Economic Regulation Authority

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

24 April 2024

D273607

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Note

This attachment forms part of the ERA's draft decision on proposed revisions to 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 draft decision, which is comprised of the following document and attachments:

Draft decision on revisions to the access arrangement for the Mid-West and South-West Gas Distribution Systems – Overview, 24 April 2024

- Attachment 1: Access arrangement and services
- Attachment 2: Demand
- Attachment 3: Revenue and tariffs
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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 (NGL).[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 rate of return used in its access arrangement proposal is consistent with the gas rate of return instrument.

Changing economic and financial conditions, outside the control of both ATCO and the ERA, are important factors in determining ATCO's cost of capital and the regulatory value of its capital base.

Higher rates of inflation have increased the value of the AA5 asset base, which has led to a total revenue requirement that is 18 per cent above the approved AA5 requirement. Updated rates of return account for 38 per cent of the total increase between the AA5 approved revenue and the AA6 proposed revenue.

The rate of return in this draft decision was updated for current market conditions, with a 20-day averaging period to 14 February 2024. ATCO is required to nominate the averaging period to be used for the rate of return for the final decision.

Taxation

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

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 proposed method to calculate AA6 taxation is consistent with its approach in AA5.

Incentive mechanisms

Rule 98 of the National Gas Rules (NGR) provides that a full access arrangement may include incentive mechanisms to encourage efficiency in the provision of services by the service provider. 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 has not proposed any incentive mechanisms for AA6.

Summary of required amendments

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).

[1] NGL, section 30D, 30E.

7.2 ATCO must amend the estimated cost of corporate income tax in accordance with Table 7.10 of this draft decision attachment.

Regulatory requirements

1. The National Gas Rules (NGR) requires the use of the "building block" approach to determine the total revenue requirement for each year of the access arrangement period.[2] 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).

2. 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.

3. 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:[3]

   $$RPCB_t = a_t \times v_t$$

   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)).

4. 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:

   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.

[2] NGR, rule 76.

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

5. 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.[4] 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.[5] 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).

6. 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 require the following cost of service information to be included in the service provider's AAI.[6]

   - 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)).

[4] 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)).

[5] 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).

[6] NGR, rule 72.

ATCO proposal

Rate of return

7. ATCO's rate of return and inflation estimates were consistent with the methods detailed in the ERA's gas rate of return instrument.

8. ATCO has 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.[7] ATCO has estimated inflation of 2.66 per cent for the AA6 period, compared with 1.14 per cent that was approved in AA5.[8] [9]

9. ATCO's proposed WACC and inflation 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.

10. ATCO must nominate an averaging period in advance, which must be close and prior to an access arrangement determination. The nominated averaging period will affect various rate of return parameters that are calculated using market data. ATCO used placeholder values for the average of the 20 trading days to 30 June 2023 for its proposed WACC calculation. These placeholders will be replaced with values determined during the nominated averaging periods closer to the time of the ERA's final decision.

11. Table 7.1 details the individual rate of return components proposed by ATCO for AA6 compared to the existing rate of return components approved in the ERA's final decision for AA5.

7 ATCO, *2025-29 Plan*, 1 September 2023, p. 233.

8 ATCO, *2025-29 Plan*, 1 September 2023, p. 215.

9 ERA, *Final decision on proposed revisions to the Mid-West and South-West Gas Distribution Systems access arrangement for 2020-2024 – Submitted by ATCO Gas Australia*, 15 November 2019, p. 296.

Table 7.1: ATCO's rate of return estimate

Component	AA6 proposed	AA5 approved
Return on debt (%)		
5-year interest rate swap (effective yield)	4.274	0.961
Debt risk premium (10 year average)	2.020	2.273
Debt issuing cost	0.165	0.100
Debt hedging cost	0.123	0.114
Nominal return on debt	*6.582*	*3.448*
Return on equity		
Nominal risk free rate (%)	3.97	0.82
Market risk premium (%)	6.1	6.0
Equity beta	0.7	0.7
Nominal return on equity (%)	*8.24*	*5.02*
Other parameters		
Debt proportion (%)	55	55
Inflation rate (%)	2.66	1.14
Corporate tax rate (%)	30	30
Franking credits	50	50
Nominal after-tax WACC (%)	**7.33**	**4.16**
Real after-tax WACC (%)	4.54	2.98

Source: ERA analysis; ATCO, 2025-29 Plan, p. 215.

Taxation

12. ATCO advised that it calculated its estimate of corporate income tax using the method applied in its AA5 final decision. ATCO has 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. ATCO's estimate of corporate income tax is based on the following method applied in the ERA's AA5 final decision:[11]

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

[11] ATCO, *2025-29 Plan*, 1 September 2023, p. 219.

Unsmoothed building block revenue

minus Approved forecast operating expenditure.

minus Straight-line depreciation of the tax asset base.

minus Debt servicing costs, calculated by multiplying the opening regulatory asset base by the proportion of the regulatory asset base funded by debt (assumed at 55 per cent) and the nominal cost of debt.

equals Estimated taxable income.

14. ATCO stated that no adjustment to the tax asset base or depreciation of the tax asset base had been made for accelerated depreciation.[12]

15. ATCO has adopted the value of imputation credits (gamma) of 0.5 from the ERA's 2022 Gas Rate of Return Instrument. As the instrument is binding on the ERA and ATCO, the value of gamma will be 0.5 in the AA6 final decision.[13]

16. ATCO's calculation of corporate income tax is presented in Table 7.2.

Table 7.2: ATCO's calculation of corporate income tax ($ million)

	2025	2026	2027	2028	2029
Estimated taxable income	36.1	47.6	49.2	50.6	52.2
Tax payable	10.8	14.3	14.7	15.2	15.7
Less value of imputation credits	-5.4	-7.1	-7.4	-7.6	-7.8
Estimate of corporate income tax ($ nominal 2023)	5.4	7.1	7.4	7.6	7.8
Deflator to $ real 2023	0.943	0.919	0.895	0.872	0.849
Estimate of corporate income tax ($ million real 2023)	**5.1**	**6.6**	**6.6**	**6.6**	**6.7**

Source: ATCO, 2025-29 Plan, p. 219.

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

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

[12] ATCO, *2025-29 Plan*, 1 September 2023, p. 219.

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

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

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

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

20. ATCO noted that the Commonwealth Government introduced taxation system measures to allow full write-offs for new investments in response to the COVID-19 pandemic. As these measures did not apply to ATCO, no adjustments were made to its method to forecast its taxation costs for AA6.

21. Table 7.4 sets out ATCO's proposed tax asset base over the AA5 period and its closing AA5 balance to be rolled into AA6. ATCO has determined a closing tax asset base value of $690.2 million (nominal) to be rolled forward as the opening value for the AA6 tax asset base.

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

	2020	2021	2022	2023	2024
AA5 opening tax asset base	614.5	-	-	-	-
Adjustment *	(7.8)	-	-	-	-
Adjusted opening tax asset base	606.7	609.4	623.6	644.0	655.8
Capital expenditure	61.6	74.6	81.3	84.7	90.9
Tax depreciation	(58.4)	(59.8)	(60.5)	(62.9)	(66.5)
Asset disposal	(0.6)	(0.5)	(0.4)	0.0	0.0
Closing value	**609.4**	**623.6**	**644.0**	**655.8**	**690.2**

Source: ATCO, 2025-29 Plan, p. 218.

**Difference between forecast and actual 2019 capital expenditure*

22. Table 7.5 sets out ATCO's 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	690.2	721.9	750.0	777.2	804.0
Capital expenditure	101.6	102.1	103.9	105.4	107.5
Tax depreciation	(69.8)	(74.0)	(76.6)	(78.7)	(79.7)
Asset disposals	0.0	0.0	0.0	0.0	0.0
Closing value	**721.9**	**750.0**	**777.2**	**804.0**	**831.8**

Source: ATCO, 2025-29 Plan, p. 218.

Incentive mechanisms

23. The current (AA5) access arrangement does not contain any incentive mechanisms and ATCO has not proposed to include any new incentive mechanisms for AA6.

24. ATCO has provided reasoning for its decision for not including any incentive mechanisms for AA6:[14]

- Given the current economic environment, including the cost-of-living pressures on consumers, ATCO has not proposed a Network Innovation Scheme which has the potential to further increase prices in the short term.
- The current price cap and incentive-based regulatory regime, along with commercial imperatives to lower costs and make efficient use of capital, provides sufficient incentive for the efficient operation of the network and investment by ATCO.

[14] ATCO, *2025-29 Plan*, 1 September 2023, pp. 245-246.

Submissions

Rate of return

25. Three of the submissions received by the ERA in response to the issues paper have commented on the rate of return.

26. Alinta Energy submitted that:[15]

- ATCO's proposed rate of return was significantly elevated due to high yields in the current capital market conditions.
- The ERA should take the Australian Energy Regulator's actual debt cost review into account.

27. Kleenheat submitted that:[16]

- While acknowledging ATCO's proposed rate of return was in line with the methods set out in the 2022 gas rate of return instrument, ATCO's proposed risk free rate was set at the high point in the interest rate cycle and fixed for AA6.
- Setting the rate of return at the potential peak would result in ATCO achieving excess returns at the cost of consumers.

28. Synergy submitted that any industry risk or systemic risk gas pipeline operators might be exposed to, due to potential emissions reduction regulations, should be addressed through the market risk premium and the WACC.[17]

Taxation

29. None of the submissions received by the ERA have provided comments on taxation.

Incentive mechanism

30. None of the submissions received by the ERA have provided comments on ATCO's proposal to not include an incentive mechanism.

[15] Alinta Energy, *Submission on ATCO proposal and ERA issues paper,* 30 November 2023, pp. 16-18.

[16] Kleenheat, *Submission on ATCO proposal and ERA issues paper,* 24 November 2023, p. 4.

[17] Synergy, *Submission on ATCO proposal and ERA issues paper,* 27 November 2023, p. 3.

Draft decision

Return on projected capital base

31. 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]

32. The ERA accepts and considers that ATCO's proposed rate of return satisfies the requirements set out under the NGR and the gas rate of return instrument.

33. This draft decision is consistent with the gas rate of return instrument.

34. The following sections detail the ERA's consideration of each of the rate of return parameters and the ERA's draft decision on the rate of return for AA6.

Gearing

35. 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

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

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

Return on debt

38. 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.

[18] ERA, *Notice – 2022 gas rate of return instrument review: Publication of final gas instrument and explanatory statement*, 16 December 2022 (online) (accessed April 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 instrument accommodates this circumstance and utilises RBA data in the first instance.

- The 10-year trailing average debt risk premium is updated annually.

39. 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

40. The individual debt components are further discussed below.

Debt risk free rate

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

42. 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.

43. 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.

44. The ERA has used the 20-day averaging period to 14 February 2024 as a placeholder for this draft decision. This update allows the draft decision to reflect more current financial market conditions, compared to ATCO's initial proposal. The final decision will be updated for ATCO's final averaging period. This rate will be fixed for the duration of AA6.

45. For this draft decision the ERA estimates a risk free rate for the return on debt of 4.179 per cent for the 20-day averaging period to 14 February 2024.

Term of debt

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

47. 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]

48. For this draft 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

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

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

50. The credit rating is defined as the forward-looking option 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.

51. 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.

52. 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

53. 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.

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

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

56. 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.

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

58. 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]

59. 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.

60. 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.

61. Table 7.6 details the ERA's estimated trailing average debt risk premium for this draft decision.

Table 7.6 ERA draft 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	1.668*
Trailing average debt risk premium	**1.936**

** Debt risk premium estimate for 20-day averaging period* to *14 February 2024, is a placeholder only.*

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.

62. The historical annual debt risk premium estimates that applied in AA5 in Table 7.6 are unchanged for AA6.

63. For this draft decision, the ERA considers a debt risk premium of 1.668 per cent for 2025 (the first year of AA6) as a placeholder only, based on the 20-day averaging period to 14 February 2024. This rate is an indicative value only, and it will be updated in the final decision for an appropriate final averaging period closer to the date of the final decision.

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

Debt raising and hedging costs

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

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

66. 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.

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

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

Return on equity

69. 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.

70. 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.

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

72. 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, 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.

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.

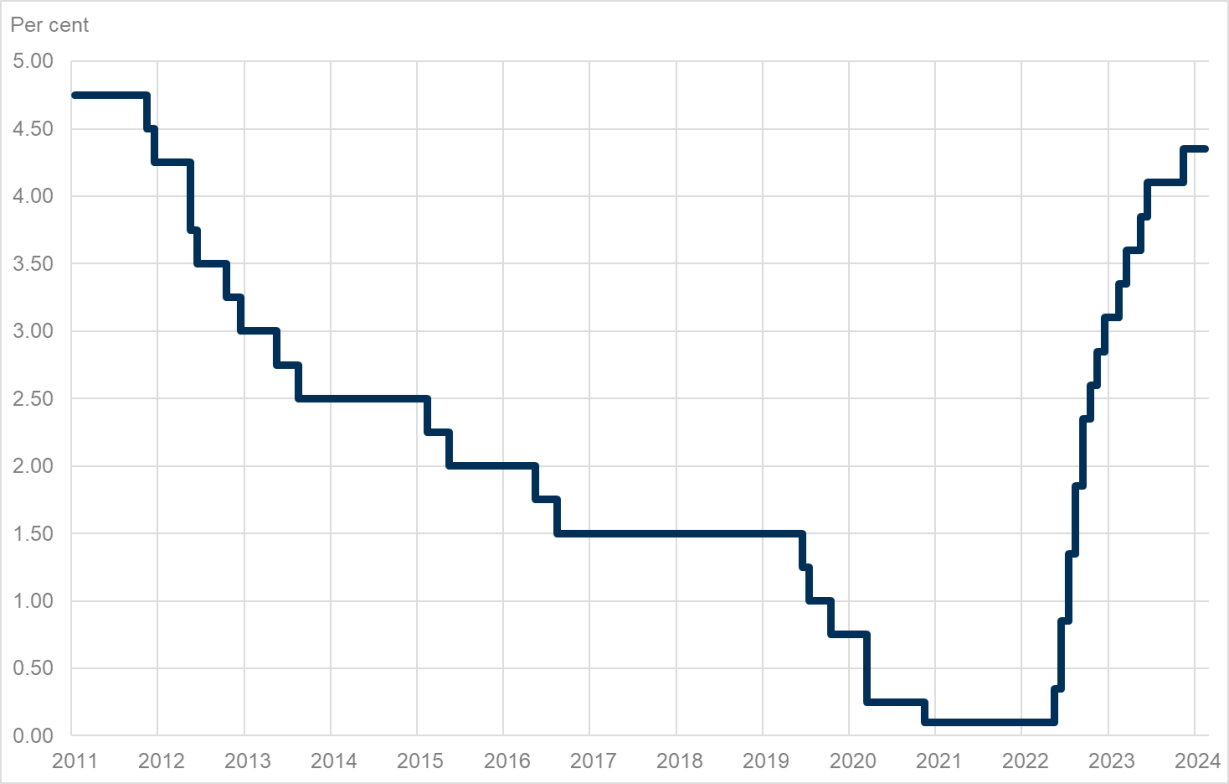
77. Economic and financial conditions have changed significantly since the ERA's AA5 final decision in November 2019.

78. 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.

79. 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 conflict in Ukraine and global supply shortages have added to uncertainty of the inflationary environment.

80. The RBA has been increasing the cash rate since May 2022. These monetary policy changes are illustrated in Figure 7.1.

Figure 7.1: RBA cash rate target



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

81. 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.

82. For this draft decision the ERA estimates a risk free rate for the cost of equity of 4.20 per cent for the 20-day averaging period to 14 February 2024.

83. For the final decision the ERA will use an averaging period nominated by ATCO to determine the yield and set the risk free rate for equity at the start of the AA6 period. This rate will be fixed for the duration of AA6.

Market risk premium

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

85. 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.

86. 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.

87. For this draft 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

88. 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.

89. 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.

90. For this draft 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

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

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

93. 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.

94. 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.

95. 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.

96. 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).

97. For this draft decision, the ERA has used a 20-day averaging period to 14 February 2024 to determine a forecast inflation rate of 2.51 per cent to determine the rate of return.

Value of imputation credits (gamma)

98. 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.

99. 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.

100. Consistent with the gas rate of return instrument, for this draft decision, the ERA has applied a gamma of 0.5 to determine the rate of return, which will be fixed for AA6.

Draft decision on rate of return

Changes in financial markets

101. The ERA notes that ATCO's rate of return and inflation are materially higher than those in AA5 due to changes in market conditions that have increased the cost of finance over the past few years.

102. Kleenheat raised concern with the material increase in the risk free rate.

[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.

103. 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.

104. Changing economic and financial conditions, outside the control of both ATCO and the ERA, 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.

Actual debt costs

105. The ERA notes Alinta Energy's comment on the Australian Energy Regulator's review of actual debt costs.

106. The ERA considered this matter when it reviewed its gas rate of return instrument. Detail on this matter in provided in the ERA's explanatory statement for the gas rate of return instrument.[24]

107. This draft decision applies the return on debt approach as set out in the binding gas rate of return instrument.

Equity risk premium

108. The ERA notes Synergy's comment on addressing any industry or "systemic" risk that gas pipeline operators might be exposed to through the market risk premium and the WACC.

109. The ERA reviewed the equity risk premium (market risk premium and equity beta) for gas networks and detailed its position on this matter in its explanatory statement for the gas rate of return instrument.[25]

110. The 2022 Gas Rate of Return Instrument is binding for gas networks in access arrangement determinations.

Indicative rate of return for AA6

111. Based on the gas rate of return instrument and the above assessments, the ERA has calculated the rate of return in Table 7.7.

112. For the draft decision:

- the ERA determines that the nominal after tax cost of equity as 8.47 per cent
- the ERA determines that the nominal cost of debt as 6.40 per cent
- the ERA determines a nominal after tax rate of return of 7.33 per cent.

113. ATCO's proposal and this draft decision both produced the same nominal after tax rate of return of 7.33 per cent. While ATCO's proposal used placeholder values for the

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

[25] ERA, *Explanatory statement for the 2022 final gas rate of return instrument*, December 2022, pp. 123-192.

average of the 20 trading days to 30 June 2023, for this draft decision the ERA used the 20 trading days to 14 February 2024 as a placeholder to estimate the rate of return.

114. The rate of return for the final decision will be updated based on an agreed averaging period nominated by ATCO following the draft decision.

Table 7.7: ERA's draft decision indicative rate of return for AA6

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

Source: ERA analysis; ATCO, 2025-29 Plan, p. 215.

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

115. The ERA has assessed ATCO's 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.[26]

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 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 7.8.

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

Table 7.8 ERA's draft decision actual tax asset base for AA5 ($ million nominal)

	2020	2021	2022	2023	2024
Opening tax asset base	605.5	608.7	623.0	642.9	659.5
Capital expenditure	61.5	74.5	80.7	79.4	80.6
Asset disposals	0.6	0.5	0.4	0.0	0.0
Tax depreciation	57.8	59.7	60.4	62.8	65.9
Closing value	**608.7**	**623.0**	**642.9**	**659.5**	**674.2**

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 draft decision for each regulatory year in AA6 is set out in Table 7.9.

Table 7.9 ERA's draft decision forecast tax asset base for AA6 ($ million nominal)

	2025	2026	2027	2028	2029
Opening tax asset base	674.2	694.5	721.1	750.3	770.1
Capital expenditure	88.7	98.5	104.4	98.1	99.9
Asset disposal	0.0	0.0	0.0	0.0	0.0
Tax depreciation	68.4	71.8	75.2	78.3	79.2
Closing value	**694.5**	**721.1**	**750.3**	**770.1**	**790.7**

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 revenues.

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 draft 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 7.10.

Table 7.10 ERA's draft decision calculation of the estimated cost of corporate income tax for AA6 ($ million nominal)

	2025	2026	2027	2028	2029
Unsmooth revenue	**213.5**	**234.0**	**246.2**	**257.9**	**266.0**
Tax expenses					
Operating expenditure	66.5	69.9	74.8	79.4	82.6
Debt servicing cost	58.2	60.8	63.2	65.7	67.9
Tax depreciation	68.4	71.8	75.2	78.3	79.2
Total tax expenses	**193.1**	**202.5**	**213.2**	**223.4**	**229.8**
Tax					
Estimated taxable income	20.4	31.5	33.0	34.4	36.2
Carried forward tax loss	-	-	-	-	-
Estimated taxable income (net of tax loss)	20.4	31.5	33.0	34.4	36.2
Estimated cost of corporate income tax	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 analysis

Required Amendment

7.2 ATCO must amend the estimated cost of corporate income tax in accordance with Table 7.10 of this draft decision attachment.

Incentive mechanisms

132. ATCO has not proposed to include any new incentive mechanisms for the AA6 period.

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

Appendix 1 List of Tables

Appendix 2 List of Figures

Appendix 3 National Gas Rules

The National Gas Law (NGL) and National Gas Rules (NGR), as enacted by the *National Gas (South Australia) Act 2008*, establish the legislative framework for the independent regulation of certain gas pipelines in Australia. The *National Gas Access (WA) Act 2009* implements a modified version of the NGL and NGR in Western Australia.

The legislative framework for the regulation of gas pipelines includes a central objective, being the national gas objective, which is:

> … to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to—
>
> (a) price, quality, safety, reliability and security of supply of natural gas; and
>
> (b) the achievement of targets set by a participating jurisdiction—
>
> (i) for reducing Australia's greenhouse gas emissions; or
>
> (ii) that are likely to contribute to reducing Australia's greenhouse gas emissions.
>
> **Note—**
>
> The AEMC must publish targets in a targets statement: see section 72A.[27]

The following extracts of the NGR, as they apply in Western Australia, are provided for information to assist readers.

> **72 Specific requirements for access arrangement information relevant to price and revenue regulation**
>
> (1) The access arrangement information for a full access arrangement proposal (other than an access arrangement variation proposal) must include the following:
>
> (a) if the access arrangement period commences at the end of an earlier access arrangement period:
>
> (i) capital expenditure (by asset class) over the earlier access arrangement period; and
>
> (ii) operating expenditure (by category) over the earlier access arrangement period; and
>
> (iii) usage of the pipeline over the earlier access arrangement period showing:
>
> (A) for a distribution pipeline, minimum, maximum and average demand and, for a transmission pipeline, minimum, maximum and average demand for each receipt or delivery point; and
>
> (B) for a distribution pipeline, customer numbers in total and by tariff class and, for a transmission pipeline, user numbers for each receipt or delivery point;

[27] NGL, section 23.

The national gas objective has changed since the last review of ATCO's access arrangement. The amended objective came into effect in Western Australia on 25 January 2024. See: *Western Australian Government Gazette 24 January 2024 No.8* (online) (accessed April 2024).

(b) how the capital base is arrived at and, if the access arrangement period commences at the end of an earlier access arrangement period, a demonstration of how the capital base increased or diminished over the previous access arrangement period;

(c) the projected capital base over the access arrangement period, including:

(i) a forecast of conforming capital expenditure for the period and the basis for the forecast; and

(ii) a forecast of depreciation for the period including a demonstration of how the forecast is derived on the basis of the proposed depreciation method;

(d) to the extent it is practicable to forecast pipeline capacity and utilisation of pipeline capacity over the access arrangement period, a forecast of pipeline capacity and utilisation of pipeline capacity over that period and the basis on which the forecast has been derived;

(e) a forecast of operating expenditure over the access arrangement period and the basis on which the forecast has been derived;

(f) [Deleted];

(g) the allowed rate of return for each regulatory year of the access arrangement period;

(h) the estimated cost of corporate income tax calculated in accordance with rule 87A, including the allowed imputation credits referred to in that rule;

(i) 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;

(j) the proposed approach to the setting of tariffs including:

(i) the suggested basis of reference tariffs, including the method used to allocate costs and a demonstration of the relationship between costs and tariffs; and

(ii) a description of any pricing principles employed but not otherwise disclosed under this rule;

(k) the service provider's rationale for any proposed reference tariff variation mechanism;

(l) the service provider's rationale for any proposed incentive mechanism;

(m) the total revenue to be derived from pipeline services for each regulatory year of the access arrangement period.

(2) The access arrangement information for an access arrangement variation proposal related to a full access arrangement must include so much of the above information as is relevant to the proposal.

(3) Where the [ERA] has published financial models under rule 75A, the access arrangement information for a full access arrangement proposal must be provided using the financial models.

…

76 Total revenue

Total revenue is to be determined for each regulatory year of the access arrangement period using the building block approach in which the building blocks are:

(a) a return on the projected capital base for the year (See Divisions 4 and 5); and

(b) depreciation on the projected capital base for the year (See Division 6); and

(c) the estimated cost of corporate income tax for the year (See Division 5A); and

(d) increments or decrements for the year resulting from the operation of an incentive mechanism to encourage gains in efficiency (See Division 9); and

(e) a forecast of operating expenditure for the year (See Division 7).

…

78 Projected capital base

The projected capital base for a particular period is:

(a) the opening capital base;

plus:

(b) forecast conforming capital expenditure for the period;

less:

(c) forecast depreciation for the period; and

(d) the forecast value of pipeline assets to be disposed of in the course of the period.

…

82 Capital contributions by users to new capital expenditure

(1) A user may make a capital contribution towards a service provider's capital expenditure.

(2) Capital expenditure to which a user has contributed may, with the [ERA's] approval, be rolled into the capital base for a pipeline but, subject to subrule (3), not to the extent of any such capital contribution.

(3) The [ERA] may approve the rolling of capital expenditure (including a capital contribution made by a user, or part of such a capital contribution) into the capital base for a pipeline on condition that the access arrangement contain a mechanism to prevent the service provider from benefiting, through increased revenue, from the user's contribution to the capital base.

…

87 Rate of return

The return on the projected capital base for a service provider for a regulatory year of an access arrangement period for an applicable access arrangement ($RPCB_t$) is to be calculated using the following formula:

$RPCB_t = a_t \times v_t$

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)).

87A Estimated cost of corporate income tax

(1) The estimated cost of corporate income tax of a service provider for each regulatory year of an access arrangement period (ETC_t) is to be estimated in accordance with the following formula:

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

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.

…

98 Incentive mechanism

(1) A full access arrangement may include (and the [ERA] may require it to include) one or more 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.

(3) An incentive mechanism must be consistent with the revenue and pricing principles.