes the change to reflect the annually updated debt risk premium.

131. The ERA's final decision calculation of the estimated cost of corporate income tax (net of imputation credits) for each regulatory year in AA6 is set out in Table 7.11.

Table 7.11: ERA's final decision calculation of the estimated cost of corporate income tax for AA6 ($ million nominal)

	2025	2026	2027	2028	2029
Unsmoothed revenue	**238.0**	**263.8**	**279.8**	**293.0**	**300.1**
Tax expenses					
Operating expenditure	83.7	89.1	93.7	100.4	102.2
Debt servicing cost	54.0	56.7	59.3	61.2	63.0
Tax depreciation	68.4	74.9	82.0	85.2	87.1
Total tax expenses	**206.2**	**220.8**	**235.0**	**246.9**	**252.2**
Tax					
Estimated taxable income	31.8	43.1	44.8	46.1	47.9
Carried forward tax loss	-	-	-	-	-
Estimated taxable income (net of tax loss)	31.8	43.1	44.8	46.1	47.9
Estimated cost of corporate income tax	9.5	12.9	13.4	13.8	14.4
Value of imputation credits	(4.8)	(6.5)	(6.7)	(6.9)	(7.2)
Estimated cost of corporate income tax	**4.8**	**6.5**	**6.7**	**6.9**	**7.2**

Source: ERA analysis

Required Amendment

7.2 The estimated cost of corporate income tax must be amended in accordance with Table 7.11 of this Final Decision Attachment 7.

Incentive mechanism

132. ATCO did not propose to include any incentive mechanisms for AA6, and the ERA's final decision is to accept ATCO's proposal.

Appendix 1 List of Tables