

Comparing the annuity and regulatory asset base valuation approaches

Sunwater

12 February 2026



Disclaimer

Synergies Economic Consulting (Synergies) has prepared this report exclusively for the use of the party or parties specified in the report (the client) for the purposes specified in the report (Purpose). The report must not be used by any person other than the client, or a person authorised by the client or for any purpose other than the Purpose for which it was prepared.

The report is supplied in good faith and reflects the knowledge, expertise and experience of the consultants involved at the time of providing the report.

The matters dealt with in this report are limited to those requested by the client and those matters considered by Synergies to be relevant for the Purpose.

The information, data, opinions, evaluations, assessments, and analysis referred to in, or relied upon in the preparation of, this report have been obtained from and are based on sources believed by us to be reliable and up to date, but no responsibility will be accepted for any error of fact or opinion.

To the extent permitted by law, the opinions, recommendations, assessments, and conclusions contained in this report are expressed without any warranties of any kind, express or implied.

Synergies does not accept liability for any loss or damage including without limitation, compensatory, direct, indirect or consequential damages and claims of third parties, that may be caused directly or indirectly through the use of, reliance upon or interpretation of the contents of the report.

Executive Summary

Synergies Economic Consulting (Synergies) has undertaken a comparison of the merits of the annuity and regulatory asset base (RAB) approaches, each of which can be used to determine capital expenditure (capex) values to set the prices of regulated water infrastructure services.

In Sunwater’s case, since 2000, the annuity approach has been applied to its actual and forecast renewals capex that it uses to provide price-regulated irrigation services to its customers.

Comparative analysis of annuity and RAB approaches

Table 1 summarises the key findings from our comparative assessment of the annuity and RAB approaches.

Table 1.1: Comparison of annuity and RAB approaches

Issue	Annuity approach	RAB approach
Is the model fit for purpose for all types of capital investment?	No, it is not readily applicable for capital investments with uncertain demand, augmentations, expansions, asset reconfiguration, asset disposals. Hence, it is typically applied to asset renewals with stable long-term demand underpinned by long-term robust expenditure planning.	Yes, it can be applied to all types of capital investment (both growth and renewal) with varying asset lives. Long term capital planning remains important but is not strictly necessary to apply the RAB approach.
Is the approach dependent on the quality of long-term asset planning information?	Yes, it relies heavily on the stability and quality of long-term asset planning and on low levels of forecasting error. This is because annuity values are generally set for 30-plus years.	High-quality long-term asset planning and forecasting is desirable to provide confidence in the long-term prudence of the total capex program. A requirement for service providers to publicly release long term asset management and capex planning documentation to inform interested stakeholders can often form part of the RAB approach. However, capex forecasts are generally approved for only 3 to 5 year regulatory periods.

Issue	Annuity approach	RAB approach
Is there potential for cost forecasting error?	Yes, it is high because of the need to set the value of the annuity for a long period (30 years in Sunwater's case). Cost forecasting errors can be addressed through sinking fund adjustments. The existence of quality long term asset planning information can also help address cost forecast error but there will generally be a relatively high degree of uncertainty because of the required long-term nature of the cost forecasting.	Cost forecasts are set for the term of the regulatory period, which in Australia is generally 3 to 5 years. This relatively short period reduces the potential size of cost forecasting errors compared to forecasting costs over a 30-year period. To the extent that forecast errors are made over a 3 to 5 year period this error is confined to the term of each regulatory period, after which cost forecasts are reset.
Is the method able to smooth the revenue path in response to lumpy operational and capital costs	Yes, given the long-term nature of the annuity charge and provided it is not adjusted significantly over time due to major changes in planning of the capex program. However, the potential exists for unplanned events that require annuity-related capex to occur periodically. In practice, this requires the capex to be incurred and causes an adjustment to be made to the annuity charge (or sinking fund balance) because the capex was not captured under the long-term plan.	There is potential for revenue (and price) volatility if the capex program is lumpy across regulatory periods (of 3 to 5 year terms). However, this can partly be mitigated through revenue and price smoothing during each regulatory period. There is also scope to make changes in the asset depreciation profile to smooth revenues.
Can the approach contribute to regulatory certainty over infrastructure charges?	Yes, if the capex program subject to the annuity is relatively stable over time. If not, the annuity arrangement must address the long-term capex planning uncertainties eg, through a sinking fund. Careful management of the sinking fund used to manage these forecasting uncertainties will also be required. The extent of forecast error in the size of capex program and	A high degree of regulatory certainty is provided for each regulatory period but not necessarily across regulatory periods. This is because the RAB approach does not rely on high-quality long-term asset planning and forecasting to set revenue and prices within a regulatory period. Rather, it can be based on short to medium-term capex forecasts.

Issue	Annuity approach	RAB approach
	its associated cost will ultimately determine the extent of regulatory certainty over infrastructure charges	The potential exists for a material increase in infrastructure charges when a new regulatory period commences.
Who bears risk in relation to the capex program	The customer bears most of the risk in terms of the long-term capex program through paying the annuity charge. The annuity charge is a form of pre-payment for the future (30-year) renewals capex program including the uncertainties associated with the scope and cost of that program.	The service provider bears the risk in terms of delivery of the capex program approved by the economic regulator for the term of the regulatory period, including bearing the risk of potentially over-spending in relation to the approved capex forecasts. The capex over-spend may not necessarily be rolled into the RAB. The customer bears no risk today in terms of charges paid in relation to the forecast long-term capex program because it is not reflected in the capex forecasts for the 3-5 year regulatory period.
Administrative costs of approaches	The annuity approach that is currently applied to Sunwater creates large administrative costs associated with the need for it to develop a rolling 30-year renewals capex program as the basis of its renewals capex forecasts, for which both its customers and the QCA must consider at each regulatory review. There is also a need for the associated annuity balances across schemes to be maintained and updated annually.	Under the RAB approach, the medium-term nature of the approved capex program for each 3-5 year regulatory period would create a lower ongoing administrative cost for Sunwater, its customers and the QCA. However, adoption of the RAB approach would not remove the need for Sunwater to develop and share its long-term renewals plans for the irrigation schemes.

Practical issues moving from annuity to RAB approach

The key practical issues associated with implementing a RAB approach to apply to Sunwater's renewals capex would be to:

- Establish the initial RAB value for the renewal assets previously subject to the annuity
- Determine a robust method to classify capex and opex in relation to renewals

expenditure

- Unwind the existing sinking fund balances across irrigation schemes, which is most likely to be linked to establishment of the initial RAB value.

Given the sensitivities associated with these practical issues, primarily arising from the likely differential impacts on Sunwater's customers across its 26 irrigation schemes, customer engagement would need to be a critical component of any move away from the annuity approach.

Ultimately, the QCA would be required to approve the details of any move away from the annuity approach, including resolving the practical implementation issues in a way that protects the legitimate business interests of Sunwater, as well as its irrigation customers in terms of price impacts.

Conclusion

In principle, application of the annuity and RAB approaches should deliver the same outcomes for Sunwater and its customers over time in terms of capital returns and irrigation prices respectively. However, in practice, there may be timing differences associated with these outcomes because of the different underlying estimation methodologies of the two approaches.

More importantly, we do not consider that the renewals annuity approach is well-suited to the diverse character of the multiple irrigation schemes that Sunwater currently operates and maintains, including varying complexity, age and condition of the assets across schemes. Rather, the annuity approach is most effective when applied in relation to single large or homogenous assets, which facilitates the robust long-term planning that is essential to effective application of the approach. This problem is exacerbated by the program scope and cost forecasting errors inherent in developing 30-year renewals capex forecasts.

In contrast, the RAB approach does not depend to the same extent on long term planning, particularly as it relates to revenue and price setting, which is limited to existing sunk assets and capex forecasts in 3-5 year windows. This medium term timeframe can sometimes result in large variations in the size of capex forecasts that are approved by the economic regulator across regulatory periods. This means that in theory a price path under the RAB approach may not be as stable as the annuity approach in some periods dependent on the timing of required renewals capex in the long term. However, in practice, this stability may not be evident, particularly where major unplanned expenditure does not form part of an annuity at a point in time such that it periodically needs to be reset to accommodate this unplanned expenditure. Further, this potential for more stable prices under the annuity approach comes at a cost to irrigation customers who must pay in advance for the 30-year forecast renewals program.

In indicating our preference for the RAB approach, we recognise that the annuity approach has been applied to Sunwater's renewals capex since 2000, which would create several

important practical issues in implementing the RAB approach. However, we do not think that these practical issues are insurmountable or will create windfall gains and losses for Sunwater or its irrigation customers.

This is because the QCA is very familiar with application of annuity and RAB approaches and so would be well-placed to ensure that there is a reasonable balancing of Sunwater's and its customers' interests if the RAB approach were to be implemented in place of the annuity approach.

Further, over recent rural price reviews by the QCA, most focus regarding the 30-year renewals forecast has been on the first five years of it for which Sunwater (and the QCA) has most confidence from a planning and delivery perspective. As a result, the RAB approach would be applied in a similar way to the annuity approach has been applied but absent the long-term renewals capex forecast and its inherent uncertainties.

Table of Contents

Executive Summary	3
Comparative analysis of annuity and RAB approaches	3
Practical issues moving from annuity to RAB approach	5
Conclusion.....	6
1. Introduction.....	9
1.1 Scope of advice.....	9
1.2 Report structure	9
2. Differences between annuity and RAB approaches	10
2.1 Annuity approach	10
2.2 RAB approach	11
2.3 Application of annuity approach to Sunwater’s renewals capex.....	12
2.4 Conclusion	12
3. Comparative analysis of annuity and RAB approaches.....	14
3.1 Comparative assessment of approaches.....	14
3.2 Strengths and weaknesses of each of the approaches	18
4. Practical issues in changing from annuity to RAB approach	20
4.1 Establishing an initial RAB value.....	20
4.2 Cost categorisation	21
4.3 Avoiding customer price shocks	21
4.4 Sunwater’s legitimate business interests	22
5. Conclusion	23

Table of Tables

Table 1.1: Comparison of annuity and RAB approaches.....	3
Table 3.1: Comparison of annuity and RAB approaches	18

1. Introduction

Synergies has been engaged to provide our assessment of the differences between the annuity and regulatory asset base (RAB) valuation approaches and what needs to be considered if Sunwater was to replace its current annuity approach with a RAB approach.

Over the past decade, Sunwater and the Queensland Competition Authority (QCA) have considered the possibility of a change from the current annuity approach applied to Sunwater's renewals capex to a RAB-based approach.

A proposed change in approach formed part of Sunwater's November 2023 pricing proposal to the QCA. While the QCA deferred recommending a change based on some preparedness concerns, in October 2025, the Queensland Government initiated a QCA-led review of RAB-based pricing in preparation for possible application of this method to Sunwater from 1 July 2027 .

1.1 Scope of advice

Our report addresses the following matters:

- the theoretical basis of each valuation approach
- short and long-term time horizons in applying the two valuation approaches.
- practical strengths and limitations of each approach, including
 - the nature and scale of limitations that might arise under either approach,
 - how each approach applies (or would apply) to Sunwater and does (or might) impact on Sunwater's customers' prices; and
 - what mitigations might reasonably be implemented to address any limitations and how effective they could expect to be.

1.2 Report structure

The remainder of this report is structured as follows:

- Section 2 briefly summarises the key features of the annuity and RAB approaches and the application of the former approach in relation to Sunwater's renewal capex.
- Section 3 presents our comparative analysis of the annuity and RAB approaches, with a focus on strengths and limitations of each.
- Section 4 discusses practical issues associated with transitioning from the annuity to RAB approach.
- Section 5 concludes.

2. Differences between annuity and RAB approaches

The purpose of this section is to provide brief descriptions of the annuity and RAB approaches, including their key underlying assumptions, and Australian regulatory precedent regarding their use. It also briefly summarises the historical application of the annuity approach to Sunwater's renewals capex.

2.1 Annuity approach

A renewals annuity recovers future renewals expenditure required to maintain the service capacity of the relevant assets. The annuity is an annual constant payment to recover forecast expenditure over a defined period (eg. 30 to 50 years). The annuity is calculated using the weighted average cost of capital (WACC) as the discount rate to establish the smoothed annual value of the annuity. In effect, it is assumed that the asset will provide ongoing services into the long term and will be renewed but never reach an end-of-life state. That is, demand for the services provided by the assets is assumed to continue into the long term.

In practice, the annuity includes the pre-funding of future capex associated with the relevant assets, which may lead to the build-up of a positive annuity balance if most of the expenditure that the annuity is intended to fund has yet to occur (which in practice is generally not the case). However, it is also possible that the service provider will need to fund the capex when there is a negative annuity balance or the positive balance is insufficient to fund forecast capex. The existence of negative or positive annuity balances will be a function of the long-term capex forecasts used to establish the value of the annuity, as well as the WACC used to discount the annuity, both of which can change materially over time.

Under the annuity approach, the service provider recovers the cost of its investments in the relevant assets over the term of the annuity rather than the expected life of the assets as is the case under the RAB approach.

The decision about whether to adopt the annuity approach should primarily be based on the characteristics of the assets. Where assets maintain their service potential indefinitely and there is no reason to expect that demand for the service will reduce or cease in the foreseeable future, a renewals annuity approach can be appropriate.

From the late 1990s, annuities were sometimes used in relation to Australian price-regulated water infrastructure because of the key underlying assumption of ongoing renewal of the assets over time underpinned by expected long term water demand. However, over time, economic regulators have transitioned away from the annuities approach to adopt the RAB approach. It is reasonable to conclude that there is now a strong

preference for the RAB approach, with the rural irrigation schemes of Sunwater (and Seqwater) outliers in continuing to be subject to the annuities approach.

2.2 RAB approach

The RAB is an accumulation of the value of investments that a service provider has made in the infrastructure that it uses to supply services to its customers. It includes assets of various technical (or economic) lives.¹ Most of these assets will depreciate over their life, although a small number do not, such as easements and land.

Once established, the RAB value is generally updated annually to reflect:

- increments of new capex, including due to renewals of existing assets
- asset depreciation, reflecting the deterioration in the value of assets as they are used over their lives
- asset inflation indexation, which adjusts the value of assets to reflect movements in inflation over time
- asset disposals.

The service provider finances all its investments as they occur through:

- recovering the cost of debt and equity funds used to make its investments, which forms part of allowance total revenues;
- depreciation net of inflation indexation of the assets, which is another component of allowable total revenues.

These two forms of allowable revenue are ultimately reflected in the prices that customers pay for the infrastructure service. Allowable revenues are recovered over the expected life of the assets as determined by the asset's depreciation profiles.

Where the service potential of the relevant assets declines over time, the RAB approach can be appropriate, as this aligns the recovery of capital costs with the decline in service potential.

Other than the Sunwater (and Seqwater) rural irrigation schemes, the RAB approach is now the preferred approach to determine allowable revenues for services providers under Australian regulatory frameworks in relation to water, electricity and gas infrastructure. The RAB approach applied under Australian regulatory frameworks is not dependent on long term capex forecasts, although long-term asset management plans are often required to be published for the benefit of customers consuming the regulated services. Rather, the economic regulator's approved capex forecasts for the service provider are aligned to the

¹ Economic life will be shorter than technical life if the expected demand for the services provided by the assets is expected to be shorter than technical life, such that the assets will no longer be required once demand ceases.

term of each regulatory period (generally 3 to 5 years) and are used in determining revenues and prices for the regulated services.

2.3 Application of annuity approach to Sunwater's renewals capex

Sunwater adopted the renewals annuity approach commencing in the year 2001.

The renewals annuity is calculated for a rolling 30-year term and has been set having regard only to forward-looking renewals capex required to maintain the service capacity of bulk water assets. In other words, this renewals annuity is set without any regard to the value of an asset base. The QCA approves the WACC used to discount the value of the renewals annuity into present day terms, which then forms part of allowable revenue to be recovered through prices applied across Sunwater's irrigation schemes in each regulatory period.

The QCA's most recent rural irrigation price review continued application of the annuity approach in relation to Sunwater's renewals capex, setting an aggregate renewals allowance of \$101.2m (in nominal dollar terms) for the four-year regulatory period from 2025/26 to 2028/29, reflecting its view of the prudent and efficient costs of Sunwater renewing its existing assets.²

In response to Sunwater's proposal to switch from the annuity approach to a RAB approach, the QCA indicated its supports for an appropriately designed RAB approach. However, in its view, Sunwater's proposal was not sufficiently robust and well-developed to be supported at that time.³

2.4 Conclusion

Both the annuity and RAB approaches are different ways of funding the renewal and replacement of assets used to provide infrastructure services. Both approaches have been applied under Australian regulatory frameworks, with the RAB approach now the dominant approach across water, energy and transport regulatory frameworks. The Sunwater (and Seqwater) rural irrigation renewals annuities are atypical.

In simple terms, both approaches are intended to allow the service provider to recover the efficient costs of its investment in the relevant assets, which is reflected in the prices paid by its customers. In principle, the revenue and prices outcomes should be the same under each approach when applied to the same set of assets and converted into present value dollar terms, such that the impact on Sunwater and its customers would be neutral under either approach.

² QCA (2025), Rural irrigation price review: Sunwater. Final report, January, p 87

³ QCA (2025), p 98

However, the different underlying assumptions of the two approaches regarding the assumed term of the annuity (under the annuity approach) and assumed asset lives (under the RAB approach), which are unlikely ever to be aligned, means that there will be differences in the timing of allowable revenue recovery and associated price path profiles.

Further, choosing between the two approaches should require consideration of factors that will determine the capital return and price outcomes under each approach, including how much each depends on good asset management practice and the development of robust long term capex forecasts. In this regard, the allocation of forecast risk in relation to the service provider's capex program both in the short and long terms is an important issue to be considered.

Finally, both approaches will require regulatory scrutiny over time regarding the prudence and efficiency of the forecast capex program.

3. Comparative analysis of annuity and RAB approaches

This section includes a comparative analysis of the annuity and RAB approaches, including discussion of their strengths and weaknesses.

3.1 Comparative assessment of approaches

This section provides a criterion-based comparison of the key differences between the RAB and annuity approaches.

3.1.1 Is the approach fit for purpose for all types of capital investment?

Annuity approach — No	RAB approach — Yes
-----------------------	--------------------

The annuity approach is not well-suited for assets with uncertain demand, that require expansion, asset reconfiguration or asset disposal because of the long-term forecasting uncertainty associated with the timing of such investment or disposal events.

While Sunwater's annuity charge is linked only to its renewal capex program, the diverse nature of the asset ages and conditions across its 26 irrigation service contracts similarly creates forecasting challenges when required over a 30-year period.

In contrast, the RAB approach can be applied to all types of capex with varying asset lives.

The RAB approach is commonly used in Australia for regulation of monopoly providers of services with long-lived assets, such as electricity, rail, gas, water and telecommunications.

In contrast, assets that are best suited to an annuity approach are:

- 'renewable' or replaceable; and
- have constant, expected long term demand and associated long-term planned expenditure programs.⁴

3.1.2 How dependent is the approach on quality of long-term asset planning?

Annuity approach — Very high	RAB approach — Moderate
------------------------------	-------------------------

The annuity approach relies much more heavily on there being robust long term asset planning than the RAB approach because annuity values associated with the forecast capex

⁴ National Transport Commission, National heavy vehicle charges: Adopting a life cycle approach using forward looking costs, Results of exploratory work. 2016.

program are generally set for 30-plus years, as is the case for Sunwater’s renewals capex.

With or without good long term asset planning, under the annuity approach the potential exists for unplanned events that require annuity-related capex to occur periodically. In practice, this requires the capex to be incurred and causes an adjustment to be made to the annuity charge (or sinking fund balance) because the capex was not captured under the long-term plan.

In contrast, the RAB approach is not dependent on long term asset planning (or asset management plans). Rather capex forecasts are approved by economic regulators for the term of the regulatory period, which is generally 3 to 5 years. Hence, the occurrence of an unplanned capex-related event in a regulatory period if sufficiently critical will need to be delivered using the funding provided in the economic regulator’s price determination through re-prioritisation of projects in the capex program. Hence, there is no immediate impact on customers arising from occurrence of the event. The impact of this project re-prioritisation may have implications for the service provider’s future capex program, but this will be subject to the economic regulator’s assessment and decision prior to the start of the next regulatory period. In this way, the outcomes of the unplanned capex event under the annuity and RAB approaches are broadly similar.

More generally, under the RAB approach, economic regulators expect a service provider’s capex forecasts to be a function of good asset management practice reflected in robust, long term asset planning, because it will contribute to the prudence and efficiency of the delivered capex program during each recurring regulatory period.

3.1.3 How significant is the potential for cost forecasting error?

Annuity approach — Very high

RAB approach — Moderate

The potential for cost forecasting error is materially higher under an annuity approach than the RAB approach given the need to set the value of the annuity based on a long-term capex forecast (30 years in Sunwater’s case). While the value of the annuity can be reset at the start of each regulatory period to reflect any forecast changes in the scope and/or cost of the long-term renewals capex program, customers are essentially making forward-payments today for future delivery of the program, including any adjustments that are being made to it.

These forecasting errors in the long-term capex program can be mitigated through establishment of a sinking fund, where differences between the current annuity charge and adjusted annuity charge based on the revised long-term capex program are carried forward, with variations reflected in annuity price adjustments in subsequent price reviews.⁵ We understand that Sunwater’s annuity charges across all 26 irrigation service contracts are rolled-forward on an annual basis at each price review having regard to the

⁵ QCA (2000). Statement of Regulatory Pricing Principles for the Water Sector.

delivered renewals program. This adds considerable complexity to the annuity approach and can be contrasted with the situation where it is applied to a single large or small set of homogeneous assets that have a stable long-term renewals capex profile.

The existence of quality long term asset planning information can also help address cost forecasting errors, but there will generally always be a high degree of uncertainty because of the required long term nature of the annuity-related capex forecasting.

Under the RAB approach, cost forecasts are set for the term of the regulatory period, which are generally between 3 to 5 years in Australia. This relatively short period reduces the potential size of cost forecasting errors. That is, cost forecast error is confined to the term of each regulatory period, when cost forecasts are reset for the next regulatory period. It is the service provider that bears cost risk in relation to the total capex program approved by the economic regulator for each regulatory period. Only approved capex can be rolled into the RAB for subsequent recovery through prices.

3.1.4 Is the approach able to smooth the revenue path in response to lumpy operational and capital costs

Annuity approach — Yes, with good long-term planning

RAB approach — Yes, with revenue adjustments

Under the annuity approach, given its long-term nature, the annuity-based revenue and price path can be smoothed provided there are no significant adjustments made to the long-term capex program over time. As previously noted, this will fundamentally depend on homogenous assets, which facilitate the development of stable capex forecasts over the long term (in Sunwater's case, 30 years).

In contrast, under a RAB approach, there is potential for revenue (and price) variability if the capex program is lumpy across 3-5 year regulatory periods. However, this variability can partly be mitigated through revenue and price smoothing during each regulatory period. There is also scope to make changes in the RAB's asset depreciation profile to smooth revenues and prices.

3.1.5 Can the approach contribute to regulatory certainty over infrastructure charges?

Annuity approach — Yes

RAB approach — Yes

Any certainty provided by applying an annuity approach will fundamentally depend on the stability and quality of long term-asset planning and on low levels of error in relation to program composition and cost forecasting. Subject to these conditions being satisfied, stable annuity charges can create certainty for customers about the level of future infrastructure charges.

In contrast, under the RAB approach, certainty about future revenues and prices is

provided for the term of the regulatory period. However, the approach generally does not provide long-term certainty for customers about the future level of infrastructure charges. Allowable revenues are reset at the start of each regulatory period to incorporate both the prior regulatory period's actual capex and new capex forecasts relating to the 3-5 year regulatory period.

3.1.6 Who bears risk in relation to the capex program?

Annuity approach — Primarily customer (and Queensland Government)

RAB approach — Primarily service provider

Under the annuity approach, the customer bears most of the risk in terms of the long-term capex program through paying the annuity charge. The annuity charge includes an element of pre-payment for future (30-year) renewals expenditure including the uncertainties associated with the scope and cost of that program.

In contrast, under the RAB approach, the service provider bears the risk in terms of delivery of the capex program approved by the economic regulator for the term of the regulatory period, including bearing the risk of potentially over-spending in relation to the approved capex forecasts.

3.1.7 Administrative cost of approaches

Annuity approach — High

RAB approach — Moderate

The annuity approach that is currently applied to Sunwater creates large administrative costs associated with the need for it to develop a rolling 30-year renewals program as the basis of its renewals expenditure forecasts, for which both its customers and the QCA must consider at each regulatory review. Further, there is a need for the associated annuity balances across schemes to be maintained and updated annually. As previously noted, given the forecasting uncertainties associated with this long-term capex renewals program, there appears no material benefits to Sunwater's customers from its development and periodic approval by the QCA.

In contrast, under the RAB approach, the medium-term nature of the approved capex program for each 3-5 year regulatory period would create a lower ongoing administrative cost for Sunwater, its customers and the QCA.

However, it is important to note that adoption of the RAB approach would not remove the need for Sunwater to develop and share its long-term renewals plans for the irrigation schemes. This is good water industry practice and something that the QCA will always consider in relation to any capex programs that it reviews as part of its price determinations. The main difference with the annuity approach is that the administrative costs and associated forecasting uncertainties attempting to develop a long term renewals capex forecast linked to the long-term plan are removed.

3.2 Strengths and weaknesses of each of the approaches

Based on our comparative assessment of the two approaches, the table below compares the strengths and weaknesses of the annuity and RAB approaches.

Table 3.1: Comparison of annuity and RAB approaches

	Annuity approach	RAB approach
Strengths	• Annuity approach is well-suited to a single large or small number of homogenous assets, which facilitates the accrual of good asset condition information and robust long-term planning. • Revenue recovery is generally smoothed across regulatory periods due to the annuity charge. • In principle, the annuity should facilitate a greater commitment by the service provider to forward planning and asset management, including development of long-term robust asset management plans. • Customer funding is used to finance future capex reducing the service provider's funding requirement.	• The RAB approach is a relatively straightforward approach to apply that is also consistent with standard accounting practice in a commercial environment. • May lead to more effective scrutiny of future capital requirements because the economic regulator is reviewing and approving capex forecasts for relatively short periods (while recognising that the approved capex will have technical lives longer than the term of the regulatory period). This reduces the risk of the service provider over-investing in assets. • There is no need to include a sinking fund to mitigate long-term capex forecasting risk. • There is financial discipline imposed on the service provider because it must provide capital as well as service the associated financing costs.
Weaknesses	• Annuity approach is not well-suited to multiple diverse assets, including different asset ages and conditions, which makes it more difficult to accrue good asset condition information and undertake robust long-term planning. • Unavoidable difficulties in making long-term accurate forecasts regarding renewal expenditures due to the long-term nature of forecasting (eg. 30 years or more is required), as well as the associated administrative costs in doing so. • If there are long-term capex forecasting errors, there will be frequent adjustments to the size of the annuity, which can be complex to administer. • Robust information on condition of the assets must be known to set a stable annuity charge over time. • Any re-prioritisation of the service provider's total capex program in response to changing operating conditions is constrained in relation to the assets subject to the annuity calculation. • A sinking fund will most likely need to be created to account for timing differences	• There can be an irregular/lumpy capital recovery profile across regulatory periods because capex forecasts are only approved for 3-5 year periods. • Lumpiness in capex forecasts across regulatory periods can cause allowable and revenue volatility, which can be partly but not fully mitigated, • The service provider needs to access external finance to fund lumpy capex. • The accuracy of the amount of depreciation built into allowable revenue depends on the accuracy of the estimates of the useful life of assets.

	Annuity approach	RAB approach
	between annuity payments charged to customers and the service provider's actual expenditure during each regulatory period. The more frequent the changes to the renewals capex program the more frequent will changes be required to annuity charges and associated changes in sinking fund balances. • Management of sinking funds applying across multiple diverse assets/schemes is administratively time-consuming. • Prices paid by irrigation customers may depart from cost reflective levels to the extent that the renewals capex program is subject to forecasting error.	

4. Practical issues in changing from annuity to RAB approach

There are practical issues associated with Sunwater moving from the current annuity approach to a RAB approach as it is applied to its renewals expenditure, including the following issues discussed in this section:

- establish an initial RAB value for irrigation assets
- avoid double counting of capital returns
- determine the categorisation of capex and opex across schemes
- avoid customer price shocks
- protect Sunwater's legitimate business interests.

4.1 Establishing an initial RAB value

When setting the initial value of the RAB, past compensation to the service provider for investing in assets under the annuity approach will influence how the initial value of the RAB should be set. In Sunwater's case, the annuity applying to forecast renewals capex has applied from 2000 with periodic determinations by the QCA setting the annuity charges since then.

The key issue in setting the initial RAB value then will be the treatment of existing annuity balances across Sunwater's irrigation schemes, which will recognise the current status across irrigation schemes about the extent to which Sunwater or its irrigation customers have contributed to funding the rolling 30-year renewals program.

In this regard, we understand that the sinking fund balances in most of the irrigation schemes is currently negative, which implies that Sunwater has generally paid forward for its long-term renewals capex program. Hence, these negative balances could be capitalised into the initial RAB value for the relevant irrigation scheme assets. Alternatively, the negative balances could be recovered through an increase in irrigation prices for the affected customers.

The choice between these two approaches should depend on the size of the sinking fund negative balances. In our view, it is likely that capitalisation into the initial RAB value is the approach that best balances the interests of Sunwater and its customers by ensuring Sunwater recovers the initial RAB value over time and customer price shocks are avoided (refer to section 4.4 below for more on the latter).

In contrast, if the sinking fund balance is positive in a specific irrigation scheme, it should either be returned to the affected customers immediately or through a reduction in their irrigation prices over a time frame that does not unreasonably adversely impact on Sunwater's cash flows.

This treatment of the annuity balances as part of the setting of the initial RAB value should ensure that there is no future double counting of capital returns in relation to irrigation scheme assets. In other words, the RAB value is reflective of the forward-looking down-payments that have been made in relation to the 30-year renewals program as most recently assessed by the QCA in its rural price review completed in January 2025.

Once established, the initial RAB value would then be rolled forward each year to reflect prudent capital additions, asset depreciation and any asset disposals.

4.2 Cost categorisation

Categorisation of expenditure as either capex (subject to slower cost recovery) and opex (subject to immediate cost recovery) is an important issue both in terms of setting the renewals annuity and in moving from the annuity to RAB approach. This is primarily a function of Sunwater's capitalisation policy.

The importance of cost categorisation stems from its effect on irrigation prices arising from the balance of capitalised and expensed cost items flowing from application of Sunwater's capitalisation policy.

Based on the QCA's most recent rural irrigation price review, this appears to be an area where more work is required by Sunwater to provide confidence to the QCA about application of its new capitalisation policy and the associated irrigation price effects that will arise from it over time.⁶

Under the RAB approach, there is likely to be a cleaner distinction between opex and capex and their recovery through prices.

4.3 Avoiding customer price shocks

As noted above, in principle, the annuity and RAB approach should be the same, but there will be differences in cash flows over time under each approach.

It is also the case that the 'consumption' of the asset influences prices. For instance:⁷

"... customers may prefer not to make upfront payments to provide for future renewals capital expenditure, but to pay a larger amount of money in the future to fund capital expenditure once it has been invested. This pattern may be preferred particularly if there is considerable doubt about the forward capital expenditure projections."

In our view, the key consideration is that there should be no price shocks for customers in any move away from an annuity to RAB approach. Any such shocks should not arise from

⁶ QCA (2025), p 93

⁷ SAHA Issues Paper on Renewals Annuity or a Regulatory Allowance: SunWater's Water Supply Schemes 2011-2016 Price Paths, (2010).

what is effectively a change in the methodology used to determine Sunwater's recovery of its renewals expenditure over time.

Beyond removing this potential price shock issue, there is no reason to believe that Sunwater's customers will be worse off in pricing terms if the RAB approach is applied. In our view, it is more likely to be in their interests by removing the significant forecasting risks that they currently bear under the annuity charging approach.

4.4 Sunwater's legitimate business interests

As previously discussed, establishment of the initial RAB value for the renewals assets will be the most sensitive factor in preserving Sunwater's legitimate business interests and ensuring that its irrigation customers do not pay twice for the relevant assets.

Once the initial RAB value is established, Sunwater's legitimate business interests will be protected through recovery of the cost of the RAB assets and any future efficient renewals capex and opex that it incurs.

Subject to the other practical issues being resolved, application of the RAB approach will remove Sunwater's long term cost forecasting challenges that are being reflected in current renewals annuity charges and in so doing should result in more reliable renewals capex forecasts across future regulatory periods.

The RAB approach is well-accepted across the Australian water and energy network sectors that protects the legitimate business interests of service providers like Sunwater, while providing strong regulatory oversight to ensure the prudence and efficiency of the capex and opex that is incurred and ultimately paid for by customers.

5. Conclusion

Our analysis of the strengths and weaknesses of the annuity and RAB approaches in Section 3 suggests that the RAB approach has more favourable features, particularly having regard to the approval of prudent and efficient renewals capex over time and the absence of the pre-payment feature of the annuity approach.

In contrast, the renewals annuity approach is not well-suited to the diverse character of the 26 irrigation schemes that Sunwater operates, maintains and invests in. This results in what is more likely to be unpredictable cost sharing between Sunwater's irrigation customers today and into the future. This is because of significant long-term forecasting challenges associated with the renewals program. Where the 30-year renewals forecast is too high, current irrigators are bearing a heavier cost recovery burden compared to future irrigators because of the pre-payment nature of the annuity charge. In contrast, when the 30-year forecasts are too low (the need for previously unexpected investment emerges), the reverse is true.

In practice, we consider that addressing the practical issues raised in Section 4 of this paper will be the most important issue to resolve in moving from the annuity to RAB approach in relation to Sunwater's renewals capex. While it is important that Sunwater consults closely with its irrigation customers in relation to these practical issues, we consider that the QCA is ultimately best placed to determine appropriate responses to them that will balance the interests of Sunwater and its customers.

Subject to satisfactory resolution of the practical issues, we consider that the RAB approach is more likely to be in the interests of Sunwater and its customers over time than continuation of the annuity approach, including by removing long-term forecasting uncertainties currently reflected in annuity charges. That the RAB approach is as widely used as it is in an Australian context in relation to water and energy infrastructure assets supports such a change.

Extract of scope of works from email sent to consultancies seeking a proposal to supply a consulting opinion

Government RAB Review – Independent opinion consultancy



 Restricted

 You forwarded this message on 12/02/2026 11:16 AM.
This message was sent with High importance.



Request_for_quote_under_100K_conditions.pdf
120 KB



V2_Purchase_Order_Terms_and_condit
251 KB

REQUEST FOR QUOTATION

Quote details

Sunwater Limited (**Sunwater**) is seeking a quotation for the provision of an expert opinion on the relative merits of the annuity and regulated asset base (RAB) methodologies for the recovery of renewals capital expenditure (capex) (**Supply**), on the terms of this Request for Quotation (RFQ) (the **Quotation**).

The overarching objective of this consultancy is to provide an independent, plain English perspective on the annuity and RAB approaches to the recovery (through customer prices) of renewals capex.

Over the past decade Sunwater and the Queensland Competition Authority have discussed and proposed a change from the current annuity approach to recovery of renewals capex to a RAB approach.

A shift in methodology was an explicit part of Sunwater's recent (November 2023) pricing proposal to the QCA. While the QCA deferred recommending a shift on the basis of some preparedness concerns the Queensland Government has (in late 2025) initiated a QCA-led review of RAB-based pricing.

During the course of its engagement on this topic over the past two years, Sunwater has received feedback from some customers that they are unsure whether or not this change is in their best interests.

The purpose of this consultancy is to provide a view that is independent of Sunwater on the relevant merits of the two approaches. Sunwater is not seeking to constrain the scope nor procure a pro-RAB outcome if this is not the Consultant's actual view, however we would expect that the opinion should consider:

1. the theoretical basis of each approach
2. practical limitations, including how each applies (or would apply) to Sunwater
3. the nature and scale of any practical limitations or flaws that might arise under either approach
4. how these flaws do (or might) impact customer prices
5. what mitigations might be reasonably implemented to address these flaws, and how effective they could be expected to be
6. short and long-term time horizons