

Irrigation pricing proposal

1 July 2025 to 30 June 2029

**Appendix H Weighted Average Cost of Capital
Review**



Weighted average Cost of Capital

Sunwater

Weighted average Cost of Capital

Sunwater

Prepared for:

Sunwater

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Revision History

Revision	Date	Comment	Originated by	Checked by	Technical Approval	Project Approval
1A	22/03/2023	Draft	Sebastian Vanderzeil	Matt Bradbury	Angus MacDonald	Matt Bradbury
1B	7/06/2023	Responding to QCA comments	Sebastian Vanderzeil	Matt Bradbury	Angus MacDonald	Matt Bradbury
1C	7/09/2023	Final	Sebastian Vanderzeil	Matt Bradbury	Angus MacDonald	Matt Bradbury

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Executive summary

- Sunwater’s preparation of its 2025-29 pricing proposal includes the development of a weighted average cost of capital (WACC).
- The Queensland Competition Authority (QCA), as part of the price review, requires an Officer WACC3 or ‘vanilla’ form of the discount rate. This approach defines cash flows and the discount rate in nominal, post-tax terms and modifies the cash flows, rather than the discount rate, for the tax deductibility of interest payments and the value of dividend imputation credits.
- In 2021, the QCA conducted a review of the rate of return (WACC) used in the regulatory process and made a number of changes. The WACC calculation process now has an initial ‘reasonable’ assessment where regulated entities can submit a ‘reasonable’ WACC without completing a detailed, bottom-up assessment from the outset.
- Given this principle, this paper calculates the WACC that is consistent with the QCA methodology and seeks WACC approval on the process, rather than going through a detailed process prior to engaging with the QCA. This approach is particularly suitable as the value of the WACC does not materially impact on Sunwater’s revenue required and irrigation prices.
- The WACC in this paper uses real-market data and QCA methodology where it is more necessary (i.e., risk-free rate and cost of debt) but adopts existing values of parameters which are not subject to substantial change between price reviews.
- The risk-free rate and cost of debt have increased since the last pricing proposal by Sunwater, resulting in a higher WACC as shown below.

Table 1.1 Comparison of current estimated WACC with previous proposal and QCA recommendation

Parameter	Current Sunwater proposal	Previous Sunwater proposal	Previous QCA recommendation
End date	1-Sep-23	27-Aug-18	29-Nov-19
Risk-free rate	4.27%	2.260%	1.160%
Market risk premium	6.50%	7.000%	6.500%
Asset beta	0.393	0.410	0.400
Equity beta	0.725	0.765	0.755
Cost of equity	8.98%	7.615%	6.068%
Credit rating	BBB	BBB	BBB
Debt margin		2.410%	2.090%
Cost of debt	4.95%	4.670%	3.250%
Capital structure	60%	60%	60%
Gamma	0.484	0.410	0.484
Nominal post-tax WACC	6.56%	5.85%	4.38%

Note: QCA’s Rate of Return Review stated that the total cost of debt (risk free rate and debt margin) should be calculated together so there is no separate debt margin in the current Sunwater proposal.

1 Overview

The weighted average cost of capital (WACC) is a component to calculate a regulated business's return on capital. However, in a lower bound pricing environment, the WACC is less important to pricing outcomes.

In the previous review, the QCA said that it has used the WACC:

- as a discount rate in deriving an annuity-based allowance for renewals expenditure
- a rate of return in deriving a regulated asset base allowance for dam safety upgrade capital expenditure.

This WACC paper:

1. examines Sunwater's 2018 proposal and the QCA's response.
2. estimates each WACC parameter in accordance with QCA's 2021 guidance paper
3. Cross-checks these values against:
 - a. recent QCA regulatory decisions
 - b. recent regulatory decisions made in other jurisdictions.
4. Details the justification for each parameter and then calculates the overall WACC.

2 WACC used in Sunwater’s previous review

Sunwater’s last pricing review developed a WACC as shown in Table 2.1. While Sunwater sought to apply the QCA’s WACC precedent, the QCA reduced the WACC from 5.85% to 4.37%. The changes with an explanation for each change is also shown in Table 2.1.

Table 2.1 How the QCA changed Sunwater’s proposed WACC

Parameter	Sunwater proposal	QCA recommended	Reason for change
20-day averaging period (end date)	27 August 2018	29 November 2019	
Risk-free rate	2.26%	1.16%	Mostly due to change in financial markets over the course of 15 months. Also, the QCA applied a 10-year risk free rate, rather than the length of the regulatory period.
Market risk premium	7.0%	6.5%	Sunwater proposed to continue the use of the MRP from the recently completed bulk water review. In November 2019, the QCA updated the MRP to 6.5%.
Asset beta	0.41	0.4	The QCA considered a range of listed regulated international water businesses and made a very minor adjustment.
Equity beta	0.765	0.755	
Cost of equity	7.62%	6.06%	Impacted by the change to the risk-free rate and market risk premium.
Credit rating	BBB	BBB	
Debt margin	2.41%	2.09%	Impacted by the change to the risk-free rate.
Cost of debt	4.67%	3.24%	Mostly due to change in financial markets over the course of 15 months.
Capital structure	60%	60%	
Gamma	0.41	0.484	
Nominal post-tax WACC	5.85%	4.37%	

Sunwater did not propose changes to the QCA’s draft report.

3 QCA's guidance on WACC

Since the past irrigation review, the QCA has reviewed its approach to setting the WACC.¹ Sunwater provided a submission to this review on the topics of the cost of debt, beta risk, regulatory risk, and stakeholder engagement². These matters were considered by the QCA.

While the QCA has established a detailed methodology for each WACC parameter, the QCA has set an important principle. The QCA will:

Determine whether the overall WACC value proposed by a regulated entity is reasonable—by considering our statutory obligations, including public consultation; assessing commercial and regulatory risk, considering factors such as the estimation methods and values applied for each parameter, and the WACC values of other regulated entities.

If the proposed value is considered reasonable, it will be approved. If the proposed WACC value is not considered reasonable, determine a reasonable WACC value—by estimating a bottom-up value and applying a top-down assessment to confirm whether the bottom-up value constitutes a reasonable WACC value (applying judgement in the circumstances), including whether the overall WACC value requires an adjustment to reflect prevailing market conditions at the time of a decision.

Given this principle, the WACC calculated in this paper is consistent with the QCA methodology and Sunwater seeks WACC approval. This approach is particularly suitable as the value of the WACC does not materially impact on Sunwater's revenue required and irrigation prices.

¹ QCA, *Rate of Return Review*, November 2021.

² Sunwater, *Rate of Return Review*, submission to the QCA request for comments paper, 29 January 2021.

4 WACC methodology

The QCA's recently completed Rate of Return Review sets out guidelines for the calculation of the WACC. The approach of this paper is to develop a fit-for-purpose WACC which the QCA will consider to be 'reasonable.' This will be done through emphasis on recent regulatory decisions, both from the QCA and other Australian regulators.

The method for each parameter of the WACC is shown in Table 4.1

Table 4.1 Method to calculate each parameter

Parameter	Method	Source
Form of WACC	Nominal, post-tax WACC (Officer WACC3)	
Gearing	Consider the previous regulatory gearing as a starting point, and only depart from this benchmark if there is sufficient evidence of change.	Recent regulatory precedent from QCA, ESC, ICRC and IPART.
Cost of debt approach		
Cost of debt credit rating	Consider the entity's financial risk and business risk, regulatory precedent, and comparator analysis.	We will consider whether the previously approved rating of BBB needs to change, based on recent decisions made by regulators.
Trailing average characteristics	Apply an unweighted (simple) 10-year trailing average (extrapolated to 10 year and annualise) to the entire cost of debt, with annual and equal debt tranche refinancing.	We will use data from the Reserve Bank of Australia with a 10-year term to maturity
Debt-raising costs	Apply an allowance of ten basis points for the transaction costs associated with raising debt for the trailing average approach.	QCA rate of return review.
Cost of equity approach		
Risk free rate	Use Yields on Australian government bonds, interpolated, 10 years maturity from RBA F2, averaged over a period of 20 to 60 business days close to the commencement of each regulatory period, with the length and timing of the period nominated by the regulated entity in advance.	We will use daily Australian Government Yields on Australian government bonds, interpolated, 10 years maturity, published by the RBA (F2 table) to estimate the risk-free rate. We have used a 20-day period.
Beta	In the previous review, the QCA changed the proposed asset beta from 0.41 to 0.40. Given the small possible change, we propose to review recent regulatory decision for similar Australian water business to determine whether the beta is materially different from the previously approved 0.40.	We will examine the regulatory decisions for similar Australian water business. We will provide beta comparators and discussion on the applicability of these comparators.

Parameter	Method	Source
Market risk premium	The QCA adopts the Ibbotson (historical) method to estimate the market risk premium, supplemented by consideration of a range of current market information to assess whether the overall return on equity requires an adjustment to reflect prevailing market conditions at the time of a decision.	The market risk premium is consistent between regulatory reviews, as it reflects long-term markets trends. We will propose a market risk premium based on recent regulatory precedent.
Gamma	The QCA concluded in its cost of capital review that a value of 0.484 is appropriate. This is the product of a value of 0.88 for the distribution rate based on the average distribution rate of relevant top fifty companies on the ASX by market capitalisation, and a utilisation rate of 0.55 based on the equity ownership of Australian listed companies.	QCA rate of return review

5 WACC by parameter

Each of the WACC parameters have been generated to calculate the current WACC. These parameters will be reviewed and updated prior to the review lodgement date.

5.1 FORM OF WACC

QCA employs the Officer WACC3 or 'vanilla' form of the discount rate. This approach defines cash flows and the discount rate in nominal, post-tax terms and modifies the cash flows, rather than the discount rate, for the tax deductibility of interest payments and the value of dividend imputation credits.

5.2 GEARING

Gearing for a regulated entity is likely to be stable over time—regulated entities tend to have stable cash flows, because of factors such as features of the regulatory framework (for example, revenue caps) and low demand elasticity.

Sunwater's previously approved gearing was 60% debt/ 40% equity.

The gearing (ratio of debt to equity) for Sunwater should reflect the gearing approved for similar entities. The table below provided by the QCA in its recent Rate of Return Review shows the debt gearing approved for water entities in other jurisdictions (ESG, ICRC and IPART).

Table 5.1: Regulatory gearing from recent decision

Regulator	Industry	Debt gearing from a recent decision
ESC	Water	60%
ICRC	Water	60%
IPART	Water	60%

Source: QCA, Rate of Return Review, Final Report, 9 November 2021

There is no current basis, such as material change in circumstances for Sunwater, to change the 60% debt gearing.

We recommend that a gearing of 60% debt/40% equity be adopted.

5.3 COST OF DEBT

The QCA advises that the cost of debt should be calculated as:

- cost of debt based on credit rating
- additional cost of debt raising.

5.3.1 Credit rating

The QCA states the credit rating benchmark for entities should be considered on a case-by-case basis at the time of their next review.

In the last review, the QCA confirmed that Sunwater should be considered a BBB-rated corporate. QCA's assessment of credit ratings used by other regulators across Australia is that all regulators use a BBB rated corporate rating as shown in Table 5.2

Table 5.2 Credit ratings used by other Australian Regulators

Regulator	Credit rating
ESC	RBA 10-year BBB rated corporate bond yield
IPART	RBA 10-year BBB rated corporate bond yield
ESCOSA	RBA 10-year BBB rated corporate bond yield
OTTER	RBA 10-year BBB rated corporate bond yield
ICRC	Average of Bloomberg and RBA 10-year BBB corporate bond yields

Source: QCA, Rate of Return Review, Final Report, 9 November 2021

Given that there has been no major financing or market changes to Sunwater since the last review, it is recommended that Sunwater adopt a BBB credit rating for this review.

5.3.2 Trailing average debt calculation

The QCA states that the entire cost of debt (risk-free rate and debt risk premium all-in-one) should be calculated using a trailing average approach for 10 years (linearly extrapolated to 10 years and annualised) and assumed refinancing to be undertaken annually.

QCA consider it appropriate to apply the following trailing average approach to determine the cost of debt allowance:

A 10-year trailing average approach is used to determine the entire cost of debt (that is, risk-free rate and DRP).

- The averaging period is the 10 years preceding the year in which the rate applies.
- Each year, the 10-year trailing average cost of debt is updated by rolling forward the data series by one year, such that:
 - the cost of debt for the roll-forward year reflects RBA’s non-financial corporate [credit rating] bonds – yield – 10-year target tenor – RBA statistical table F3, linearly extrapolated to 10 years and annualised
 - the annual update will be a simple average of the monthly observations from April to March in the preceding year to which the rate applies
 - the trailing average is a simple average of 10 years of cost of debt.

The cost of debt based on the BBB-rated bonds has been calculated using the trailing average approach as shown in Table 5.3

Table 5.3 Cost of debt trailing average approach

Trailing average approach calculation	RBA non-financial corporate [credit rating] bonds – yield – 10-year target tenor – RBA statistical table F3. RBA data linearly extrapolated to 10 years and annualised
Cost of debt regulatory year (t-10) – average of twelve monthly observations of RBA data, April 2013 – March 2014	7.18%
Cost of debt regulatory year (t-9) – average of twelve monthly observations of RBA data, April 2014 – March 2015	5.22%
Cost of debt regulatory year (t-8) – average of twelve monthly observations of RBA data, April 2015 – March 2016	5.26%
Cost of debt regulatory year (t-7) – average of twelve monthly observations of RBA data, April 2016 – March 2017	4.72%

Trailing average approach calculation	RBA non-financial corporate [credit rating] bonds – yield – 10-year target tenor – RBA statistical table F3. RBA data linearly extrapolated to 10 years and annualised
Cost of debt regulatory year (t-6) – average of twelve monthly observations of RBA data, April 2017 – March 2018	4.48%
Cost of debt regulatory year (t-5) – average of twelve monthly observations of RBA data, April 2018 – March 2019	4.68%
Cost of debt regulatory year (t-4) – average of twelve monthly observations of RBA data, April 2019 – March 2020	3.36%
Cost of debt regulatory year (t-3) – average of twelve monthly observations of RBA data, April 2020 – March 2021	2.87%
Cost of debt regulatory year (t-2) – average of twelve monthly observations of RBA data, April 2021 – March 2022	3.75%
Cost of debt regulatory year (t-1) – average of twelve monthly observations of RBA data, April 2022 – March 2023	6.95%
Trailing average cost of debt regulatory year (t,2023–24) – average of cost of debt regulatory year (t-1) to (t-10)	4.85%

Source: RBA,2023, F3 Aggregate Measures of Australian Corporate Bond Spreads and Yields: Non-Financial Corporate (Nfc) Bonds

5.3.3 Debt-raising costs

The QCA provides an allowance of ten basis points (0.1%) for the transaction costs associated with raising debt for the trailing average approach. This is added the cost of debt to generate a total cost of debt of 5.00%.

5.3.4 Cost of debt summary

The current cost of debt calculated using the QCA's guidelines and the most recent data is 4.95%.

5.4 COST OF EQUITY

The cost of equity is calculated using the:

- Risk free rate
- Equity beta
- Market risk premium.

5.4.1 Risk free rate

The risk-free rate is the rate of return an investor would expect to receive on an asset with zero default risk. It compensates an investor for the time value of money.

Estimation of the risk-free rate requires determining an appropriate term to maturity, proxy, data source and estimation method (including an averaging period).

Due to changes in the availability of RBA data, the risk-free rate is now calculated by:

- Using the yields on Australian government bonds, interpolated, 10 years maturity from the F2 Capital Market Yields – Government Bonds over the selected period (between 20 and 60 business days in length)
- Converting each yield to an effective annual rate (EAR)
- Averaging the yields over the period.

A 20-day period has been chosen as the initial period for consideration and sensitivity analysis as shown in Table 5.4

Table 5.4 Risk free rate average period

Risk free rate period	
Start date	7/08/2023
End date	1/09/2023
Business days	20

The risk-free rate calculations are shown in Table 5.5.

Table 5.5 Current risk-free rate calculation

Dates	Yields on Australian government bonds, interpolated, 10 years maturity	Yields on Australian government bonds, interpolated, 10 years maturity (%)	Effective annual rate (EAR)
7/08/2023	4.06	4.06%	4.12%
8/08/2023	4.01	4.01%	4.01%
9/08/2023	3.99	3.99%	3.98%
10/08/2023	4.04	4.04%	4.07%
11/08/2023	4.10	4.10%	4.20%
14/08/2023	4.19	4.19%	4.38%
15/08/2023	4.25	4.25%	4.52%
16/08/2023	4.20	4.20%	4.41%
17/08/2023	4.32	4.32%	4.65%
18/08/2023	4.23	4.23%	4.46%
21/08/2023	4.26	4.26%	4.53%
22/08/2023	4.26	4.26%	4.54%
23/08/2023	4.19	4.19%	4.38%
24/08/2023	4.11	4.11%	4.21%
25/08/2023	4.15	4.15%	4.31%
28/08/2023	4.13	4.13%	4.26%
29/08/2023	4.10	4.10%	4.19%
30/08/2023	4.07	4.07%	4.13%
31/08/2023	4.02	4.02%	4.04%
1/09/2023	4.00	4.00%	4.00%
Risk free rate (average)			4.27%

Source: RBA,2023, F2 Capital Market Yields – Government Bonds

The calculated risk-free rate, based on the chosen 20-day period, is 4.27%.

5.4.2 Equity beta

Previous QCA review

In the previous review, QCA used an asset beta of 0.40 and an equity beta of 0.755. The same asset beta and equity beta has been recalculated as shown in Table 5.6.

Table 5.6 Equity beta calculations

Parameter	
Asset beta	0.40
Debt beta	0.12
Imputation credit adjustment to the tax rate	15.48%
Debt	60%
Equity	40%
Equity beta	0.755

Systematic risk update

The asset beta (or unlevered equity beta) of an entity is a measure of the volatility of returns from a firm's assets relative to the volatility of returns to the market as a whole—often referred to as systematic (or non-diversifiable) risk. The equity beta (or levered asset beta) reflects not only this risk, but also the financial risk borne by equity holders from the use of debt as part of the funding for the business.

Systematic risks include:

- macroeconomic conditions
- political events
- interest rate changes
- inflation
- overall market sentiment.

The past 5 years has seen major changes to systematic risks from factors including:

- impact of the pandemic and associated response
- rising interest rates
- rising inflation.

The change in these factors affect the systematic risk for Sunwater but this change only be analysed by using comparable publicly listed companies.

Ideally, in the Australian context, this set would comprise firms that are listed on the Australian Stock Exchange (ASX), with similar operational characteristics and facing similar risks as the regulated entity. This is commonly cross-checked against similar analysis undertaken by other regulators in relation to similar firms.

There are few domestically listed firms that are comparable to Sunwater. In prior reviews, QCA's has benchmarked Sunwater using international comparable companies.

The QCA provides a list of comparator companies and the following four publicly listed US water companies have been used in the analysis of systematic risk. All four companies pass a liquidity filter of:

- minimum 100,000 shares traded per day (3-month average)
- Current market capitalisation above \$AUD 100 million.

Table 5.7 Comparator companies

Water Ticker	Name
AWK	American Water Works Co Inc
WTRG	Essential Utilities Inc
CWT	California Water Service Grp
MSEX	Middlesex Water Co

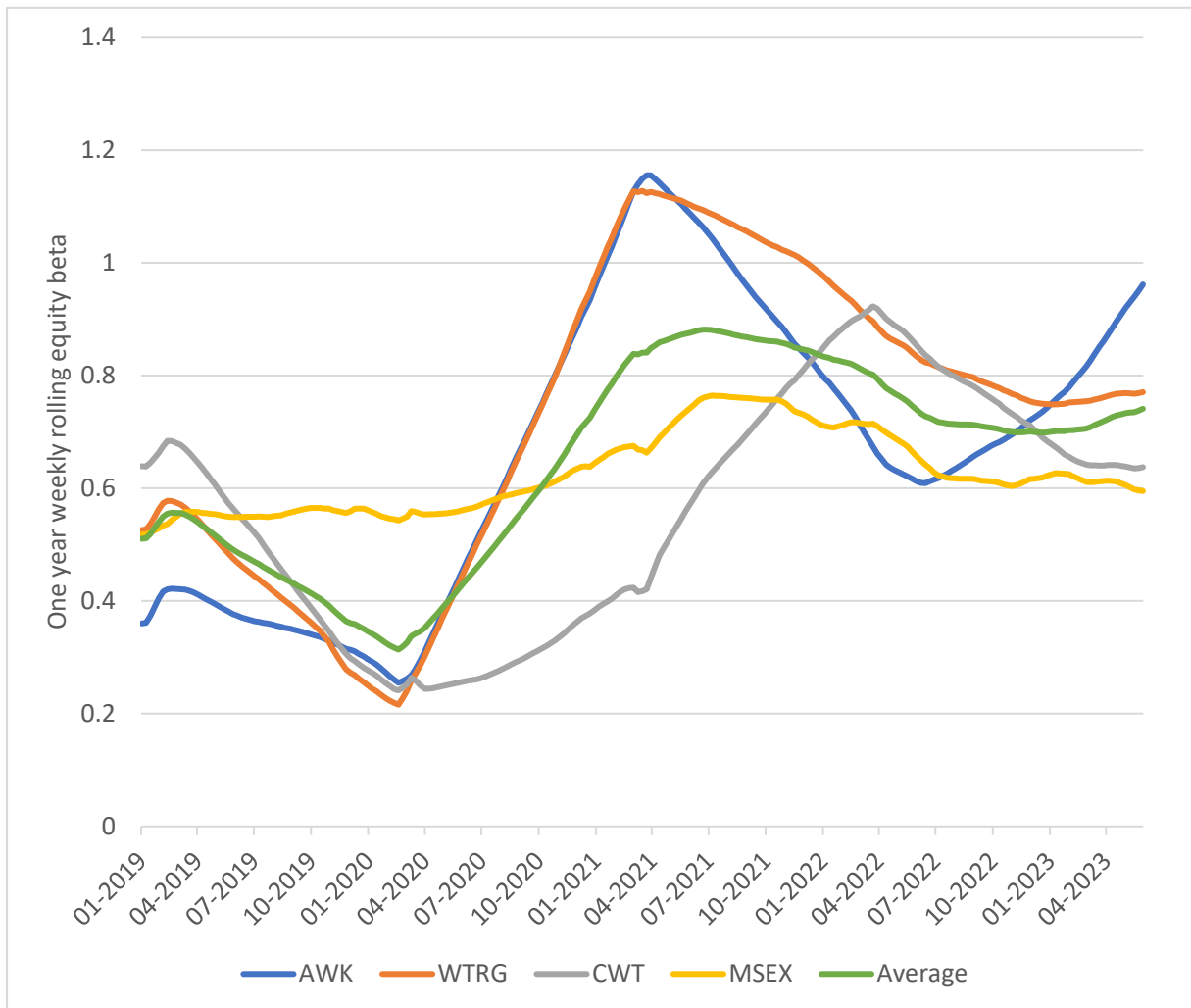
Pandemic and associated responses

The impact of COVID-19 on systematic risk was significant and varied across different industries and companies. These included:

- **Increased Systematic Risk:** The COVID-19 pandemic had a widespread impact on global economies and financial markets. The uncertainty surrounding the virus, lockdown measures, and their economic consequences led to increased market volatility. Higher volatility indicates increased systematic risk, and as a result, many stocks experienced higher betas during this period. The heightened uncertainty and market downturn increased the sensitivity of stock prices to market movements.
- **Industry-Specific Effects:** The impact of COVID-19 on beta varied across industries. Sectors such as travel, hospitality, and retail were severely affected due to travel restrictions, closures, and reduced consumer spending. Companies in these industries experienced significant declines in their stock prices and increased betas. On the other hand, sectors like healthcare, technology, and online retail saw increased demand, leading to more stable or even decreased betas.
- **Company-Specific Factors:** The pandemic's impact on individual companies depended on numerous factors such as their business model, financial strength, and ability to adapt. Companies with stronger balance sheets, diversified operations, and robust online presence were better positioned to weather the storm. These companies may have experienced lower betas compared to their industry peers, as their business operations were less affected.
- **Market Recovery and Beta Normalization:** As governments and central banks implemented stimulus measures and vaccination campaigns progressed, financial markets gradually recovered from the initial shocks of the pandemic. The recovery in market sentiment and improved economic outlook led to a decline in overall market volatility and the gradual normalization of betas for many stocks.

The one-year rolling weekly average equity betas for five publicly listed US water businesses shows a rise during the pandemic and subsequent fall as shown in Figure 5.1

Figure 5.1 One year weekly rolling equity betas for comparators companies



Source: Yahoo finance

It is likely that all companies experienced higher betas during the initial pandemic periods, even regulated entities such as Sunwater. Since the responses to the pandemic, it is likely that Sunwater's beta has normalised along with the comparator companies.

Inflation and interest rates

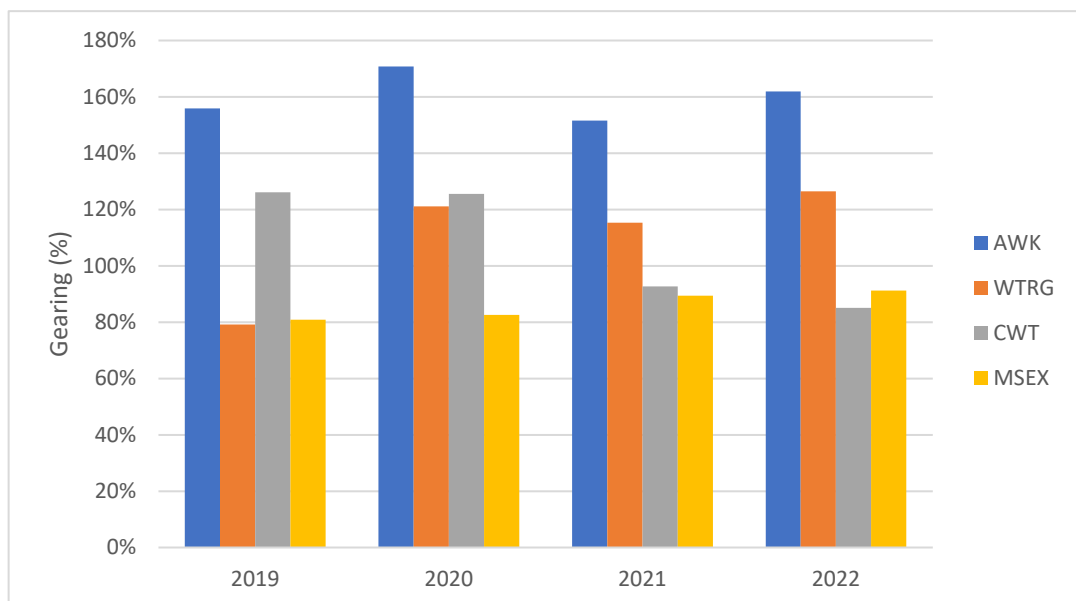
Inflation and interest rate changes can have significant impacts on the systematic risk in a firm's beta.

- Inflation: Inflation refers to the general increase in prices of goods and services over time. It affects the purchasing power of consumers and the profitability of businesses. When inflation rises, it can have the following impacts on systematic risk:
 - Interest rates: Central banks often raise interest rates to combat inflation. Higher interest rates can increase borrowing costs for firms, which can impact their profitability. If a firm relies heavily on debt financing, higher interest rates can lead to higher interest expenses, potentially affecting its earnings and stock price. Consequently, a firm's beta may increase due to the increased systematic risk associated with higher interest rates.
 - Consumer demand: Inflation can impact consumer purchasing power and behaviour. When prices rise, consumers may reduce their spending on discretionary items or delay purchases. This can affect the revenues and earnings of companies, particularly those in industries sensitive to consumer demand. A decline in sales and profitability can increase the systematic risk of a firm, leading to a higher beta.

- Input costs: Inflation can also increase the cost of raw materials, energy, and labour for businesses. If a firm's production costs rise significantly, it may face challenges in maintaining profitability. This can impact its stock price and increase the systematic risk reflected in its beta.
- Interest rate changes: Changes in interest rates, particularly the benchmark interest rates set by central banks, can affect the systematic risk in a firm's beta:
 - Borrowing costs: Interest rate changes can impact a firm's borrowing costs. When interest rates rise, borrowing becomes more expensive, leading to higher interest expenses for companies with debt. This can affect their profitability and increase the systematic risk associated with the firm, resulting in a higher beta.
 - Discount rates: Interest rates also affect the discount rates used in discounted cash flow (DCF) valuations. A higher discount rate reduces the present value of future cash flows, potentially lowering a firm's valuation and stock price. Changes in discount rates can impact the systematic risk of a firm and influence its beta.
 - Investment decisions: Interest rate changes can influence investment decisions by firms. Higher interest rates can make capital investments less attractive, potentially leading to reduced investment spending. This can impact a firm's growth prospects and future earnings potential, thus affecting its systematic risk and beta.

There has been a divergence in beta for the comparable companies since the start of inflation and interest rises. The divergence may be explained by the interest rate exposure - gearing (total debt divided by total equity) of the comparator companies as shown in Figure 5.2.

Figure 5.2 Annual gearing (total debt/total equity)



Source: Yahoo finance

A potential explanation for the recent rise in beta for AWK may be the higher gearing compared, resulting in greater increase in interest repayments, leading to lower profitability and higher share price volatility, as interest rates rise.

Comparator company asset (unlevered) asset betas

The average asset beta from 1 January 2017 to 31 August 2023 for the four comparator companies is shown in Table 5.8.

Table 5.8 Asset betas – comparator companies

	Average equity beta	Gearing	Corporate tax rate	Asset beta (unlevered)
AWK	1.007	162%	21%	0.442
WTRG	0.768	126%	21%	0.384
CWT	0.654	85%	21%	0.391
MSEX	0.608	91%	21%	0.353
Average	0.759	116%	21%	0.393

Source: Yahoo finance

The average (unlevered) asset beta of 0.393 which is lower than the QCA's recommended previous asset beta for Sunwater of 0.40.

Sunwater's equity beta, calculated by relevering the international comparator asset beta, is shown in Table 5.9.

Table 5.9 Sunwater equity beta using international comparator average asset beta

Asset beta	0.39
Debt beta	0.12
Imputation credit adjustment to the tax rate	15.48%
Debt	60%
Equity	40%
Equity beta	0.739

Note: Debt beta is QCA assumption - Rate of Return Review - Brealey-Myers levering formula with a debt beta of 0.12

NSW IPART equity beta for water businesses

The equity beta currently provided by the NSW Independent Pricing and Regulation Tribunal's (IPART) WACC calculation spreadsheet which provides a release financial market updates biannually in February and August.

The current equity betas (current market data and long-term averages) for water businesses regulated by IPART is shown in Table 5.10.

Table 5.10 IPART water equity beta (August 2023)

	Current market data	Long term averages
Equity beta	0.70	0.70

Adopted equity beta

The international comparator analysis and review of NSW IPART equity beta for water businesses indicates that Sunwater's equity beta may be lower than the previous equity beta of 0.755.

We recommend that an equity beta of 0.725 be adopted for this pricing proposal as a mid-point from the international comparators to IPART's current advice.

Gamma

Gamma is used to calculate the imputation credit adjustment to the tax rate as shown in Table 5.11

Table 5.11 Gamma calculations

Gamma	0.484
Implied tax rate	30.00%
Imputation credit adjustment to the tax rate	15.48%

The QCA concluded in its cost of capital review that a value of 0.484 is appropriate. This is the product of a value of 0.88 for the distribution rate based on the average distribution rate of relevant top fifty companies on the ASX by market capitalisation, and a utilisation rate of 0.55 based on the equity ownership of Australian listed companies.

5.4.3 Market risk premium

The market risk premium estimates the additional return that an equity investor requires, to be compensated for the risk of investing in a fully diversified portfolio of risky assets, relative to purchasing a risk-free asset.

QCA advises that the market risk premium be calculated using the Ibbotson method. This method — which assumes that investors use historical excess returns data to inform their expectations of achievable future returns—provides a plausible indication of the risk premium an investor requires on average for investing in the market.

The market risk premium is consistent between regulatory reviews, as it reflects long-term markets trends.

In the last review, Sunwater proposed to continue the use of the MRP from the recently completed bulk water review. However, in November 2019, the QCA updated the MRP to 6.5%.

We propose to use 6.5% as the market risk premium. We note, as indicated in the QCA’s 2021 WACC review final report (p. 65), the QCA will calculate the MRP using the Ibbotson method with arithmetic averaging and the 1958 data sampling period as part of its review of Sunwater’s pricing proposal.

NSW IPART market risk premium for water businesses

The chosen market risk premium of 6.5% is between the current market data and long-term average provided by the NSW IPART’s WACC calculation spreadsheet.

The current market risk premiums (current market data and long-term averages) for water businesses regulated by IPART is shown in Table 5.10.

Table 5.12 IPART water equity beta (February 2023)

	Current market data	Long term averages
Market Risk premium	7.7%	6.0%

5.4.4 Cost of equity summary

The cost of equity calculated using the parameters above is 8.98%.

6 Current estimated WACC

The current estimated WACC for Sunwater, based on a high-level update and comparison with other jurisdictions, is shown in Table 6.1

Table 6.1 Current estimated WACC

Parameter	Current Sunwater proposal
20-day averaging period (end date)	1-Sep-23
Risk-free rate	4.27%
Market risk premium	6.50%
Asset beta	0.393
Equity beta	0.725
Cost of equity	8.98%
Credit rating	BBB
Cost of debt	4.95%
Capital structure	60%
Gamma	0.484
Nominal post-tax WACC (Office WACC3)	6.56%

The estimated WACC has increased from the previous review due to increases in the risk-free rate and the cost of debt as shown in Table 6.2.

Table 6.2 Comparison of current estimated WACC with previous proposal and QCA recommendation

Parameter	Current Sunwater proposal	Previous Sunwater proposal	QCA recommended in 2019
20-day averaging period (end date)	1-Sep-23	27-Aug-18	29-Nov-19
Risk-free rate	4.27%	2.260%	1.160%
Market risk premium	6.50%	7.000%	6.500%
Asset beta	0.393	0.410	0.400
Equity beta	0.725	0.765	0.755
Cost of equity	8.98%	7.615%	6.068%
Credit rating	BBB	BBB	BBB
Debt margin		2.410%	2.090%
Cost of debt	4.95%	4.670%	3.250%
Capital structure	60%	60%	60%
Gamma	0.484	0.410	0.484
Nominal post-tax WACC	6.56%	5.85%	4.38%

Note: QCA's Rate of Return Review stated that the total cost of debt (risk free rate and debt margin) should be calculated together so there is no debt margin in the current Sunwater proposal