AtkinsRéalis

Final Report

Queensland Competition Authority (QCA)

24 June 2024

Review of Sunwater's rural irrigation pricing proposal 2025-29

5225979-02

EXPENDITURE REVIEW FOR RURAL IRRIGATION PRICE REVIEW 2025–29

Notice

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This document has 247 pages including the cover.

Document history

Document title: Final Report

Document reference: 5225979-02

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
1.0	For QCA's initial review preliminary findings	AtkinsRéalis Team	TA	NJ	GJ	8 Mar. 2024
2.0	Draft report for QCA's review	AtkinsRéalis Team	TA	NJ	GJ	22 Mar. 2024
3.0	Updated Draft report	AtkinsRéalis Team	TA	NJ	GJ	29 Apr. 2024
4.0	Minor edits to the Updated Draft Report	AtkinsRéalis Team	TA	NJ	GJ	29 Apr. 2024
5.0	Final Report	AtkinsRéalis Team	TA	NJ	GJ	1 Jun. 2024
6.0	Final Report with minor updates	AtkinsRéalis Team	TA/MB	NJ	GJ	24 Jun. 2024

Client signoff

Client	Queensland Competition Authority (QCA)
Project	EXPENDITURE REVIEW FOR RURAL IRRIGATION PRICE REVIEW 2025–29
Job number	5225979
Client signature/date	

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Executive Summary

The Queensland Competition Authority (QCA) was directed by the Queensland government to review the irrigation pricing practices of Sunwater and Seqwater (the Businesses). Under the terms of the referral notice, the QCA is to recommend prices of services for irrigation customers in specified bulk water schemes and distribution systems from 1 July 2025 to 30 June 2029.

The QCA has appointed AtkinsRéalis to provide expert advice to assist the QCA in determining the prudency and efficiency of the Businesses' forecast opex and capex attributable to the specified schemes/systems. This report is in relation to Sunwater's expenditure review.

Sunwater has been open and engaged with AtkinsRéalis during the review process. We would like to thank all those who participated during the process, engaged with us during the meetings and responded to our questions and requests for information.

Sunwater's governance and procedures

We found that Sunwater's asset planning and management includes uncertainties about future replacement. This is reflected in its renewals program where the program observes a drop in expenditure after the 5-year plan. This drop is categorised by Sunwater as the result of uncertainty about the scope and timing of future projects that will likely be required once a better understanding of the needs is established. The current renewals program, specifically for replacement projects, is driven by asset life. We consider that this approach is inconsistent with industry-standard practices such as asset replacement based on condition and performance. We recommend that Sunwater improve its asset information by establishing routine asset health reporting and developing evidence-based asset lives.

We found discrepancies between asset life and replacement dates across documents and noted that many entries lacked asset life data. Sunwater acknowledged some inaccuracies and indicated it plans to refine the data over time. Due to these inconsistencies, we lack confidence in the asset life data provided. We recommend Sunwater establish an integrated data set which brings together proposed renewals and asset lives in a consistent manner.

Sunwater's capitalisation policy includes barriers to capitalising expenditure. This is not in line with best industry practices and has significant implications in a regulated asset base (RAB) model, which Sunwater has proposed. This is acknowledged by Sunwater.

Sunwater has a strong understanding of its customer base and implements tailored offerings. However, its approach to customer service is primarily reactive, with a high percentage of inbound contacts. There are improvement opportunities, particularly in increasing satisfaction scores and setting ambitious yet achievable targets to drive continuous improvement.

Non-direct costs

Total Sunwater non-direct costs have increased significantly (by 52% in real terms) since FY20. The greater part of the increase relates to ICT costs. The remainder is a broad-based real terms increase in costs across most cost centres. This has led to regulated non-direct opex being $2.2M higher than QCA's recommendation for FY23 in the 2020 irrigation price review.

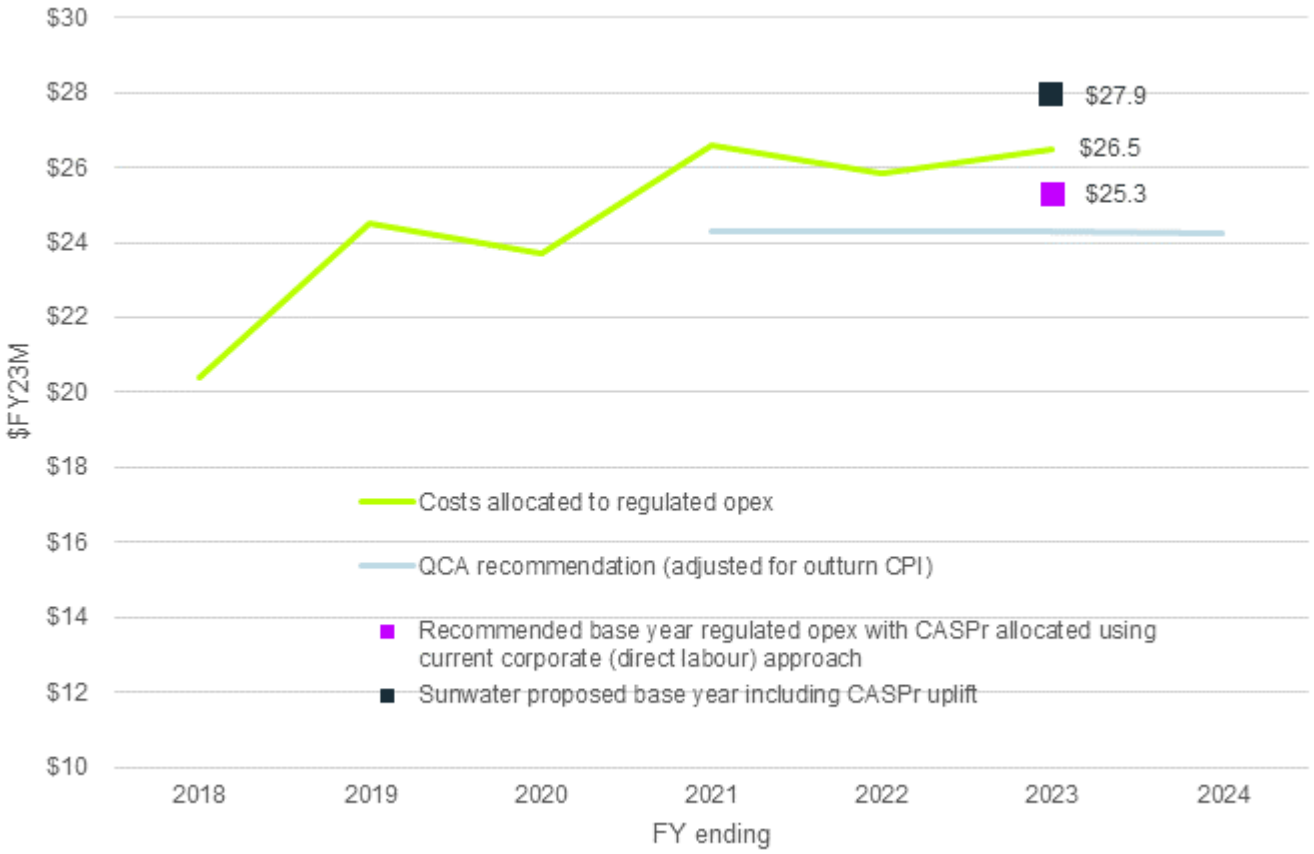
In 2020 the QCA set an efficient level of non-direct expenditure for regulated rural irrigation services for the current price path period. In examining whether increases in expenditure are justified or not we have considered the cost drivers and whether they are caused by exogenous or endogenous factors. We have recommended accepting increases due to exogenous factors related to Cyber security, the Enterprise Portfolio Management Office,

Stakeholder relations, Safety expenditure and Dam safety. We have also recommended amendments to reallocate costs between indirect and corporate support costs.

We have recommended base year non-direct opex which is 4% higher than QCA's 2020 recommendation, but 5% less than current cost levels and 9% less than proposed by Sunwater.

Our recommended base year non-direct opex is summarised below.

Figure 0-1 –Non-direct regulated opex compared to QCA's recommendation ($FY23 M)



Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values
Note: truncated y-axis.

We consider that it would be beneficial to move to a more causal cost allocation approach with appropriate cost allocators identified for different cost areas, especially as Sunwater is projecting significant increases in total expenditure. We recommend that Sunwater transitions to a causal approach over the next two years to allow time before the next review to have a robust understanding of costs. Preliminary analysis suggests that adopting a more causal approach is likely to reduce the costs allocated to regulated schemes. However, because of under-recovery, it would have made little difference to the costs allocated to regulated schemes in FY23. The change could have a much more significant impact in future with Sunwater expecting to deliver significant capital projects which are not expected to fall within regulated irrigation pricing.

Technology

Overall, Sunwater's strategic priorities and programs reflect similar trends and priorities being identified or that have already been implemented across the water sector in Australia and also in other advanced countries. We think the

strategy for Operational Technology and the Target State Operating Model could be considered somewhat passive as it focuses on enhancing insights and improving decision making rather than focusing on how technology could automate processes and drive business efficiencies.

Sunwater's level of maturity in estimating costs and managing project delivery both at the time of the last review and during the current price path left significant room for improvement. There has been significant cost overrun in ICT projects with the top five projects (excluding CASPr) having seen an average cost increase of 118%, i.e. 2.2 times the initial business case.

Customer and Stakeholder Project (CASPr)

We concur with the need for replacing the billing system and implementing a CRM solution. However, we are not satisfied it is being delivered in a prudent and efficient way and that a better value option was not possible.

There was no evidence that alternative options beyond the Software as a Service (SaaS) option was considered, which is relevant in relation to the risk of incurring significant build costs and the lack of proprietary rights over the products. [redacted]

There were significant weaknesses with the EOI evaluation process, which led to all but one CRM software product being ruled out, and which lies at the root cause of many of the subsequent issues with decision making around the project.

No budget cap or upper limit was set, and affordability and best value from a customer perspective were not considered as objectives. The impression appears to be that Sunwater would let the market decide the cost and it is unclear what, if any, magnitude of cost escalation could trigger a decision to halt the project and to reassess the solution from first principles.

We are recommending that the regulated value for the build costs should be reduced to the January 2022 value of $18.5M. We have recommended applying the current cost allocation approach to incorporate the impact of CASPr costs until a more causal allocation approach is in place. We consider that implementation of CASPr will lead to an increase in total Sunwater corporate costs (recurrent and amortisation) which is approximately equal to the amortisation charge for the Orion system which it replaces. We have not therefore recommended a step change in expenditure associated with CASPr.

Operating expenditure

Base year adjustments: we consider that the approach taken by Sunwater in relation to electricity adjustments appears reasonable and recommend accepting this adjustment. We have made some changes to Sunwater's other proposed adjustments, mainly to reflect the long-term average for all schemes.

In terms of variance from QCA's recommendations, reductions in electricity expenditure have been more than offset by higher insurance and direct costs and, as a result, opex (excluding electricity) has been above QCA's recommendation in all years. Our view is that, with the exception of some safety related activities, Sunwater has not justified the increase in labour costs and recommend an adjustment of -$1.2M p.a. to reflect this. We have recommended direct base year opex of $45.3M compared to Sunwater's proposal of $46.3M.

We have proposed cost escalation for insurance based on updated FY24 actuals and more recent market data. Similarly, we have proposed different cost escalation factors for labour using more recent wage price index data. We

consider that Sunwater is not at an advanced stage of its efficiency journey and that its proposed 0.5% p.a. efficiency challenge is achievable. It should be possible to exceed this based on the potential efficiencies.

We consider that Sunwater has taken reasonable management action to reduce the impacts of insurance premium increases and have recommended a positive review event of $8.1M. We have also recommended a negative review event due to lower electricity prices. For distribution schemes this is estimated to be $15.4M based on electricity price changes alone. This is a gross figure and is before any potential offset which QCA may want to apply for the savings returned to customers through the electricity cost pass through trial. We have also recommended a negative review event of $1.1M for water supply schemes. In both cases we note that outturn expenditure in FY24 and FY25 will depend on weather and water use as well as other factors and it may be beneficial to update this assessment using FY24 outturn figures when they become available.

Renewals

Over the FY20-24 period, Sunwater expects to have overspent its QCA allowance by $75.9M ($FY24) or 78%.

We have carried out a detailed review of six historical renewals projects, which covered several types of assets, driver, and across different schemes. The reviewed sample ($36.1M) represented 21% of historical renewals expenditure ($173.9M). Our review found that Sunwater has significant room for improvement in its asset management and planning as well as project scoping and scope management.

To broaden our assessment, in addition to the detailed review, we also undertook a high-level desktop review of 34 historical renewals projects justification documents, covering $79.3M in expenditure. We have recommended three adjustments to historical renewals:

1. We concluded that the Ben Anderson Barrage Gate Replacement project had incurred higher expenditure than was justified and have recommended an adjustment to reflect our findings.

2. We have extrapolated from the sample of projects reviewed and the Ben Anderson adjustment and have recommended an adjustment of $1.7M or 1% of the total historical renewals expenditure.

3. We also recommend including the insurance contributions identified by Sunwater, that were not included in its submission, to the roll-forward. This represents $8.5M in insurance proceeds across 12 schemes.

We have also recommended two broad adjustments to Sunwater's proposed future renewals expenditure. To determine the level of non-direct costs to be allocated to renewals expenditure, we recommend utilising an allocation of 12% of pre-overhead renewals expenditure to labour, aligning with Sunwater's average of FY20-23 actuals. This allocation adjustment impacts the overhead costs applied to the recommended pre-overhead renewals expenditure. We also recommend delaying the replacement of assets with 20-year life assumption by six years to reflect the actual age of these assets. This results an adjustment of $3.4M to the post-overhead renewals over the period beyond the price path.

We have recommended specific adjustments related to duplication of dam safety spend and to meter asset life. We have also recommended the application of catch-up efficiency to reflect areas of potential improvement from our findings that could offer cost savings. These catch-up efficiencies relate to project development and decision making, value engineering and procurement.

These adjustments result in recommended non-billing renewals expenditure of $26.4M for FY25, $99.0M for FY26-29, and $413.7M for FY30-58.

Recommendations

Sunwater has a strong understanding of its customer base and implements tailored offerings. However, like all utilities, there are areas in which we think it is possible to make improvements. We have made a number of recommendations which we think Sunwater should implement to contribute to its continued improvement in efficiency and effectiveness.

The recommendations we consider Sunwater should make include:

- Efficiency and spend-to-save:
    - Developing a comprehensive SCADA strategy. We consider it likely that scaled up SCADA could pay for itself through reduced travel time and expenses.
    - Undertake and document a process to identify spend-to-save investment proposals and efficient working practice changes.
- Expenditure classification and allocation:
    - Revisit its capitalisation policy. This will be a key step if there is to be confidence in Sunwater's proposed RAB-based approach as relates to the definitions of capex and opex both in ex-ante and ex-post review.
    - Review investment coding to allow clearer identification and understanding of drivers and types of investment.
- Cost estimation and control:
    - Develop strong cost estimation tools and methods with a feedback mechanism which allows it to continually improve. This should help to reduce cost overruns and lead to better informed decision making.
    - Develop a structured process to carry out and document scope challenge and value engineering (why are we doing this scope, why now, do customers benefit, what can be done to improve the benefit to cost ratio).
    - Continual reprioritisation of works at a portfolio level.
    - Develop a centralised data base for asset life that is consistent with actual and anticipated replacement dates. This will allow a more accurate representation of depreciation and will assist with decision making regarding asset refurbishment and replacement.
- Strategy and decision making:
    - Develop asset health reporting.
    - Develop a structured risk analysis and strategy for workplace health & safety (and other emerging drivers). This will help to inform future price reviews as well as ensuring that the actions taken are appropriate.
    - Integration of factors such as bill impact and cost per customer metrics into business cases and budget setting for project justification.
    - Develop evidence-based asset lives. This is a key requirement for a robust long term renewals plan.

- Better tracking and demonstration of benefits of ICT and OT investments.
- Set a stretching but achievable Customer Satisfaction target for the future price path.

1. Introduction

The Queensland Competition Authority (QCA) was directed by the Queensland government to review the irrigation pricing practices of Sunwater and Seqwater (the Businesses). Under the terms of the referral notice, the QCA is to recommend prices of services for irrigation customers for specified bulk water supply schemes and distribution systems from 1 July 2025 to 30 June 2029[1].

QCA has appointed AtkinsRéalis to provide expert advice to assist QCA in determining the prudency and efficiency of the Businesses' forecast opex and capex attributable to the specified schemes/system. This report is in relation to Sunwater's expenditure review.

The following sections highlight the scope of our review and its alignment with this report as well as our overall review approach and price base applied (inflation/deflation factors).

1.1 Scope

The below table outlines our report and its structure with the tasks set out in the Terms of Reference (ToR).

Table 1-1 Alignment of the report with the ToR

Task	Period	Description	Sections where covered
Task 1	Next price path – 1 July 2025 to 30 June 2029	(1) Review Sunwater's governance and review Sunwater's governance arrangements and policies and procedures relevant to expenditure decisions (2) If necessary, recommend potential improvements to governance arrangements and policies and procedures relevant to Sunwater's expenditure	Section 2 – Sunwater's governance and procedures
		(3) Form a view on whether Sunwater's methodologies provide a reasonable basis for developing forecasts that reflect prudent and efficient costs, including: a. the reasonableness of Sunwater's proposed baseline year for establishing an efficient level of recurring opex and, if not reasonable, an alternative baseline year b. the prudency and efficiency of proposed baseline year opex, including:(i) any adjustments required to account for non-recurrent costs and expected cost savings or efficiencies (ii) the reasonableness of any variations in proposed baseline opex from the QCA recommended opex in the 2020 review, or from historical trends, by reference to prudency and efficiency criteria. The	Section 3 – Non-direct costs Section 5 – Opex

[1] Referral notice of the Minister's direction to review Sunwater and Seqwater, Queensland Government, March 2023 (referral-notice.pdf (qca.org.au))

		consultant should recommend an estimate of the baseline year expenditure that reflects efficient recurrent ongoing costs c. the prudency and efficiency of any proposed step changes to base-year opex, including whether the drivers of those step changes are reasonable d. a detailed review of the prudency and efficiency of Sunwater's non-direct costs, as well as an assessment of the reasonableness of Sunwater's methods for allocating non-direct costs to regulated schemes/systems and other parts of the business. This should include a review of the prudency and efficiency of step changes to non-direct costs in 2018–19 that the QCA accepted, subject to an ex post review, in the 2020 review	
		(4) Focus on opex categories and capex projects that are material to forecast increases in the overall expenditure program (5) Take into account the uncertainty around projects at an early stage of development, and adopt a suitable assessment approach for dealing with risk and uncertainty (6) Assess the consistency of any cost escalation methods proposed by Sunwater. (7) Assess the potential for efficiency gains and the reasonableness of any expenditure efficiency (8) Be able to identify the value of any expenditure that it considers inefficient and/or imprudent	Section 5 – Opex Section 6 – Renewals Section 4 – Technology
	Beyond next price path (2030-2058)	Review Sunwater's modelling approach to estimating renewals expenditure over the 30-year planning period which extends to 2057–58	Section 5 – Opex Section 6 – Renewals Section 4 – Technology
Task 2	Current price path – 1 July 2019 to 30 June 2025	Assess the prudency and efficiency of actual and forecast renewals expenditure	Section 6 – Renewals
Task 3	Current price path – 1 July 2019	Assessment of the efficiency and prudency of costs arising from review events.	Section 5 – Opex

	to 30 June 2025		
Task 4		Assessment of Seqwater's forecast operating and capital expenditure	No included in this report.

1.2 Sunwater

Sunwater is a government-owned corporation that owns and manages a regional network of bulk water supply infrastructure throughout Queensland. This supports irrigated agriculture, mining, power generation, industry and local government. Sunwater's irrigation operations include 22 bulk water supply schemes and four distribution systems.

Sunwater's regulated and non-regulated infrastructure assets include:

- 19 dams
- 64 weirs and barrages
- 595 kilometres of water channels
- 70 major pumping stations
- 1,951 kilometres of pipelines
- six water treatment plants.

We understand that all channels and 16 out of 19 dams are part of the regulated irrigation assets. A mix of regulated and non-regulated assets apply to the remaining asset types. It is also worth noting that, as of 2023, Sunwater services 4,520 irrigation customers and 672 non-irrigation customers[2].

1.3 Review methodology

Our methodology for undertaking this review is based on the combined experience of the team in undertaking similar expenditure reviews across Australia and internationally.

Our review work commenced in November 2023. Our initial task included the review of Sunwater's business proposal, which laid out the company's financial and technical performance during the current price path as well as detailing its proposed expenditure program for the next price path. We prepared an issues paper that detailed our initial findings based on the review of the business proposal, our proposed interview schedule (for obtaining information from relevant Sunwater staff) and sample selection for renewals projects. Along with the issues paper, we made an initial request for information (RFI) prior to commencing the detailed interviews, which took place on the week of 29 January 2024.

Our overall review methodology is aligned with the scope requirements set in the ToR. Our review covers the non-direct costs, operating, and renewals expenditure. In each section of the report, we outline our review approach to assessing the efficiency and prudency of Sunwater's expenditure for each review area.

[2] Sunwater's Irrigation Pricing Proposal 2025-29, Sunwater, November 2023

1.4 Price base

Unless otherwise stated, opex is in $FY23 prices. Historical costs have been converted to FY23 prices using the ABS CPI All Capital Cities June to June index[3] and future opex has been converted using the inflation assumptions in Sunwater's revenue model[4].

Unless otherwise stated, we present renewals expenditure in $FY24 prices. Forecast renewals expenditure (FY25-58) were presented in Sunwater's supporting information in $FY24 prices[5]. For historical renewals expenditure we utilised the multipliers shown in the table below.

Table 1-2 Inflation factors used to escalate historical renewals expenditure

	2018	2019	2020	2021	2022	2023	2024
Multiplier	**1.226**	**1.207**	**1.211**	**1.166**	**1.098**	**1.036**	**1.000**

Source: 10 WMS data Renewals Final Values.xlsx and 09 OPEX_Electricity_Final Values

[3] Series ID A2325846C downloaded from ABS website on 18 January 2024. Note that there appears to be a transcription error in the historical CPI index used in Sunwater's spreadsheet '09 OPEX_Electricity_Final Values' meaning that historical figures converted to $FY23 will not all match

[4] Sunwater spreadsheet '01 SunW Pricing Model RAB'

[5] 10 WMS data Renewals Final Values.xlsx – sheet "WMS data" included expenditure in $constant which we inferred to be FY24 due to escalation applied to FY25 expenditure

2. Sunwater's governance and procedures

In this section, we review and comment on the appropriateness of Sunwater's governance and procedures. This section briefly presents our recommendations for improvement. This will be addressed in detail in our recommendations section (Section 7).

Our main findings are summarised as follows:

Asset planning and management: Sunwater's asset planning and management, specifically when it comes to asset replacement, is impacted by uncertainties regarding future needs. Its long-term replacement planning is mainly driven by assumed asset life. Sunwater's approach to long-term planning is inconsistent with industry-standard practices such as asset replacement based on condition and performance. Improving asset information could better inform the timing of renewals and help Sunwater avoid reactive responses, thereby avoiding additional costs and reducing inefficiencies.

Asset life and renewals information: We found discrepancies between asset life and replacement dates across documents and noted that many entries lacked asset life data. Sunwater acknowledged some inaccuracies and indicated that it plans to refine the data over time. Due to inconsistencies, we lack confidence in the asset life data provided. We recommend Sunwater establish an integrated data set which brings together proposed renewals and asset lives in a consistent manner.

Capitalisation: Sunwater's capitalisation policy includes barriers to capitalising expenditure. This is not in line with best industry practices and has significant implications in a regulated asset base (RAB) model, which Sunwater has proposed. This is acknowledged by Sunwater.

Procurement: is in its early stages of maturity and Sunwater does not currently have a procurement strategy. We consider that there is room for Sunwater to achieve financial savings and benefits.

Customer service and stakeholder relations: Sunwater has a strong understanding of its customer base and implements tailored offerings. However, its approach to customer service is primarily reactive, with a high percentage of inbound contacts. There are improvement opportunities, particularly in increasing satisfaction scores and setting ambitious yet achievable targets to drive continuous improvement.

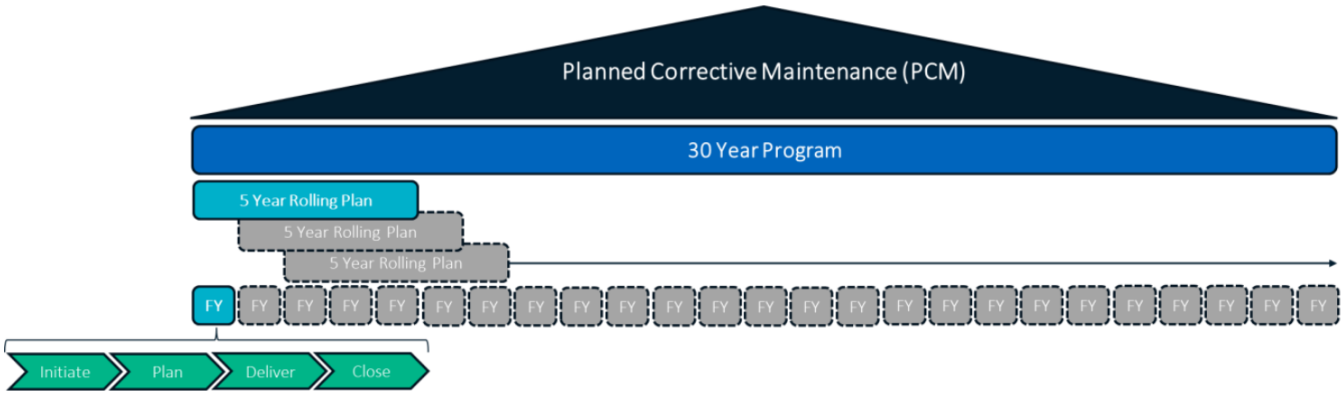
We have recommended a catch-up efficiency challenge to reflect the opportunities for improvement as a result of our findings. The adjustments associated with the catch-up efficiency are discussed in Section 6.5.

2.1 Review of governance and procedures

2.1.1 Asset planning and management

Sunwater's renewals program consists of projects driven by the Planned Corrective Maintenance (PCM) program which also forecasts the 30-year renewals plan. The planning of the PCM is managed by Sunwater's Asset Management team and operationalised through its north and south regional planning groups. The PCM program is developed progressively each year, where a five-year rolling plan is developed. At the beginning of each year, Sunwater approves a new budget with new projects as well as carrying out previously approved PCM projects. Figure 2-1 illustrates Sunwater's PCM process over the 30-year planning program.

Figure 2-1 – Sunwater's process for PCM



Source: Renewal Planning Process eDocs: 2819200, Sunwater, November 2023

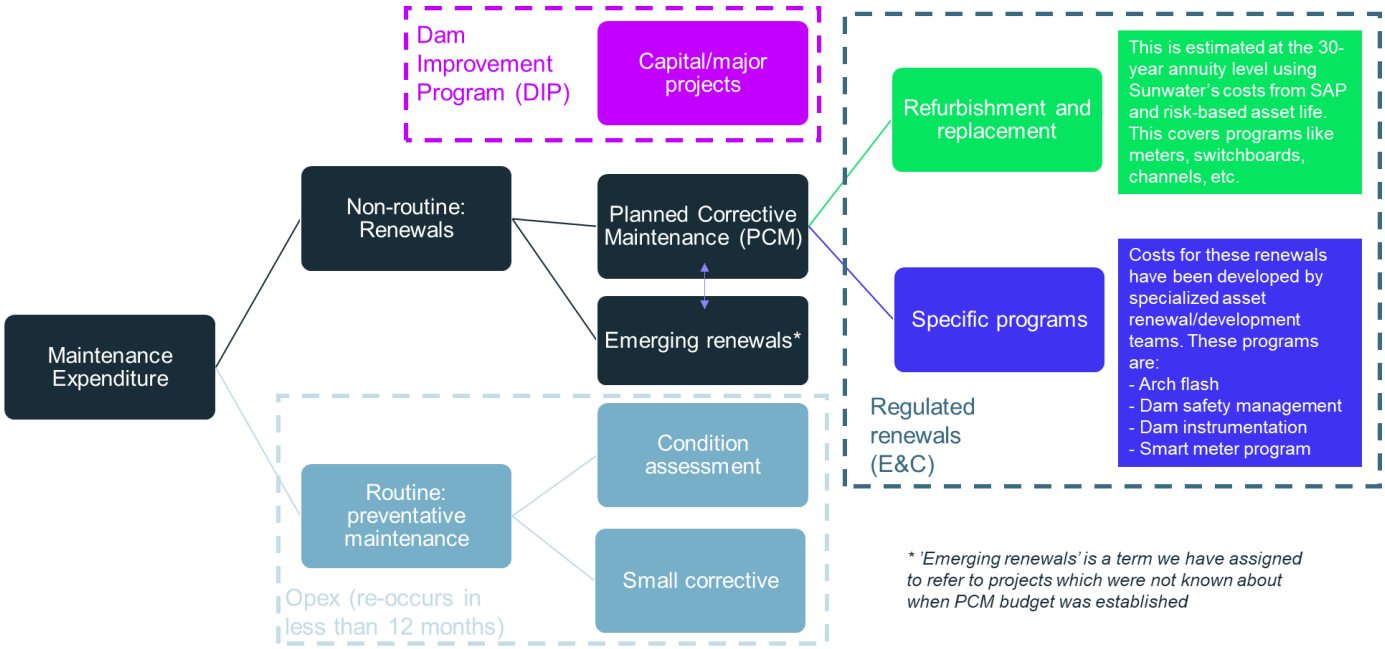
The cost for the PCM renewal program is estimated using the SAP system to assign object types and replacement years to assets, assuming standard replacement times. Additionally, the costs of refurbishments are based on historic costs. For larger projects, Sunwater will typically develop an options analysis and costs, which are then uploaded to SAP and supersede the previously adopted values. Sunwater's renewal planning process document[6] indicates that confidence in a project increases as it gets closer to its implementation date. Projects that will be implemented in the planning year (year 1) have high confidence in cost and definition, while projects planned within two to five years will have medium confidence in cost and definition. Lastly, projects planned for beyond the five-year plan are included in the 30-year investment plan and have low confidence in cost and definition.

From the renewal planning process document and in-person interviews [7], we understand that the proposed renewals expenditure represents Sunwater's PCM program. For this regulatory period, Sunwater has not included large capital projects that fall under this regulatory review. However, Sunwater will undertake large capital dam safety upgrade projects that are included in the Dam Improvement Program (DIP), which is excluded from the regulated irrigation price submission. Our understanding is that Sunwater's DIP program covers any large capital projects that involve major dam safety improvements, such as raising the dam walls. Costs for the DIP program are recovered through other government funding. Additionally, our review excludes capex on recreation facilities.

To better understand Sunwater's approach to renewals planning and maintenance expenditure, we generated Figure 2-2 which illustrates how Sunwater treats its maintenance expenditure between routine and non-routine. Based on the information provided, we understand that Sunwater considers routine maintenance to include preventative maintenance, which re-occurs in less than 12 months, as well as some small corrective maintenance (longer than 12-month interval). Sunwater treats this expenditure as opex. On the other hand, non-routine maintenance is considered as renewals and includes projects in the DIP program and PCM. We have also included the term "emerging renewals" to explain projects that are not included in the PCM at the time of Sunwater's pricing proposal. We understand that Sunwater may have to develop new projects that are not known at the time of submission such as projects that deal with flood damages or unforeseen circumstances. Sunwater may treat these as PCM in its planning within the price path period; however, we believe that it is helpful to separate emerging renewals from PCM, as shown in the diagram below. The PCM program includes regular refurbishment and replacement works as well as specific programs. We classify specific programs as those that are not planned beyond the price path. Based on our review, those are planned by specialised teams to address specific issues.

[6] Renewal Planning Process eDocs: 2819200, Sunwater, November 2023
[7] Day 3 Presentation – Cost estimation and efficiency, Sunwater, February 2024

Figure 2-2 – Breakdown of Sunwater's approach to maintenance expenditure



Source: Generated by Atkins Realis with information from Sunwater

Note: Large capital projects that are not related to dam safety improvement would fall within the regulated scopes. Sunwater has not proposed any capital expenditure to augment existing assets or build new asset upgrades for augmentation.

For the future proposed renewals expenditure, within the future price path and beyond, Sunwater utilises its SAP system to produce the estimated level of investment required to deliver its regulated irrigation services. The table below is extracted from a response by Sunwater regarding the unit rates and costs included in the forecast renewals expenditure.

Table 2-1 - Sunwater's approach to forecasting renewals expenditure[8]

Period	What we did / do
Budget year **(Values in budget year owned by planning plus operations – depending on where at in delivery cycle)**	Detailed quotes
	Options studies
	Bill of quantities
	Past similar projects, supplemented by discussions with the regional operations staff during the planning meetings
Second year **(Values in budget year owned by planning (not so much operations) – depending on where at in delivery cycle)**	Options studies
	Bill of quantities
	Past similar projects, supplemented by discussions with the regional operations staff during the planning meetings
	Detailed quotes for higher value multi-year projects
Year 3 onwards (to 2057-58)	Ownership of forecasts largely sits with planning, rather than delivery functions SAP values based on most recently entered data On an exceptions basis, some high value / high risk projects may be modified to reflect new information such as recent similar projects. For example, a large multi-year project with a completed options study. Maintenance item costs are updated for various reasons. All updates are provided by the planning teams. Some are updated on project closure based on actuals after an asset is replaced or refurbished; others are updated after planning reviews with the program delivery teams. Most changes focus on the next five years; Sunwater, however, also undertakes periodic changes that affect years 5+. Cyclical activities are automatically adjusted. For example, if something is on a 10 yearly cycle and planned for FY25, when the estimated costs are updated it will update FY25, FY35 and FY45, etc.

Source: RFI 37 – Sunwater's response, Sunwater, January 2024

Sunwater develops initiation documents for projects that are due to be implemented in the first three years of the five-year planning period. This is apparent in its current pricing proposal as its renewals program beyond the price path (FY30-58), is on average, significantly lower than renewals expenditure proposed over the future price path (FY26-29). Sunwater explained the significant decrease in its proposal stating that[9]:

[8] RFI 37 – Sunwater's response, Sunwater, January 2024
[9] Irrigation Pricing Proposal 2025-29, Page 106, Sunwater, November 2023

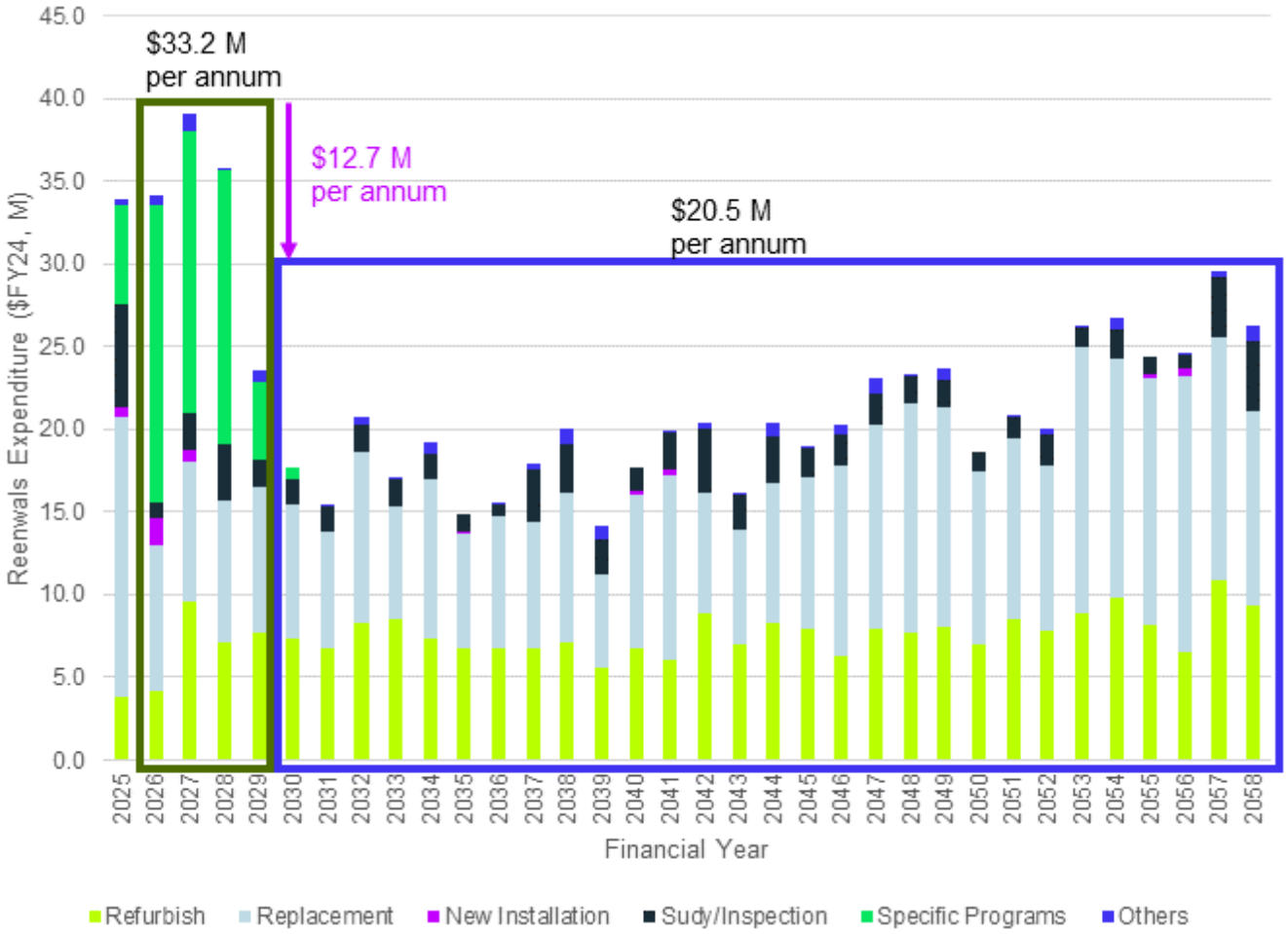
This final year drop is reflective of our approach to exclude projects which are uncertain, rather than an expectation that actual expenditure will drop by 25 per cent in the final year of the period. As we continue with our routine inspections, investigations and condition assessments our actual work program will adapt and (as has occurred in the current period) we expect that additional expenditure will be required in 2028-29.

Additionally, we acknowledge that Sunwater undertook a review of its original proposal with its consultant, [redacted], to identify adjustments to its renewals program over the 2025-58 period. [redacted] review resulted a reduction in the original renewal proposed by Sunwater (37% for FY25, 29% for FY26-29, and 34% for FY30-58). The overwhelming majority of these reductions are attributed to [redacted] recommendation to delay and adjust costs for the pipeline replacement and individual projects. For example, Sunwater presented reductions by program based on findings applied to non-reviewed expenditure[10], which showed that 75% of the reduction is due to the pipeline replacement (49%) and individual projects (26%).

The future price path renewals include specific programs that were developed by Sunwater to address specific issues. Based on Sunwater's statement quoted above, we understand that there are programs of work which Sunwater has not yet scoped out which are likely to be initiated in the period beyond the price path. The figure below shows the breakdown of renewals expenditure by activity, separating the specific program renewals. As can be seen the rate of proposed renewals expenditure is modelled to drop significantly from $33.2M p.a. over FY26-29 to $20.5M p.a. over the period beyond the price path.

[10] Irrigation Pricing Proposal 2025-29, Table 36, Page 88, Sunwater, November 2023

Figure 2-3 – Breakdown of renewals expenditure by renewals activity over the short and long term



Source: 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

This drop in renewals expenditure is commonly known as the "planners drop", which emphasises that Sunwater's long-term planning is currently at its early stages of maturity as it aims to form a better understanding of the condition of its assets. It is important to note that this is a reversal from what Sunwater proposed in the last price review, where the long-term period (FY25-53) included significantly higher projected average annual expenditure than the short-term period (FY21-24)[11].

We consider Sunwater's current approach to long-term planning to be well behind industry practice of planning asset replacement based on condition and performance. Sunwater can improve its asset information to inform the timing of renewals and avoid reactive responses which are likely to result in additional costs and inefficiency. We understand that Sunwater has initiated a project to develop asset class-specific decay curves to "inform future forecast development."[12]

To address our findings, we recommend a catch-up efficiency challenge relating to project development and decision making. We believe that Sunwater has room to improve its understanding of its assets and therefore make better

[11] Rural Irrigation Capital Expenditure Review, Page 6, AECOM, January 2019
[12] Irrigation Pricing Proposal 2025-29, Page 88, Sunwater, November 2023

decisions that lead to re-prioritisation and cost savings. The catch-up efficiency challenge is discussed further in section 6.5.

To help with achieving these efficiencies, we recommend the following:

- Asset Health Reporting and Optimization
    - Develop asset health reporting to optimize maintenance and renewal activities.
    - Utilize this reporting as a tool to communicate asset health trends and underlying risks to senior management and stakeholders.
- Evidence-Based Asset Lives
    - Develop evidence-based asset lives to strengthen confidence in asset longevity.
    - Implement an asset management approach tailored to each asset group (e.g., pumps, switchboards).
    - Create specific asset plans based on performance and condition, informed by recent renewals.
- Asset Condition and Risk Understanding
    - Improve understanding of the condition and associated risks of assets by carrying out more routinely asset condition assessments.

We consider that Sunwater should be able to undertake these recommendations and realise benefits during the future price path and beyond. This is reflected in both section 6.5, where we apply the efficiency challenge to reflect these improvements, and section 7, where collate this recommendation with other recommended improvements from our review.

2.1.2 Asset life and renewals information

In our review, we evaluated a wide range of data provided by Sunwater in relation to its pricing proposal. In particular, we assessed renewals data with information about each renewals project, asset type and location, and asset life. Two documents were central to our analysis. These are:

- “WMS data sheet”: this included information about each renewal project with related asset and asset life. It also provides a breakdown of the expenditure across cost types (labour, material, contractor, plant).
- “RFI_50 - Renewals Expenditure”: this included the asset register along with asset condition, if available, and replacement date. It also included the asset life for each asset.

In the process of our review and analysis, we observed that the asset life and replacement date in RFI 50 does not always align with the expenditure and assigned asset life in the WMS data sheet. Notably, a significant number of renewals projects in the WMS sheet have “N/A” in the asset life column. In a response to a clarification request regarding this discrepancy[13], Sunwater indicated that the RFI 50 information includes the standard low risk technical asset life and that some projects (maintenance items) can be assigned to multiple sub-assets or assigned to the parent asset. Therefore, maintenance items might include incorrect asset life for the maintenance work to be

[13] RFI_121_Asset life-renewals

completed. For example, a project to replace an asset with 20-year replacement period might be assigned 50 years asset life because it is connected to a header/parent asset that has a 50-year asset life. However, Sunwater clarified that this does not necessarily drive the actual renewals expenditure and replacement date. We understand that the designation of asset life does not impact actual replacement expenditure.

Additionally, in a similar response to RFI 121, Sunwater provided that the asset life in the WMS data sheet is used mainly for RAB-depreciation purposes only and not for maintenance replacement dates. Sunwater also stated:

> *Functional locations may not be correctly assigned in all instances for this purpose, and Sunwater acknowledges we may not have addressed all of these as part of this submission. We will continue to refine this over time, particularly if a RAB is approved.*

Based on the response from Sunwater, we concluded that the expenditure and reoccurrence of expenditure in the WMS sheet is representative of actual replacement dates. Our assessment and recommendation regarding replacement periods utilised the actual expenditure associated with the maintenance project rather than using the assumed asset life.

There appears to be no document available which consistently brings together proposed renewals and assumed lives. As such **we have very limited confidence in the asset life data provided and used in the WMS to derive the weighted average asset life that Sunwater is proposing in the RAB model. We recommend that Sunwater develops an integrated data set which brings together proposed renewals and asset lives in a consistent manner.** This will be especially important if a RAB-based approach is adopted.

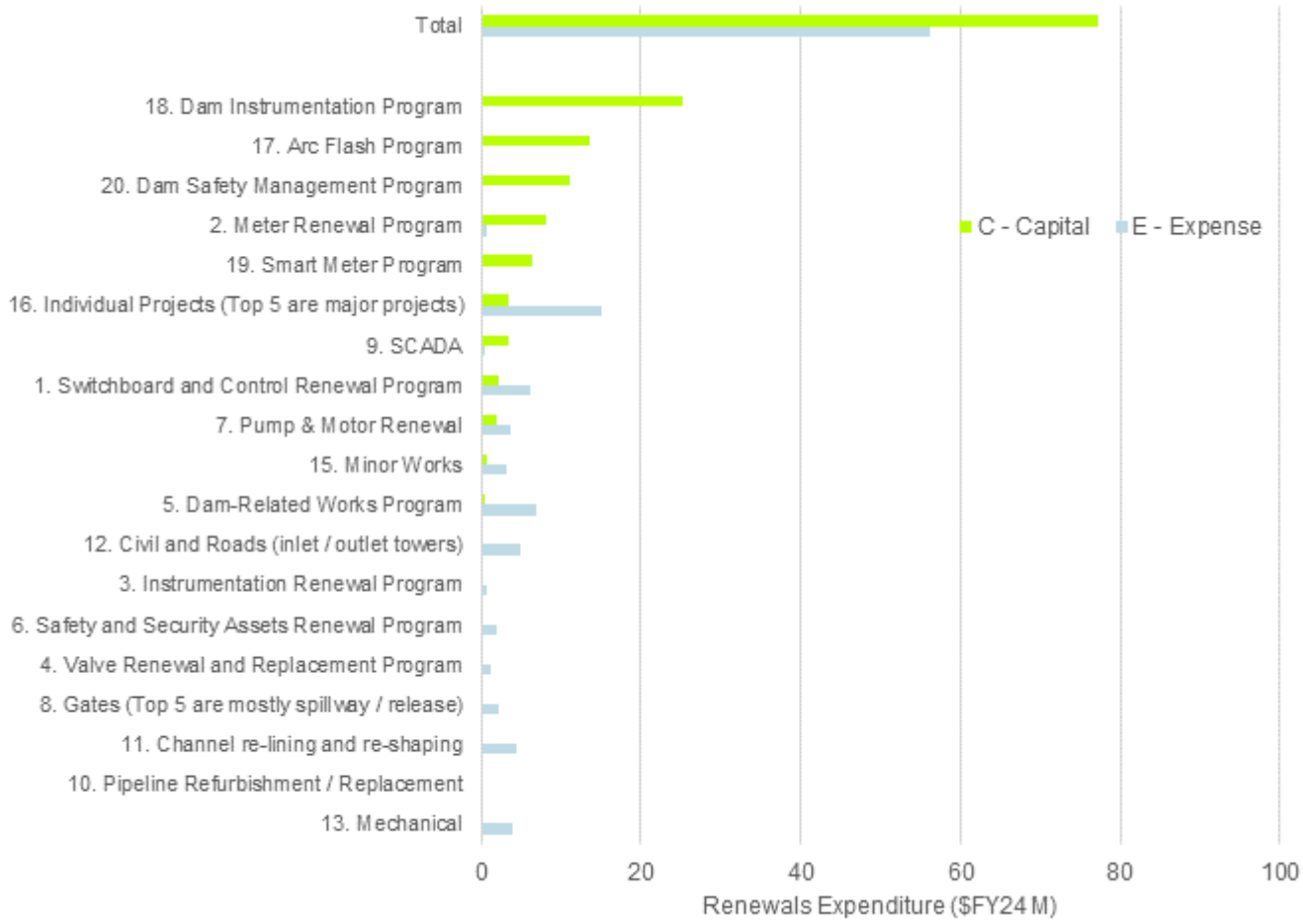
2.1.3 Capitalisation

In Sunwater's 2025-2029 irrigation pricing proposal, the non-billing renewal expenditure proposed is $147.0M ($133.3M in $FY24), which includes both capital and expensed costs, i.e. capex and opex. This includes 17 renewal programs and individual projects. Supporting information submitted by Sunwater contains a breakdown of the renewal expenditures showing each proposed project within the renewal program and for each scheme[14].

We found that non-billing renewal expenditure includes $77.2M in $FY24 (58% of non-billing renewal expenditure) of capital expenditure, which is classified as "C – Capital." The remaining $56.1M (42%) is classified as operating expenditure, classified as "E – Expense." The figure below demonstrates the split between operating (E – Expense) and capital (C – Capital) renewal expenditures for each program.

[14] *10 WMS data Renewals Final Values.xlsx*, Sunwater, December 2023

Figure 2-4 – Split between capital and operating non-billing renewal expenditure ($FY24 M)



Source: 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

The approach to expensing (as opposed to capitalisation) of renewal expenditure by Sunwater appears to differ from standard practice by other utilities in Australia. We expect that almost all renewals expenditure to be classified as capital expenditure, as long as the expenditure meets the capitalization threshold set by Sunwater and meets accounting definitions for asset recognition. Some of the apparent programs that are typically considered capital expenditure include major projects, switchboard and control renewal, dam-related works, and others.

Sunwater's capitalisation policy[15] and guideline[16] provide that it follows the recognition of asset cost per AASB 116, which allows the recognition of cost if:

- It is probable that future economic benefits associated with the item will flow to the entity; and
- The cost of the item can be measured reliably.

[15] RFI4 and RFI10A Asset Capitalisation Policy, Sunwater, November 2023
[16] RFI4 and RFI10B Asset Capitalisation Guideline, Sunwater, July 2019

The capitalisation guideline also includes a capitalisation threshold for various asset classes as shown in the figure below.

Figure 2-5 – Capitalisation threshold per asset class (snippet from Sunwater's capitalisation guideline)

Asset Class	Description	Capitalisation Threshold	Asset Class	Description	Capitalisation Threshold
BBD100	Buildings	$10,000	PBE100	Boats and Boating Equipment	$5,000
BDE100	Demountable Buildings	$10,000	PCE100	Computer Equipment	$1,000
CCS100	Computer Software	$5,000	PME100	Machinery and Equipment	$5,000
DCH100	Channels	$10,000	POF100	Office Furniture and Equipment	$5,000
DDR100	Drainage	$10,000	POP100	Other Plant and Equipment	$5,000
DMF100	Monitoring Facilities	$10,000	PRE100	Recreational Equipment	$5,000
DOW100	Other Water Distribution Assets	$10,000	PSE100	Scientific Equipment	$5,000
DPL100	Pipelines	$10,000	PVH100	Vehicles and Heavy Plant	$5,000
DPS100	Pump Stations	$10,000	SDA100	Dams	$10,000
ILI100	Land Improvements	$10,000	SOW100	Other Water Storage Assets	$10,000
LLO100	Land Owned	$1	SWB100	Weirs and Barrages	$10,000
			HES100	Hydro Electricity Stations	$10,000

Source: RFI4 and RFI10B Asset Capitalisation Guideline, Sunwater, July 2019

However, in its guideline, Sunwater appears to have additional requirements for expenditure items to be considered capital. For infrastructure expenditure, the capitalisation decision tree requires expenditure to be either creation of brand-new assets or, if it relates to existing assets to constitute more than 75% of the replacement cost of the Asset Facility (i.e. not just the asset) or to both enhance function *and* extend asset life.

In our experience it is unusual to add additional barriers to capitalisation, from a regulatory perspective. Sunwater's approach to capitalization appears to add complexity to the accounting of capital expenditure for existing assets. Other utilities in Australia, in general and including rural water utilities, have capitalisation policies that capitalises expenditure if the expenditure satisfies the following criteria:

- The utility has control of the asset
- The expenditure will have future economic benefits
- The item will be utilised for more than 1-3 years (this varies)
- The expenditure is greater than the capitalisation threshold

These criteria are included in Sunwater's first decision tree question. However, Sunwater's guidelines provide additional requirements and steps for the expenditure to be considered capital expenditure. For example, in the decision tree for capitalisation of infrastructure expenditure[17], Sunwater capitalise expenditure if i) the expenditure is greater than 75% of the replacement cost of the asset, or ii) the expenditure enhances and increases the useful life of the asset. Expenditure relating to maintenance is likely to be expensed under the decision tree guidelines. The additional requirements present barriers to capitalisation of expenditure, especially when it comes to large periodic maintenance spend, as the difference between enhancement and maintenance can be difficult to determine.

Other water utilities either have internal policies or rely on other (e.g. State) guidance to provide more detail of the interpretation of the capitalisation criteria especially as concerns what constitutes a future economic benefit. For example, NSW Treasury Policy TPP06-6, which applies to WaterNSW's capitalisation approach, provides guidance

[17] RFI4 and RFI10B Asset Capitalisation Guideline, Sunwater, July 2019

on “future economic benefits” for subsequent costs and capitalisation thresholds. It defines the former as requiring consideration of service capacity, quality and/or useful life. The main threshold is $5000 but the guidance leaves $500-$5000 to agencies’ judgement[18].

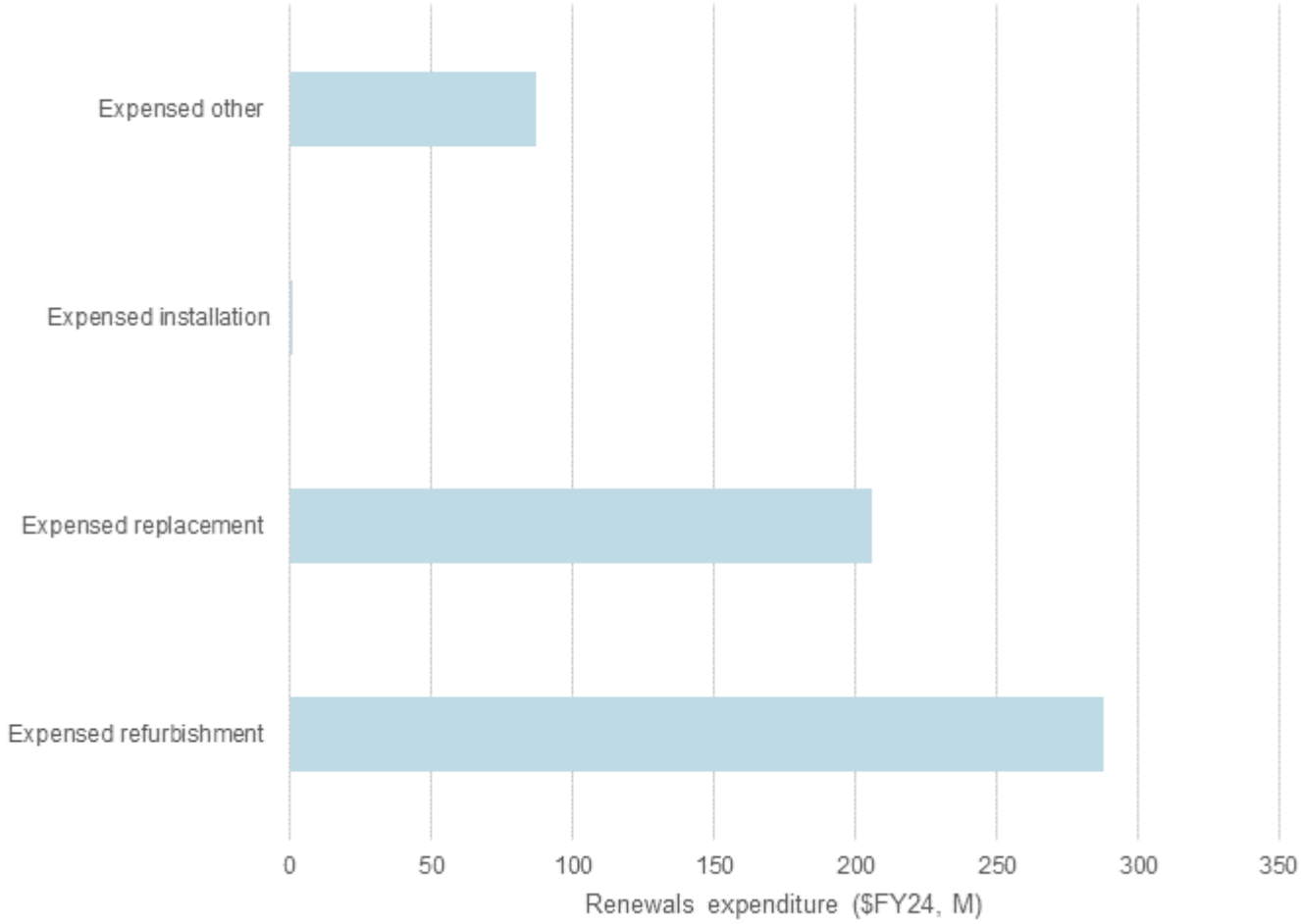
Sunwater’s capitalisation policy, in wording, is similar to NSW Treasury Policy TPPP06-6. However, in practice Sunwater uses a “routine” v “non-routine” distinction rather than the definitions in its capitalisation guideline to allocate between opex and renewals. As for the breakdown of capital and expensed renewals, we found that $580.2M ($FY24) or 62% of Sunwater’s renewals expenditure over FY25-FY58 is classified as “expensed” renewals. Of that:

- $205.5M relates to replacement (RPLC) projects. This represents 35% of all renewals expenditure classified as “Expense”. A small amount ($0.2M) relates to new install projects classified as expense.
- Another $86.8M in expensed renewals relates to projects that have not been clearly designated as either refurbish or replace. We found that most of these projects pertain to studies.
- The remaining $287.6M or 50% of expensed renewals expenditure relate to refurbishment.

The figure below illustrates the breakdown of expensed renewals expenditure across the different renewals activities.

[18] tpp06-06_dnd.doc (nsw.gov.au)

Figure 2-6 – Breakdown of expensed renewals expenditure across renewals activities



Source: 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

Based on our review of Sunwater's capitalisation practice, we consider that the current approach is likely to expense (i.e. treat as opex) more renewals expenditure than other utilities. For example, many utilities treat almost all replacement projects that meet the threshold as a capital cost whereas Sunwater classifies a large proportion of its replacement projects as opex.

During the interviews, Sunwater stated that it recognizes that it needs to re-consider if its capitalisation policy is fit for purpose and has not provided additional explanation for the reasons for its current capitalisation policy. Under the current annuity model, capital and operating renewals expenditure are recovered on annuity basis. Should Sunwater move to a RAB model, the treatment of opex and capex will significantly impact the pricing.

Although we are not providing comments on capitalisation from a statutory accounting perspective, we consider that Sunwater is likely to need to revisit its current capitalisation policy. **We recommend that Sunwater:**

- **Clearly defines "future economic benefits" to ensure that expenditure related to replacement projects, which are typically capitalised, is considered a capital expenditure rather than the current use of routine vs. non-routine.**
- **Establish shadow accounting system with a new capitalisation policy, that is more in line with industry standards, to assess the impact of the new policy on opex and capex.**

We consider that Sunwater should re-assess its capitalisation policy regardless of the regulatory model used (RAB or annuity). The current approach of delineating opex and renewals with routine and non-routine designations allows significant room for interpretation.

We note that Sunwater is proposing to capitalise CASPr implementation costs. This is discussed in detail in section 4.2.6.

2.1.4 Procurement

Sunwater included in its supporting information its brief procurement policy[19] where key principles are set. The key principles are:

- Achieve value for money
- Ensure probity and accountability outcomes
- Align with the Queensland procurement policy principles

Additionally, it included that it enhances the prospect of achieving its principles by applying the following:

- Take a planned approach to all procurement
- Communicate in an open and effective manner
- Procurement effort is commensurate with levels of risk and criticality
- Make commercial decisions
- Develop professional relationships with suppliers
- Model behaviours reflective of Sunwater's status as a Government Owned Corporation

During the interview stage, we requested that Sunwater present on its procurement to better understand its application of best industry procurement practices. We understood that Sunwater's maturity pathway for the next five years is currently at the visioning stage and lacks detailed planning. Each program within the organization determines the most suitable procurement approach, whether it be Design and Build (D&B), alliance contracting, or other methods.

Regarding whole-of-government panels, Sunwater has engaged with panels in various sectors such as financial services. However, [redacted] decisions regarding panels for areas like electricity procurement are made based on specific needs, such as the recent hiring of a specialist energy manager.

Sunwater's approach to procurement is at its early stages of maturity, considering each opportunity on a case-by-case basis and assessing how to best procure goods and services based on factors like scale and complexity. Sunwater is developing Business Unit Procurement Plans, starting with areas like ICT and planning to extend this to operations and infrastructure. Quarterly meetings are held to review progress, with a focus on identifying opportunities

[19] Procurement Policy, Sunwater, November 2022

for cross-panel arrangements. We understand that the procurement team has plans to track financial savings and benefits starting from FY25.

We consider that Sunwater's procurement practices leave room for improvement and efficiencies to be gained. In our review of Sunwater's procurement, we identified opportunities for efficiency relating to procurement where savings can be realised. Examples of these are the use of frameworks to drive more efficient pricing as well as establishing a more robust benchmarking of full outturn costs to other utilities costs, identifying areas of inefficiencies. Therefore, we recommend applying a catch-up efficiency challenge starting from FY26 to reflect this. This is discussed further in Section 6.5.

We note that Sunwater's procurement team has doubled in size in the last few years, which could offer an improvement to its procurement planning. We consider that development of a cohesive and comprehensive procurement strategy has the potential to bring significant financial savings and benefits in the future.

2.1.5 Customer and Stakeholder Relations

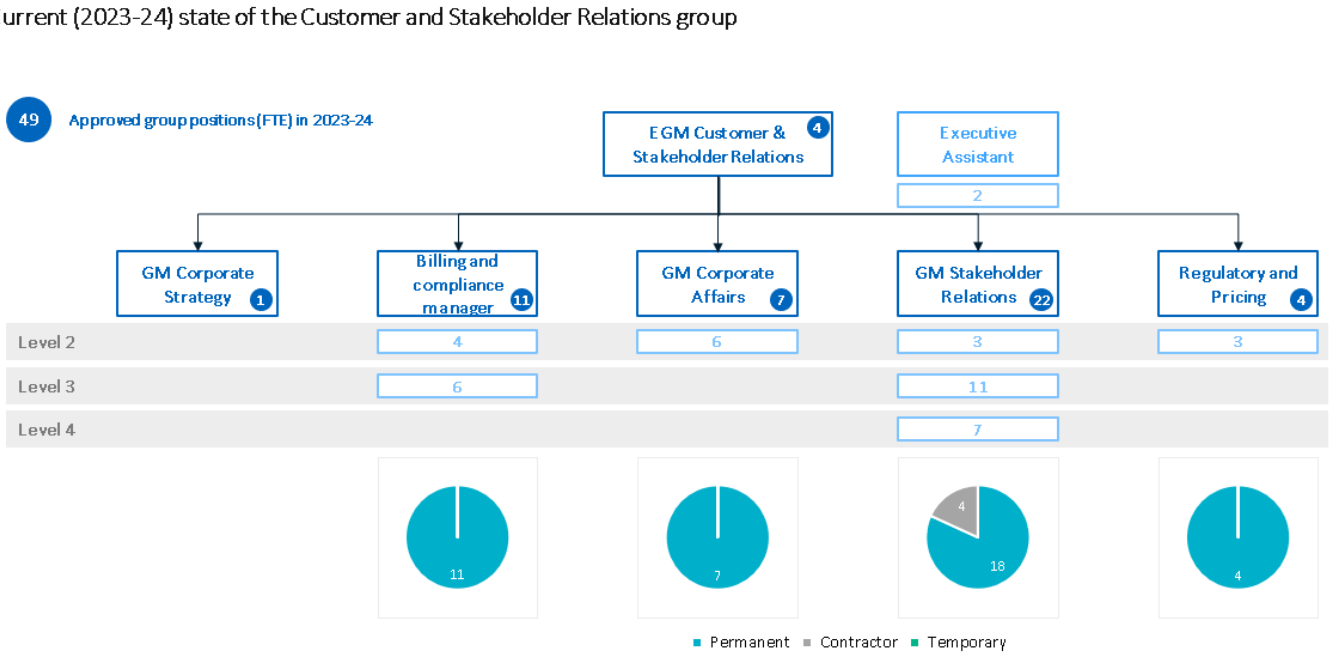
The Customer and Stakeholder Relations Business Unit (BU) has seen significant transformation over the current price path, with a growth in headcount from 30 to 44 (49 including contractors).

Sunwater has explained that this has been *"…informed by a new leadership team and business strategy that has been set under the current Chief Executive Officer. The BU has sought to address clear capability and resourcing gaps. For example, the Regulatory and Pricing function only comprised one full time equivalent (FTE) in 2019-20 for a business with 26 service contract areas. The BU also needed to grow to provide appropriate support to allow Sunwater to meet its obligations under the Queensland Government Owned Corporations Act in addition to new capital and major projects such as the construction of Rookwood Weir and Dam Improvement Projects at Burdekin Falls and Paradise dams. In addressing obvious resourcing gaps and ensuring support was provided to new projects, the Sunwater's Customer and Stakeholder Relations BU has grown in a staged way since 2019-20. This response presents the current BU structure and size (in FTE terms) and confirms that while some roles may be classified as "non-permanent", it is Sunwater's expectation that in FTE terms these roles will be ongoing throughout the next price path period".*[20]

The figure below shows the 2023-24 group structure and size. Sunwater explained that this year represents the ongoing / steady-state resourcing expectation for this BU and that the additional growth since the 2022-23 year relates to additional administrative support and additional stakeholder relations team roles, reflecting the strong current and expected growth project pipeline.

[20] Source: RFI 90 response from Sunwater in relation to question on headcount.

Figure 2-7 – Summary of headcount for customer and stakeholder relations (snippet)



Source: RFI 90 Customer & Stakeholder Relations Headcount

There are two teams with overall responsibility for the delivery of day-to-day customer service with customers across billing and operational activity, which are the Billing and Compliance team and the Customer Interactions team although many others within Sunwater will also be engaging with customers.

Overall, we formed the view that Sunwater has a good understanding of its customer base, including the ability to segment customers and tailor appropriate offerings and channels, e.g. to "traditional", "tech savvy" and "large-scale" customers. There is evidence that customer service training and initiatives are not just for frontline customer service staff but that there is a drive to make all staff in Sunwater think "Customer First". There has also been a steady stream of customer service improvement initiatives that have been delivered and which are very likely reflected in improving trends in key metrics (year on year increases in Customer Satisfaction score and Providing Helpful Services score and also the decreasing number for Inbound Call Volumes).

However, we found the approach to customer service to be very reactive and this would not be considered as best practice by leading organisations. This is illustrated by 90-95% of customer contacts being inbound contacts received from customers. In many organisations, including the water utilities we have seen, this would have been common 10 to 15 years ago. Nowadays the split between inbound and outbound is more likely to be 50%-50%, or even potentially a higher percentage of outbound contacts as companies are pro-active in identifying issues and also case managing customer engagement in cases where the customer has initiated the contact. There is also the alternative to promote water ordering, submitting meter reads and other customer interactions through digital channels. These approaches have the benefits of reducing the burden on the customer, improving the customer experience and/or reducing the cost to serve by both reducing the overall numbers of contacts and/or through automation of processes.

We recognise that Sunwater's potential to improve in this area has been limited by its systems or lack of them in that Orion did not have this capability and while Freshdesk was described as a Customer Relationship Management (CRM) system to us, it is in reality only a job management system to allocate tasks and activities which limits the potential for Sunwater to provide a better service. As discussed in Section 4.2, the opportunities for improvement in the customer journey and experience will increase significantly when CASPr goes live, which is reflected in our proposed changes in 3.6.1. There are also opportunities to bank efficiencies around the new customer portal as well

as digitalise the temporary and property transfer processes, which still rely on hard copy submissions, which may be considered onerous and time-consuming.

Recommendation 1: Adoption of a more proactive approach to customer management. An organisation that thinks Customer First will look at ways to reduce the burden on their customers and anticipate customer needs and problems. This requires a shift away from reacting to customer contacts to identifying issues and also case managing customer engagement in cases where the customer has initiated the contact. This will improve the customer experience and reduce the potential for dissatisfaction. CASPr should contribute significantly to better customer management, but it is also about the ethos and culture within the organisation as well as re-engineering many of the existing customer journeys.

Recommendation 2: Provide multiple channels to customers for engagement with Sunwater. This may involve digitalising more processes or allowing customers to undertake these and other activities via the telephone to promote ease of access and speed of response. It may also involve enhancing existing channels or introducing new ones such as WhatsApp or SMS messaging which are particularly popular and effective for managing operational issues.

The Customer Satisfaction Survey is the best method of measuring the customer experience, and a much more reliable indicator than Sunwater's other quantitative metrics like Inbound Call Volume, Average Answer time, Average Handling time or Number of Tickets. It is very positive that Sunwater is transparent and open about publishing its customer satisfaction scores, because that has not always been the case in Australia with other water utilities. The particular challenge that Sunwater faces with such a small customer base is survey fatigue, with approximately 700-800 respondents out of ~5,000 customers and in all likelihood, it may be the same core base of customers always responding.

Recommendation 3: Consider reducing the Customer Satisfaction Survey to once a year to reduce the risk of survey fatigue from such a relatively small customer base and extend the survey mechanism to include telephone surveys of customers who are calling during the survey period in order to increase the response rate which has been relatively stagnant.

Notwithstanding that Irrigator customers would be considered as very different from residential and business utility customers; the customer satisfaction score is still relatively low[21] (45.9 out of 100 in 2023) and we believe that there is room for significant improvement. We note that there are minimum targets set for the current price path but that they are lower than the actuals which suggests they are not stretching, and no targets have been set (yet) for the future price path. We think the setting of a stretching, but also achievable, target should help to drive innovation and continuous improvement in this area.

Recommendation 4: A score ramping up over the next price path between the 55 to 65 range should not be viewed as insurmountable compared with leading organisations, including water utilities, who may be in the 75 to 85 range. This takes into account both the difference in the attributes of Sunwater's customer base as well as the impact of the implementation of CASPr and other improvements that we believe align with good customer service practice.

We have set out in our prudency and efficiency assessment why we have not accepted all of the increase in costs for this Business Unit in the review of non-direct costs in Section 3.3.2.3 Customers and stakeholders.

[21] There is some confusion in Sunwater's own reports where they often refer to their Net Promoter Score (NPS) or Customer Satisfaction (CSAT) score. The range for NPS is -100 to 100, while CSAT is typically scored either out of 10 or 100, the latter range being adopted by Sunwater. It was important to establish which metric Sunwater uses because the 45.9 reported in 2023 would be considered as very good if it was NPS but it would be considered as low for CSAT. We established Sunwater uses an adaptation of the CSAT score methodology not NPS.

2.2 Conclusions from the assessment of Sunwater's governance and procedures

In the areas discussed above, we consider that Sunwater's governance and procedures have significant room for improvement. Its approach to asset planning and management, specifically when it comes to asset replacement, does not reflect best industry practices. Its current capitalisation policy, as acknowledged by Sunwater, includes barriers to the capitalisation of expenditure which has significant implications for a RAB model, to which Sunwater proposed to move. Sunwater's procurement is at its early stages of maturity, which indicates substantial opportunities for future financial savings. The potential savings and improvements are discussed in Sections 6.5 and 7.

Sunwater's customer service operations are divided between the Billing and Compliance team and the Customer Interactions team, with broader engagement across the organization. While Sunwater demonstrates a strong understanding of its customer base and implements tailored offerings, its approach to customer service is primarily reactive, with a high percentage of inbound contacts. The organization acknowledges the need for improvement, especially as it transitions to CASPr, which is expected to enhance the customer journey and experience. Sunwater's customer satisfaction survey is crucial for measuring customer experience, although there is a challenge of survey fatigue due to a relatively small respondent base. Improvement opportunities exist, particularly in increasing satisfaction scores and setting ambitious yet achievable targets to drive continuous improvement.

3. Non-direct costs

This section discusses and presents our assessment of Sunwater's non-direct costs. This includes the review of allocation methods of non-direct costs between regulated schemes/systems and other parts of the business. We also comment on the step-change to non-direct costs in FY19 that was accepted by QCA and is subject to ex-post review.

Our main findings are summarised as follows:

Increases: total Sunwater non-direct costs have increased significantly (by 52% in real terms) since FY20. The greater part of the increase relates to ICT costs. The remainder is a broad-based real terms increase in costs across most cost centres. This has led to regulated non-direct opex being $2.2M higher than QCA's recommendation for FY23 in the 2020 irrigation price review.

Benchmarking is difficult because of differing definitions, scale, service areas and maturity. However, we note that on some measures Sunwater appears to have high corporate costs.

Increases. In 2020 the QCA set an efficient level of non-direct expenditure for regulated rural irrigation services for the current price path period. In examining whether increases in expenditure are justified or not we have considered the cost drivers and whether they are caused by exogenous or endogenous factors. We have recommended accepting increases due to exogenous factors related to Cyber security, the Enterprise Portfolio Management Office, Stakeholder relations, Safety expenditure and Dam safety. We have also recommended amendments to reallocate costs between indirect and corporate support costs.

CASPr: we have recommended applying the current cost allocation approach to incorporate the impact of CASPr costs until a more causal allocation approach is in place. We consider that implementation of CASPr will lead to an increase in total Sunwater corporate costs (recurrent and amortisation) which is approximately equal to the amortisation charge for the Orion system which it replaces. We have not therefore recommended a step change in expenditure associated with CASPr.

Recommended allowances: we have recommended base year non-direct opex which is 4% higher than QCA's 2020 recommendation, but 5% less than current cost levels and 9% less than proposed by Sunwater. We have also recommended amending the non-direct cost rates applied to renewals expenditure set out in Section 6, increasing the proposed corporate costs by 3% and reducing the local overheads by 19% but accepting the indirect cost rates.

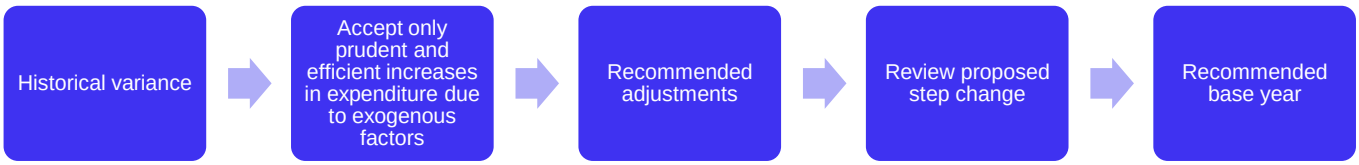
Allocation: we consider that it would be beneficial to move to a more causal cost allocation approach with appropriate cost allocators identified for different cost areas, especially as Sunwater is projecting significant increases in total expenditure. We recommend that Sunwater transition to a causal approach over the next two years to allow time before the next review to have a robust understanding of costs. Preliminary analysis suggests that adopting a more causal approach is likely to reduce the costs allocated to regulated schemes. However, because of under-recovery, it would have made little difference to the costs allocated to regulated schemes in FY23. The change could have a much more significant impact in future with Sunwater expecting to deliver significant capital projects which are not anticipated to fall within regulated irrigation pricing.

Ex post review: there remains significant room for improvement in benefits quantification. However, we consider that the health & safety metrics and implementation of the employee engagement survey are sufficient to enable us to recommend that the FY19 step change expenditure be treated as prudent.

3.1 Approach to assessment of non-direct costs

Our approach to recommending base year non-direct costs is summarised below.

Figure 3-1 – Approach taken to recommending base year non-direct costs



We have also undertaken benchmarking to inform our review. Cost escalation of non-direct costs is addressed in Section 5.5.6 and the potential for future efficiency is discussed in Section 5.6.

In examining whether increases in expenditure are justified or not we have considered the cost drivers and whether they are caused by exogenous or endogenous factors. The QCA set an efficient level of non-direct expenditure for rural irrigation for the current price path period. This expenditure was set, along with the direct expenditure recommendations, to allow Sunwater to deliver the services required of it within this funding envelope, prioritising expenditures based on its own management decisions. Exogenous factors are those which have a cause external to Sunwater such as macro-economic factors, input market changes and new legislation. We test whether these costs are prudent and efficient. Endogenous factors are those which come from within Sunwater and are those which should be controlled by management through prioritising activities and work within the efficient costs determined by QCA. By definition, we consider that endogenous costs above the cost envelope are not efficient unless there are clear explanations to the contrary.

For clarity, we have not used FY23 as the basis of our recommended base year non-direct costs. We have used QCA's 2020 recommended efficient expenditure as the basis of our assessment and examined whether changes since the 2020 recommendations are prudent, efficient and due to exogenous factors.

The following sections introduce the different categories of non-direct costs used by Sunwater, before looking at the changes over time and potential future costs.

3.2 Sunwater's non-direct costs

The majority of Sunwater's regulated expenditure[22] is directly coded to activities with the remainder constituting 'non-direct' costs. These non-direct costs are made up of three categories which are summarised in the following sections.

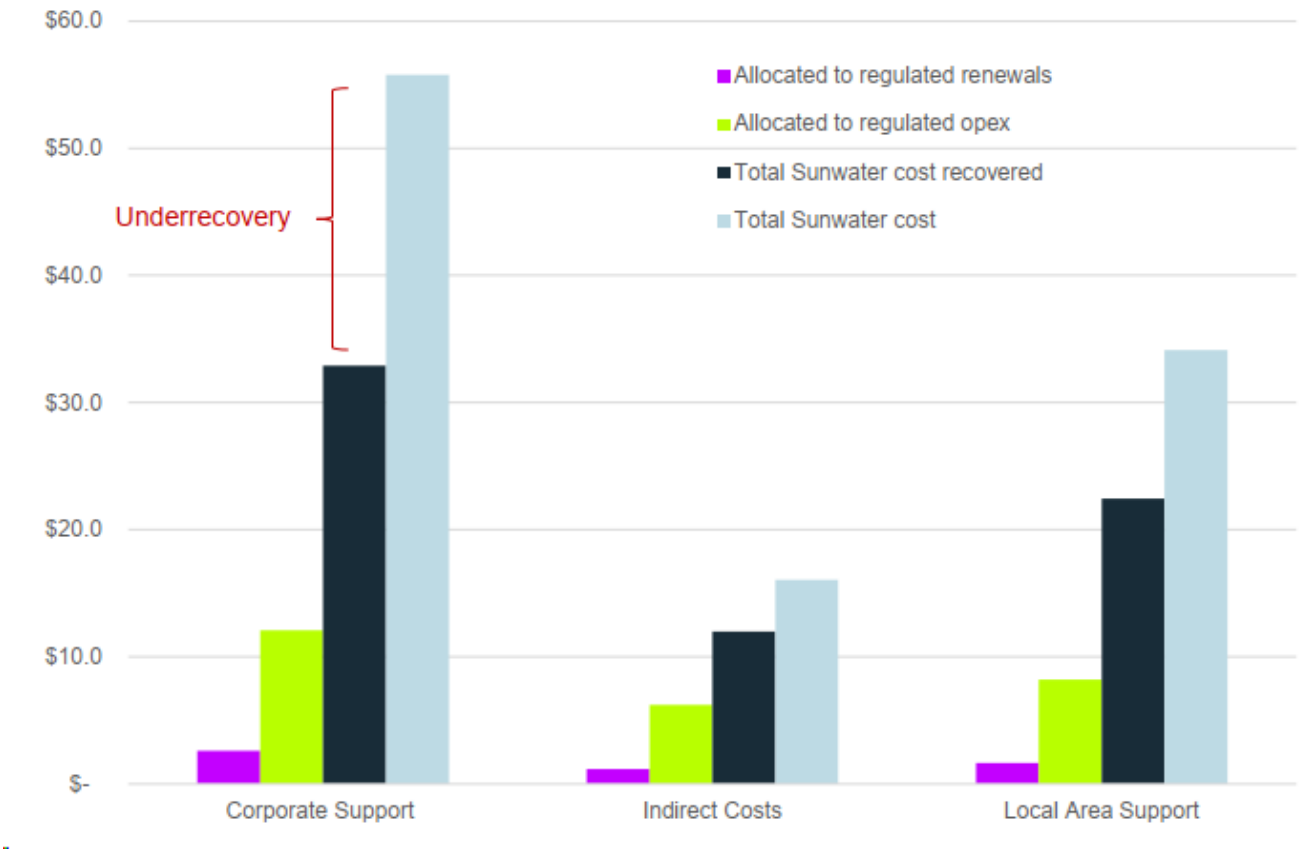
The largest category, both in total Sunwater cost terms and in terms of its impact on regulated opex and renewals, is corporate support which is then followed by local area support costs.

The figure below summarises the total non-direct costs and the amounts allocated to the rural irrigation schemes through either opex or renewals. It also highlights that a significant part of these costs was 'under-recovered' (the difference between the total costs and recovered cost bars). Each year Sunwater sets an 'uplift' to be applied to direct labour costs to recover these costs. During the interviews, Sunwater explained that one of the reasons for the significant under-recovery of non-direct costs in FY23 was that direct labour charges across the organisation were significantly lower than anticipated because it did not receive approvals to go ahead with some of the activities it was anticipating. This meant that the labour denominator for recovery of the non-direct costs was lower than anticipated

[22] Approximately 66% of regulated total (opex and renewals) expenditure in FY23 based on analysis of SFM v2243.

and therefore the uplift rates it applied were not sufficient for full cost recovery. We understand that the under-recovery is taken as an organisation-level net earnings cost.

Figure 3-2 – Summary of FY23 non-direct costs ($FY23, M)



Source: Analysis of Sunwater spreadsheet 'RFI_68_QCA RFI data labour charging (2)', '09 OPEX_Electricity_Final Values' and 'RFI_52_- Renewal CAPEX by Cost Category – Response'

Note: CASPr costs have been removed from this analysis

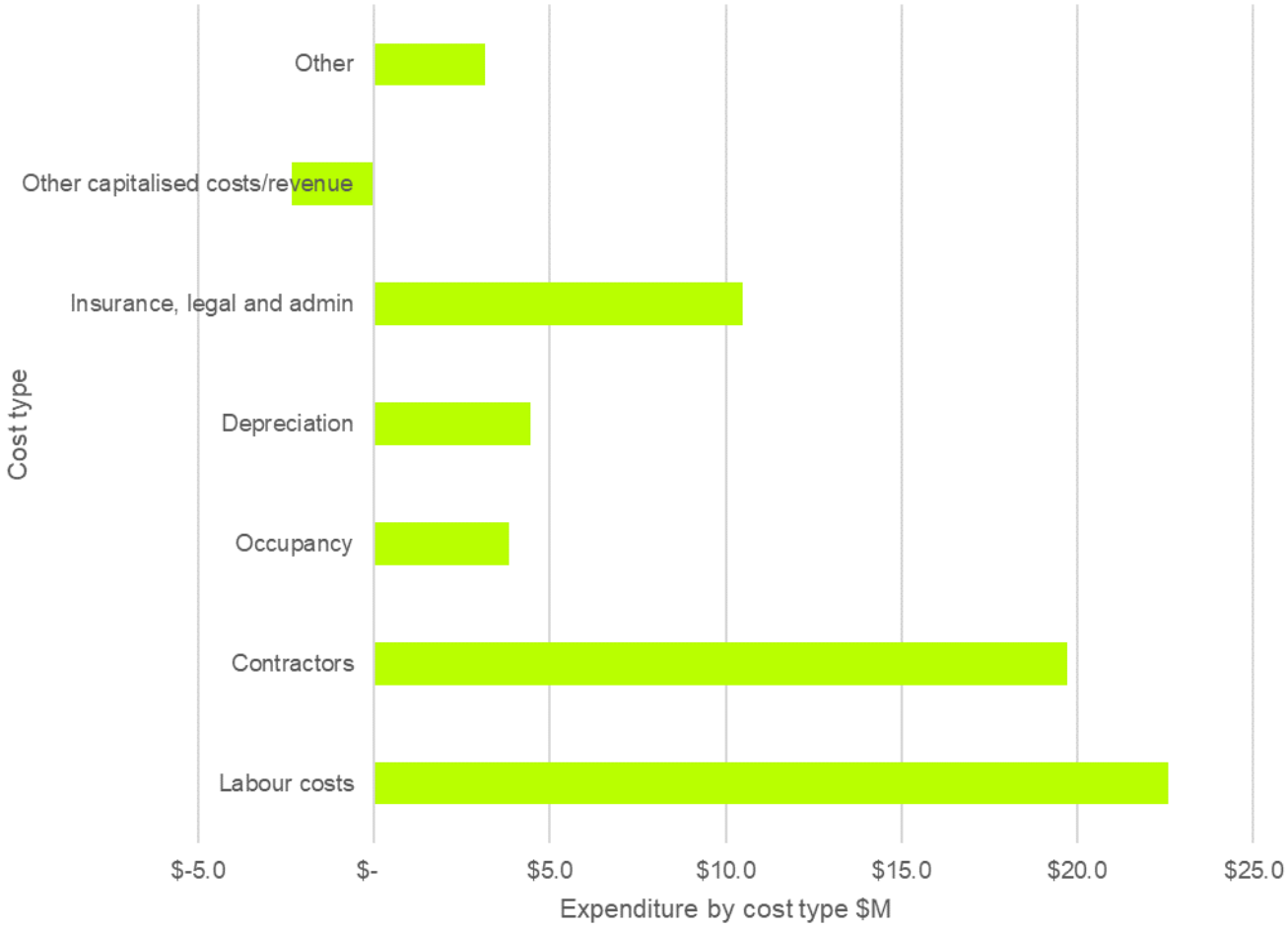
3.2.1 Corporate support costs

Corporate support costs are the largest category of non-direct cost. Sunwater explains that these relate to:

> *activities concerned with the overall management, control and direction of the organisation and which do not involve any significant costs relating specifically to a service contract or project and that relate to the costs of services that are provided organisation wide. Additionally, they are costs that do not have a clear link to operational or project activity i.e., they support or enable but do not fluctuate materially due to demand. Examples include finance, legal services, procurement, ICT and risk management.*

As with the other non-direct costs, labour makes up the largest component but a much smaller proportion than the other two categories at 36% in FY23. Contractors are the next largest category at 32% of costs as can be seen below.

Figure 3-3 – Corporate costs in FY23 ($FY23 M)

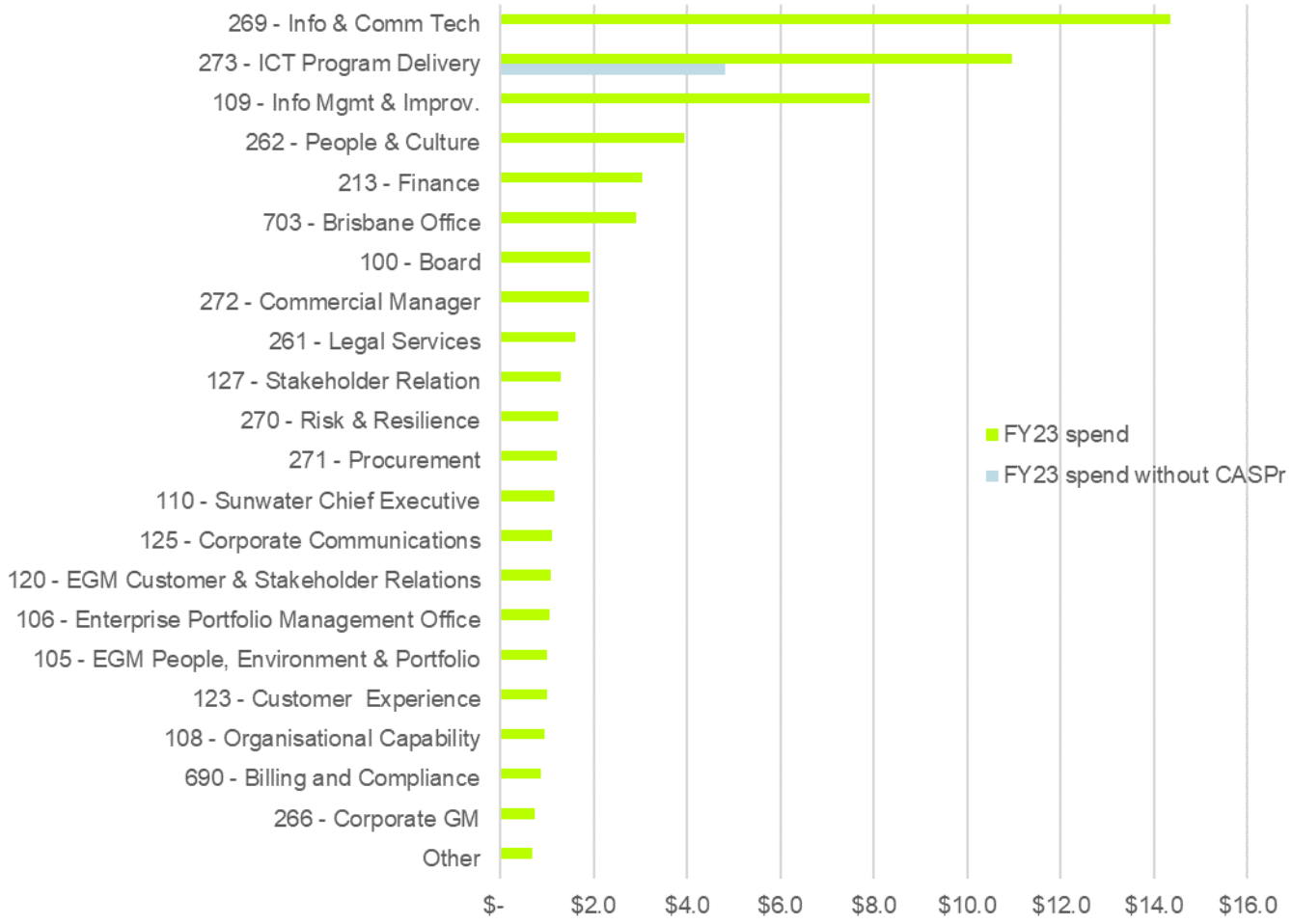


Source: Analysis of Sunwater spreadsheet 'RFI_68_QCA RFI data labour charging (2)'

Note: Capitalised labour and contractor costs have been netted off the labour and contractor costs as has labour cost recovery. CASPr costs have not been included in this breakdown.

The corporate overhead cost centres are dominated by ICT related codes as summarised below. Approximately $6.2M of this spend was on CASPr which Sunwater is proposing to capitalise. The ICT Program Delivery costs are shown with and without CASPr to show the impact of this cost treatment.

Figure 3-4 – Corporate cost centres in FY23 ($FY23 M)



Source: Analysis of Sunwater spreadsheet 'RFI_68_QCA RFI data labour charging (2)'

Note: capitalised labour and contractor costs have been netted off the labour and contractor costs as has labour cost recovery

A number of insurance costs are included within corporate support costs including Directors and Officers (D&O) and a number of smaller policies, together making up $0.9M in FY23[23]. The rest ($13.6M) are allocated to schemes based on the declared asset value (DAV) of the scheme.

Total Sunwater corporate support costs were $61.9M[24] in FY23 of which $12.1M[25] was allocated to regulated opex and a further $2.6M to regulated renewals[26]. Of the total, $6.2M relates to CASPr project costs. These costs are allocated as a % uplift on direct labour costs. The uplift rates are set by Sunwater in advance based on expected expenditure ('applied rates') but outturn expenditure often differs from expectations, leading to over- or (in all years since FY18) under-recovery of these costs. The applied rates were equal to 95% in FY23 which was significantly higher than previous years. The changes over time are discussed in further detail below.

[23] Sunwater spreadsheet 'RFI35_Asset data DAV FY23 Premium allocation'
[24] Based on Sunwater spreadsheet "RFI_68_QCA RFI data labour charging (2)"
[25] Based on analysis of Sunwater spreadsheet "09 OPEX_Electricity_Final Values"
[26] Based on Sunwater spreadsheet 'RFI_52_- Renewal CAPEX by Cost Category – Response'

Table 3-1 – Corporate overhead uplifts applied

Financial year ending	2019	2020	2021	2022	2023
Applied uplift	65%	72%	75%	75%	95%

Source: Sunwater document RFI_68_QCA RFI data labour charging (2)[27]

3.2.2 Indirect costs

Sunwater explains that these costs:

> *relate to a common service provision for a particular group of recipients i.e., they are not a common cost for the entire organisation, as is finance. For example, the costs incurred in the provision of dam safety services are identified as relating to service contracts that include dams.*[28]

Total Sunwater indirect costs were $16.0M[29] in FY23, of which $6.2M[30] was allocated to regulated opex and a further $1.2M allocated to regulated renewals[31]. These costs are allocated between the relevant service contracts based on an uplift (%) on direct labour expenditure except for resource centres 646, 648 and 655 (IGEM-related), which are allocated using a risk-based approach. The uplifts in FY23 were 35% for distribution systems and 46% for bulk schemes except for Nogoa WS as summarised below.

We note that the applied uplift in FY23 was lower than in previous years. We understand that this may be due to the increase in Sunwater level direct labour anticipated in FY23 which did not fully materialise.

Table 3-2 – Indirect cost uplifts applied

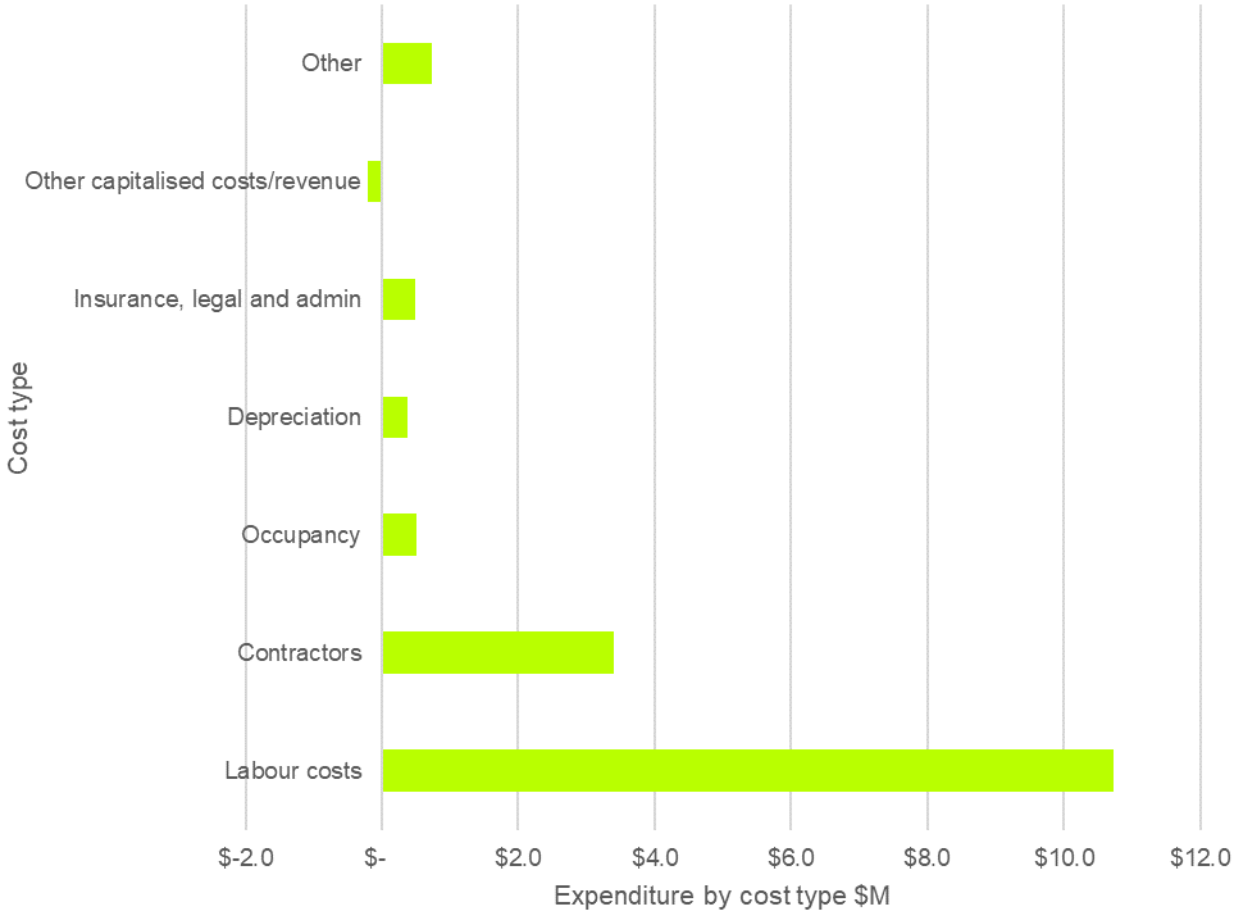
Financial year ending	2019	2020	2021	2022	2023
Bulk supply schemes	Range from 54% to 64%	Range from 47% to 69%	Range from 54% to 69%	68% for all schemes	46% except 49% for Nogoa
median	58%	67%	62%	68%	46%
Distribution schemes	Range from 40% to 43%	Range from 41% to 48%	Range from 43% to 46%	44% for all schemes	35% for all schemes
median	41%	47%	44%	44%	35%

Source: Sunwater document RFI_68_QCA RFI data labour charging (2)

[27] Row 141 of 'Corp OH' tab
[28] This and other quotes in this section are taken from the Sunwater "Cost allocation methodology" (undated) provided as document ref OX011
[29] Based on Sunwater spreadsheet "RFI_68_QCA RFI data labour charging (2)"
[30] Based on analysis of Sunwater spreadsheet "09 OPEX_Electricity_Final Values"
[31] Based on Sunwater spreadsheet 'RFI_52_- Renewal CAPEX by Cost Category – Response'

Indirect costs mainly relate to labour (67% in FY23) although contractors also form a reasonably significant proportion of the costs (21%), as can be seen below.

Figure 3-5 – Indirect costs in FY23 ($FY23 M)

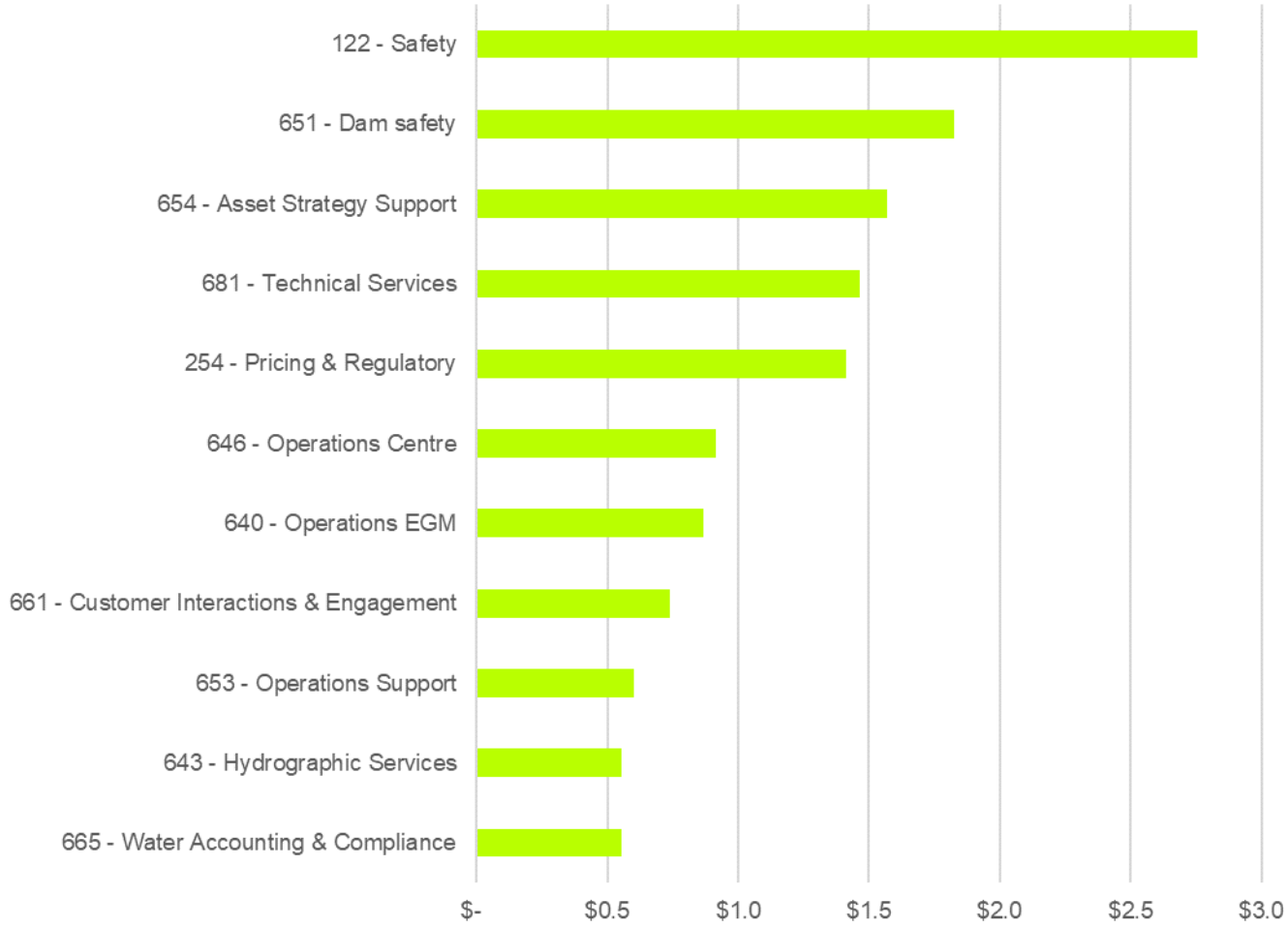


Source: Analysis of Sunwater spreadsheet 'RFI_68_QCA RFI data labour charging (2)'

Note: Capitalised labour and contractor costs have been netted off the labour and contractor costs as has labour cost recovery

The largest indirect cost centres are summarised below.

Figure 3-6 – Largest indirect cost centres in FY23 ($FY23 M)



Source: Analysis of Sunwater spreadsheet 'RFI_68_QCA RFI data labour charging (2)'

Note: capitalised labour and contractor costs have been netted off the labour and contractor costs as has labour cost recovery

3.2.3 Local overheads

Sunwater has a large area of operations and collects some overhead costs based on where workers are located. According to Sunwater these 'local overheads' are to cover:

> *establishment costs in regional resource pools. Examples include regional offices, training, meetings, admin support, PPE, Kit, depot costs. They are the costs that remain in local resource centres when direct and indirect allocations have occurred.*

Total Sunwater local overhead cost was $34.1M[32] in FY23, of which $8.2M[33] was allocated to regulated opex and a further $1.7M allocated to regulated renewals[34]. They are allocated to schemes and activities as a percentage uplift on direct labour costs. The applied uplifts rates vary year on year but were in the low 40%s for Rookwood, Burdekin, Paradise and Corporate Development, in the 50%s for Brisbane and major projects & technical services (MP&TS)

[32] Based on Sunwater spreadsheet "RFI_68_QCA RFI data labour charging (2)"
[33] Based on analysis of Sunwater spreadsheet "09 OPEX_Electricity_Final Values"
[34] Based on Sunwater spreadsheet 'RFI_52_- Renewal CAPEX by Cost Category – Response'

and in the 60%s for all other operation areas in FY23[35]. The applied rates are calculated ex-ante each year based on expected local overhead costs and direct labour costs in the cost centre.

The uplifts most relevant to this review are summarised below.

Table 3-3 – Local support uplifts applied

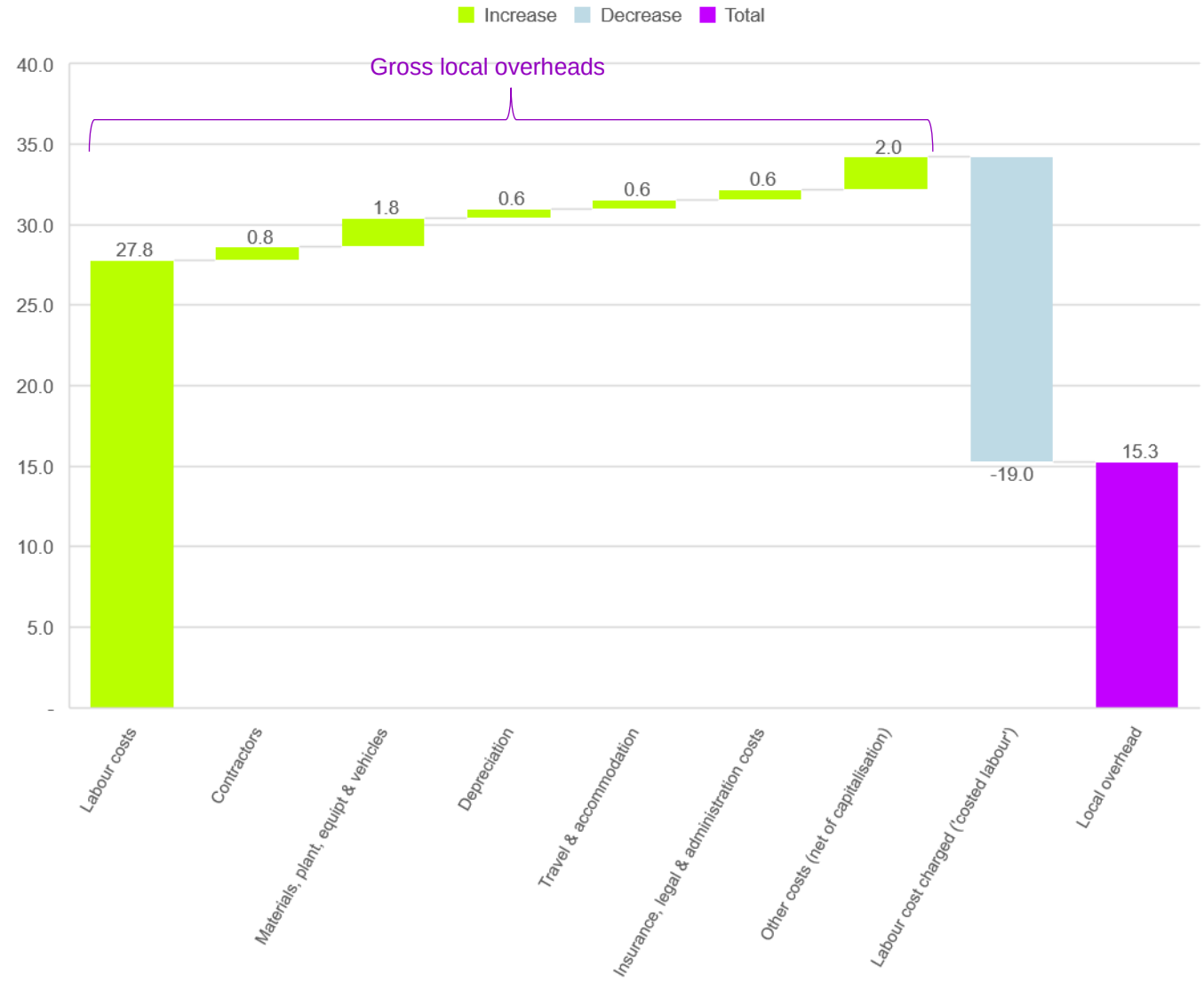
Financial year ending	2019	2020	2021	2022	2023
Local overhead - Operations - North	81%	63%	47%	66%	66%
Local overhead - Operations - Central	92%	54%	47%	66%	64%
Local overhead - Operations - Bundaberg	56%	45%	46%	61%	64%
Local overhead - Operations - South	78%	62%	67%	65%	61%

Source: Sunwater document RFI_68_QCA RFI data labour charging (2)

The majority of net local overhead costs are staff related (63% in FY23)[36]. The 'full recovery' local overhead uplift is calculated by netting off capitalised costs (5.5% of net local overhead costs in FY23) and the costs of directly charged labour ('costed labour'), This net local overhead cost is then divided by the amount of costed labour to calculate what uplift is required on the costed labour to recover the remaining costs. The make-up of gross and net local overhead costs is summarised graphically for North, Central, Bundaberg, and South Operations costs centres below.

[35] Based on Sunwater spreadsheet "RFI_68_QCA RFI data labour charging (2)"
[36] Based on analysis of local overhead costs for North, Central, Bundaberg, South and Brisbane in RFI 68.

Figure 3-7 – Local overhead costs in FY23 ($FY23 M)



Source: Analysis of Sunwater spreadsheet 'RFI_68_QCA RFI data labour charging (2)'

Note: Local overhead costs for North, Central, Bundaberg and South only

3.2.4 Findings of the 2020 review

QCA reviewed Sunwater's actual and proposed non-direct expenditure and carried out benchmarking[37] using opex and volumes as the denominator. Sunwater proposed several additions to corporate support costs related to achieving continued efficiency, maintaining customer service levels, meeting community expectations and expanding its technical capacity. QCA generally accepted Sunwater's proposed additions subject, in some cases, to ex-post review as addressed in Section 3.10 below.

QCA also accepted a step change related to the implementation of the Inspector General for Emergency Management's (IGEM) 2015 review. QCA considered that Sunwater's regulatory obligations had increased in scope

[37] Of 'corporate costs' based on corporate support and local area support costs

and that impacts were consistent with a step change in regulatory obligations. These costs were classified as 'indirect' costs and allocated between schemes using a risk-based approach which QCA found was appropriate.

The differences between Sunwater's requested and QCA recommended base year non-direct opex are summarised below. We have included Sunwater's total projected non-direct costs for FY20 to provide a sense of the proportion of these costs being reflected in irrigation service contract opex.

Table 3-4 – QCA recommended base year non-direct opex for irrigation service contracts ($M nominal)

Cost category	Sunwater's original submission *Irrigation service contracts opex*	June 2019 cost update *Irrigation service contracts opex*	Sunwater projected total FY20 costs to be allocated *Sunwater wide*	QCA recommended *Irrigation service contracts opex*
Indirect	7.8	8.4	16.2[38]	8.2
Local area support	13.5	6.3	18.3[39]	6.2
Corporate support	7.0	8.4	24.0[40]	8.2
Total non-directs	28.2	23.1	59.5	22.6

Source: Table 15, QCA 2020 report and Aecom report "Rural Irrigation Operational Expenditure Review – Sunwater" 30 Jan 2020

Note: these figures include expenditure related to the Eton distribution scheme which was reviewed by QCA in its 2020 Price Review. At the end of March 2020, Eton Irrigation took over ownership and operation of the scheme41. As a result, expenditure related to the scheme is not included in Sunwater's historical and projected expenditure. QCA's recommended non-direct expenditure for the Eton distribution scheme was approximately $1.1M.

It is not clear how much non-direct cost was allocated to Sunwater's proposed renewals expenditure. However, Sunwater is understood to have applied the same uplifts and approach to applying non-direct costs to renewals expenditure through estimates of the direct labour expected to be used.

3.3 Historical variance

In its 2020 review QCA recommended non-direct opex allowances for indirect, local area and corporate support costs for irrigation service contracts. As the purpose was to review rural irrigation prices it did not recommend Sunwater's total organisational-level non-direct costs. In examining historical variance, we have examined both the variance of

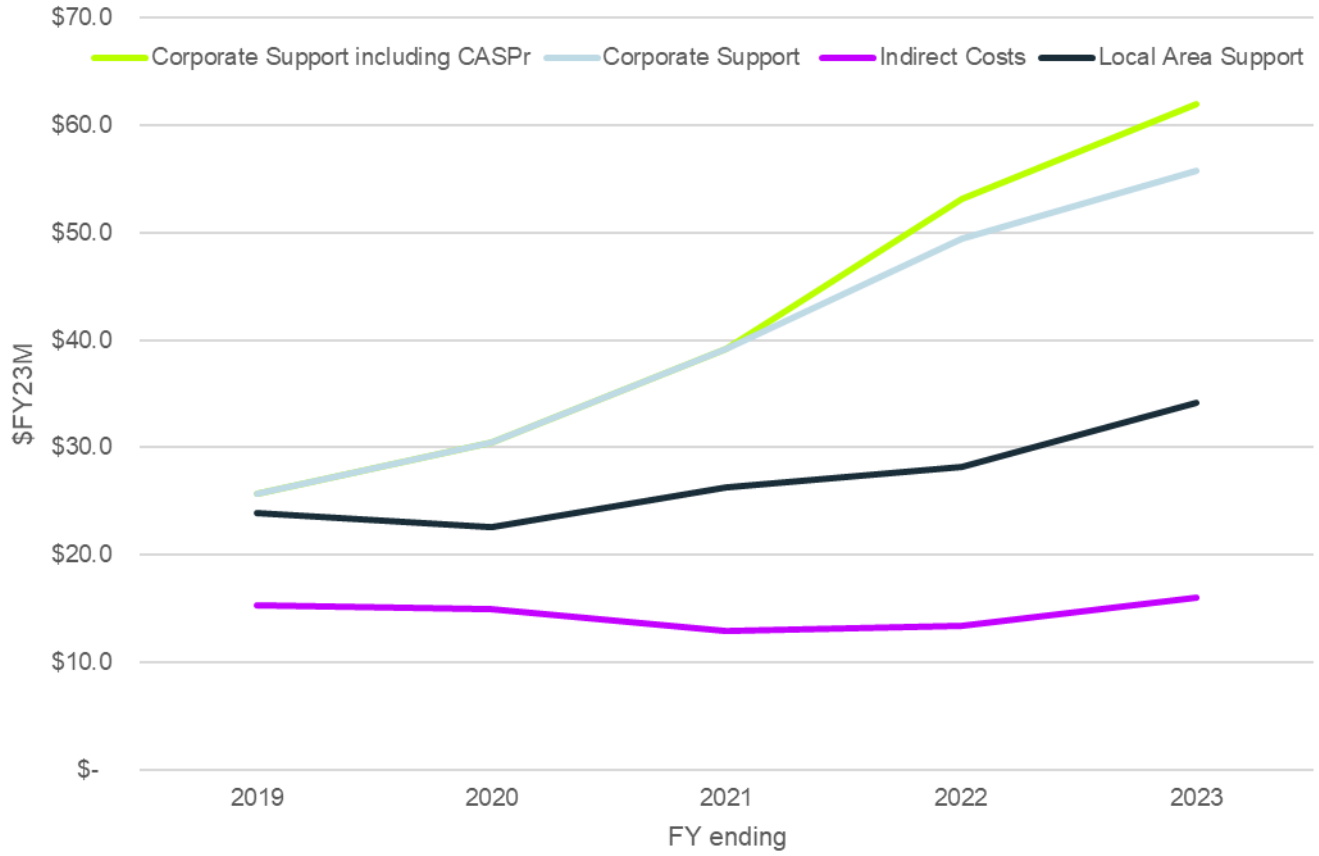
[38] Source: Figure 62, Aecom 2019 Operational Expenditure Review report
[39] Source: Figure 58, Aecom 2019 Operational Expenditure Review report
[40] Source: Figure 70, Aecom 2019 Operational Expenditure Review report
[41] Ref https://www.sunwater.com.au/wp-content/uploads/Home/Schemes/Eton/Customer_Briefing_Eton_March_2020.pdf

costs against QCA's recommendation but also how the total organisational level non-direct costs have changed over time as these are, by definition, a key driver for any variance for irrigation service contracts.

3.3.1 Changes in total non-direct costs

Sunwater's total[42] non-direct costs have increased significantly in recent years, driven mainly by Corporate Support costs, with indirect costs largely falling or stable and local area support costs on an increasing trend since FY20.

Figure 3-8 – Total Sunwater Non-Direct Costs ($FY23 M)

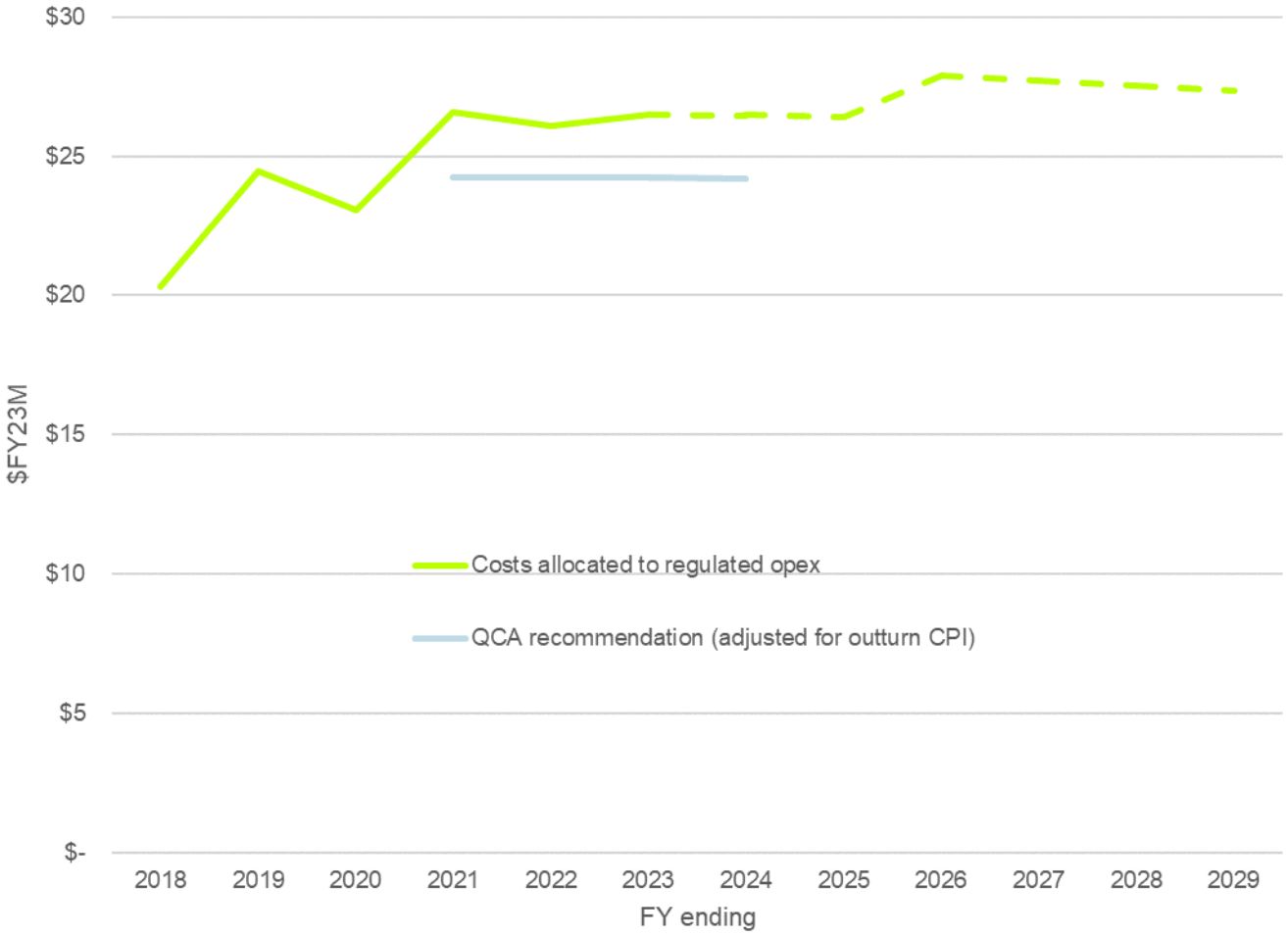


Source: Analysis of Sunwater spreadsheet 'RFI_68_QCA RFI data labour charging (2)'

We note that Sunwater reports having under-recovered its corporate[43], indirect[44] and local overhead[45]costs. Despite this, the scale of cost increase has led to non-directs allocated to regulated opex exceeding QCA's recommendation in all years of the current period as shown below.

[42] i.e. for the whole organisation, not just those assigned to rural irrigation
[43] Underrecovery of $22.9M in FY23 according to RFI 68 'Corp OH' tab row 95
[44] Underrecovery of $4.0M in FY23 according to RFI 68 'Indirects' tab row 29
[45] Underrecovery of $11.7M in FY23 according to RFI 68 'Local' tab row 42

Figure 3-9 – Non-direct costs compared to QCA's recommendation ($FY23 M)



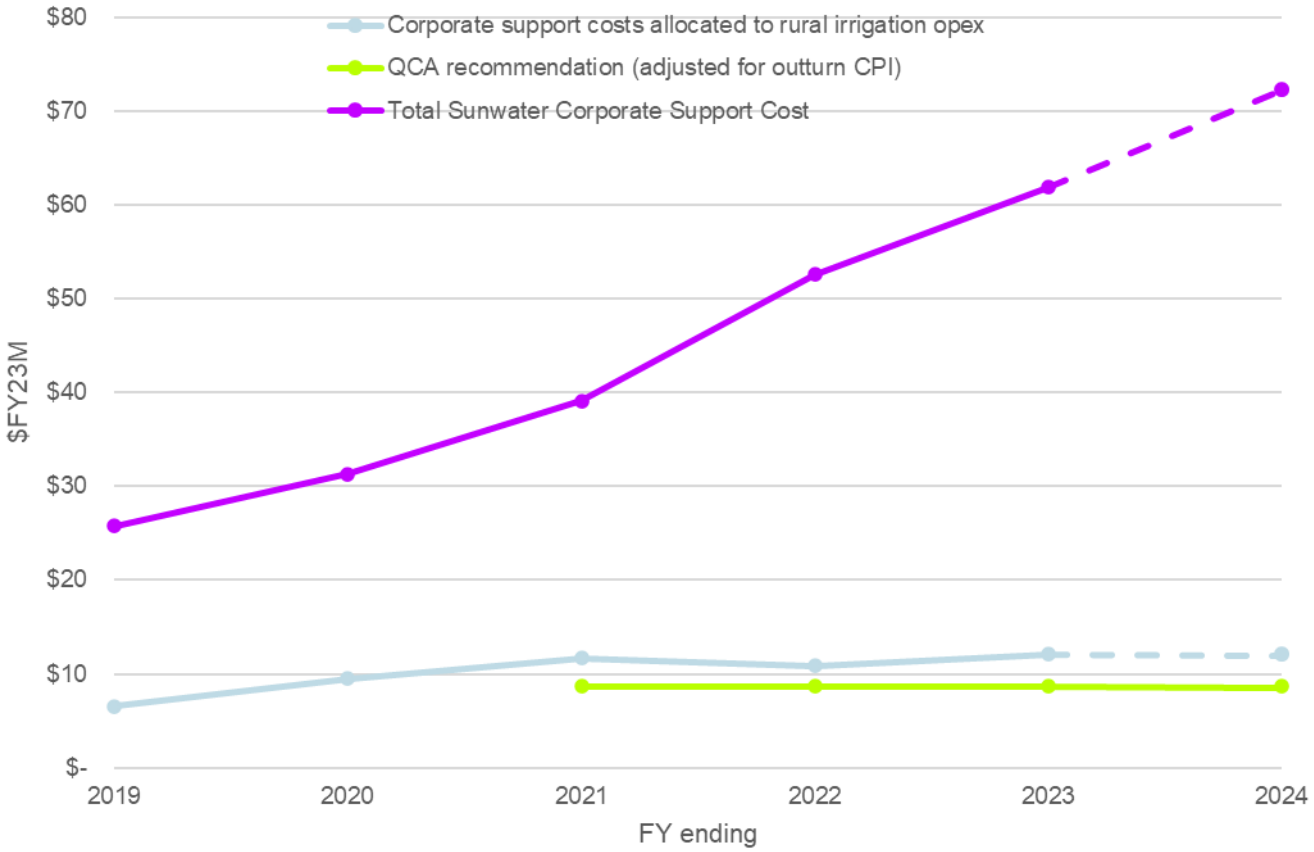
Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values ANALYSIS CURRENT

We examine changes in each of the three non-direct cost categories below.

3.3.2 Changes in corporate support costs

The costs allocated to the regulated schemes have increased significantly and are well in excess of those recommended by QCA in 2020 as can be seen below.

Figure 3-10 – Corporate costs allocated to regulated scheme opex ($FY23 M)

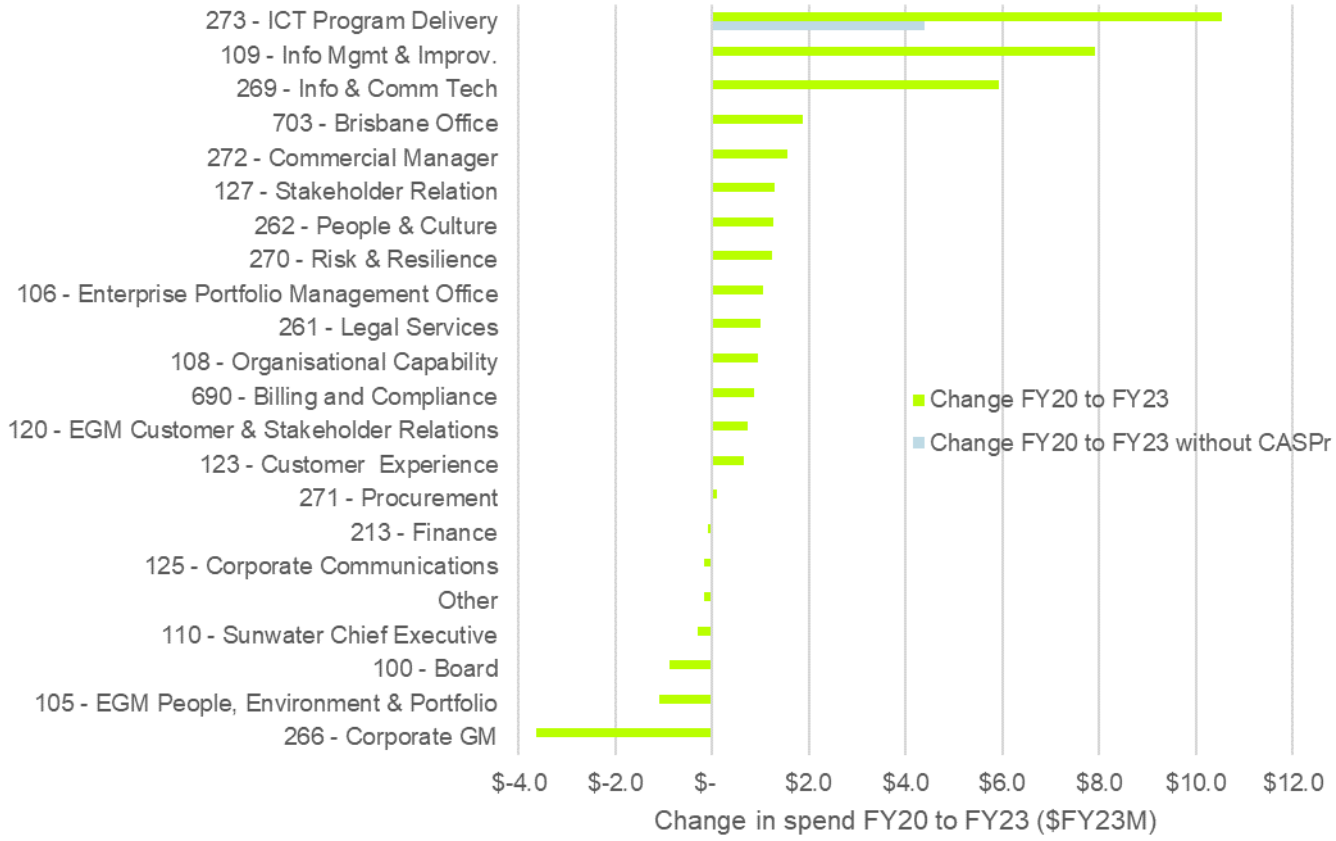


Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values' and QCA spreadsheet QCA recommended opex – 2020 review (excl Eton distribution system)'

Note: QCA recommendation has been adjusted for the difference between outturn and assumed CPI from FY19 as well as subsequent inflation. All numbers exclude the Eton distribution system.

The main changes in corporate spend are summarised below. In this and similar figures for indirect and local overhead costs below, the comparison has been made to FY20 as QCA used Sunwater's forecast FY20 expenditure as the basis of its recommendations in the 2020 review. It is clear that the main drivers are ICT related although there has also been a real-terms increase in most of the cost centres.

Figure 3-11 – Change in total corporate spend by cost centre ($FY23 M)



Source: Analysis of Sunwater spreadsheet 'RFI_68_QCA RFI data labour charging (2)'
Note: Net of capitalised and recovered costs.

This increase is seen across all cost types as shown below.

Table 3-5 – Total Sunwater corporate overheads by cost type ($FY23 M)

Cost category	2020	2021	2022	2023	Change FY20 to FY23	As %
Labour costs	15.7	20.6	21.9	22.6	6.9	44%
Contractors	5.5	6.4	12.3	19.7	14.2	260%
Occupancy	1.8	1.8	5.6	3.8	2.1	115%
Depreciation	2.5	3.7	4.1	4.5	2.0	79%
Insurance, legal and admin	5.6	5.6	9.7	10.5	4.9	87%

Other capitalised costs/revenue	-1.8	-2.5	-2.5	-2.3	-0.5	30%
Other	2.0	3.7	1.6	3.2	1.1	55%
Corporate overhead cost	**31.3**	**39.4**	**52.6**	**61.9**	**30.6**	**98%**
% capitalisation (costs excluded from above)	*41%*	*40%*	*8%*	*11%*		

Source: Analysis of Sunwater spreadsheet 'RFI_68_QCA RFI data labour charging (2)'

Note: Capitalised and recovered labour and contractor costs have been netted off the labour and contractor costs. This table includes CASPr costs.

The changes by Business Group are also summarised as follows:

Table 3-6 – Total corporate support cost by Business Group

Corporate business group	2020	2021	2022	2023	Change FY20 to FY23	As %
ICT	8.9	13.0	26.1	33.2	24.4	275%
Corporate Services	9.6	8.4	8.5	9.7	0.2	2%
Corporate Governance	4.3	3.9	3.2	3.1	-1.2	-28%
People, Environment & Portfolio	5.8	8.3	11.1	9.8	4.1	70%
Customers and Stakeholders	2.0	4.7	3.6	5.3	3.4	171%
Other	0.8	1.1	0.1	0.7	-0.2	-19%
Total	**31.3**	**39.4**	**52.6**	61.9	**30.6**	**98%**

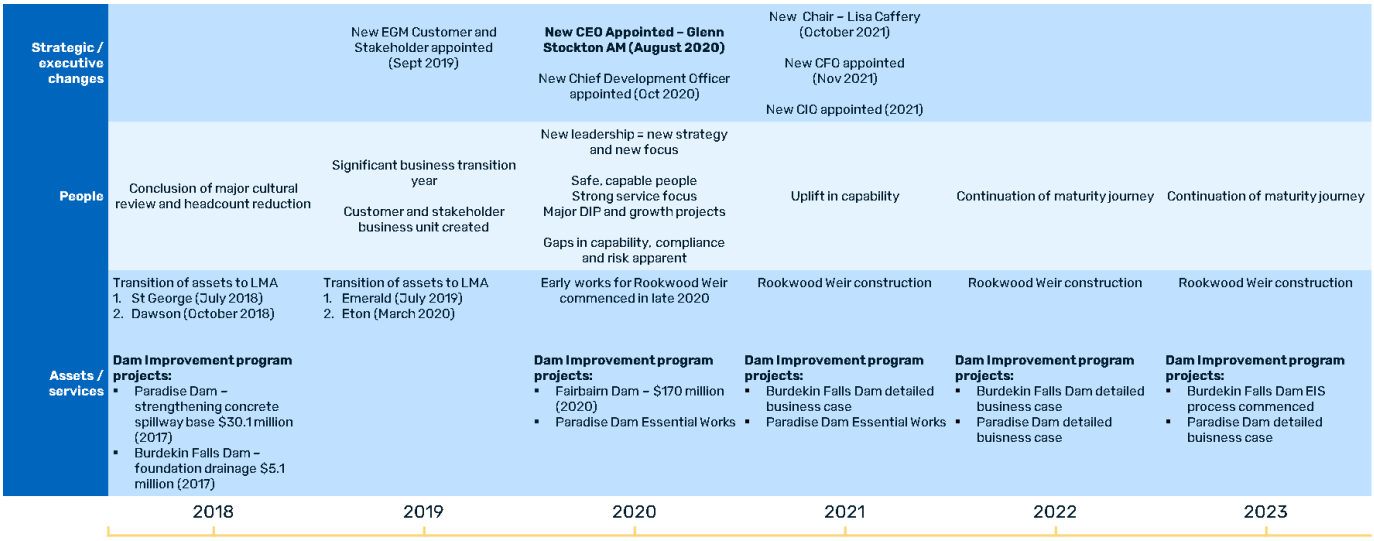
Source: Analysis of Sunwater document 'RFI_68_QCA RFI data labour charging (2)'

When asked to explain the changes and increase in corporate overheads, Sunwater provided the following explanation[46]:

> *As we have communicated during the interview process and in response to a number of RFIs Sunwater has been on a significant maturity journey since the conclusion of the most recent irrigation price review. A number of the activities that were recently completed or underway at that time have shaped the maturity journey we have been on.*
>
> *The significant cultural review and change to organisation size in 2017, and the transfer of distribution services and assets to Local Management Authorities in 2018 and 2019 coincided with a significant uplift in the focus on dam safety, and dam safety upgrade capital expenditure, as well as new growth projects such as the Rookwood Weir.*
>
> *A new CEO was appointed in 2020 followed by a new Chair in 2021, setting a new strategic direction for Sunwater and re-setting the business's focus on safe, capable people, as well as customer and compliance.*
>
> *Functions have changed since the 2020 review in response to new obligations, new expectations and the new leadership's focus and strategic direction.*

Sunwater provided the following timeline of key changes:

Figure 3-12 – Sunwater timeline of recent changes



Source: Sunwater document 'RFI_99_Corporate Overheads'

Sunwater has also provided explanations for significant changes in expenditure at the profit centre level, which is summarised by ICT, Corporate Services, 'People, Environment & Portfolio' and 'Customers and stakeholders' below. The explanations are a mix of maturity improvement/capability improvement, legislation, complex project delivery and increased headcount.

[46] Sunwater document 'RFI_99_Corporate Overheads'

3.3.2.1 ICT business group

The ICT business group is the main driver for the increase in corporate support costs accounting for 78% or $24.6M p.a. of the $31.5M total increase. Sunwater's explanations of significant changes and our view of these are summarised below.

Table 3-7 – Sunwater explanations of significant changes in Corporate overheads by profit centre- ICT

Profit centre	Change from FY20 to FY23 ($M23)	Sunwater comment	Our view
109 – Info Management and improvement	+$7.9M	*Data protection, maturity uplift to the secure storage of data and its accessibility, categorisation of critical data / critical process, protection of Personal Identifiable Information, Uplift in reporting supporting decision making. Compliance with The Privacy Act.*	Largely endogenous. Exogenous elements relate to cyber security, estimated to be 10% of the increase in ICT expenditure.
269 – Info & Comm Tech	+$5.9M	*Importance of ICT systems in compliance with the Security of Critical Infrastructure. Building cyber resilience and constant monitoring. Shift to off-premises hosting and SaaS solutions giving less risk of obsolescence through supplier led patching and technology updates. General provision of ICT equipment and desktop support for an expanding organisation.*	
273 – ICT Program Delivery	+$10.5M	*Delivering new technology and solutions into the organisation e.g., CASPr. Focusing on total scheme visibility across schemes to increase the use of back to base metering and monitoring of assets. Additionally, there are significant investments in improvements to procurement processes with source to procure and concur expense management which will lead to more efficient process. A continuing program of work.*	

Source: Sunwater document 'RFI_99_Corporate Overheads'

We review Sunwater's approach to ICT in more detail in Section 4 below. Our view is:

- Efficiency: Sunwater's level of maturity in estimating costs and managing ICT project delivery during the current price path was sub optimal. This is likely to have impacted on the strength of and approval processes

for the Business Cases made at the time to justify expenditure and has resulted in significant cost escalations in the sample of projects we have reviewed.

- Justification for endogenous drivers: It is not clear what benefits regulated scheme customers have seen from the significant increases in ICT expenditure. Where they are not responding to exogenous factors, ICT projects should require strong justifications to ensure they deliver significant benefits for customers such as efficiency savings which outweigh the costs. We have seen limited evidence of these savings or other customer benefits. We therefore are not in a position to recommend any increases in expenditure due to any endogenous drivers.

- Exogenous drivers: We consider that cyber risk and associated legislation are the only exogenous factors which have required materially increased efforts in recent years and that the investment it has undertaken has helped Sunwater to self-insure in this area. We estimate the justified increase in ICT expenditure to combat cyber risk to be approximately $1.8M p.a. This is based on the assumption that 10% of the increased ICT expenditure is due to cyber risk[47]. We have not been able to find a breakdown of ICT spend by driver (such as cyber risk), so this is a judgement-based assumption.

3.3.2.2 People, environment & portfolio

The people, environment & portfolio business group is the second largest driver for the increase in corporate support costs, accounting for 13% or $4.2M p.a. of the total increase. Sunwater's explanations of significant changes are summarised below.

Table 3-8 – Sunwater explanations of significant changes in corporate overheads by profit centre - People, Environment & Portfolio

Profit centre	Change from FY20 to FY23 ($M23)	Sunwater comment	Our view
106 – Enterprise Portfolio Management Office	+$1.1M	*Invested in resource to build frameworks for the organisation's project deliverables. Driving P3MF methodologies into the business to better support project governance and performance. Focused on complex programs and projects such as ARC Flash, Dam Safety and Improvement, Technology, asset management and Sustainability activities driven by international sustainability Standards.*	We consider this likely to be largely exogenous due to the emergence of drivers such as Arc Flash and Dam Safety and therefore the need for improved P3M (portfolio, program and project management), processes.
108 – Organisational Capability	+$0.9M	*Formerly within 262 people and culture.* *Organisational capability includes mandated learning, management programs and training. With a maturity uplift and associated change environment there is a need to inform*	Endogenous and related to supporting headcount growth. As set out in Section 5.3.3, our view is that Sunwater has not justified the increase in direct labour costs for the regulated schemes. We are not

[47] i.e. the change is 10% of the non-CASPr related increase of $18.4M.

		and train. Additionally, there is the requirement to build training programs to support new entrants into the business as well as ensure current staff are up to date about responsibilities for data, safety, whistleblowing, fraud and corruption, cyber crime, modern slavery, ethical supplier mandate and a significant amount of other safeguarding and mandated learning.	convinced that irrigation customers should pay to increase headcount for other parts of the business so cannot recommend increased regulated scheme costs related to supporting these activities.
262 – People & Culture	+$1.3M	*EGM People, Environment & portfolio to separate cost centre.* *The function has added a recruitment component (4 FTE) to reduce the reliance on external agencies in Sunwater's onboarding cost and growth of the business.* *Additional heads in business partnership roles reflect increasing Sunwater headcount.* *Investment has been made in HR business systems to ensure compliance and improve reporting. Due to the heavy change load resulting from ICT and other transformation activities Sunwater have invested in change management to ensure efficient transition of change and benefits realisation into the organisation.*	
703 – Brisbane Office	+$1.9M	*Office expenses were originally charged directly to the business they are now charged to PEP (Corporate Support). Increase reflects transfer of costs into the support group.*	Endogenous and to the extent that the increase in the cost relates to a transfer of cost it should not lead to a 'real' increase in costs but should have an offsetting reduction elsewhere.

Source: Sunwater document 'RFI_99_Corporate Overheads'

Our view on these cost increases is as follows:

- We consider that the increase in costs in code 106 is likely to be mainly exogenous in response to external drivers and recommend accepting the increased expenditure in this area.

- The explanation for the increase in costs in codes 108 and 262 appears to relate primarily to supporting headcount growth. As set out in Section 5.3.3, our view is that Sunwater has not justified the increase in direct labour costs for the regulated schemes or why customers should pay higher labour costs than QCA recommended in 2020. We are not convinced that irrigation customers should pay to increase headcount for other parts of the business.

- To the extent that the increase in the cost in 703 relates to a transfer of cost it should not lead to a 'real' increase in costs but should have an offsetting reduction elsewhere.

Therefore, we have only recommended accepting the cost increase due to code 106, the Enterprise Portfolio Management Office.

3.3.2.3 Customers and stakeholders

The increase in customers and stakeholder business group costs accounts for $3.4M of the increase in corporate support costs, slightly behind the change in 'people, environment & portfolio'. The changes in expenditure are summarised on a profit centre basis below.

Sunwater has not provided an explanation for the changes on a profit centre basis but has provided an explanation of the increase in headcount in RFI 90. We note that some of the labour costs may be coded directly to projects and/or indirect cost codes so an increase in headcount does not necessarily mean an equivalent increase in corporate support costs. Explanations provided by Sunwater include[48]:

- General:

> *Sunwater's Customer and Stakeholder Relations Business Unit (BU) has, since the last pricing submission, been informed by a new leadership team and business strategy that has been set under the current Chief Executive Officer. The BU has sought to address clear capability and resourcing gaps. For example, the Regulatory and Pricing function only comprised one full time equivalent (FTE) in 2019-20 for a business with 26 service contract areas. The BU also needed to grow to provide appropriate support to allow Sunwater to meet its obligations under the Queensland Government Owned Corporations Act in addition to new capital and major projects such as the construction of Rookwood Weir and Dam Improvement Projects at Burdekin Falls and Paradise dams.*
>
> *In addressing obvious resourcing gaps and ensuring support was provided to new projects, the Sunwater's Customer and Stakeholder Relations BU has grown in a staged way since 2019-20. This response presents the current BU structure and size (in FTE terms) and confirms that while some roles may be classified as "non-permanent", it is Sunwater's expectation that in FTE terms these roles will be ongoing throughout the next price path period.*

[48] We have not included the explanations for the change in 'regulatory & pricing' headcount as this appears to be reported as an indirect cost under code 254

- Stakeholder Relations

    Overall, nine additional roles since 2019-20 to uplift customer and stakeholder engagement across services and projects, focused on:

    - *ensuring information flow regarding Sunwater activities and projects*
    - *facilitating engagement with customers (e.g. Customer Advisory Committee meetings)*
    - *keeping customers and the community safe when interacting with Sunwater's assets and water transport or storage facilities*
    - *actively promoting respect and recognition of First Nations peoples - consistent with current community and shareholder expectations.*

- Corporate affairs:

    - *The Senior Government Relations role was introduced as result of the increased infrastructure development and delivery activity (Rookwood Weir project and Paradise Dam Essential Work primarily) and in response to government and stakeholder feedback. When work is conducted on behalf of infrastructure development and delivery activity it is charged to the project and do not contribute to the support cost pool.*

    - *In 2020-21, Sunwater employed a temporary Media and Communication Advisor who was 100 per cent allocated to the Callide Dam Gates project, to support communication and engagement activities. In 2022-23 the temporary Media and Communication Advisor role transitioned to a permanent role to support the growing need for media and communication support (proactive and reactive) in the infrastructure development and delivery space - primarily charging to the Paradise Dam Improvement, Rookwood Weir, Burdekin Falls Dam Improvement and Raising and other medium / small infrastructure projects.*

    - *The Government Relations Advisor role was introduced to deliver Sunwater's wider government relations responsibilities and compliance activities, and support infrastructure development and delivery projects.*

    - *The Senior Corporate Engagement Advisor role was introduced to improve Sunwater's industry presence, leverage industry memberships and deliver the business-wide corporate engagement strategy. The role and its activities play a pivotal part in achieving Sunwater's strategic goals of 'supportive stakeholders' and 'water infrastructure leader'. Further, outcomes of an in-depth stakeholder sentiment and perception research indicated the need for Sunwater to be more proactive and collaborative with its' industry stakeholders, be responsive and engaged when it comes to future water planning, climate change and water security and take a more hands-on approach to leadership. For example, this role coordinates Sunwater's engagement with Irrigation Australia, the peak national body representing the irrigation industry. Our engagement with Irrigation Australia allows Sunwater to engage with the broader irrigation industry to better understand trends and issues and is a source of accredited training.*

We consider that many of the drivers for the increase in headcount of the Customer and Stakeholder Relations Business Unit were either temporary, will be addressed by CASPr or could be achieved in a different way by embracing technology as well as reviewing the current structure. There are 20 roles across the Billing and Compliance team and the Customer Interactions team which we consider to be on the high side for such a relatively small customer

base and we think there are synergies for merging these teams together and having more dual skilled agents who can pick up both activities.

As summarised in the table below, we consider that nearly all of the increases in expenditure are endogenous and due to Sunwater's decisions rather than external drivers to which Sunwater has had to respond. The only factors which we consider to be exogenous are those related to the need for increased customer engagement and promoting respect and recognition of First Nations peoples, both of which have increased in importance during the current period.

Table 3-9 – Changes in Corporate overheads by profit centre- Customers and stakeholders

Profit centre	Change from FY20 to FY23 ($M23)	Our view
120 - EGM Customer & Stakeholder Relations	$0.7	Endogenous - do not accept the increase
123 - Customer Experience	$0.7	Endogenous - do not accept the increase
125 - Corporate Communications	$-0.2	Endogenous - do not accept the change
127 - Stakeholder Relation	$1.3	Partially exogenous: those parts related to improved customer engagement and promoting respect and recognition of First Nations peoples. Assumed to be 50% of the increase based on these being two of the four explanatory factors provided by Sunwater.
690 - Billing and Compliance	$0.9	Endogenous/temporary effects - do not accept the increase

Source: Analysis of Sunwater document 'RFI_68_QCA RFI data labour charging (2)'

3.3.2.4 Corporate Services and Governance

Although there have been significant increases and reductions against individual codes, overall expenditure in the Corporate Services business group has increased by $0.4M in real terms since FY20. This increase is more than offset by a reduction of $1.1M in Corporate Governance costs (CEO and Board codes). Given this, we have not recommended any changes to reflect Corporate Services and Governance costs.

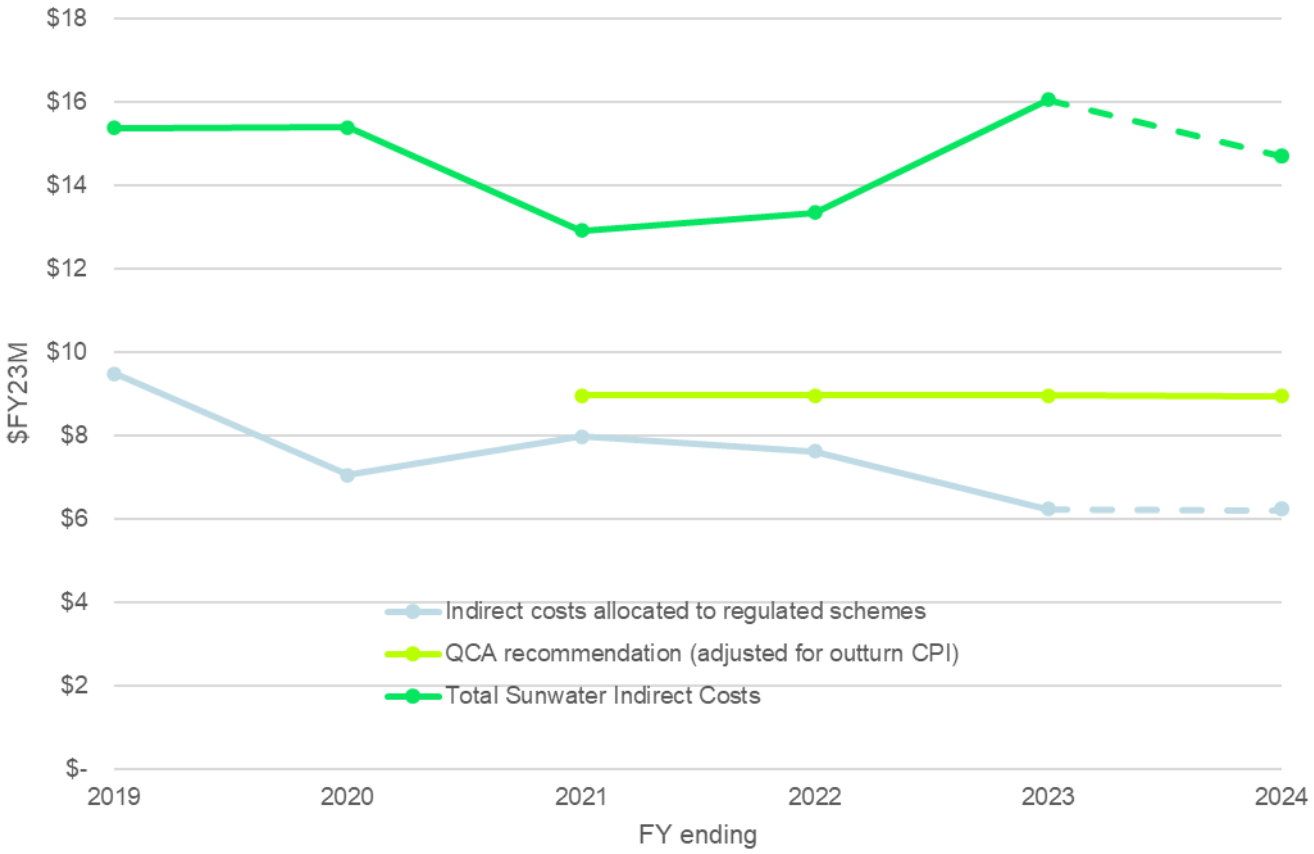
3.3.3 Changes in indirect costs

Indirect costs allocated to regulated scheme opex have been on a reducing trend and have been consistently below QCA's recommended level as can be seen below. The trend in total indirect costs is different. These costs peaked in FY23 due to increases in pricing & regulatory (code 254), technical services (681), safety (122) and a number of smaller codes[49]. However, this increase in total costs did not result in higher costs for regulated schemes because

[49] Based on analysis of Sunwater document 'RFI_68_QCA RFI data labour charging (2)'

the effects were outweighed by the increase in the labour denominator for non-regulated activities meaning that regulated schemes received a lower share of total costs[50].

Figure 3-13 – Indirect costs allocated to regulated scheme opex ($FY23 M)



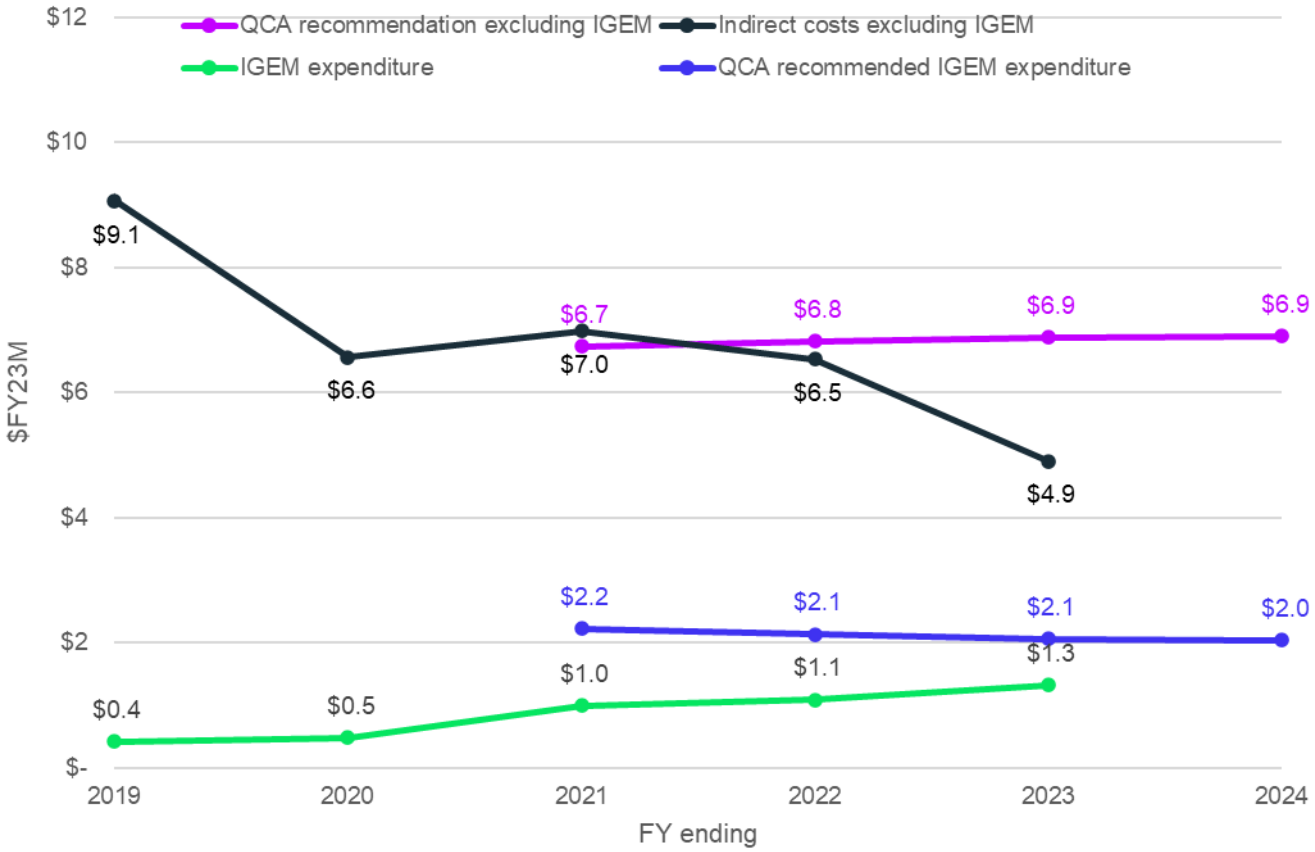
Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values' and QCA spreadsheet QCA recommended opex – 2020 review (excl Eton distribution system)''

Note: QCA recommendation has been adjusted for the difference between outturn and assumed CPI from FY19 as well as subsequent inflation. All numbers exclude the Eton distribution system. We have not included FY18 in this analysis due to data issues in this year and as Sunwater substantially changed its cost allocation approach in FY19.

The reason that QCA's recommended expenditure was higher than the FY20 level was the acceptance of additional costs of approximately $2.2M p.a. ($FY23) related to the implementation of the recommendations of the Inspector-General of Emergency Management (IGEM) flood response reviews. Outturn IGEM costs have been below this recommendation. We also note that other (non-IGEM) indirect costs allocated to regulated opex were also below QCA's recommendation in FY22 and FY23. This is at least partly because of the end of the depreciation charge for the Orion system as explained below.

[50] E.g. increases of $1.9M in '229 - BW Development Projects' between FY22 and FY23, $0.6M in '129 - Growth & Asset Creation SWD Projects' and $1.5M 'BXB - BWPL - Paradise & Kirar WS'

Figure 3-14 – Indirect costs allocated to regulated scheme opex and separate IGEM expenditure ($FY23 M)



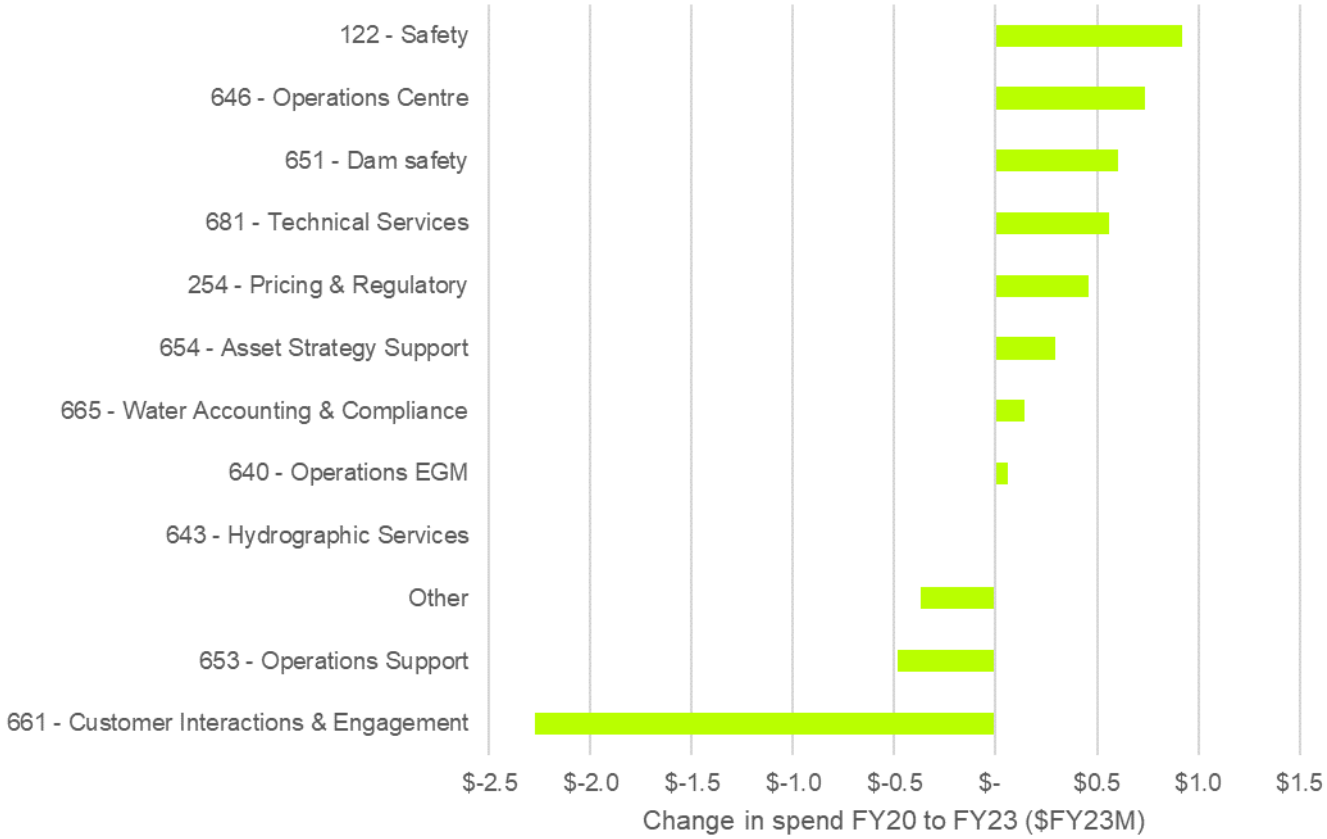
Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values', 'RFI_68_QCA RFI data labour charging (2)' and QCA spreadsheet QCA recommended opex – 2020 review (excl Eton distribution system)'

Note: QCA recommendation has been adjusted for the difference between outturn and assumed CPI from FY19 as well as subsequent inflation. All numbers exclude the Eton distribution system.

Figure 3-15 below sets out the change in total Sunwater indirect costs by cost pool. Up until FY21 the customer interactions & engagement pool (661) was charging depreciation equal to $2.0M p.a. in FY20 ($FY23). This then stopped from FY22 onwards. In RFI 138, Sunwater explains that this related to the depreciation on Orion, the customer management system which was initially capitalised in FY13 with a life of eight years.

All cost types other than depreciation have increased in real terms since FY20 as can be seen in Table 3-10.

Figure 3-15 – Change in total indirect spend by cost centre ($FY23 M)



Source: Analysis of Sunwater spreadsheet 'RFI_68_QCA RFI data labour charging (2)'

Note: Net of capitalised and recovered costs

Table 3-10 – Total indirect costs by cost type ($FY23 M)

Cost category	2020	2021	2022	2023	Change FY20 to FY23	As %
Labour costs	10.1	7.5	10.1	10.7	0.6	6%
Contractors	2.7	2.1	1.5	3.4	0.7	24%
Occupancy	0.1	0.1	0.2	0.5	0.4	397%
Depreciation	2.1	2.2	0.4	0.4	-1.7	-82%
Insurance, legal and admin	0.4	0.5	0.5	0.5	0.1	31%
Other capitalised costs/revenue	-0.4	-0.2	-0.4	-0.2	0.2	-52%
Other	0.4	0.8	1.0	0.7	0.3	82%
Indirect cost	**15.4**	**12.9**	**13.3**	**16.0**	**0.6**	**4%**

Source: Analysis of Sunwater spreadsheet 'RFI_68_QCA RFI data labour charging (2)'

Note: capitalised labour and contractor costs have been netted off the labour and contractor costs

In its response to RFI 149 Sunwater has also explained that the $0.4M increase in total indirect occupancy costs from FY20 to FY23 is due to a one-off office refit in FY23 ($0.2M), increased health and safety equipment (e.g. defibrillator, first aid room provision, maintenance items) and an increase in cleaning costs related to additional floor space taken in the Green Square office.

Outturn IGEM expenditure was lower than QCA's recommendation by approximately $0.8M in FY23. Excluding IGEM, expenditure in FY23 was $2.0M below QCA's recommendation. The Orion depreciation charge which ended in FY21 accounts for approximately $0.8M of this variance[51]. It therefore appears reasonable to conclude that 'underlying' indirect expenditure in FY23 (excluding IGEM and the depreciation charge) was below QCA's recommendation.

Sunwater's explanations for the changes in total indirect costs are summarised below.

[51] Based on regulated indirect costs being 39% of total indirect costs in FY23. Therefore a $2.0M reduction in (Sunwater total) depreciation charge of $2.0M results in $0.8M lower regulated opex. Note also that the $2.0M lower non-IGEM costs in FY23 is based on spend of $4.9M compared to QCA recommendation of $6.9M.

Table 3-11 –Sunwater explanations of significant changes in total indirect costs by cost centre

Cost centre	Change from FY20 to FY23 ($M23)	Sunwater comment	Our view
646 - Operations Centre	$0.7	*Water resource – IGEM costs as a result of recommendations and expected to remain as a permanent step up*	We consider this largely exogenous in response to the IGEM review. Increased expenditure was a recommended step change in 2020. We recommend accepting.
651 - Dam safety	$0.6	*$0.2m Geotech re piezometer instrumentation improvement project; $0.3m Emergency action plan development; $0.1m equipment supporting various dam studies. These or similar costs are expected to be incurred as the organisation conducts ALARP assessments across all referable dams.*	Largely exogenous in response to the new Guidelines on Safety Assessments for Referable Dams (2021). We recommend accepting.
654 - Asset Strategy Support	$0.3	*$0.2m ArcGIS technical upgrade (geographic location)*	Endogenous - do not accept the increase
665 - Water Accounting & Compliance	$0.1	*Largely driven by labour charges reflecting additional FTE costs at a higher band and increased experience (EA increments).*	Endogenous - do not accept the increase
122 – Safety	$0.9	*Focus on safety at work and various campaigns to increase awareness to manage safety risks across the organisation. Additional 2 FTE added. Uplift is permanent as Sunwater continues to focus on a Board/Shareholder driven low appetite to HSE risk for its own and contracting staff.*	We consider this to be largely exogenous as safety responsibilities and focus have materially evolved since 2020. We recommend accepting.
661 - Customer Interactions & Engagement	$-2.3	*$2.0m depreciation customer billing system (Orion); $0.1m staff recruitment / advertising for roles in this area; ($0.2m) credit received in 2020 re irrigation charges*	The Orion system is being replaced by CASPr (in Corporate Support cost). We recommend a transfer to move the $2.0M cost from indirect to corporate costs.

254 - Pricing & Regulatory	$0.5	*Pricing & Reg $0.5m increase supporting regulatory processes both in the form of consultant expenditure and the recording of internal time from SME both in regulatory and pricing and other areas (finance, customer, asset management and commercial analytics).*	Endogenous - do not accept the increase
653 - Operations Support	$-0.5	*Consultancy activity in 2020, not repeated in 2023.*	Endogenous - do not make an adjustment
681 - Technical Services	$0.6	*$0.6m establishing the Engineering Partnership Services Panel building a resource pool to better service engineering deliveries. Including the creation and review of work packages to improve the efficiency of delivery through pre-defined and complete work orders/requirements.*	Endogenous - do not accept the increase
Other	$-0.4	*Increased level of contractor spend in 2020 and 2021*	Endogenous - do not make an adjustment

Source: Sunwater document 'RFI_148_Indirect costs

We have considered whether we should recommend adjustments to indirect expenditure to reflect the lower spend on IGEM, the ending of the Orion depreciation charge and other underspend and concluded that:

- Provided that the requirements of the IGEM reviews are being met, spending less on IGEM than was allowed for in 2020 is an endogenous decision and, consistent with other adjustments, **we consider that it is reasonable not to make a negative adjustment.**

- The Orion system is being replaced by CASPr (see review below), the cost of which is included in Corporate Support costs**. We therefore consider it is reasonable to make a (cost neutral at Sunwater total cost level) transfer adjustment to move the $2.0M cost from indirect to corporate costs.**

We do, however, recommend that an adjustment should be made to reflect the increased expenditure on safety and dam safety. This is because:

- We consider it reasonable to accept Sunwater's assertion that safety responsibilities and focus have materially evolved since 2020 and that this represents an exogenous driver[52]. We estimate the increase to be approximately $0.9M p.a. for safety expenditure based on increase in indirect code '122 - Safety' (expressed in total Sunwater non-direct costs).

[redacted]

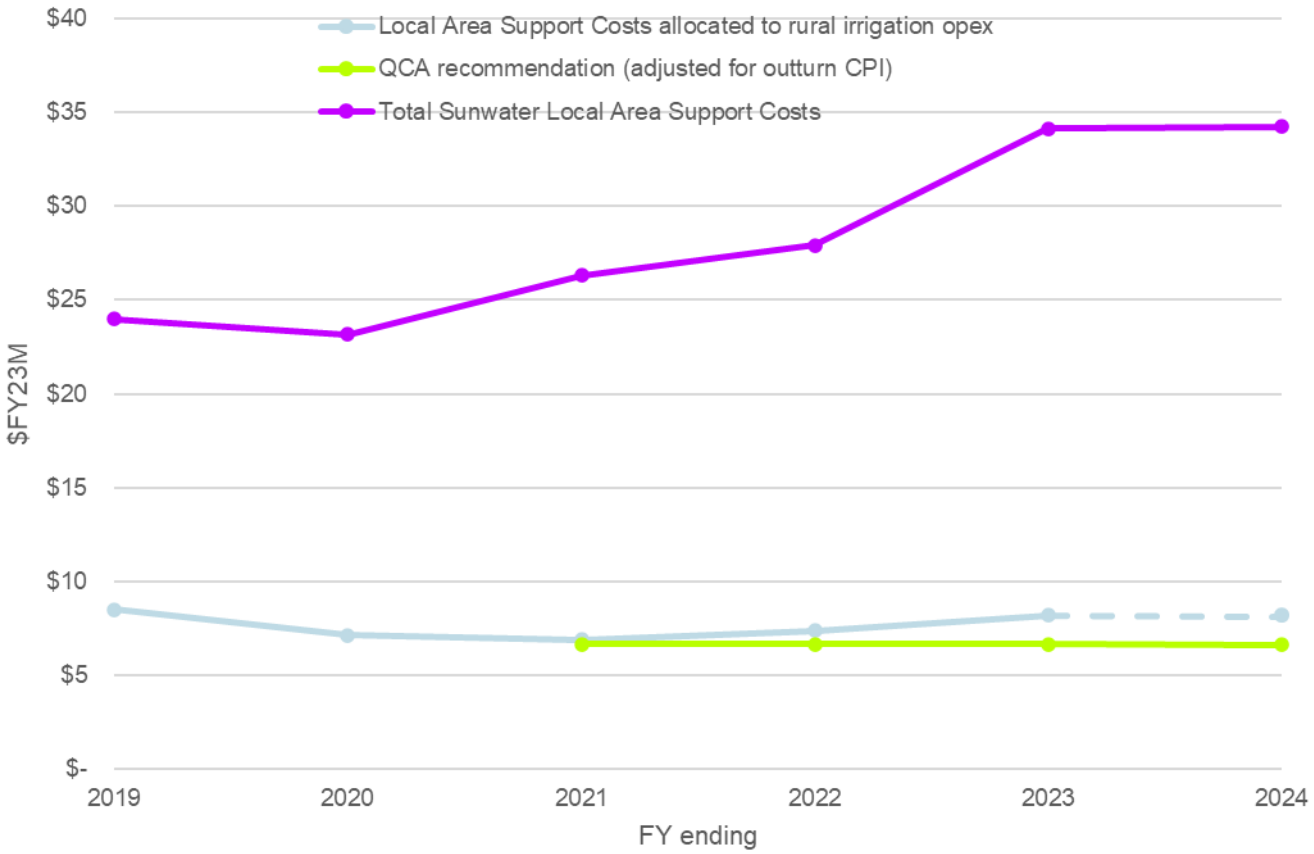
- We consider it reasonable that Sunwater's activity and expenditure on dam safety has increased in response to the new Guidelines on Safety Assessments for Referable Dams (2021) discussed further in Section 6. We estimate the increase to be approximately $0.6M p.a. based on the increase in cost code '651 - Dam safety'.

We consider that these adjustments are reasonable despite underlying indirect expenditure being below QCA's 2020 recommendation. This is because of the fungibility of activities and costs between indirect and corporate support as illustrated by the coding of the Orion system and the existence of customer-related codes in both categories, for example. All other cost changes are considered to be endogenous (or one-off in the case of the office refit in FY23) and we have not recommended making any adjustments to allow for them.

3.3.4 Changes in local overhead costs

Local overhead costs allocated to regulated scheme opex have been consistently above QCA's recommended level as can be seen below.

Figure 3-16 – Local costs allocated to regulated scheme opex ($FY23 M)



Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values' and QCA spreadsheet QCA recommended opex – 2020 review (excl Eton distribution system)'

Note: QCA recommendation has been adjusted for the difference between outturn and assumed CPI from FY19 as well as subsequent inflation. All numbers exclude the Eton distribution system.

Local area support costs have been on an increasing trend since FY20 (both total Sunwater costs and those allocated to irrigation scheme opex). The main drivers for the increase are labour costs, both the costs sitting in the local overhead but also a reduction in the amount of that cost charged elsewhere.

Table 3-12 summarises Sunwater's explanation of the changes in expenditure since FY20 and our view of these changes.

Table 3-12 – Sunwater explanations of significant changes in local overhead costs ($FY23 M)

Cost category	FY23 cost: Operations North, Central, Bundaberg & South	Change FY20 to FY23: Operations North, Central, Bundaberg & South	Change FY20 to FY23: also including Brisbane Operations	Sunwater comment	Our view
Labour costs	27.8	1.8	2.9	*Uplift in FTE numbers (retirement risk, apprentices, additional roles, safety – coupled with EA uplifts above general indexation rates (increments and EA settlements) Resources are initially charged to the resource centre cost pool and then direct charged through labour cost charging (below) to service contracts and projects. The remaining value is allocated through local overhead loading rates, based on direct labour charged.*	Endogenous. See more detailed discussion below.
Contractors	0.8	0.0	-0.0	*n/a*	n/a
Materials, plant, equipment and vehicles	1.8	0.9	0.9	*General uplift in supplier material costs plus increased maintenance costs in resource centre sites at rates above average indexation.*	In the absence of compelling evidence of above index external cost increases[53] and noting the offsetting reduction in plant depreciation charges we have treated these cost

[53] See discussion of plant unit hire costs in Section 5.3.3 for example

Cost category	FY23 cost: Operations North, Central, Bundaberg & South	Change FY20 to FY23: Operations North, Central, Bundaberg & South	Change FY20 to FY23: also including Brisbane Operations	Sunwater comment	Our view
					increases as endogenous
Depreciation	0.6	-1.3	-1.3	*Heavy plant acquisitions fully depreciated in 2020, some impact of non-capitalisation of low value items*	This reduction is counterbalanced by the increase in 'other costs' addressed below and has helped to offset wider increases.
Travel & accommodation	0.6	0.3	0.4	*Uplift in travel and accommodation across the organisation supporting collaboration in activities and travel safety. Additional FTE increasing T&A. This level of expenditure is expected to a continue.*	Largely endogenous and linked to FTE increases. See discussion of labour and FTEs below.
Insurance, legal & administration costs	0.6	-0.0	-0.0	*n/a*	n/a
Other costs (net of capitalisation)	2.0	0.4	0.4	*Improved site connectivity implemented in 2021, taking full effect in 2022; additional expensing of low value purchases <$5k*	Endogenous and offset by the reduction in depreciation charges.
Labour cost charged ('costed labour')	-19.0	1.3	1.9	*Lower level of direct hours charged to schemes/activities/projects. Reflected in a lower utilisation rate between the two years – reflects typical variation in labour*	Endogenous, see discussion below and the direct labour discussion in Section 5.3.3

Cost category	FY23 cost: Operations North, Central, Bundaberg & South	Change FY20 to FY23: Operations North, Central, Bundaberg & South	Change FY20 to FY23: also including Brisbane Operations	Sunwater comment	Our view
				cost charges over a four-year period	
Total local overhead	**15.3**	**3.3**	**5.1**		

Source: Analysis of Sunwater spreadsheet 'RFI_68_QCA RFI data labour charging (2)'

Note: capitalised labour and contractor costs have been netted off the labour and contractor costs.

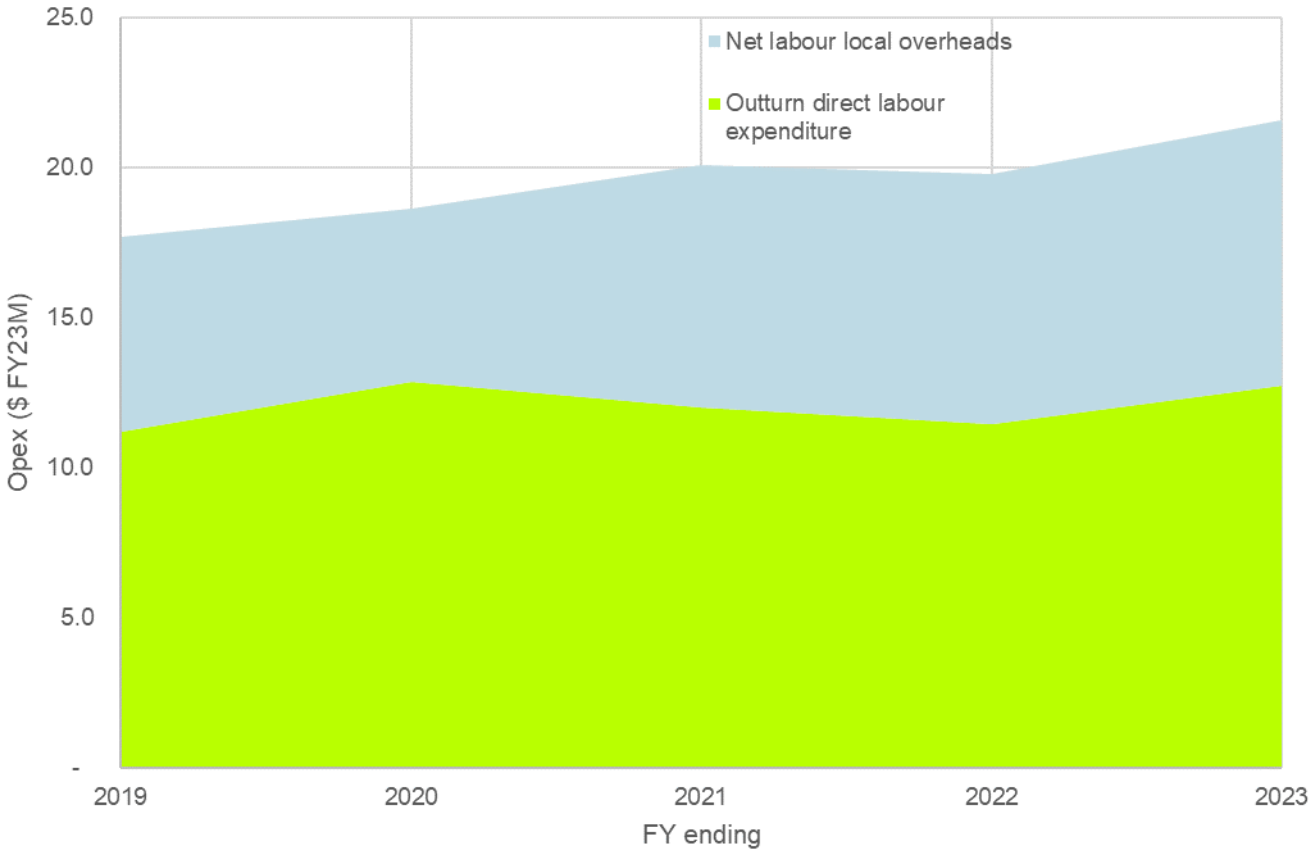
As can be seen above we do not consider any of the increases to be due to exogenous factors and we have not therefore recommended accepting the increase in local overhead costs. Specifically, in relation to the largest category (labour costs and FTEs) our view is that:

- Labour is the main component of local overhead costs and the main driver for its increase since FY20. We set out our view on labour costs in more detail in Section 5.3.3. The increase in headcount and labour costs (both direct and local overhead - see Figure 3-17 below) in recent years appears to have been driven largely by endogenous factors (such as perceived issues around workforce age) and that Sunwater has not justified the increase in labour expenditure or why it was not possible to manage its labour costs within the funding envelope available to it.

- Utilisation levels have reduced and are below both the Sunwater's 2019 target and the basis of QCA's 2020 recommendation (see Figure 5-12). This reduction in utilisation increases local overheads by increasing the proportion of time booked to local overhead codes. If all that had changed was a reduction in utilisation levels, this is likely to have a relatively neutral effect (i.e. higher local overheads but lower direct costs). However, both direct labour costs and local overheads have increased suggesting that the increase in headcount and labour cost has been accompanied by a reduction in labour productivity.

- We consider that the increase in local overheads is driven by endogenous factors (Sunwater's decisions) and have not therefore been able to recommend accepting the increase in labour costs.

Figure 3-17 – Combined direct labour and local overhead net labour costs ($FY23 M)



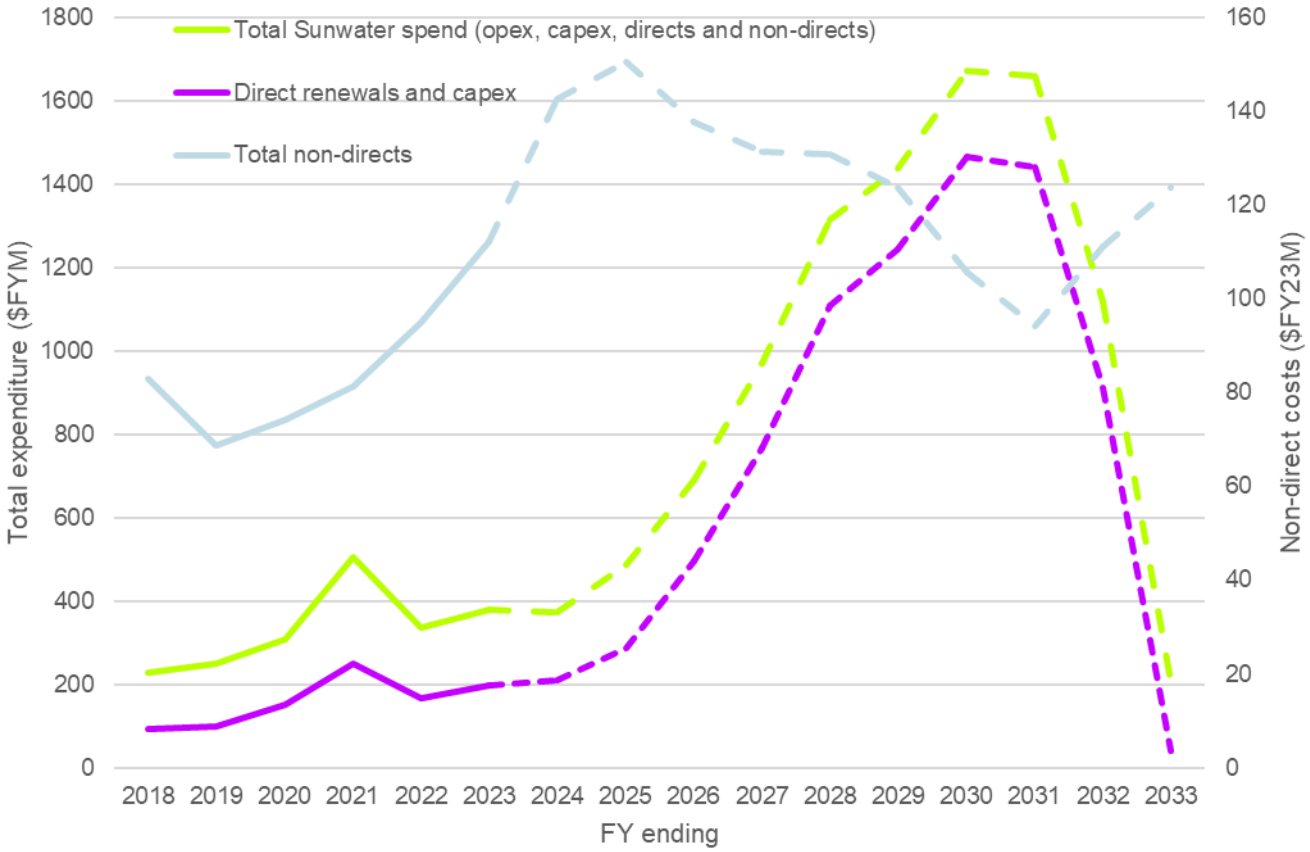
Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values' and QCA spreadsheet 'RFI_68_QCA RFI data labour charging (2) ANALYSIS'

Note: local overhead costs are based on Operations North, Central, Bundaberg & South.

3.4 Future non-direct expenditure

Sunwater has created financial projections which foresee very significant increases in expenditure. According to these projects total expenditure in FY28 is expected to be approximately 250% higher than (i.e. 3.5 as high as) FY23 expenditure and to continue rising thereafter. The projections foresee non-direct costs also increasing to a peak in FY25 before decreasing thereafter.

Figure 3-18 – Sunwater total expenditure and non-direct costs ($FY23 M)



Source: Historical non-direct figures from 'RFI_68_QCA RFI data labour charging (2)'. Future non-direct costs and all year of total Sunwater spend based on analysis of SFM v2242

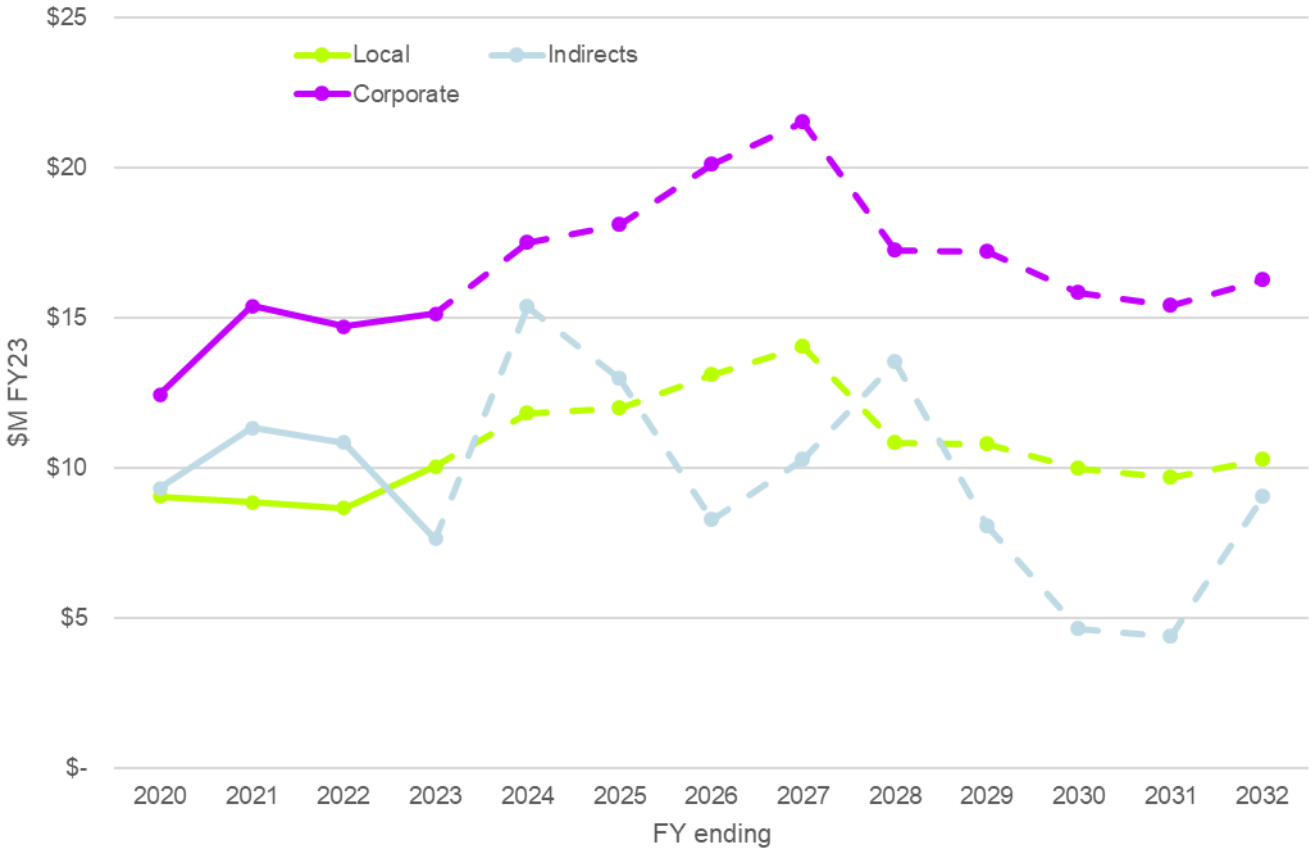
Note: Non-direct costs are on a different y-axis scale. The figures shown are total expenditure on regulated and non-regulated schemes but do not incorporate the effects of any under- or over-recoveries.

One of the effects of these changes is a projected improvement in non-direct cost recovery. This appears to be mainly because Sunwater is expecting the 'labour denominator' for corporate costs to increase from $34.3M in FY23[54] to an average of $64.4M in the next price path period[55].

The projections also envisage an increase in corporate costs allocated to regulated schemes as can be seen below. We note that Sunwater has not incorporated this (future) increase in proposed expenditure. However, we note that it has incorporated some of the increase in non-direct costs since FY20 through the higher corporate uplifts in place in FY23 and, if non-direct costs increase at the rate envisaged, this suggests that base year in future reviews would have significantly higher non-direct cost allocations. We consider the approach to cost allocation further in Section 3.7 below.

[54] Sunwater spreadsheet 'RFI_68_QCA RFI data labour charging (2)' tab 'Corp OH' row 82
[55] Sunwater spreadsheet '' Overheads tab, row 62

Figure 3-19 – Non-direct costs on regulated schemes in $FY23 M



Source: Based on analysis of 'RSC data' in SFM v2242

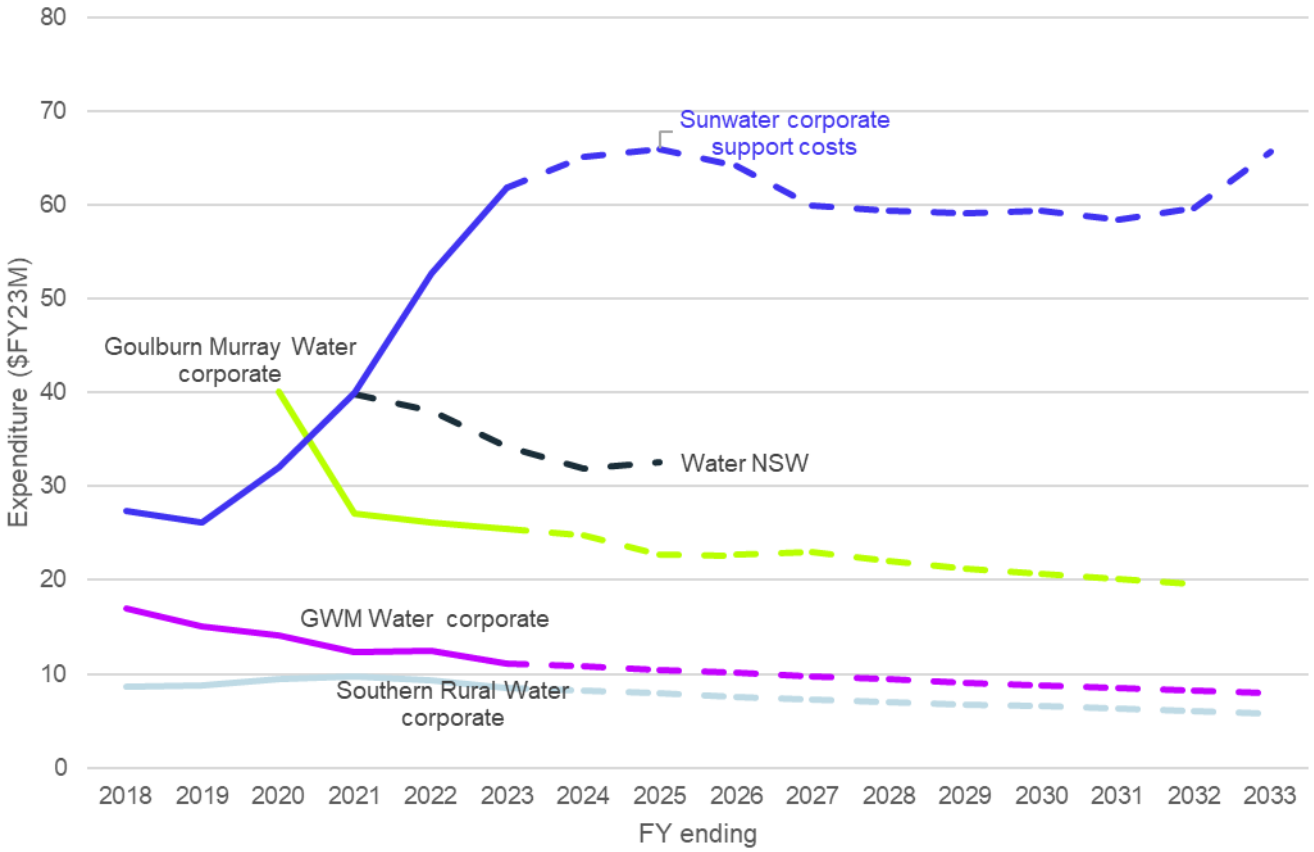
Note: Costs are for the 26 regulated schemes only but capture non-direct costs allocated to recreation facilities (typically 2-3% impact). Conversion to $FY23 based on "ABS Brisbane All Groups June ended" for historical expenditure and Sunwater's CPI projections for future escalation. These costs include non-direct costs on regulated opex and renewals.

3.5 Benchmarking

We have compared Sunwater's 'corporate' costs to a number of other rural utilities in Australia. We have focused the comparison on 'corporate' costs as this is the category generally reported separately from direct costs in publicly available information. The rural utilities we have compared against include three Victorian utilities (Gouldburn Murray Water, GWMWater and Southern Rural Water), WaterNSW and four locally managed schemes in Queensland (Eton Irrigation Cooperative Ltd, Fairbairn Irrigation Network, Mallawa Irrigation Ltd and Theodore Water) who have kindly provided data for this purpose.

To give context to the scale of corporate costs and the numerators used in the benchmarking below we present total corporate spend for Sunwater, WaterNSW and the three Victorian utilities below.

Figure 3-20 – Corporate costs of different rural utilities



Source: Analysis of Victoria utilities Price Review Models and SFM v2242, WaterNSW 2020 Determination[56]

Note: Gouldburn Murray Water, GWMWater and Southern Rural Water corporate costs include customer service and billing. Sunwater costs are for the full corporation (not just regulated schemes).

Whilst Sunwater has higher total corporate costs than the other rural utilities, they are quite different businesses with different service areas. For this reason, we also compare against opex and totex[57] below.

We also note that there are differences in definition of the corporate costs reported by different utilities as summarised for the Victorian water utilities and WaterNSW in Table 3-13 below. The corporate costs of the locally managed schemes have been estimated by QCA through analysis of the cost codes provided so are not included in the table below.

[56] These figures are the totals recommended in the 2020 Determination across Rural Valleys, WAMC, Greater Sydney, Broken Hill and non-core activities

[57] 'Totex' refers to total expenditure i.e. opex and capex

Table 3-13 – Definition of corporate costs

Utilities	Definition used
Victorian water utilities Source: Regulatory Accounting Code for Victorian Water Businesses[58]	General corporate expenditure that cannot be reasonably allocated to other activity areas, e.g. corporate group/division, general management, board members, legal counsel, company secretary, quality/business improvement, corporate relations, strategy & planning, HR, management of risk, insurance & property, corporate office costs, IT systems (excluding operational technology), regulation The Accounting Code is not explicit about the treatment of insurance. It simply refers to "insurance management" as an example of corporate expenditure. We understand that some utilities include property insurance as a direct cost for example. Billing and customer service costs are reported separately to corporate costs.
WaterNSW Source: Expenditure Review of WaterNSW Rural Valleys and Corporate Costs[59]	Costs within the following business units: • Customer and Community; • Safety, People and Performance; • Legal, Governance and Risk; • Business Systems and Information; • Finance and Commercial Services; • Executive team; and • "WaterNSW" (includes defined corporate costs not included in the above activities). • "Overhead costs from operational business units" including System Operations, Water Quality and Catchment Protection, Assets, Water Solutions and Allocated Direct Costs such as 'all valley' costs. A number of significant insurance policies such as property, revenue volatility, public liability and motor vehicles are treated as 'direct' costs and not included in corporate costs.

[58] Regulatory Accounting Code for Victorian Water Businesses, Essential Services Commission, Issue No 4, October 2009

[59] Expenditure review of WaterNSW Rural Bulk Water Services and Corporate Cost Allocation, Atkins for IPART, February 2021

Sunwater Source: Section **3.2** above.	"Corporate support" incudes ICT, HR, finance, Board, corporate office, legal costs and many customer-related costs. Potential differences from the above are summarised in Table 3-14 below.

Sources: as set out in the table

We present below a comparison of some of the differences between the costs included or otherwise in corporate costs reported by the utilities below.

Table 3-14 – Differences in definition of corporate costs

Cost type	Victorian utilities	WaterNSW	Sunwater
Customer service costs (codes 120, 123, 690)	Excluded	Understood to be in corporate	In corporate support
Pricing and regulation (code 254)	Understood to be in corporate	Understood to be in corporate	Treated as indirect
Customer interactions & engagement (code 661)	Excluded	Assumed included in corporate ('customer and community')	Treated as indirect
Water accounting & compliance (code 665)	Unclear	Assumed to be included as billing, licensing and similar costs are part of the "customer and community" business unit	Treated as indirect
Safety (code 122)	Unclear	Included in corporate as part of the "Safety, People and Performance" business unit	Treated as indirect
Commercial manager and procurement (codes 272 and 271)	Unclear	Appears to be included in corporate costs as part of "finance and commercial"	In corporate support
"Overhead costs from operational business units"	Understood to be at least partially excluded	Included in corporate	Treated as indirect

Sources: AtkinsRéalis analysis

Note: green means a case is included in corporate costs, amber means unknown and purple means excluded

To present costs which are reasonably consistent we have therefore compared:

- Victorian utilities corporate ***plus*** 'customer service and billing' costs ***against*** Sunwater's corporate support costs ***plus*** pricing and regulation (254) (*"Sunwater corporate costs adjusted for comparison with Victorian utilities"*). We have also used this as the basis for comparison with the locally managed utilities.

- WaterNSW corporate costs ***against*** Sunwater's corporate support costs ***plus*** codes 122, 254, 661, 665 and asset strategy support (code 654) as an estimate of the operational business units' costs included in WaterNSW's corporate costs (*"Sunwater corporate costs adjusted for comparison with WaterNSW"*).

Whilst we have made these costs as consistent as possible to enable comparison, we note that the adjusted figures are still reasonably similar. For example, in FY23 the opex adjusted for comparison with Victorian utilities is 20% of direct opex whilst the figure for comparison with WaterNSW is 22%.

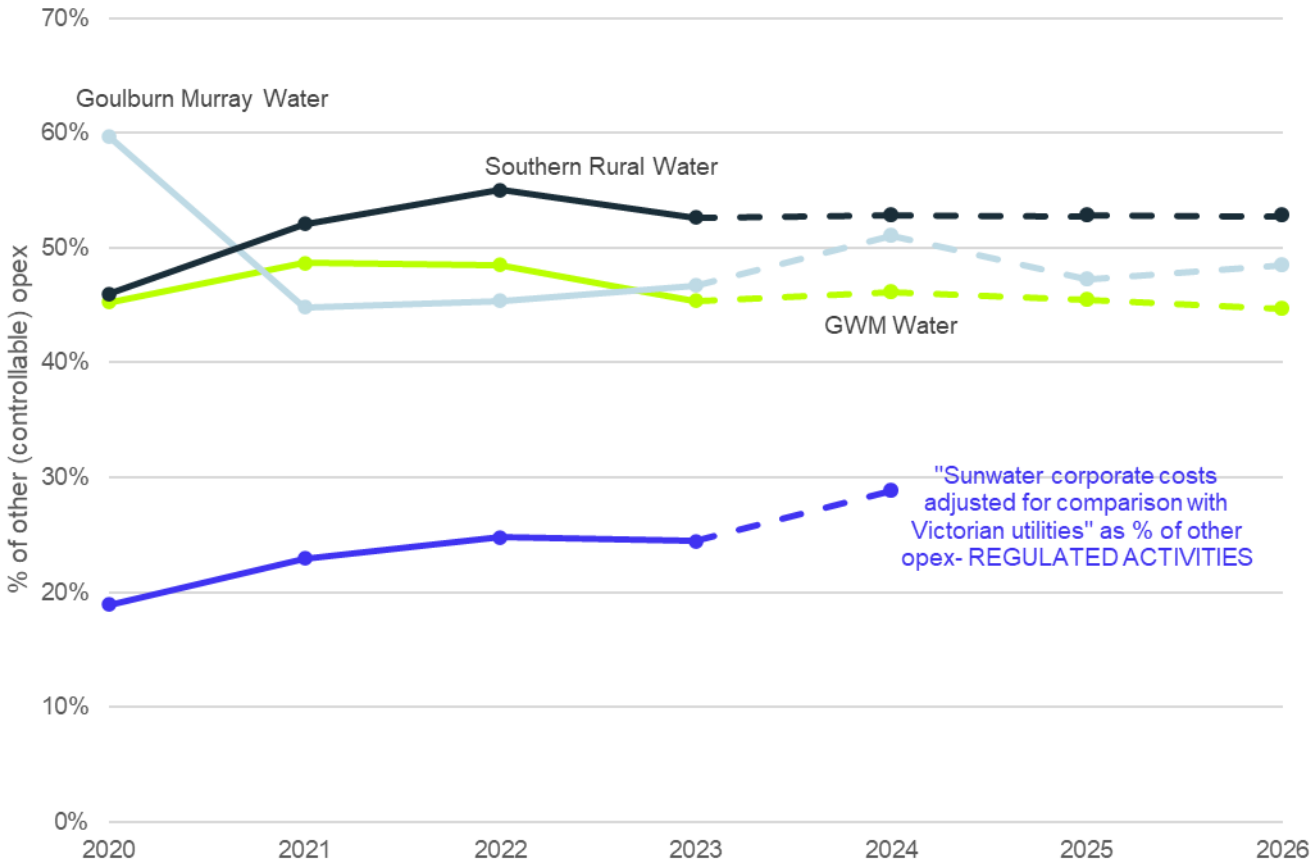
We have not made adjustments to compare insurance costs on a like-for-like basis due to a lack of detail on the approach taken by comparator utilities. However, it appears likely that the approaches taken are consistent enough to allow a reasonable comparison of the costs set out above without further adjustment.

We have carried out the benchmarking by comparison to 'other opex' and 'other totex'. For Sunwater we have used regulated scheme costs as the basis of the assessment as this is the focus of the review.

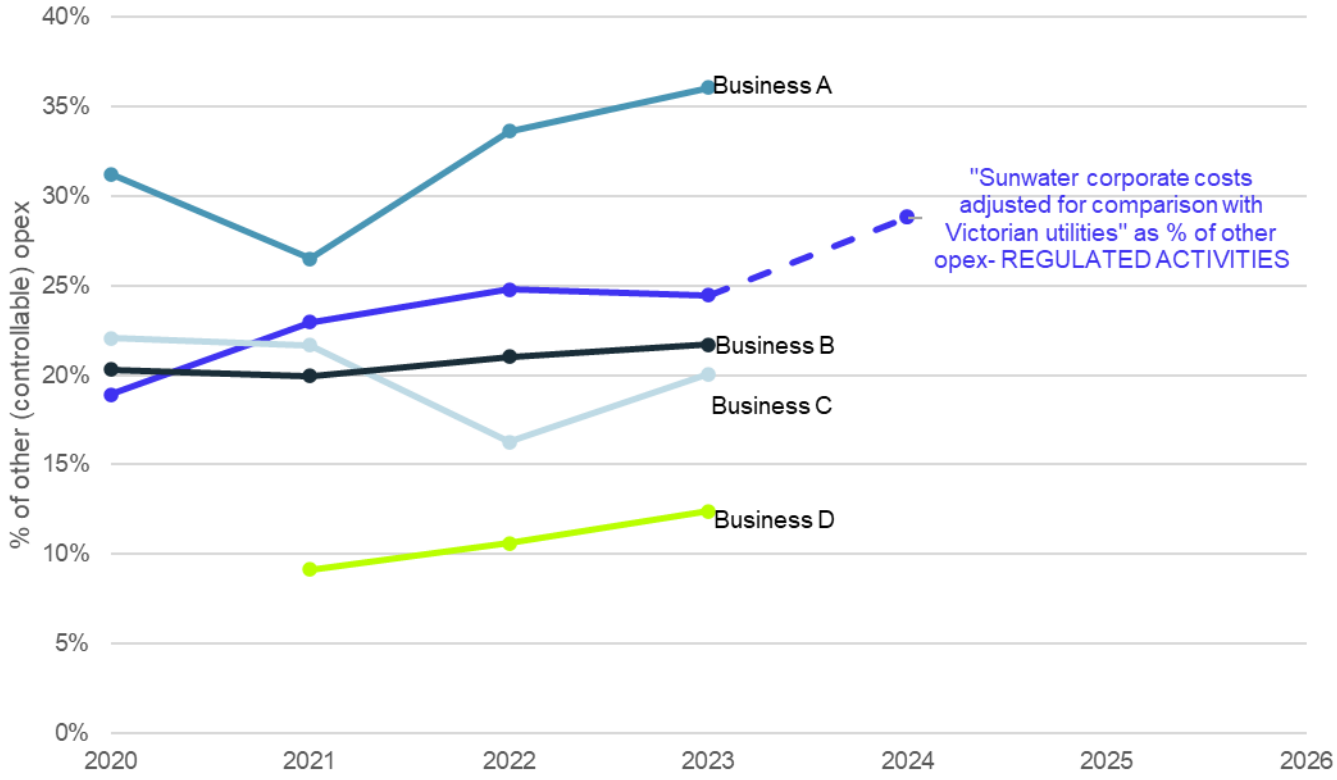
The results of the benchmarking using 'other opex' suggests that Sunwater has significantly higher costs than WaterNSW Rural Valleys but significantly lower than the Victorian rural utilities. It also suggests Sunwater is in the middle of the pack compared to the locally managed schemes as can be seen below. However, these comparisons should be treated with caution given the differences in the operating activities and therefore direct opex of the different businesses.

Figure 3-21 – Benchmarking of Sunwater corporate costs as % of direct opex

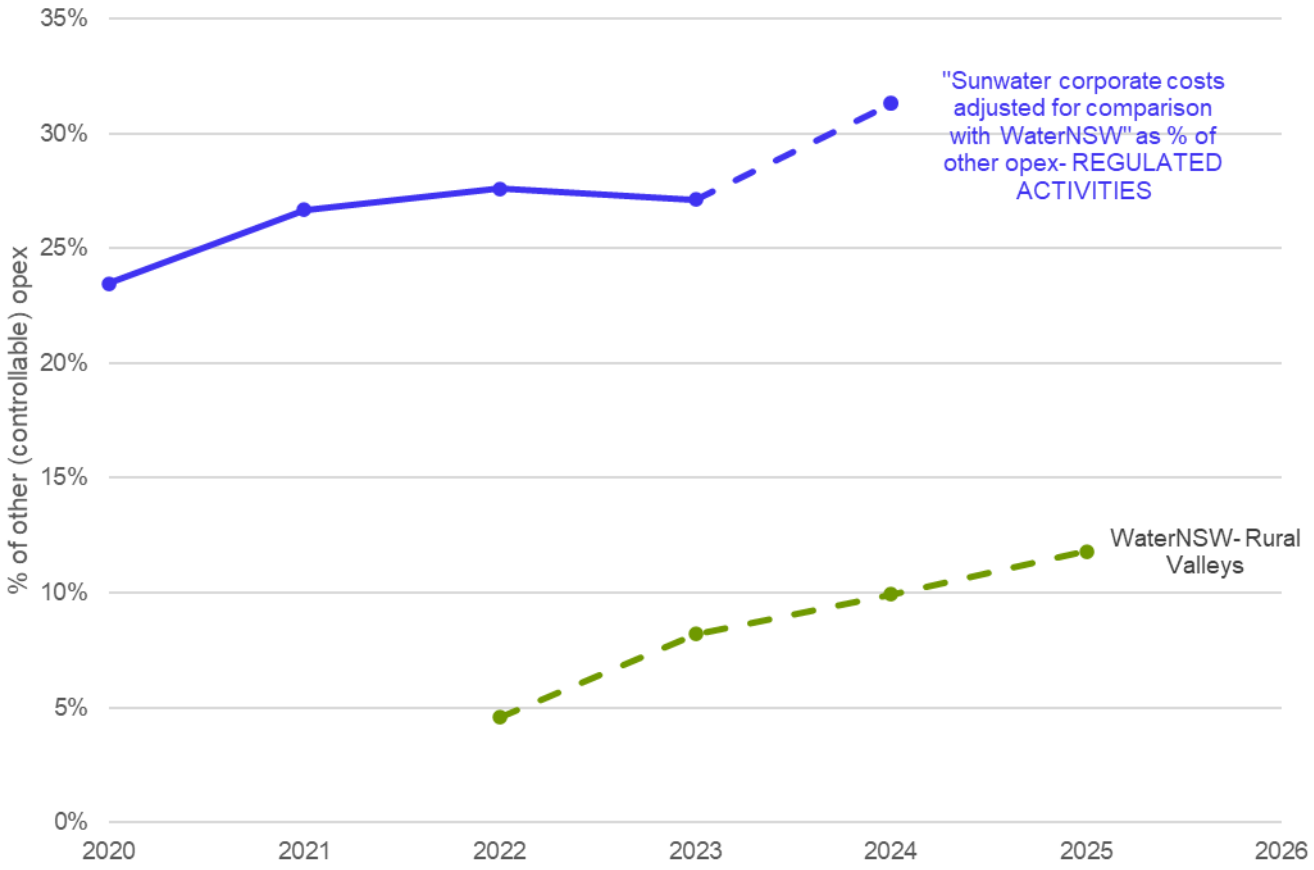
Victorian utilities



Locally managed schemes



WaterNSW



Source: Analysis of Victoria utilities Price Review Models, SFM v2242, WaterNSW 2021 expenditure review and locally managed scheme data

Note: GMW, GWM and SR opex excludes non-controllable costs such as MDBA fees. Their corporate costs include customer service and billing. Sunwater benchmarking has been carried out for regulated activities only60.

It may be that this finding is partially a result of economies of scale with the smaller Victorian utilities having a lower operating cost base to allocate corporate costs against.

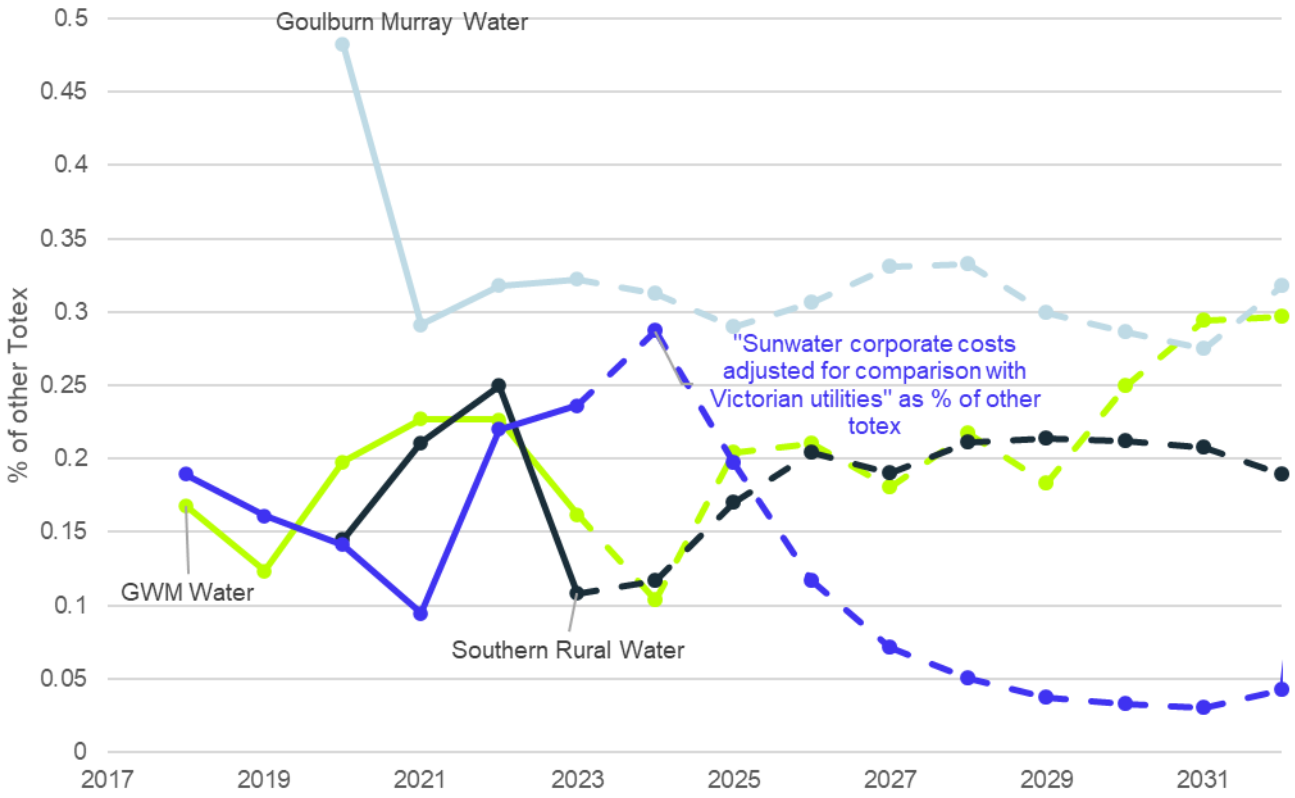
We have compared corporate costs to direct 'totex'[61] as shown below. On this metric Sunwater's corporate costs are still higher than WaterNSW's but are also higher in FY23 than all but one of the Victorian rural utilities (noting that Sunwater's financial model projects a reduction in these unit costs over time as its total expenditure increases). We have not included the locally managed schemes in this comparison as we do not have capex figures to enable a 'totex' comparison.

[60] This has been carried out by pro-rata adjustment of the costs allocated to regulated activities. It is presented for regulated activities is because it is not possible at organisation level without allocations of non-direct costs to organisation wide opex.

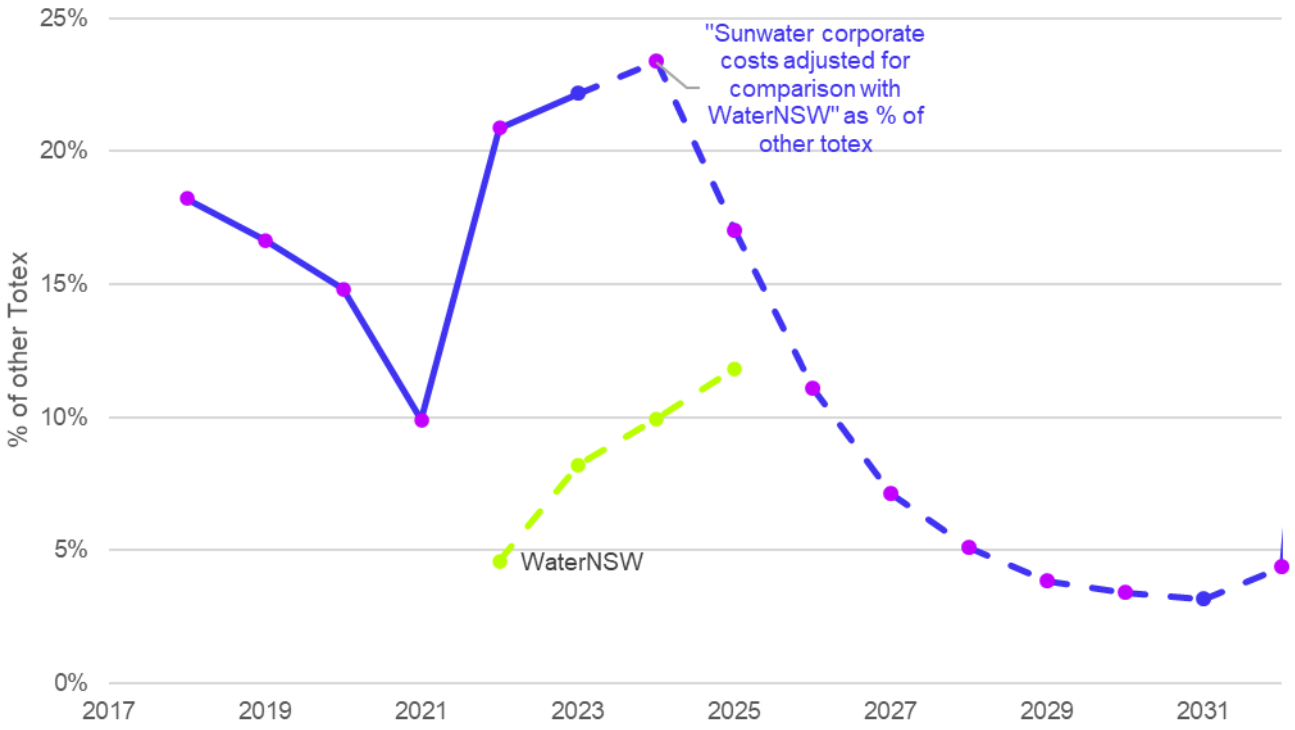
[61] 'totex' refers to total expenditure i.e. opex and renewals/capex

Figure 3-22 – Benchmarking of Sunwater total non-direct costs as % of direct totex

Victorian utilities



WaterNSW



Source: Analysis of Victoria utilities Price Review Models, SFM v2242 and WaterNSW 2021 expenditure review

Note: GMW, GWM and SR opex excludes non-controllable costs such as MDBA fees. Their corporate costs include customer service and billing.

We have also compared corporate overhead costs to headcount as summarised below. On this measure Sunwater appears to have higher corporate costs than the other comparator utilities.

Table 3-15 – Comparison of corporate costs and headcount

Company	FTE	Corporate costs in FY23 ($M)	Corp OH per FTE $k/FTE
Sunwater	597	$61.9	**$104**
Goulburn Murray Water	406	$25.5	**$63**
Southern Rural Water	135	$8.5	**$63**
GWM Water	201	$11.1	**$55**
Eton Irrigation Cooperative Ltd	8	$0.3	**$42**
Fairbairn Irrigation Network	11	$0.6	**$53**
Mallawa Irrigation Ltd	8	$0.3	**$43**
Theodore Water	5	$0.1	**$28**
Water NSW	897	39.9	**$44**
Average (unweighted)			**$55**

Source: Analysis of Victoria utilities Price Review Models, SFM v2242, data provided by locally managed schemes, WaterNSW Annual Report for 2022-23[62] and WaterNSW Rural Valleys and Corporate Cost Allocation Review, 2021[63].

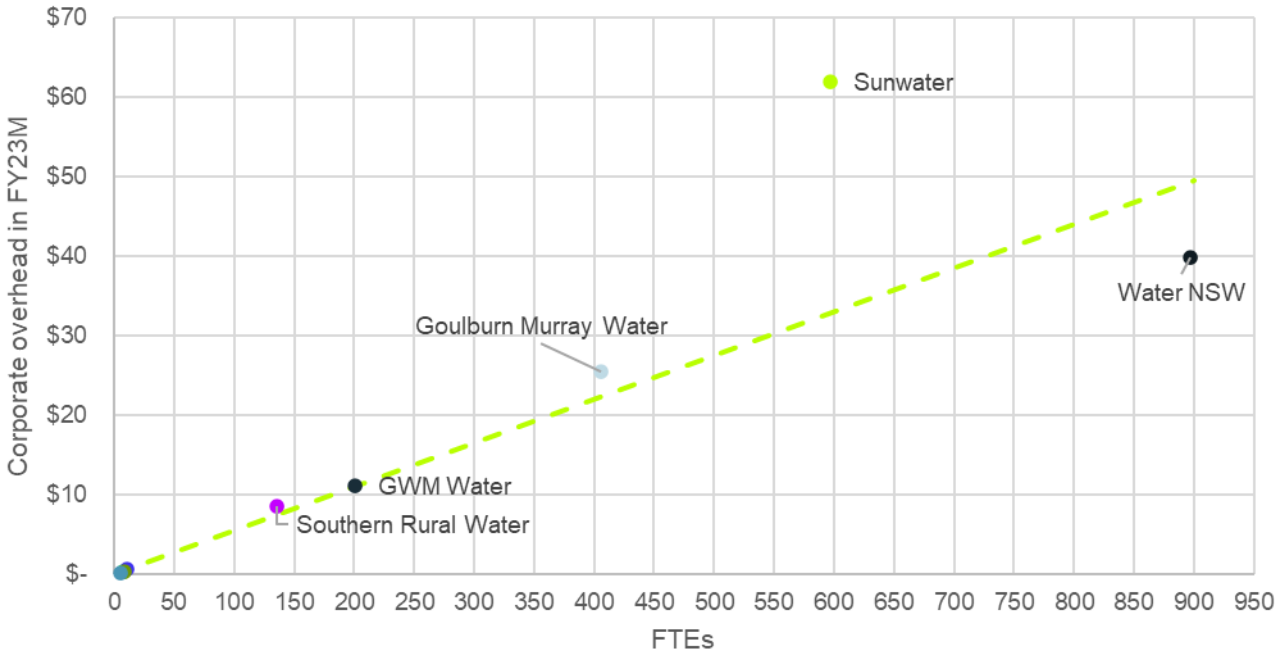
Note: to allow comparison on the same graph no adjustments have been made except the addition of 'customers and billing' costs for the Victorian utilities. WaterNSW figures are based on a 0.95 conversion rate from employees to FTEs with employees based on FY22 figures. WaterNSW corporate costs are based on the FY21 recommendation converted to $FY23M.

These costs are also presented graphically below.

[62] See WaterNSW_Annual-Report-2022-23.pdf

[63] See Consultant-supplementary-report-by-Atkins-Expenditure-review-of-WaterNSW-Rural-Bulk-water-services-June-2021.PDF

Figure 3-23 – Comparison of corporate costs and FTE employee numbers



Source: Analysis of Victoria utilities Price Review Models, SFM v2242, data provided by locally managed schemes, WaterNSW Annual Report for 2022-23[64] and WaterNSW Rural Valleys and Corporate Cost Allocation Review, 2021.

In conclusion:

- Benchmarking can be challenging due to different definitions, scale of business and different operating circumstances.
- Whilst Sunwater's corporate costs appear reasonable when compared to the Victorian rural utilities on the basis of direct opex, on a number of metrics Sunwater compares unfavourably with other rural utilities, having higher corporate costs per head than all of the comparators and the second highest corporate costs per totex.
- This benchmarking suggests that Sunwater is not obviously more efficient that other rural utilities.

3.6 Prudency and efficiency of proposed step change

Sunwater has proposed one step-change. This relates to the ongoing expenditure related to the CASPr project discussed in Section 4.2.

3.6.1 CASPr

Sunwater has proposed an average step change of approximately $1.6M p.a. in nominal terms or $1.4M in $FY23. starting from FY26 onwards. This is based on an average $1.9M nominal expenditure and a $0.3M saving from existing systems which are no longer required as a result of the new system.

[64] See WaterNSW_Annual-Report-2022-23.pdf

Based on the interviews with Sunwater we understand that the likely savings from retiring the existing systems are likely to be closer to $0.7M p.a. based on retiring the Orion and Freshdesk systems and savings associated with no longer having to maintain the existing Portal. In RFI 59 Sunwater has provided an assessment of these savings which adds up to $0.5M p.a., stating that the difference between this and the $0.7M *"relates to internal support costs that related to providing hyper-care to Orion. While the activity is no longer required, the time will be redeployed elsewhere within the program*". However, we do not consider that redeployment is, in itself, a reason to recommend an increase in expenditure. **As a result we have maintained our assumption of $0.7M of savings and recommended an adjustment of -$0.4M (in $FY23) compared to Sunwater's proposal to reflect these.**

The benefits of CASPr identified by Sunwater in terms of other efficiencies are relatively modest (equivalent to nearly 2 FTEs) and according to Sunwater would only be realised fully by the third year after "go live", which we think is a very conservative forecast. We believe that with the combination of CASPr, other improvements in both the customer journey and deployment of technology as well as revisiting the Business Unit structure, it should be possible to achieve a larger reduction in labour costs.

We therefore recommend a **further reduction of $0.3M[65] (in $FY23) to the impacts of CASPr to reflect the labour-related** efficiencies which Sunwater expects to be realised but assumed to start in FY26 when the system comes live. This results in an increase **of $0.7M[66] (in $FY23)** in recurrent costs due to CASPr.

As set out in the following section we recommend allocating CASPr costs using the current approach until a more causal allocation approach is in place. This is also consistent with how the costs of Orion have been recovered. We therefore assume that the initial cost of CASPr will be recovered through an amortisation charge from the corporate support cost centre. As set out in Section 4, we recommend an efficient initial cost of $18.5M and an asset life of 15 years. This results in a recommended **amortisation charge of $1.2M p.a.**

Taking the recommended increase in recurrent costs and amortisation charges together results in an increase of $1.9M p.a. in Sunwater total corporate costs due to CASPr.

However, as discussed in Section 4, we note that one of the main reasons that CASPr is being implemented is to replace the Orion system. According to RFI 138, the Orion system attracted an amortisation charge of approximately $2.0M p.a. (in $FY23) from FY13 to FY22.

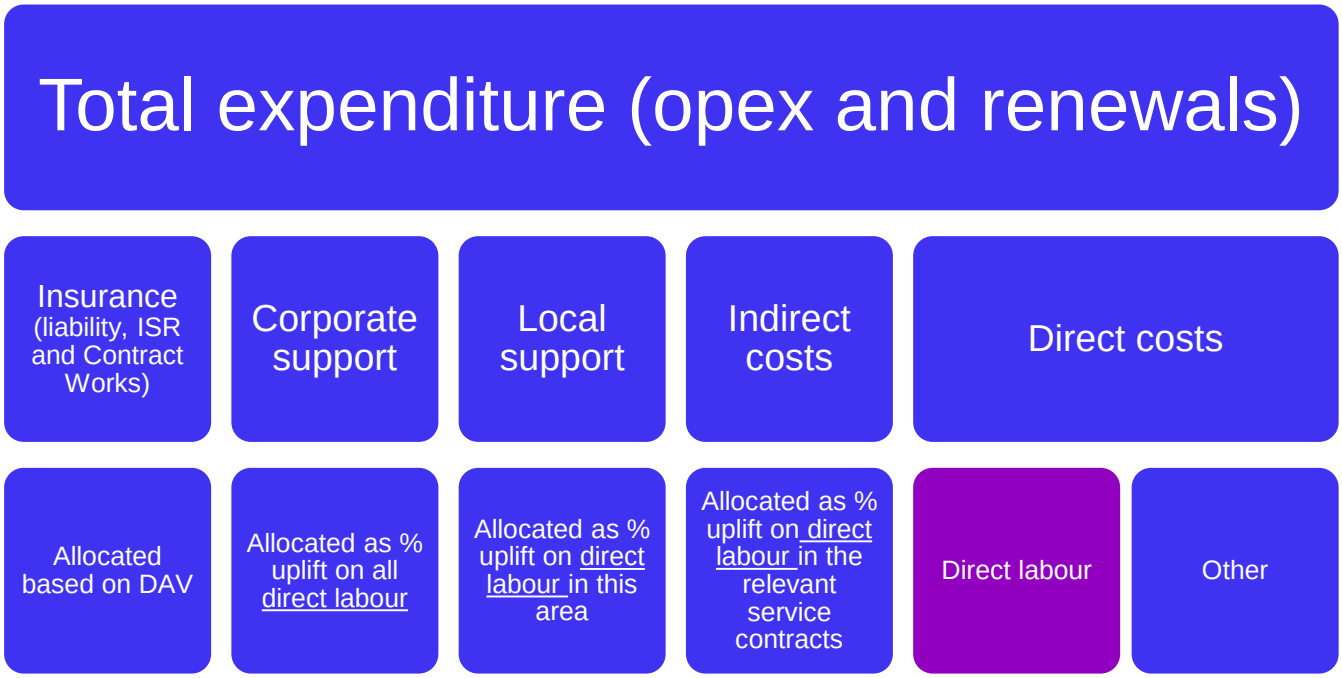
It therefore appears that the recommended net cost (amortisation and recurrent costs) of CASPr is very similar (or even slightly less[67]) than the saving due to the expiry of the system which it is replacing. **We have therefore not recommended a step change associated with the implementation of CASPr.**

3.7 Allocation of non-direct costs

Sunwater's current approach to allocation of non-direct costs is outlined in Section 3.2 and summarised graphically below. It should be noted that the direct labour allocations are fixed for the year in advance and that these 'applied' uplifts therefore routinely differ from the outturn cost-recovery rate. This can be due to variance in outturn non-direct cost but also in outturn direct labour costs.

[65] Rough approximation assuming approximately 3 FTE saving and $100k per FTE p.a. taking account of non-labour cost uplifts (occupancy, etc.).
[66] i.e. Sunwater's proposed $1.4M increase minus $0.4M (additional system savings) minus $0.3M (labour savings) equals $0.7M
[67] A saving of $2.0M p.a. compared to an increase of $1.9M p.a. i.e. a net saving of $0.1M p.a.

Figure 3-24 – Summary of Sunwater's approach to cost allocation



Source: AtkinsRéalis summary

In its 2020 report QCA concluded that:

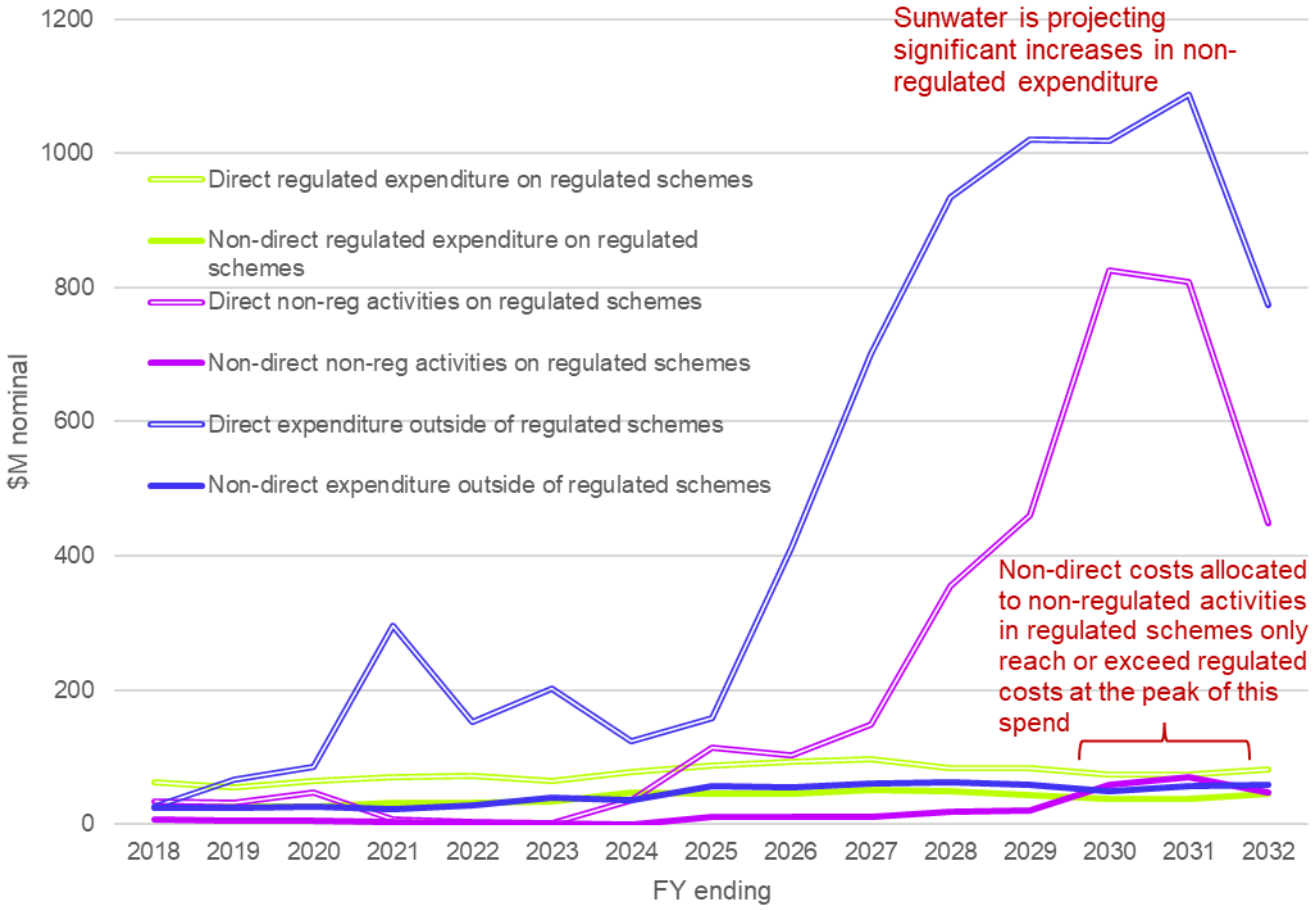
> *Overall, we consider that a single allocator using direct costed labour is an appropriate approach for allocating non-direct costs to service contracts. The issue of under-reporting of direct charging may however affect the effectiveness of direct costed labour as an allocator; Sunwater should renew its efforts to improve time-sheeting practices*

It supported the move to region-specific rates for local area support costs.

However, Sunwater's business has evolved significantly since 2020 and continues to evolve as it expects to deliver a larger number of significant projects as can be seen in the figures below, for example. It is therefore worth considering whether the allocation of non-direct costs remains the most appropriate means to allocate these costs.

The figures below illustrate the expenditure Sunwater is projecting and the potential for significant changes in the organisational spend rate and therefore drivers for things like corporate support. It also highlights that non-regulated activities are expected to attract a significantly lower rate of non-direct uplift compared to their combined opex and renewals/capex spend.

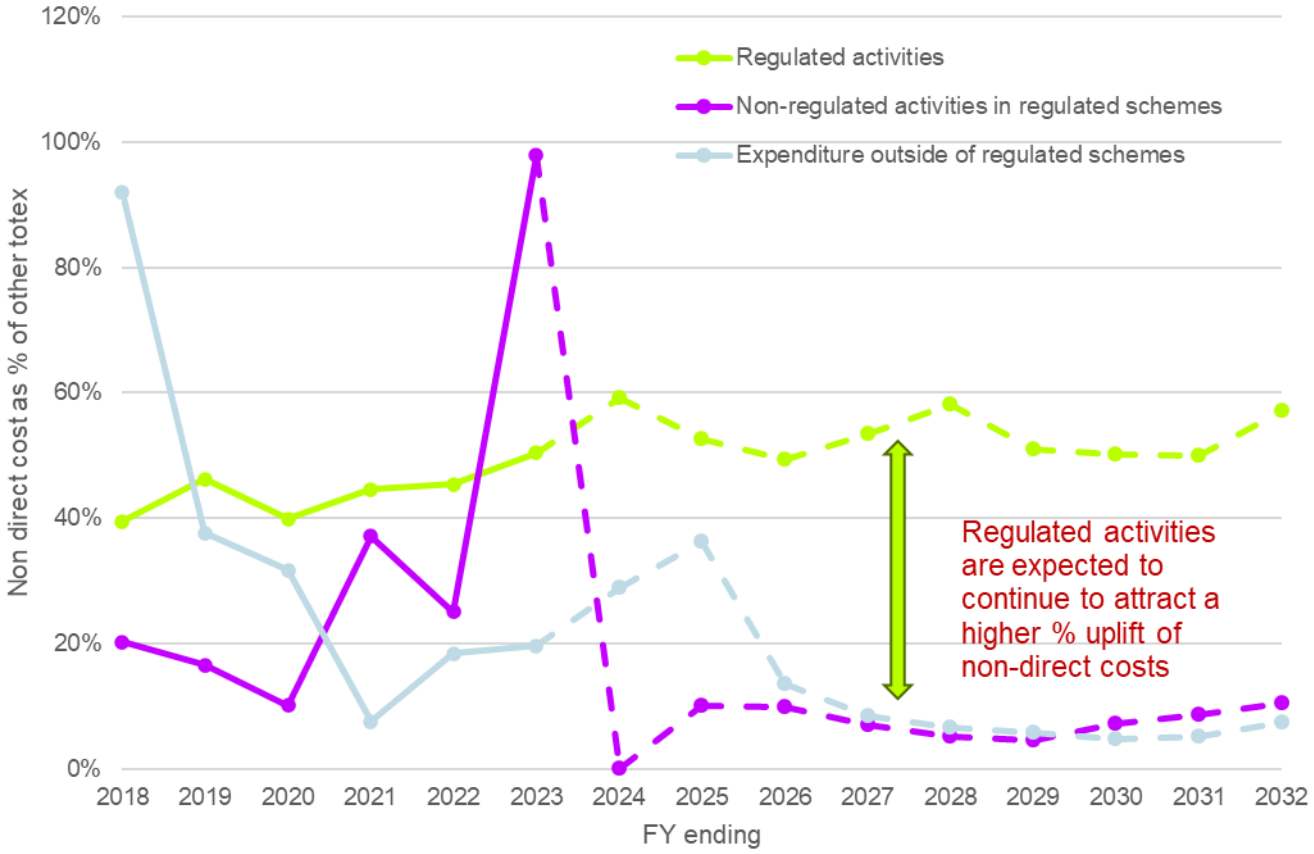
Figure 3-25 – Costs of regulated and other activities within regulated schemes ($M nominal)



Source: Analysis of SFM v 2243

The result is that regulated activities attract a higher non-direct uplift than non-regulated activities. This is likely to be because non-regulated activities (e.g. major projects) generally have a higher percentage of contractor costs so attract a lower uplift as a proportion of expenditure.

Figure 3-26 – Comparison of direct and non-direct costs as a percentage of regulated and other activities ($M nominal)



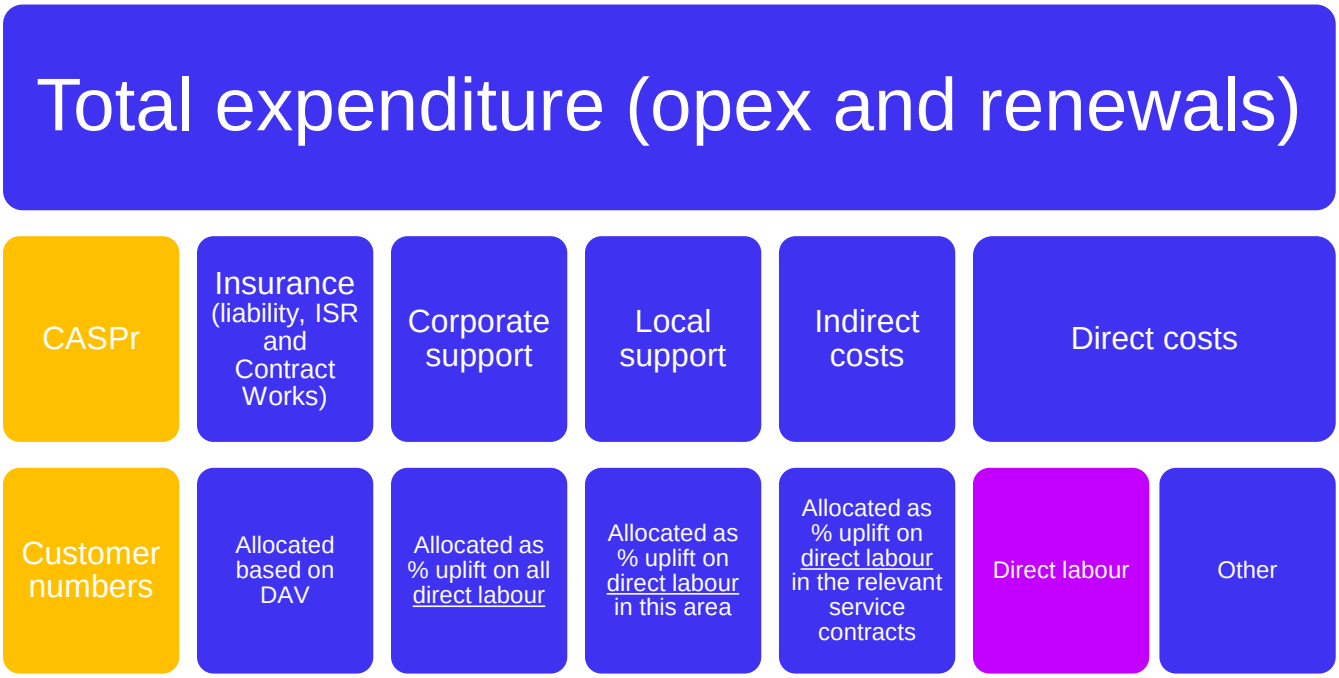
Source: Analysis of SFM v 2243

Note: the zero figure for non-regulated activities in regulated schemes in FY24 is because the SFM projects significant contractor spend but very limited direct labour costs in year thereby attracting negligible non-direct cost.

Sunwater is proposing to amend its cost allocation approach by allocating CASPr costs based on customer numbers[68], as summarised below:

[68] Inferred from Sunwater's document "05 CASPr Cost Estimates for Operations_mp - Final Values"

Figure 3-27 – Sunwater proposed change to its allocation approach



Source: AtkinsRéalis summary

We have examined the approach taken by other rural utilities to allocation of non-direct costs as summarised below. From this it is clear that there is not a single common approach. However, we note that none of the other rural utilities examined is using direct labour as the main allocator for non-direct costs, with 'labour and contractor' or totex costs more commonly used.

Table 3 -16 Other rural utilities' approaches to allocation of non-direct costs

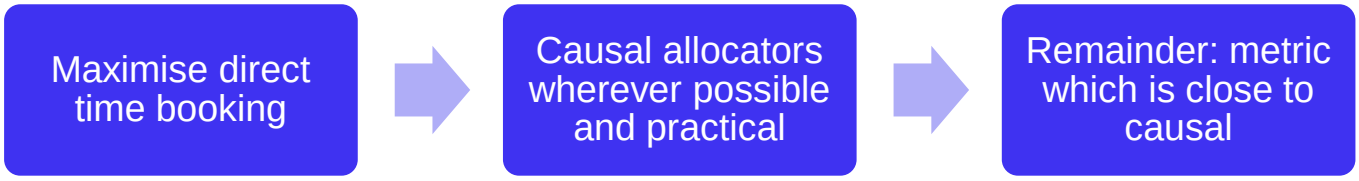
Utility	Approach	Use of direct labour?	Use of 'labour + contractor'	Other?
Goulburn Murray (2020 review)	Allocators used: • Specific agreed allocations: for shared assets often underpinned by legal agreements. • **Direct labour costs**: management overheads (e.g. operational managers supervising staff) • **Causal allocators**: e.g. bulk entitlements, average cost per seat/vehicle, budgeted labour expense (services where	For some costs ('management')	Costs without strong observable causal allocator	Causal allocators and Shared assets

	labour is the causal allocator, such as HR, payroll, etc) • **Expenditure** (opex plus capex, however capex is capped at $1 million for allocation purposes): where expenditure has no strong observable causal driver			
Grampians Wimmera Mallee Water (2023 review)	Proportion of **labour and contractor costs**	No	Yes	No
Lower Murray (based on the 2023 review)	1) Between rural and urban: • Corporate: allocated on **labour and contractor** expenditure. • Billing and IT: allocated on an average of **employee FTE and number of customer services**. 2) Then, between rural districts: • Corporate costs: **customer service numbers**. • Asset planning: **asset replacement costs**	No	Between rural and urban	FTE and customer numbers Asset replacement
WaterNSW (post 2021 review)	Allocation using **direct totex** (between Determinations) and **direct opex** between Rural Valleys	No	Yes- totex	Direct opex

Source: Review of expenditure reviews and Price Review Decisions

Ideally non-direct costs should be allocated on the basis of causality (as indicated by Goulburn Murray Water) wherever possible based on a transparent metric which captures the driver for the costs being incurred but is also practical to administer. Our understanding of good practice cost allocation is as follows:

Figure 3-28 – Good practice cost allocation



We present below four options for cost allocation with their advantages and disadvantages.

Table 3-17 – Options for allocation of non-direct costs

Option	Explanation	Advantage	Disadvantage	Impact
1.Current direct labour approach	Based on direct labour except for a number of insurance policies which are based on declared asset value (which we consider to be reasonable)	No change	Not highly causal. For example, corporate information management and data analytics are not generally linked to direct labour costs, and neither is procurement. We understand that in the past Sunwater may have made manual adjustments to recovery rates on regulated labour in order to under-recover costs linked to potential major projects. The need for these types of adjustment and the potential disconnect is likely to grow if Sunwater delivers large capital projects which attract a lot of corporate focus but also significant contractor costs.	CASPr cost to regulated opex is $0.5M less than under method 2 below
2.Sunwater's proposed change	As above but CASPr costs are allocated based on customer numbers	Limited change	Proposed treatment of CASPr is not consistent with other ICT (or any other non-direct) costs. If amending the treatment of one corporate project, why not others? Not significantly more causal than method 1.	As per Sunwater's proposal

3.Causal allocation	Examine each cost centre (or groupings) and identify appropriate cost allocators	Causal link	Potentially challenging to implement Likely to be hard to find practical causal allocators for all costs.	Unknown. Requires granular assessment and modelling.
4.Causal "light"	Some more minor changes could be made to enhance the causality of cost allocation. For example, some corporate support costs could be allocated based on totex reflecting that they are linked to planning, risk, contracts, assets, rather than direct labour. A potential allocation matrix is set out below.	Potential to improve causality with limited accounting change More aligned with other rural utilities	Improvement but still not highly causal.	

Source: AtkinsRéalis

A potential alternative (method 4) allocation matrix for corporate support costs is set out below.

Table 3-18 – Potential alternative (method 4) allocation matrix for corporate support costs

Cost centre	Potential allocation basis
100 - Board	Totex
105 - EGM People, Environment & Portfolio	People
106 - Enterprise Portfolio Management Office	Totex
108 - Organisational Capability	Totex
110 - Sunwater Chief Executive	Totex
120 - EGM Customer & Stakeholder Relations	Totex
123 - Customer Experience	Customers (number or revenue)
125 - Corporate Communications	Totex
127 - Stakeholder Relation	Totex
213 - Finance	Totex
261 - Legal Services	Totex

262 - People & Culture	People
266 - Corporate GM	Totex
271 - Procurement	Totex
272 - Commercial Manager	Totex
270 - Risk & Resilience	Totex
109 - Info Management and Improvements.	Totex
269 - Info & Comm Tech	Totex
273 - ICT Program Delivery	Totex
690 - Billing and Compliance	Customers (number or revenue)
703 - Brisbane Office	People
Other	Totex

Source: AtkinsRéalis. Cost centres taken from Sunwater document 'RFI_68_QCA RFI data labour charging (2)'

The impacts of changing cost allocators to direct totex are assessed below. The effect would have been to reduce the corporate costs allocated to regulated activities by a relatively significant amount (47% or $6.9M p.a. on a like-for-like basis in FY23). This impact may increase if Sunwater's capital program increases significantly as envisaged. It would also have been greater if the 'Customer' allocator were based on billed value rather than customer numbers.

However, we also note that corporate support costs allocated to regulated schemes in FY23 would have been similar under method 4 without under-recovery ($14.6M) to the actual costs allocated under the current method with under-recovery ($14.7M).

Table 3-19 – Potential impacts of using totex as allocator (method 4) $M nominal

	2021	2022	2023
Allocators			
Regulated direct totex as % of Sunwater direct totex	18%	26%	23%
Share of corporate costs taken by reg activities	37%	29%	26%
Share of customers in regulated schemes	96%	96%	96%
Method 4 approach			
Total corporate cost allocated on basis of totex	30.0	38.1	46.1
Total corporate cost allocated on basis of customers	2.5	1.5	1.9
Other corporate cost (allocated using current method)	6.9	9.4	7.8
Regulated corporate costs under Method 4 [no under-recovery]	**10.3**	**14.0**	**14.6**
Regulated corporate costs under Method 4- with under-recovery	***8.9***	***7.7***	***7.8***
Current method			
Regulated corporate costs under current method [no under-recovery]	16.9	25.9	27.6
Regulated corporate costs under current method with under-recovery (actuals)	*14.6*	*14.2*	*14.7*
Impact of method 4 on regulated corporate costs (opex and renewals)			
Removing the effect of under-recovery	-6.5	-12.0	-13.0
With under-recovery	*-5.7*	*-6.6*	*-6.9*

Source: Analysis of Sunwater spreadsheet 'RFI_68_QCA RFI data labour charging (2)' and SFM v2242. Customer share taken from Sunwater spreadsheet '05 CASPr Cost Estimates for Operations_mp - Final Values'

Note: 'Share of corporate costs taken by reg activities' includes both opex and renewals and is a percentage of total corporate costs including those which have been under-recovered.

In conclusion:

- Sunwater's business has evolved significantly since 2020 and continues to evolve as total (Sunwater level) non-direct costs have grown and Sunwater expects to deliver a larger number of significant projects. This increases the importance of an appropriate approach to cost-allocation.
- We have examined other rural utilities' allocation of non-direct costs. There is not a single common approach. However, none of the other rural utilities examined is using direct labour as the main allocator for non-direct costs, with 'labour and contractor' or totex costs more commonly used.
- Ideally non-direct costs should be allocated on the basis of causality wherever possible. We do not consider the use of direct labour as the principal allocator highly causal. Costs such as corporate information management, data analytics and procurement are not generally causally linked to direct labour costs.
- We consider that it would be beneficial to move to a more causal allocation approach with appropriate cost allocators identified for different cost areas, especially as Sunwater is projecting significant increases in total expenditure. Using totex to allocate costs such as procurement, legal, stakeholder engagement and corporate capability improvement would seem more equitable and causal than use of direct labour given that significant capital schemes require a lot of central support and generally have a high proportion of contracted costs. It would also better align Sunwater with other rural utilities.
- However, we recognise that this will require time to develop and embed. **We therefore recommend that Sunwater transition to a causal approach over the next two years to allow time before the next review to have a robust understanding of costs.**
- We have assessed the potential impacts of moving to a partially causal approach (method 4). This suggests that, without under-recovery, regulated non-direct costs would be lower under this approach. However, because of the under-recovery of non-direct costs applied by Sunwater it appears that the impact on FY23 would have been minimal. It could have a much more significant impact in future with Sunwater expecting to delivery significant capital schemes which are not expected to fall within the regulated irrigation pricing.
- Sunwater is proposing to amend its cost allocation approach by allocating CASPr costs based on customer numbers. It is not clear to us that a piece-meal approach to amending the treatment of a single corporate project is appropriate and results in a more causal allocation. We consider that it would be more appropriate to carry out changes to cost allocation more broadly so that the aggregate effect is stronger causality. We have therefore recommended applying the current approach to incorporate the impact of CASPr costs until a more causal allocation approach is in place.

3.8 Summary of recommended adjustments

We summarise below the adjustments recommended in the sections above. The table summarises both the assessment of the total Sunwater cost impact and the impact on regulated irrigation scheme opex. Total Sunwater costs have been allocated to regulated irrigation scheme opex based on the proportion of total costs in FY23, i.e. 22% of corporate costs and 39% of indirect costs, consistent with our recommendation that the current approach to cost allocation be retained until a more causal approach is in place.

We have also recommended an adjustment which is not set out above. As indirect costs are below the QCA 2020 recommendation we have made a 'balancing adjustment' to reflect this lower level of regulated indirect opex and to transfer this allowance to corporate support costs. We consider this to be reasonable as (1) we consider that there is some fungibility between corporate and indirect costs and (2) it has no net impact on our recommended non-direct regulated opex but better aligns it with Sunwater's recent actuals.

Table 3-20 – Summary of recommended non-direct cost adjustments and their impact on regulated opex ($FY23 M)

Cost type	Non-direct cost type	Cost (Sunwater total)	Cost (irrigation scheme opex)	Explanation
Cyber security	Corporate	+$1.8M	+$0.4M	Additional cyber risk and associated legislative requirements
Enterprise Portfolio Management Office	Corporate	+$1.1M	+$0.2M	Improved portfolio, program and project management in response to external drivers such as Arc Flash and Dam Safety
Stakeholder relation	Corporate	+$0.6M	+$0.1M	Improved customer engagement and promoting respect and recognition of First Nations peoples
CASPr step change	Corporate	+$0.0M	+$0.0M	Offset by the end of the Orion depreciation charge
Orion depreciation charge (cost neutral transfer at Sunwater total cost level)	Indirect Corporate	-$2.0M +$2.0M	-$0.8M +$0.4M	Orion (coded as indirect) is being discontinued and replaced by CASPr (coded as corporate)
Safety expenditure	Indirect	+$0.9M	+$0.4M	Safety responsibilities and focus have materially evolved since 2020
Dam safety	Indirect	+$0.6M	+$0.4M	New guidelines in 2021 have required additional dam safety management activities
Balancing transfer of cost from indirect to corporate support	Indirect Corporate	n/a	-$2.6M +$2.6M	The adjustment aligns recommended indirect regulated opex with FY23 outturn to reflect the changes in coding and cost allocation affecting the balance of costs between indirect and corporate.
TOTAL		+$5.1M	+$1.0M	

Source: Analysis of Sunwater spreadsheets 'RFI_68_QCA RFI data labour charging (2)' and '09 OPEX_Electricity_Final Values'

The recommended amendments to non-direct cost rates applied by Sunwater are summarised in the tables below. These have been used to amend the proposed non-direct costs for renewals discussed in Section 6.

Table 3-21 – Summary of recommended adjustments to non-direct cost rates ($FY23 M)

	Corporate	Indirect	Local overhead
A. QCA recommended FY23 opex allowance	8.7	8.9	6.6
B. Outturn FY23 allocated opex [understood to be the basis of projected uplifts]	12.1	6.2	8.2
C. Sunwater proposed opex including CASPr	13.6	6.2	8.2
D. Recommended adjustment to QCA's 2020 recommendation	3.7	-2.7	0.0
E. Recommended opex allowance [A + D]	12.4	6.2	6.6
Recommended adjustment to Sunwater proposed non-direct cost rates [E divided by B]	103%	100%	81%

Source: Analysis of Sunwater spreadsheets 'RFI_68_QCA RFI data labour charging (2)' and '09 OPEX_Electricity_Final Values'

The recommended labour uplifts for renewals expenditure are summarised below. We have applied the local overhead uplifts as a single uplift rate across the operations areas as the renewals expenditure projections are not organised into regions and the uplift figures applied in FY23 are similar (see Table 3-2).

Table 3-22 – Summary of recommended non-direct cost labour uplifts for renewals expenditure

	Corporate	Indirect	Local overhead
Sunwater FY23 rate	95%	46% for bulk supply Schemes 35% for distribution schemes	64% (average of Operations North, Central, Bundaberg and South)
Recommended adjustment to Sunwater proposed non-direct cost rates (from Table above)	103%	100%	81%
Recommended labour uplift rate	**98%**	**46% for bulk supply schemes** **35% for distribution schemes**	**52%**

Source: Analysis of Sunwater spreadsheets 'RFI_68_QCA RFI data labour charging (2)' and '09 OPEX_Electricity_Final Values'

3.9 Recommended non-direct costs

Our findings are summarised below:

- Total Sunwater non-direct costs have increased significantly (by 52% in real terms) since FY20. The greater part (68%) of the increase relates to ICT costs (or 50% excluding CASPr)[69]. The rest is a broad-based real terms increase in costs across most cost centres. This has led to regulated non-direct opex being $2.2M higher than QCA's recommendation in FY23.

- Benchmarking suggests that Sunwater is not obviously more efficient that other rural utilities. Comparing costs is difficult because of differing definitions, scale, service areas and maturity. However, we note that on some measures Sunwater appears to have high corporate costs.

- In 2020 QCA set an efficient level of non-direct expenditure for rural irrigation for the current price path period. In examining whether increases in expenditure are justified or not we have considered the cost drivers and if they are caused by exogenous or endogenous factors. We have recommended accepting increases due to exogenous factors related to Cyber security, the Enterprise Portfolio Management Office, Stakeholder relations, Safety expenditure and Dam safety. We have also recommended amendments to reallocate costs between indirect and corporate support costs.

- As discussed above, it is not clear to us that a piece-meal approach to amending the treatment of a single corporate project such as CASPr is appropriate and results in a more causal allocation. We have recommended applying the current approach to incorporate the impact of CASPr costs until a more causal

[69] $24.5M real terms increase in ICT related codes 109, 269 and 273 between FY19 and FY23 compared to an overall increase in non-direct costs of $43.3M, based on analysis of Sunwater spreadsheet 'RFI_68_QCA RFI data labour charging (2)'. The increase is reduced to $18.4M if CASPr is excluded.

allocation approach is in place. We consider that implementation of CASPr will lead to an increase in total Sunwater corporate costs (recurrent and amortisation) which is approximately equal to the amortisation charge for the Orion system which it replaces. We have not therefore recommended a step change in expenditure associated with CASPr as set out in Section 3.6.1 above.

- We have not recommended any changes to take account of total direct labour costs changes. That is because (1) QCA set an efficient level of total non-direct costs in 2020 and we have examined whether variance from that allowance is due to endogenous or exogenous factors and (2) we have not been persuaded of material exogenous drivers for either increased direct labour (see Section 5.3.3) or non-direct support to labour.

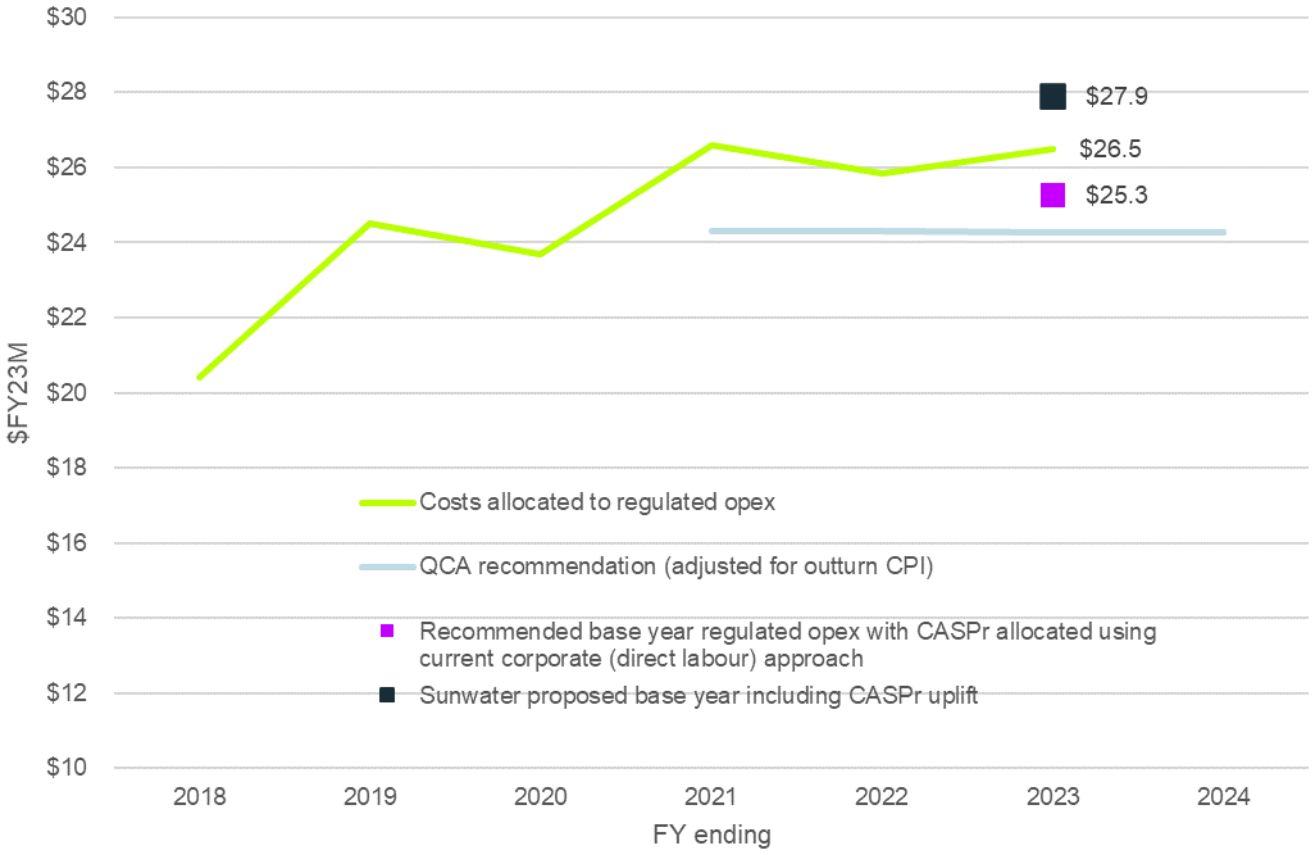
- We consider that it would be beneficial to move to a more causal cost allocation approach with appropriate cost allocators identified for different cost areas, especially as Sunwater is projecting significant increases in total expenditure. We recommend that Sunwater transitions to a causal approach over the next two years to allow time before the next review to have a robust understanding of costs.

- The recommended base year non-direct opex is summarised below. We recognise that it may take time to implement a more causal cost allocation approach and have therefore used Sunwater's current cost allocation approach (i.e. direct labour) in making this recommendation. We have not taken recent under-recovery into account in this assessment as (a) we understand from discussions with Sunwater that it is likely due to direct labour costs not having grown by as much as expected outside of regulated activities and (b) the initial modelling of the potential impacts of moving to a more causal allocation suggests that regulated costs would be lower than the current approach even with no under-recovery.

- This recommendation suggests **non-direct costs 4% higher than QCA's 2020 recommendation, but 5% less than current cost levels and 9% less than proposed by Sunwater (5% less than Sunwater's proposed non-directs before the proposed CASPr step change).**

- We have also recommended amending the non-direct cost rates applied to renewals expenditure as set out in Section 6 using the rates defined in Table 3-21 above.

Figure 3-29 – Non-direct regulated opex compared to QCA's recommendation ($FY23 M)



Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values
Note: truncated y-axis.

Cost escalation of non-direct costs is addressed in Section 5.5.6 and the potential for future efficiency is discussed in Section 5.6.

3.10 Ex-post review of FY19 step-change

In 2019, Sunwater proposed an addition of $0.4M for new managerial roles within teams including "People and Transformation". The additional managerial roles for People & Transformation were in response to a review of organisational structure in early 2018, after which it had merged its Health, Safety, Environment and Quality function with its People and Transformation function apparently to ensure cultural alignment of these functions across the organisation, and consistency in communication with customers and other stakeholders.

In its review AECOM considered that Sunwater had not quantified the benefits expected to be achieved for the new roles in People and Transformation and change management[70].

In its report, QCA recommended conditional acceptance:

[70] "Rural Irrigation Operational Expenditure Review – Sunwater" 30 Jan 2020

> *With regard to the new roles in People and Transformation and change management, we consider that the quantification of benefits associated with these expenditures would be difficult at this stage. On this basis, we are prepared to treat these expenditures as efficient* ***provided Sunwater puts in place processes to enable it to quantify the associated benefits as they emerge*** [our bolding]

Sunwater also proposed inclusion of expenditure in the People and Transformation cost centre to account for a cultural development plan ($0.4M) and safety programs ($0.3M). AECOM noted that Sunwater had not identified offsetting efficiency gains and determined the expenditures to be inefficient.

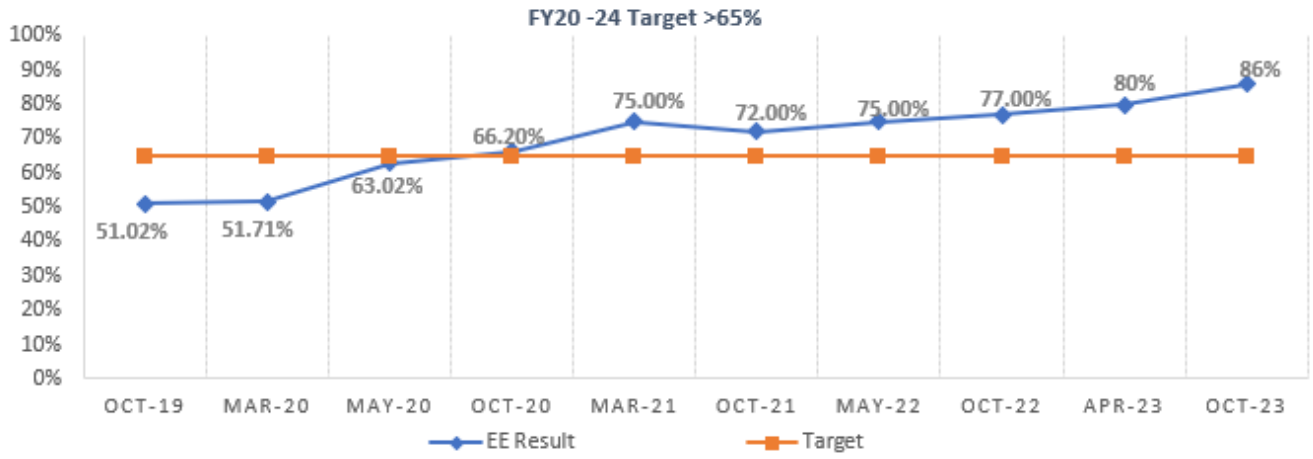
Similar to the managerial roles, QCA recommended conditional acceptance:

> *We consider that it would be difficult to quantify the value of future benefits associated with these programs at this time. However, as they are likely to lead to quantifiable benefits and the associated expenditure is relatively modest, we are prepared to treat these expenditures as efficient* ***provided Sunwater puts in place processes to enable it to quantify the associated benefits as they emerge*** [our bolding]***.***

We asked Sunwater to provide details of the quantified benefits of both of these additional expenditure areas. Its response[71] sets out a number of ways in which it measures the benefits. These include the following:

- Sunwater explained that it completes an employee engagement survey every six months (approximately) and a more detailed Organisational Cultural Inventory (OCI) every four years. Employee engagement appears to have been on an improving trend since late 2019 (see below).

Figure 3-30 – Sunwater employee engagement measure

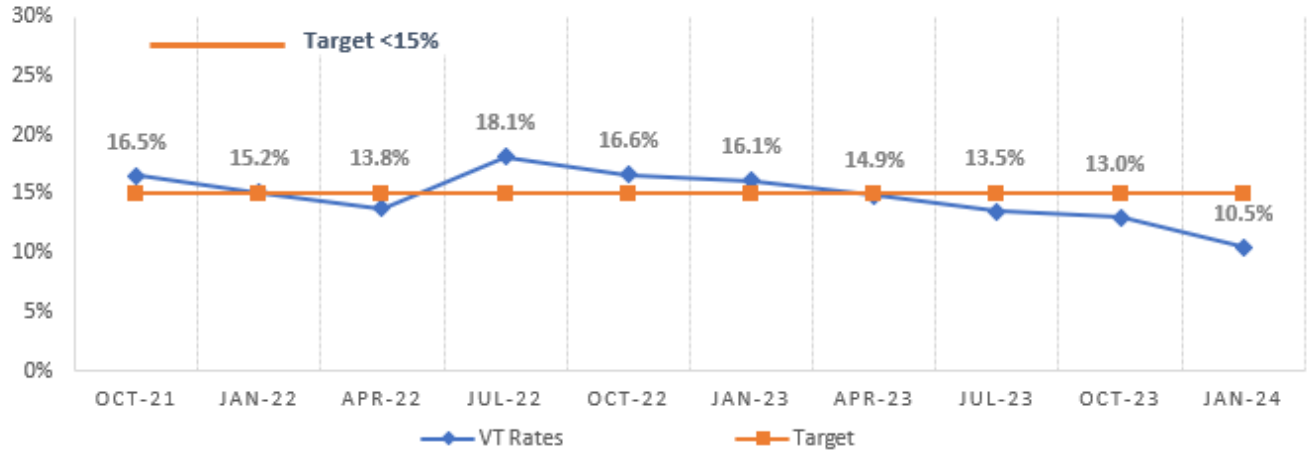


Source: Sunwater document 'RFI_106_107_Opex step change (People and Transformation)'

- Sunwater also provided voluntary turnover rates since it "*commenced measuring the impact of the cultural development programs"*. The timeseries is shorter and the trend is less clear than for employee engagement. It is also likely to be affected by external sectoral, regional and national economic factors.

[71] Sunwater document 'RFI_106_107_Opex step change(People and Transformation)'

Figure 3-31 – Sunwater voluntary turnover rates



Source: Sunwater document 'RFI_106_107_Opex step change(People and Transformation)'

- Health & safety metrics including:
    - tracking of 'leading indicators' such as high priority action and assurance activity.
    - reductions in Workcover premiums associated with injury management and return to work procedure implementation, as evidenced by the $210k p.a. saving outlined in Appendix A of the Corporate Plan 2024-28.
    - Total Recordable Injury Frequency Rate (TRIFR) and Lost Time Injury Frequency Rates (LTIFR) which have apparently decreased substantially since 2018, with TRIFR reduced from 13 to 5.7, and LTIFR from 6 to 0.9.
    - Although not explicitly addressed in the response document it appears that Sunwater was missing its target for TRIFR and the All-Injury Frequency Rate (AIFR) in its latest Quarterly Report to Shareholding Ministers.

We recognise that the additional activities proposed in 2019 can have benefits across multiple dimensions. We consider that:

- the metrics being used to quantify health & safety performance and benefits appear reasonable.
- the metrics presented to us for quantification of culture and, more generally, people & transformation, benefits are very simple. We would expect to see greater range and depth to the metrics to enable measurement of the benefits of cultural and transformation initiatives. Potential examples include measures of employee experience, leadership and change, safety and values culture, capability assessment, skills and career development, etc. It is possible that some of this information is contained in the OCI reporting. However, as this is only every four years, it is not likely to be sufficiently granular for measuring program benefits. Voluntary turnover statistics are valuable but affected by so many other factors that it makes it hard to separate out benefits of specific initiatives.

We also note that environment and quality, which were part of the original reorganisation, do not figure in these metrics.

We therefore conclude that, whilst some attempt has been made to quantify benefits related to People and Transformation, there remains significant room for improvement, especially as related to the depth and breadth of culture and transformation and environment and quality performance and benefits. However, we consider that the health & safety metrics and implementation of the employee engagement survey are sufficient to enable us to conclude that, on the specific question set out in the 2020 report for both step changes, Sunwater has put *'in place processes to enable it to quantify'* the main associated benefits and that the expenditure should be treated as prudent.

4. Technology

This section discusses Sunwater's expenditure relating to technology. There are findings on Sunwater's approach to managing Information and Communication Technologies (ICT) and Operational Technology (OT) at a programme level. The section also considers expenditure related to the implementation and operating costs of CASPr. Key findings include:

Maturity: Overall, Sunwater's strategic priorities and programs reflect similar trends and priorities being identified or that have already been implemented across the water sector in Australia and also in other advanced countries. We think the strategy for Operational Technology and the Target State Operating Model could be considered somewhat passive as it focuses on enhancing insights and improving decision making rather than focusing on how technology could automate processes and drive business efficiencies.

Cost estimation: Sunwater's level of maturity in estimating costs and managing project delivery both at the time of the last review and during the current price path left significant room for improvement. There has been significant cost overrun in ICT projects with the top five projects (excluding CASPr) having seen an average cost increase of 118%, i.e. 2.2 times the initial business case.

CASPr:

Need: We concur with the need for replacing the billing system and implementing a CRM solution. However, we are not satisfied it is being delivered in a prudent and efficient way and that a better value option was not possible.

Costs: The ability to estimate the potential costs for implementing the project were lacking and did not enable or facilitate effective decision making. It should have been evident to those with only a basic understanding of billing and CRM implementations that the earliest forecasts $0.5-$1M and $3M were not credible budgets.

[redacted]

We are recommending that the regulated value for the build costs should be reduced to the January 2022 value of $18.5M.

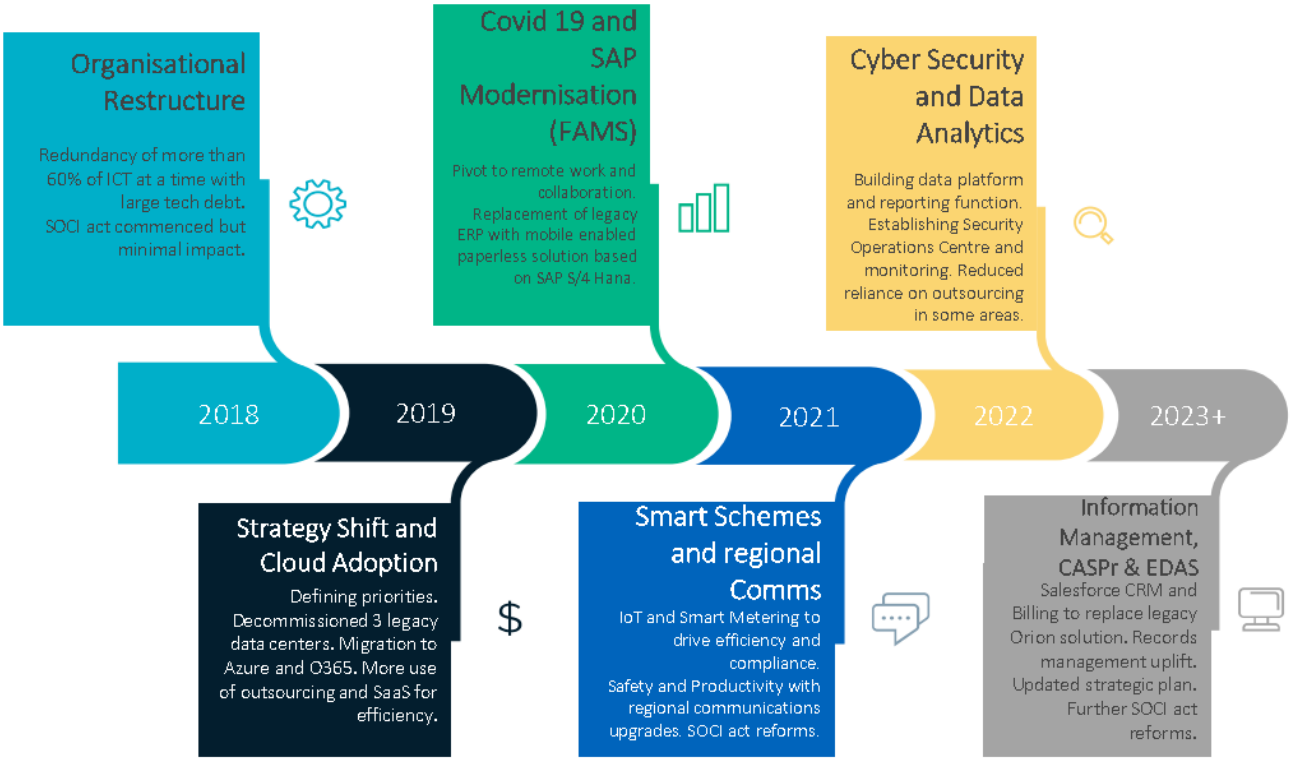
4.1 Information, Communications and Operational Technology

4.1.1 Overview of Sunwater's maturity and approach

Sunwater's technology capability and maturity level would have been considered low at the time of the last price review and it has been slowly but steadily improving since then. This is illustrated by considering one of the well-known benchmarks, the Gartner score, which has a range of 1 (Low) to 5 (High) for assessing maturity. We discussed Sunwater's assessment in which it currently scores itself at 3 across most of the criteria, with some areas at 2. We concurred that it is not necessary, or even desired, to set a goal to achieve 4s or 5s across the board; this is because the effort and potential investment required would not be considered efficient or even appropriate for the services and activities provided by Sunwater, and also where it is required, this support can be sought on a short-term basis. Sunwater's technology capability and maturity level is also further illustrated by weaknesses in cost estimating ICT projects during the current price path and the step change in the level of investment initially and subsequently presented to us for the future price path (see section 4.1.2).

The timeline below captures at a high level the key changes and challenges within the ICT landscape. This includes a major restructure and the need to build up the in-house capability again from scratch and can be broken down into three distinct phases. Essentially the 2018 to 2021 period has been described by Sunwater as setting the foundations for a well-run utility to have in place the basic systems to support the business. There were a lot of paper-based and offline processes and Sunwater implemented foundation technologies like O365, Azure, Windows 10, Citrix as well as rationalisation of its Data Centre operations.

Figure 4-1 – ICT timeline highlighting major milestones



Source: Sunwater ICT QCA Presentation, February 2024

Between 2021 to 2023 the focus was on “regulatory alignment” with its cyber security programme and application modernisation to meet a mixture of State, industry or other legislative standards and obligations. This has involved investment in its Enterprise Resource Planning system (referred to as FAMS, a SAP product), the Customer and Stakeholder Project (CASPr) billing and CRM solution, which is captured as a standalone item for review in Section 4.2, as well as Asset Management Performance Management.

From 2023 and into the next price path, the focus shifts to more transformative and innovative technology leveraging on the foundations that have been put in place over the previous five years (data and analytics, Customer apps and portals, integration and automation).

The key business outcomes that ICT is supporting are:

1. Actionable data that is high quality, trusted and insightful
2. Quality, streamlined and relationship-based experience across its different channels
3. Trust in systems, information and people, secured and accessible
4. Employees enabled in the office or in the field, with their device of choice
5. Efficient value chain through greater understanding of Sunwater’s assets and processes
6. Technology organisation aligns to business need and value
7. Material risk mitigation

Overall, this aligns with what would be expected in a well-run utility where ICT provides a service and acts as an enabler to the rest of the business. There is acknowledgement of customers in Outcome 2 although we think there could be a stronger emphasis in putting customers at the heart of everything, which may shape the projects and benefits of the digital investments in a different way (see also our comments on CASPr in Section 4.2.5). We also note that Outcomes 5, 6 and 7 support directly or indirectly the objectives of this efficiency review, although we would suggest a new outcome could more explicitly capture the role of technology as an enabler for achieving efficiencies and which results in a reduction in costs, or at least a reduction in the level of any increase in costs.

While individual projects will have their own metrics by which success is measured, it was also positive to see there are also some specific ICT related KPIs to monitor and measure performance:

- Service desk availability
- Customer satisfaction (internal staff)
- Patching compliance
- Project delivery in relation to green projects

We also considered Operational Technology (OT), which would be defined as *“hardware and software that detects or causes a change, through the direct monitoring and/or control of industrial equipment, assets, processes and events”*[72]. This includes SCADA, telemetry, Internet of Things (IoT) and Machine Learning, and allows for an automation of processes. It varies from one water utility to another where this budget sits, which can make benchmarking challenging. In Sunwater’s case, this expenditure falls under Project budgets rather than sitting under Corporate expenditure so it is not included in the analysis in the next section.

Overall, Sunwater’s strategic priorities and programs reflect similar trends and priorities being identified or that have already been implemented across the water sector in Australia and also in other advanced countries. In terms of the pace of its digital transformation, Sunwater would be considered as somewhat behind the curve on leveraging technology to deliver efficiencies and to transform operational delivery (e.g. Telemetry, IoT) but we recognise that there are also risks associated with being an early adopter and investing in unproven technology. We consider therefore that the pace adopted to have been broadly appropriate given Sunwater’s current level of ICT maturity and

[72] Source: Definition of Operational Technology (OT) - Gartner Information Technology Glossary

its capacity to deliver large programs of change, when also combined with the need to prioritise within the constraints of a budget envelope. However, we think the strategy for OT and the Target State Operating Model[73] could be considered somewhat passive as it focuses on enhancing insights and improving decision making rather than focusing on how technology could automate processes and drive business efficiencies.

4.1.2 Historic and future expenditure

We have already identified that Sunwater was starting from a low base in terms of maturity and technology at the beginning of the current price period. There were staffing issues to address as well as the basic security and performance requirements and a long list of operational requirements. Digital solutions can also be attractive, which if not carefully managed, can have a pull of its own. The level of expenditure has therefore seen a significant increase both compared with the previous price path, the level of expenditure originally proposed for the current price path and then the forecast for the next path as captured below (this includes CASPr expenditure which is discussed under separate cover, in Section 4.2).

For actual expenditure up to FY2023, the ICT spend across Information Management and ICT Program Delivery has increased by 100% and Information & Communication Technology by 34% compared with Sunwater's original proposals. We discuss this in Section 3.3.2.1. We have also seen various iterations of the ICT total expenditure (totex) for the future price path with some significant increases between the different iterations. This has been explained by Sunwater adopting a much more robust and mature approach:

> *In the 2023/24 year, ultimately informing the 2025 forecast, Sunwater took a different approach to planning in that it focussed on projects as a big driver of activity across the organisation. This focus is part of Sunwater's ongoing drive to improve business maturity in the areas of planning and cost forecasting and was supported by the establishment of portfolios to manage the project activity of the business. This switch from what was a bottom-up budget build resulted in an increased level of consideration of the activities that would be delivered through the portfolios over a longer horizon. Technology portfolio reviewed its pipeline activity over this longer period rather than the more reactive 12-18 month period that had been considered in other budgets. This also corresponded with the development of the Technology Delivery roadmap that charted expected activity priorities over the medium to longer term. This change in process and focus resulted in a more complete 5 to 10 year plan of activities that then would inform how the program would be resourced.*[74]

Table 4-1 – ICT Total Expenditure (Totex) by Year and Average over Price Paths ($FY23 M)

Financial Year ($M)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
ICT totex	10.7	8.8	8.6	15.9	26.3	33.2	74.9	63.5	49.3	49.8	51.3	51.9

Price Path ($M)	Current (2021 to 2025)	Future (2026 to 2029)
ICT totex	213.8	202.4
Average ICT totex per year	42.8	50.6

Sources: RFI 57 OH Support ICT information pack 'Total ICT' and RFI 57 ICT Forecast 2024-2029

The essential point from the perspective of Sunwater's Irrigation Pricing Proposal is that it is not seeking 100% recovery of its support costs for the future price path. Values from the 2023 Corporate Plan for the future price period were the basis of Sunwater's calculation of overhead recovery rates. Overhead recovery rates were not adjusted for the revised investment levels set out above and *"…to the extent that forecasts are now higher, this represents a higher*

[73] Source: RFI 54 Technology Strategic Roadmap 2023 – 2030.
[74] Email correspondence with Sunwater on 21st March 2024 responding to queries we had made to aid our understanding.

level of expected under-recovery over the price path period".[75] However, it should be noted that the significant increase in ICT costs could impact on Irrigation customers at the next price review because the base year costs would be considerably higher.

We capture below the core projects that have been completed in the current price path and will either be carried on or are planned for the future price path alongside the business-as-usual renewal of ICT equipment such as laptops and mobile telephones.

Table 4-2 – Core Projects mapped against Strategic Goals and Price Paths

Strategic Goals	Core Projects	Price Path
Data driven	Enterprise Data and Analytics Service	Current Price Path
	Information Management Maturity Uplift Program	Current Price Path
	Geospatial	Current Price Path
Customer alignment enablement	CASPr	Current Price Path[76]
	Property Database	Current Price Path
	Sunwater External Website Uplift	Current Price Path
Secure and resilient	Cyber Program	Current and Future Price Paths
	Data Classification and Loss Prevention	Current Price Path
	OT Monitoring and Asset Discovery	Current Price Path
Technology enabled workforce	Network Upgrade Program	Current and Future Price Paths
	Fieldworker Enablement	Current Price Path
	SAP Asset Management Tool Upgrade	Current Price Path
Smart technology adoption and automation	Smart Schemes	Current and Future Price Paths
	Dam Safety Instrumentation Upgrade	Current and Future Price Paths
	Back to base intelligence	Current Price Path
Optimised services and platforms for business	Enterprise Procurement and Contract System (EPACS)	Current Price Path
	Asset Performance Management and Reporting	Current Price Path

Source: Analysis from Sunwater ICT QCA Presentation February 2024 based on discussions during interviews

In order to better understand the maturity of the cost estimating on major ICT projects, we asked Sunwater to provide information on the top five other ICT investments completed over the current price path (excluding CASPr). This included the original cost identified in the business case, any subsequent revisions of the cost and confirmation of the outturn costs.

[75] Ibid.

[76] Also Section 6.2 which explains how Sunwater is proposing to treat this expenditure.

Table 4-3 – Top five ICT investments in current price path (excluding CASPr) ($M Nominal)

Project	Business Case	Variation 1	Variation 2	Variation 3	Variation 4	Final Cost	% change
BIM	0.1	0.6	0.8	1.6	2.0	2.0	2868%
SWMS / MPO	1	1.9	2.4	2.5		2.5	145%
PIP	1.3	2.3	3.8	3.9		3.9	202%
EDAS	8.6	13.3				13.3	55%
FAMS	6.1	9.4	11.2	13.7		15.4	152%
Total	**17.1**					**37.1**	**118%**

Source: RFI 88 ICT cost estimating and implementation

It is important to note that FAMS, BIM, SWMS / MPO were all initiated in the previous price path. Following the appointment of a new Chief Information Officer in late 2020, a maturity assessment was undertaken, which led to management action from 2021 onwards to address the lack of maturity in cost estimating and ICT project management. Highlights identified in RFI 88 are captured below, which should also be considered alongside our findings for CASPr:

- *Technology PMO formed under the GM Project Delivery to appropriately govern and administer projects in the portfolio.*
- *Project manager capability reviewed, and changes made to the resourcing to ensure Sunwater had the right talent assigned to each project.*
- *Solution Architecture function added to ensure individual solutions were designed appropriately to meet business requirements.*
- *The use of Project Online reviewed and improvements made to the way projects are reported, risks and issues captured, and projects managed. Resulting in more accurate status reporting monthly.*
- *Document standards and templates created and mandated for all project phases. Document storage locations also mandated for ease of location and maintenance.*
- *Procurement Team reviewed and adjusted their ICT Capability and capacity to ensure that the Technology program of work was sufficiently supported.*
- *Full review of Project Delivery Function completed, with appropriate mix of PMO resources, Project Managers, Business Analysts and Solution Architects implemented to enable smooth delivery of projects from pipeline to completion.*
- *Changes to governance structure for Business Systems/Technology initiatives that replaced Strategic Work Program 3 with the Technology Portfolio Committee which reports into the Investment Committee and then Board.*
- *Sunwater's P3MF methodology tweaked to add a Technology focus resulting in the Technology P3M Framework signed off for use in Technology project delivery.*
- *Project and Portfolio reporting enhanced through new reports provided by the Enterprise Data and Analytics Solution (EDAS).*

In terms of the future price path, we reviewed Sunwater's approach to prioritising investment to understand if it is working within a constrained budget for ICT Program Delivery (this is the budget for delivering new technology and solutions, one of the three budget lines). We were taken through the MoSCoW prioritisation method that Sunwater has used to identify "must have", "should have", "could have" and "will not have" for 160 potential investment areas, which considers which projects provide the best return on investment and/or are mandatory requirements. Sunwater has set a totex budget at $20M per year excluding CASPr on consultation with Executive Leadership and *"at the current time, in FY25 planning, this will result in only the must do projects being delivered with few "could do" projects*

currently being included in the pipeline for consideration." [77] We concur that this appears to be a prudent approach for future expenditure.

Benchmarking ICT expenditure allows us to draw out some useful comparators for analysis, although there are some limitations[78] which means it can be somewhat of a blunt instrument. This means that any insights should only be used as an additional tool to support analysis and decisions about efficiency when considered alongside other Sunwater specific evidence.

Table 4-4 – Sunwater analysis of ICT totex as a percentage of total revenue ($FY23 M)

Financial Year ($M)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
ICT totex	10.7	8.8	8.6	15.9	26.3	33.2	74.9	63.5	49.3	49.8	51.3	51.9
Sunwater total revenue[79]	191.0	211.1	256.9	442.5	316.4	380.0	384.8	518.7	757.1	1093.3	1523.8	2039.1
ICT as % of revenue	5.6%	4.2%	3.3%	3.6%	8.3%	8.7%	19.5%	12.3%	6.5%	4.6%	3.4%	2.5%

Sources: RFI 57 OH Support ICT information pack 'Total ICT' and RFI 57 ICT Forecast 2024-2029 and Service Contract data (SFM v2243) - Summary by SC by year (QCA AtkinsRéalis analysis)

Price Path ($M)	Current (2021 to 2025)	Future (2026 to 2029)
Total revenue	2,042	5,413
ICT totex as a % of Sunwater total revenue	10.5%	3.7%

[77] Email correspondence with Sunwater on 21st March 2024 responding to queries we had made to aid our understanding.

[78] Limitations include: (1) Some qualitatively different characteristics between urban water utilities with a largely residential customer base compared with bulk water suppliers like Sunwater and Water NSW; (2) Some water utilities include OT expenditure in their IT budgets which would mean they are significantly larger, while in other utilities these costs sit within projects, as is the case with Sunwater; (3) There are sometimes limited opportunities for economies of scale with ICT expenditure so relatively small organisations have to spend a larger proportion of their total expenditure to address the same needs or requirements; and (4) Businesses may be at different points in their investment cycles and level of IT maturity.

[79] The historic figures are actual revenues, the future revenue figures are projections taken from Sunwater's financial model.

Table 4-5 – Technology spend benchmarking analysis from Australia, UK and globally

Comparisons	Technology totex as % of Total	Costs or revenue?
Gartner survey of global mid-sized utilities (2022)	4.2%	Total revenue
Deloitte CIO cross industry global survey (2018)	3.6%	Total revenue
SA Water Regulatory Business Plan (2023)	3.9%	Total revenue
Yarra Valley Water 2023-28 Price Submission	5.2%[80]	Total revenue
Sydney Water 2021-24 Price Submission	7.7%	Total costs
Northumbrian Water (UK) 2015-2020 Business Plan	3.2%	Total costs
Yorkshire Water (UK) 2015-2020 Business Plan	4.3%	Total costs
Severn Trent Water (UK) 2015-2020 Business Plan	5.0%	Total costs
Anglian Water (UK) 2015-2020 Business Plan	5.0%	Total costs

Sources:
Analysis from FTI Consulting, Review of ICT capital expenditure for SA Water for ESCOSA, November 2023
Analysis from Atkins Cardno Sydney Water Corporation Expenditure and Demand Forecast Review for IPART, 2020
Gartner, "IT Key Metrics Data 2023: Industry Measures - Insights for Midsize Enterprises", December 2022 IT Key Metrics Data 2023: Industry Measures — Insights for Midsize Enterprises (gartner.com)
Deloitte Insights, CIO Insider: Reinventing tech finance: The evolution from IT budgets to technology investments. January 2020, Rethinking traditional technology budgeting processes | Deloitte Insights

The range of technology spend is typically between 3.2% to 5.2% of total costs or revenue. While we have already confirmed that Sunwater was starting from a low base and that it has included a range of transformation initiatives in the current price path, we believe this would be the case too with some of the comparators. Sunwater's spend as a percentage (10.5%) is a significant outlier, even taking into account any limitations of this type of analysis. For the future price path, if the revenue projections from Sunwater's financial model are robust, this would suggest the level of technology investment is consistent with expenditure levels by industry peers. While it may be observed that Sunwater is in fact in the lower range, some of those comparators will be including Operational Technology, which sits under 'Project' expenditure within Sunwater.

4.1.3 Assessment of prudency and efficiency

Overall, we think that Sunwater's level of maturity in estimating costs and managing project delivery both at the time of the last review and during the current price path was sub optimal. It was likely to have impacted the strength of and approval processes for the Business Cases made at the time to justify expenditure. It has resulted in significant cost escalations in the sample of projects we have reviewed, and we would assume that this is reflective of the wider program, at least for projects initiated earlier in the price path. While we recognise the limitations of benchmarking analysis, we believe that this broadly supports and aligns with our findings. We have also highlighted that for both ICT and OT investment, there is more potential for technology to be used to automate processes and drive business efficiencies and which we think an efficient water utility would be prioritising. There are potentially spend-to-save projects which would not require recovery from customers in that the return on investments would pay for themselves by reductions in headcount and other costs. Sunwater has also failed to demonstrate what benefits regulated scheme customers have seen from the increases in ICT expenditure. As set out in Section 3.3.2.1 the only increases in ICT costs since the 2020 review are for cyber risk and associated legislation and CASPr, which is treated separately and covered in the next section.

[80] For Yarra Valley Water, the percentage depends on whether an "at risk" item of expenditure is included or excluded from the analysis. It would be 6.5% if included although FTI Consulting suggested that it was more appropriate to exclude.

In relation to technology, we make the following recommendations:

- Technology costs should in our view have been presented by Sunwater in its submission to QCA as they constitute by far the biggest contribution to Corporate costs and presented broken down by capitalised costs and opex. There has been a shift to opex solutions and there are also potential trade-offs between capex and opex depending on which solution is selected, so it is essential to consider the total expenditure.

- The ability to estimate costs robustly from the early stages of technology development is key to optimal decision making and ensuring that investments reflect value for money. This feeds directly into an assessment of prudence and efficiency. This is an area that has been work in progress for Sunwater.

- Benefits, especially relating to future efficiency savings, delivered by ICT and OT investments are set out in Business Cases and subsequently in Benefits Management Plans, but the approach to tracking and demonstrating their achievement for historic expenditure could be strengthened to better demonstrate confidence in future delivery. Also, if the efficiencies set out in a Business Case are not realised, or only partially realised, this may lead one to conclude that some or all of the expenditure was not prudent hence why this is critical in our view to have visibility on the outcomes of the investments. This learning needs therefore to be translated into improved management of future initiatives[81].

- There is potential for collaboration and partnering on areas of emerging or unproven technology which may be happening, but this was not demonstrated.

- The impact of ICT and OT investments should lead in many cases to demonstrable improvements in Customer and Operational KPIs which Sunwater can be monitored against and therefore be held accountable.

4.2 CASPr

4.2.1 Sunwater's proposal

Sunwater is implementing a Customer and Stakeholder Project (CASPr), the purpose of which is to create a new, integrated solution for customer and stakeholder relationship management, water accounting and billing. In terms of its significance, this is the *"..only one material controllable step change in cost for the next price path"* [82].

The costs associated with the project are [redacted] for the build cost of the new systems and then ongoing annual operating costs of approximately [redacted] p.a. to run the solutions.

Sunwater has set out in its view that "*as the solution impacts all water customers (irrigation customers, standard and non-standard commercial customers and urban customers), [the company] has allocated the capital and operating costs of the project to all customers on a cost per customer basis".* It is proposed to recover the CASPr build costs over what it states is the expected useful life of the asset, which it has concluded is a 20-year period consistent with

[81] In our opinion, it is not easy to track the benefits and thus there could be a clearer line of sight to demonstrate if ICT and OT investments successfully achieve what is set out in Business Cases. Part of the issue is that benefits may not be realised until the next price path (and by the same coin, efficiencies in the current price path may actually be realised from ICT investments made in the previous determination). Another challenge is that it is generally not the ICT team's responsibility to track those benefits, although from our perspective they should form part of the submission made to justify the ICT investments.

[82] Irrigation pricing proposal, November 2023, page 64.

the treatment of other capital assets under a RAB-based approach. The annual operating expenses are treated as opex consistent with their accounting classification. We have set out different approaches to allocation of non-direct costs including for CASPr in Section 3.7 and our recommendations in Section 3.8.

While the exact customer numbers may vary, we have calculated the impact as approximately $696 per year per customer over 20 years (excluding the cost of capital if a RAB model is applied).

Table 4-6 – CASPr total expenditure and per customer estimate (FY23)

Expenditure type	Total	Per Customer[83]
One-off build costs $	[redacted]	$7,623 (or $381 per year)
Ongoing opex $	[redacted]	$315

Source: CASPr Detailed Business Case for costs and analysis of customer numbers in Annual Report Scheme Statistics (2023)

4.2.2 Need and timing

We concur with the need for replacing the billing system and implementing a CRM solution. The billing system was at the end of its useful life and was being withdrawn from the market by the vendor and Sunwater's CRM capability was very basic. In addition to enabling Sunwater to enhance its offering to customers and address staff time inefficiencies, we agree that a CASPr was required in order to:

- address the vulnerability of a business-critical application
- address identified technical and cyber risks, which required active management, mitigation and monitoring by the ICT Operations team (and which it was expected to increase over time)
- address compliance risks with relevant legislative and regulatory requirements

While the implementation of this project has been a key feature of the ICT landscape of Sunwater during this price control period, there is no evidence that the need was foreseen at the time of the last price review. It did not feature in the historic ICT strategy or any of the evidence presented to us. The explanation offered was that Orion was managed by the Customer Service team historically, so the ICT team had little visibility until they took over management in 2020.

Since the first Business Case, where the need and urgency were identified, it is fair to say that the timing of both the procurement and the project implementation has shifted backwards on multiple occasions. It is now materially different from what was originally assumed to be required as a matter of urgency, and which we explain in more detail below does not reflect well on the management of this project. It was first proposed that CASPr would be procured by November 2020, the build solution complete by September 2022 and a "go-live" date of January 2023. Sunwater is now forecasting CASPr will go live in [redacted]

While Sunwater is proposing that expenditure is allocated under the next price control by which point the final close out activities will be completed, it is understood that the go live date and ~99% of expenditure will have been completed in the current price path.

[83] Based on 5,110 irrigation customers although we recognise that the exact number may be slightly different depending on timing and source.

4.2.3 Options assessment and procurement

It is evident throughout the early development and procurement phases of this project that Sunwater did not have knowledge, experience and expertise to make effective and optimal decisions. The evidence to support our assessment can be traced back to key documentation as summarised below as well as information gleaned from interviews with key individuals (notwithstanding that none of the personnel we met were in their roles during those early phases). The main takeaways are as follows:

- The ability to estimate the potential costs for implementing the project were completely lacking and did not enable or facilitate effective decision making.

[redacted]

Table 4-7 – Key CASPr documentation shared with AtkinsRéalis and our findings

Source	Date	Findings
Orion Fit for Purpose Review Business Case	June 2020	The original business case which identified the need to replace the Orion system was very weak. For example: • The differences between the options presented were unclear. • The list of potential suppliers contained inaccuracies and was incomplete. • The estimated costs were not realistic. While the author may have lacked understanding and experience, the individuals who reviewed and ultimately approved the document should have been able to identify some, if not all, of these weaknesses and looked for them to be addressed in our view.
Customer Relationship Manager (CRM) Metering and Billing Services Procurement Plan	June 2020	There were some significant weaknesses in the approach to procurement in our opinion: • There was no consideration at this key stage of procurement of what other Australian water utilities were deploying to target relevant suppliers and identify likely costs. • The Plan states that a Cloud based solution (SaaS) was expected but it is not clear how that conclusion was reached.

[84] The main options are between:

- A traditional on-premise model characterised by purchased hardware and application software licences which sit behind the customer's firewall and the customer obtains control over the Intellectual Property.
- Software as a Service (SaaS) or Cloud models where the customer only has rights to access application software which sits behind the supplier's firewall. The Cloud provider retains control over all or most of the IP, the extent of which depends on the level and type of configuration and customisation.

		[redacted] • The focus appeared to be only on Tier 1 software providers which would lead to products at the upper end of any cost scale. It was also unclear how the budget moved from $0.5M - $1M to $3M when the two documents were signed off in the same month.
EOI Evaluation and Recommendation Report	December 2020	Sunwater received 17 responses from vendors, all recommending the deployment of software products from Tier 1 software providers. [redacted]
Request for Offer (RFO) Procurement approach	January 2021	We did not consider the risk analysis to be robust or appropriate: • It was not identified as a risk that all eggs had been placed in one basket with the decision to only consider one product for CRM. • There was no reference to or mention of risk to the budget of $3M set at EOI procurement stage, in fact cost is not a consideration. • While 'Implementation complexity and speed' is identified as the major risk, this is not in relation to in-house capability, it is about the vendors not understanding Sunwater.
RFO Evaluation Plan	June 2021	The Evaluation Plan states the objective is to *"identify a solution that can best provide value for money"* but there is no reference to the original budget or any budget constraint. The only consideration of price is in relation to the comparison of Offer prices by the different vendors. The proposed timeline for evaluation was to commence in June and be concluded by the end of September 2021. This is in sharp contrast to the timetable in the original procurement document which had contract award by 31st October 2020.
Request for offer	August 2021	The RFO release date was on 15th April 2021 with an industry briefing one week later and RFO close within one month by 15th May 2021. [redacted] While in this document, the request is clearly defined as Software as a Service with Managed Services, elsewhere there is scope for Infrastructure as a Service or Platform as a Service given as alternative options, although there is no discussion or assessment of these other services seen in any previous documentation shared with us.
Request for offer (Schedule A)	August 2021	This document sets out the requirements of the vendor and software in the form of long list as well as the information to be provided by

		vendors in the template that must be submitted. Our main observation is that "Must Haves" include a very long list of software to integrate with which would increase complexity, risk and ultimately cost.
Water accounting process overview	August 2021	Sunwater has highlighted that its requirements are not standard compared with most other water utilities in Australia and that this adds to the complexity. [redacted]
Probity Report	September 2021	It is unclear why Sunwater commissioned a probity report, whether this was a standard requirement or identified as a risk as a result of a specific issue. Overall, the report concluded that there were no issues of note with the RFO process. It is worth highlighting that the report did not consider the EOI process. However, we do not think the issues we identified above with the EOI process would be classified as issues of probity.
SteerCo Recommendation	September 2021	Three of the four vendors responded to the RFO with offers ranging from $5M to nearly $9M, although this only relates to the vendor and software costs and there is no visibility of the other costs associated with the project in the SteerCo recommendation. It is assumed that the costs in this document relate only to the design and implementation phases and there was no mention of or apparent consideration of the on-going operational costs once the project is implemented in the evaluation process. There was also no reference to the original budget. The contract negotiation period was identified as taking place between September 2021 and May 2022 to finalise first the design and then the build phase.
Project Management Plan	October 2021	[redacted], There is no consideration anywhere in the Project Management Plan of a budget ceiling or any consideration of governance options in relation to budget increases. There are only rather mundane statements under Assumptions and Dependencies that vendor costs may change, but it is also stated that "*Costs for internal and external resources will come down after implementation plan is developed with vendor",* which we think is because it is assumed that the vendor has priced in uncertainty at the upper end of the scale and thus actuals will be lower. Under Key Issues, there is only one stated, which is that *"The overall Project estimated cost exceeds the allocated budget for both FY22 and FY23"* but nothing more is stated about how this will be managed. The dates in the PMP suggest Build solution complete by September 2022 and go-live by January 2023 with Benefits Realisation Report by June 2023.
Recommendation to Award CASPr Contracts	January 2022	The project summary makes no reference to the previous budgets and no explanation as to why the forecast budget has increased again. We assume the difference in costs compared with October 2021 are as a result of negotiations with the vendor once the scope was better understood. [redacted].
Detailed Business Case	March 2023	[redacted] Overall, it is a reasonable document in terms of setting out future activities, risks and the breakdown of costs. We have commented in the next section about the transparency over the changes to the budget and the benchmarking exercise carried out.

4.2.4 Budget

The build cost budget for CASPr has changed by an order of magnitude on multiple occasions since the need was first identified from an initial forecast of $0.5M to $1M to ~$47M. [redacted] Using the proposed asset life of 20 years for CASPr, this would translate into a total investment of ~$73M if the recurrent opex costs were assumed to remain stable over the period.

Table 4-8 – CASPr Build and Ongoing opex costs during project lifecycle ($M)

Date	June 2020[1]	June 2020[2]	October 2021[3]	January 2022[4]	March 2023[5]	November 2023[6]
One-off build costs	$0.5M to $1M	$3M	$15.8M	$18.5M	$39M	$38.6M
Ongoing opex	Not discussed	Not discussed	$1.3M	$1.4M	$1.6M	$1.7M

Sources: [1] Orion Fit for Purpose Review Business Case [2] Procurement Plan- Metering and Billing Services [3] CASPr SteerCo Recommendation (RFO Evaluation) & Project Management Plan [4] Request to award CASPr [5] Detailed Business Case [6] Irrigation pricing proposal

Based on interviews and our review of all the documentation[85] shared with us, we have formed the following view:

- The lack of relevant knowledge, experience and expertise resulted in the budget materially changing at various points in the project lifecycle. It should have been evident to those with only a basic understanding of billing and CRM implementations that the earliest forecasts $0.5-$1M and $3M were not credible budgets.
- That no budget cap or upper limit was ever set and that affordability and best value from a customer perspective were not considered as objectives. The impression appears to be that Sunwater would let the market decide the cost and it is unclear what if any magnitude of cost escalation could trigger a decision to halt the project and to reassess the solution from first principles.
- While the Cost Recovery method was identified as Cost per Customer, there has at no point been any calculation of what that cost would translate into per customer in any documentation (this is the figure of $696 per year over 20 years that we calculated above).
- There was a lack of transparency highlighting the changes in the budget and by extension the reasons for changes in each iteration of the project documentation. The project history is not seen to be 'relevant'. Only information relating to the future activities and the latest iteration of project costs are set out. In particular, there was no documentation to explain the jump in build costs from $18.5M in January 2022 to $39M in March 2023.

[redacted]

The only explanation that has been offered by Sunwater in relation to the increase in costs between January 2022 and March 2023 was in response to our request for additional information, where the following was set out in the cover note alongside the formal documentation:

[85] Documentation includes Business Cases, Procurement Plans, Procurement Evaluations and Project Plans as well as other supporting documentation.

[redacted]

2022 Award -> Contract negotiation phase -> Definition phase

- *Post decision to award* [the contract] *a new project manager was appointed to the project (mid-2022)*
- *The estimate at that stage was circa $17m*
- *New project manager took stock of where the project was at, the level of detail and the degree to which all costs / scope had been accounted for*
- *This review found that the proposal at that time had Sunwater managing interconnectivity related works including via hiring of lot smaller external parties*
- *Project reviews considered this approach to be very high risk*
- *Change in strategy to bring all under prime contractor – better management of risk*
- *The final detailed business case contained a comprehensive scope, plan and cost for this work*

We also note that Sunwater cites in its pricing proposal that it undertook a benchmarking activity[87]; however, we formed the view that:

- the timing was too late: the benchmarking and investigation of options should have been carried out at or nearer the outset of the project, e.g. when the original business case was being prepared, and when it could have informed the initial budget, the approach to procurement and the governance requirements.
- this was not a robust and balanced exercise: it appears to have been designed to justify the revised budget. We also believe it contains some material inaccuracies and that these costs should be excluded ($20M and $200M)[88].
- there is not sufficient evidence to support Sunwater's conclusion that *"the projected costs of CASPr aligned to comparable projects by other Australian water utilities"*. The range of costs from the three examples were between $4.5M to $20M, and there is not compelling evidence to suggest that the additional complexity would lead to such an increase in the build costs to justify a cost of $39M for the initial build.
- the benchmarking does not state or confirm that it is comparing like for like SaaS solutions, i.e. that every other utility is following this model of procurement.

4.2.5 Implementation and benefits

Notwithstanding our other observations, the implementation of the preferred option appears to be being carried out in a reasonable and effective way. The evidence we have seen suggests that Sunwater will deliver the project in line with the forecasts in its Detailed Business Case and as submitted to QCA in its Pricing Proposal.

We did note that the benefits that have been identified are relatively modest. In terms of potential efficiencies, Sunwater is suggesting the number of person-hours saved will be equivalent to nearly 2 FTEs but that it would take until three years after "go live" to realise those full benefits. We were informed that no decision has been taken at this stage as to how to realise those benefits, which could be in redeployment rather than reduced headcount. Benefits to customers did not feature prominently, which surprised us as this suggests that customers will not notice a

[87] Sunwater's benchmarking activity found that: (1) Sunwater's needs were substantially different to that of a standard value chain for an urban water utility; (2) there was additional complexity in the implementation of the CASPr solution as it required functionality above other M2C solutions for urban water utilities; and (3) despite these two findings, the projected costs of CASPr aligned to comparable projects by other Australian water utilities.

[88] We are aware that the costs associated with WNSW and Sydney Water are incorrect as we carried out the reviews of those utilities' expenditure for IPART and the actual values are significant lower. We have no way of confirming if the other values are correct.

significant difference. We think that the new systems should promote a unified customer experience and allow Sunwater to provide a more effective, proactive and responsive service for its customers.

4.2.6 Capitalisation and asset life

Over the last decade there has been a shift in ICT products and services from on premise capital intensive solutions to SaaS and Cloud solutions across all sectors. This creates challenges for regulators because the International Financial Reporting Standards (IFRS) Interpretations Committee decisions in 2019 and 2021 set out different scenarios but overall the thrust of the rulings are that all or at least the majority of SaaS costs should be treated as opex in lieu of being capitalised and depreciated over time where the resulting “asset” was not in the control of the procuring entity. Sunwater is proposing to capitalise its build costs for CASPr in its regulatory submission. Expensing would mean the up-front costs are not recovered from customers.

We understand that this has led to varied interpretations across Australian utilities, with some now treating ICT costs as opex while others continue to capitalise the costs. Below are two recent water utility related case studies from other states in Australia.

Table 4-9 – Case studies from Goulburn Valley Water and SA Water

Water utility	Regulator	Summary
Goulburn Valley Water (GVW)	Essential Services Commission (ESC) Victoria	ESC issued guidance in 2022 which included advice on capitalising expense items: *"We usually expect water businesses' cost forecasts will align with statutory accounting principles. However, businesses may propose to capitalise certain expense items (where it is appropriate) to spread the cost recovery over a longer…This might include expenditure that delivers benefits to customers over a long timeframe. E.g. in the case of a major IT-related project, the development and implementation costs of a new system might be justified as capital expenditure and recovered over the expected life of the new system, while any licencing and ongoing operating costs would remain as operating expenditure".* Notwithstanding above guidance, in 2023 GVW proposed its SaaS costs as opex, but ESC intervened in its draft determination and confirmed they should be capitalised. GVW accepted this change noting *"…. that this treatment has been taken in favour of keeping customer prices low. It is not in line with current Australian Accounting Standards which require SaaS to be treated as operating expenditure."*
SA Water	Essential Services Commission of South Australia (ESCOSA)	In Section 10.1.3 of its 2023 Regulatory Business Plan RD24 Submission SA Water explains its proposed financial treatment of Cloud services is to capitalise such costs, noting that: *"Technology cloud computing expenditure (also referred to as 'software as a service') is being classified as capital expenditure and therefore depreciable, which maintains the RD20 treatment of this expenditure".* In its draft determination, ESCOSA stated that *"the Commission's starting position is that, where control of the cloud-based technology rests with SA Water (for example, it has control over installing and running the cloud-based software) then it would be proper to capitalise cloud-based costs. At the same time, where control of the cloud -based technology rests with the vendor (for example, when the cloud vendor controls the installation and ongoing running costs) then it would be proper that cloud-based costs be treated as operating expenditure"* and *"For the purposes of this draft determination, the Commission has decided that it is prudent and efficient to capitalise cloud-based costs for SAWRD24. However, the Commission expects that for SAWRD28 SA Water's proposal would align its regulatory treatment of cloud-computing costs with accounting standards."*

Sources: GVW and SA Water submissions and guidance and draft determinations from ESC and ESCOSA.

We have summarised below some reasons that the build costs could be considered as either capex or opex from a regulatory perspective. Whether ongoing capitalisation of SaaS and other Cloud service expenditure is appropriate is a decision for QCA to consider.

Table 4-10 – Capex and opex justifications

Capital expenditure justification	**Operational expenditure justification**
• High upfront one-off costs compared to ongoing SaaS charges • Multi-year benefits • Expenditure is recovered from customers (benefit to Sunwater, cost to customers)	• Alignment with accounting standards • Ownership and/or control of the code and system rests with third parties • Uncertainty after the [redacted] contract has terminated

Source: AtkinsRéalis analysis

If QCA rules in favour of capitalisation, the question of the appropriate asset life against which the build costs should be depreciated is also important. We sought to understand the rationale for applying an asset life of 20 years, which Sunwater has proposed. This would be widely accepted as reasonable if this was a purchase / on premise solution over which Sunwater has proprietorship. It has sought a SaaS solution on a [redacted] years contractual arrangement, and while there is a risk with any type of solution being withdrawn by the supplier and thus no long supported, there are in our opinion more risks associated with an arrangement that needs to be renegotiated in [redacted] time. There is the not insignificant matter of whether and when the software suppliers will decide to retire the two solutions being implemented by Sunwater, or at least retire the current versions of the solutions being deployed (which we have seen happening elsewhere). Sunwater provided the following response[89]:

- *Sunwater enters any technology solution aiming for a solution that will last 20 years. This is consistent with our peers and appropriately balances the costs associated with development / implementation and the risk to service quality / change over that time.*
- *Vendor risk of pulling product is the same whether we own or not, and the timing and nature of vendor changes is unpredictable.*
  - *For example, we believe there is a higher likelihood that [redacted] would seek to purchase [redacted] and force Sunwater to migrate than for the termination of the product. Were this to occur the commercial incentive would be for a "migration" rather than a re-build.*
  - *Our current Orion solution has been operating for 15 years.*
  - *Water NSW is using a custom-built solution which is now 25 years old.*
  - *Orion as a product is being discontinued, while Water NSW has had to re-platform its solution on more than one occasion since it commenced with its current billing tool.3.6*
- *There are strong commercial incentives in place for both Sunwater and vendor to make a product "last" for 20 years.*
  - *Neither Sunwater, nor a vendor can afford to discontinue solutions every 5-10 years.*
  - *For Sunwater, a 10-year lifespan would (given the 3–4-year lead time) mean dedicated use of the new solution for no more than 6 years before starting the replacement version. We do not consider this to be a suitable commercial timeframe for either party and expect that a new contract would be a highly likely outcome in [redacted]*
- *In relation to the CASPr project specifically we make the following statements:*
  - *Sunwater is seeking a product that will provide the desired service with minimal "re-build / modification" over the next 20 years.*
  - *There are strong commercial incentives in place for both Sunwater and vendor to make the product "last" for circa 20 years.*
  - *Delivery risk means that Sunwater does not know (and cannot know) whether or not the product will deliver the desired solution.*
  - *An initial contract term of up to [redacted] balances the desire for "certainty" with the risk that we would be stuck with a product that is not performing as intended were we to sign a 15- or 20-year contract from commencement.*
  - *Modifications, rather than a wholesale shift to a "new" product" are more likely, meaning customers can expect to benefit from the build costs over a period of up to 20 years.*
  - *The next irrigation price review that "should" occur in four-years' time, provides an opportunity to revisit the asset life at this time and accelerate its depreciation if this is considered appropriate / desirable.*

We think there is significant uncertainty associated with SaaS solutions in terms of the length of time they will be supported and/or whether new versions that are released will be compatible with the existing configurations and customisations. We are proposing that a 15-year asset life is more appropriate, which aligns with the length of time that the current Orion solution has been operating, and accounts for the uncertainty in the SaaS operating model which involves not one but two products in this case.

[redacted]

[89] RFI 120 CASPr asset life

4.2.7 Assessment of prudency and efficiency

We are not satisfied that this project has been delivered in a prudent and efficient way and that a better value option was not possible.

There have been significant weaknesses and omissions in the way that this project has been managed from an options assessment, budgetary, procurement and governance perspective. We think that the setting of a more credible budget which considered affordability for customers in the early development of the project would have led to very different decisions.

We think that Sunwater should have recognised its lack of expertise and sought external support at the outset, in the way that other water utilities in Australia have done when faced with the prospect of replacing legacy billing and CRM systems for the first time in a generation.

We are recommending that the regulated value for the build costs should be reduced to the January 2022 value of $18.5M ($FY23) across regulated and non-regulated customers. This represents:

- Sunwater's approved value at the timing of signing the vendor contract and before inefficiencies and omissions in its own management of the project were identified which led to the cost escalation
- a cost at the upper end of the range of publicly available costs for similar implementations
- a reasonable cost to implement a project for a water utility of the size and customer base of Sunwater when affordability on a cost per customer basis is taken into account

We recommend allocating the implementation cost of CASPr in line with Sunwater's current allocating approach which is based on direct labour. This results in a recommended CASPr renewals expenditure of $4.9M ($FY23)[90] for regulated irrigation customers[91].

We have also identified that a reduction in the ongoing opex costs is required because some of the legacy costs were not taken into account in preparing the Pricing submission, which has result in some double counting. This is addressed in Section 3.6.

[90] In the recommended renewals section, the billing renewals is shown as $5.0 as it is in $FY24 instead of $FY23 shown here.

[91] This was calculated multiplying the recommended CASPr implementation cost by the FY23 share of corporate cost taken by regulated activities 26% (see Table 3-19).

5. Operating expenditure

We cover the review of direct operating expenditure in this section. Our review assesses the prudency and efficiency, per QCA's definitions, of Sunwater's opex. This includes providing opinion on the reasonableness of the baseline year and, if applicable, recommending an alternative baseline year. We also assess the proposed cost escalation and potential review events.

Our main findings are summarised as follows:

Base year adjustments: we consider that the approach taken by Sunwater in relation to electricity adjustments appears reasonable and recommend accepting this adjustment. We have made some changes to Sunwater's other proposed adjustments, mainly to reflect the long-term average for all schemes.

Variance from QCA's 2020 review recommendations: reductions in electricity expenditure have been more than offset by higher insurance and direct costs and, as a result, opex (excluding electricity) has been above QCA's recommendation in all years. Our view is that, with the exception of some safety related activities, Sunwater has not justified the increase in labour costs and recommend an adjustment of -$1.2M p.a. to reflect this.

Recommended base year expenditure: we have recommended direct base year opex of $45.3M compared to Sunwater's proposal of $46.3M.

Proposed step change: this has been dealt with as a non-direct cost and is discussed in Section 3.6 as it relates to a corporate system.

Cost escalation: we have proposed alternative cost escalation for insurance based on updated FY24 actuals and more recent market data. Similarly, we have proposed different cost escalation factors for labour using more recent wage price index data. We also note a small error in the application of general inflation and a difference between the inflation indices used by Sunwater for analysis of historical opex compared to that used for escalation.

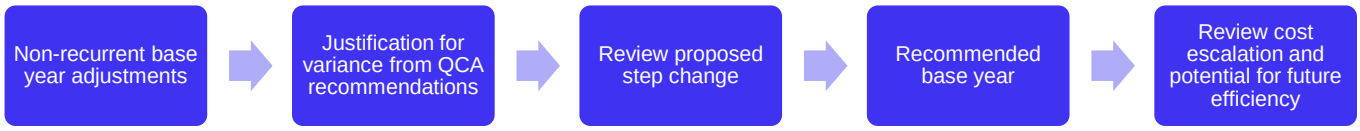
Potential for efficiency: we consider that Sunwater is not at an advanced stage of its efficiency journey and its proposed 0.5% p.a. efficiency challenge is achievable and it should be possible to exceed it based on the potential efficiencies.

Review events: we consider that Sunwater has taken reasonable management action to reduce the impacts of insurance premium increases and have recommended a positive review event of $8.1M. We have also recommended a negative review event due to lower electricity prices. For distribution schemes this is estimated to be $15.4M based on electricity price changes alone. This is a gross figure and is before any potential offset which QCA may want to apply for the savings returned to customers through the electricity cost pass through trial. We have also recommended a negative review event of $1.1M for water supply schemes. In both cases we note that outturn expenditure in FY24 and FY25 will depend on weather and water use as well as other factors and it may be beneficial to update this assessment using FY24 outturn figures when they become available.

5.1 Approach to opex prudency and efficiency assessment

Our approach to the review of direct opex is summarised below.

Figure 5-1 – Approach taken to the direct opex review



The following sections introduce Sunwater's pricing proposal and then goes through each of the steps above, before presenting an assessment of potential review events.

5.2 The pricing proposal

Sunwater has proposed a base-step-trend approach to opex projections. Key steps it has undertaken include:

1. **Selection of a base year**: Sunwater has adopted FY23 as the most recent year of actuals. We note that Sunwater has removed expenditure related to non-regulated service contracts, 'major projects and other activities', recreational facilities and 'renewals related expenditure'. We have not reviewed these removed costs.

2. **Adjustments to the base year** resulting in a $0.94M reduction including:

    a. Increases for FY23 having atypically low water demand and use of acrolein.

    b. Reductions due to atypically higher weed and growth management (plant and contractors) and a legal charge.

    c. Sunwater has also made a number of other adjustments, such as to labour costs, which are discussed in further detail below.

3. **Application of (nominal) cost escalation factors**. These are applied by opex cost category, with values typically reducing from 4.5% p.a. in FY24 to 2.5% p.a. in FY29 except for insurance and electricity costs.

    Insurance is expected to ramp down from an initial 21% p.a. rate in FY24. Electricity cost escalation has been derived at a scheme level.

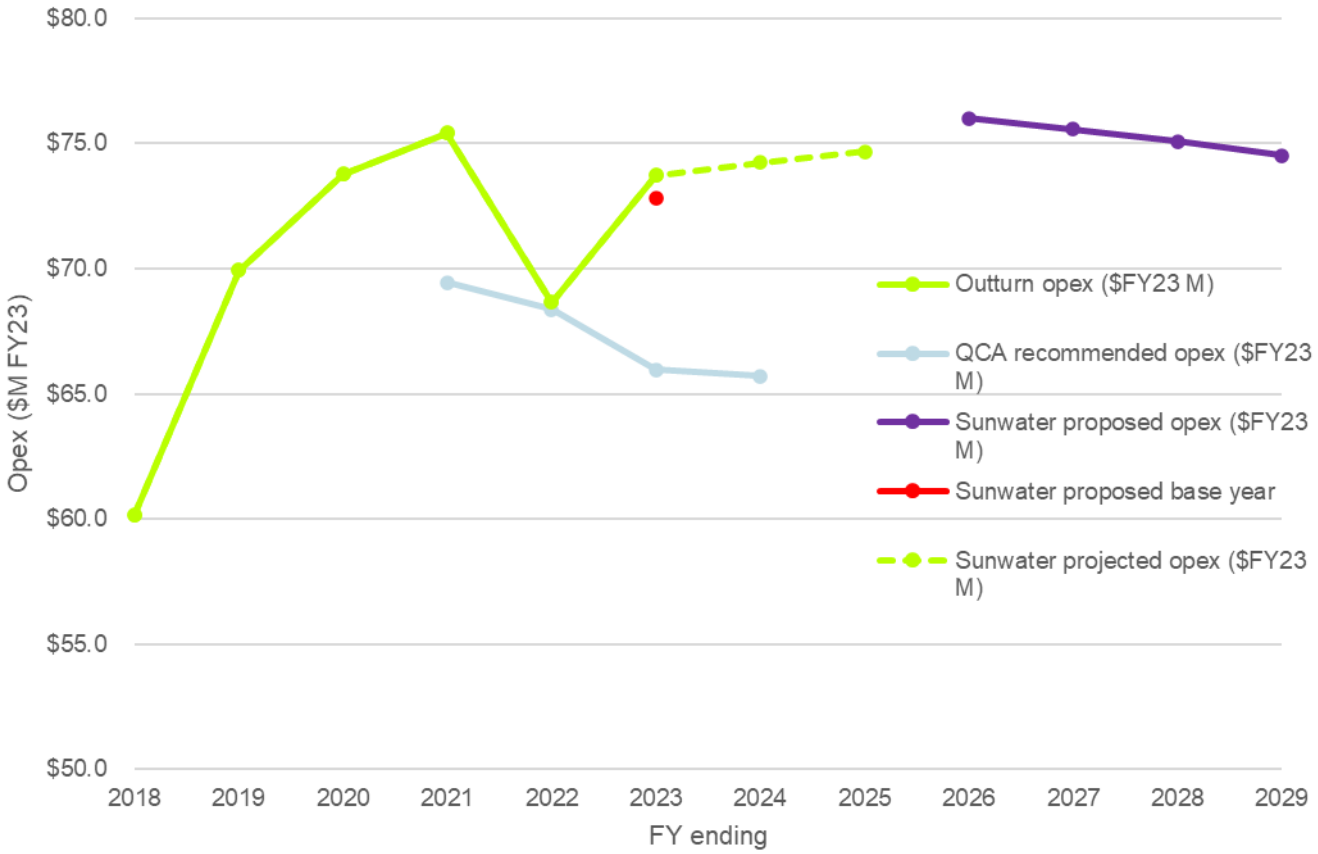
4. **Application of an efficiency challenge** of 0.5% p.a. cumulating over time. This has been applied as a negative adjustment to the cost escalation factor applied in each year from FY24 onwards.

5. **Addition of a step change** from FY26 onwards associated with the ongoing annual cost of running the new billing system.

The net effect of this process is a real term increase in total regulated opex expenditure compared to recent actuals as shown below. To be consistent with Sunwater's proposal, unless otherwise noted, all of the opex in this document

includes the proposed CASPr step change but does not include the effect of Sunwater's proposed insurance review event which is treated as a revenue adjustment as discussed in further detail below.

Figure 5-2 – Historical and proposed total regulated opex



Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values' and QCA 2020 Final Report. Note:

Note: the y-axis is truncated, historical costs have been converted to FY23 prices using the ABS CPI All Capital Cities June to June index[92] and future opex has been converted using the inflation assumptions in Sunwater's revenue model[93].

Electricity expenditure only has a significant impact on a small number of schemes and is affected by weather with costs varying year-on-year as a result. Recognising this, in its guidelines for pricing proposals[94] QCA states that *"electricity costs for distribution systems and bulk water supply schemes that require pumping to supplement stream flows should be excluded from baseline opex and separately estimated".*

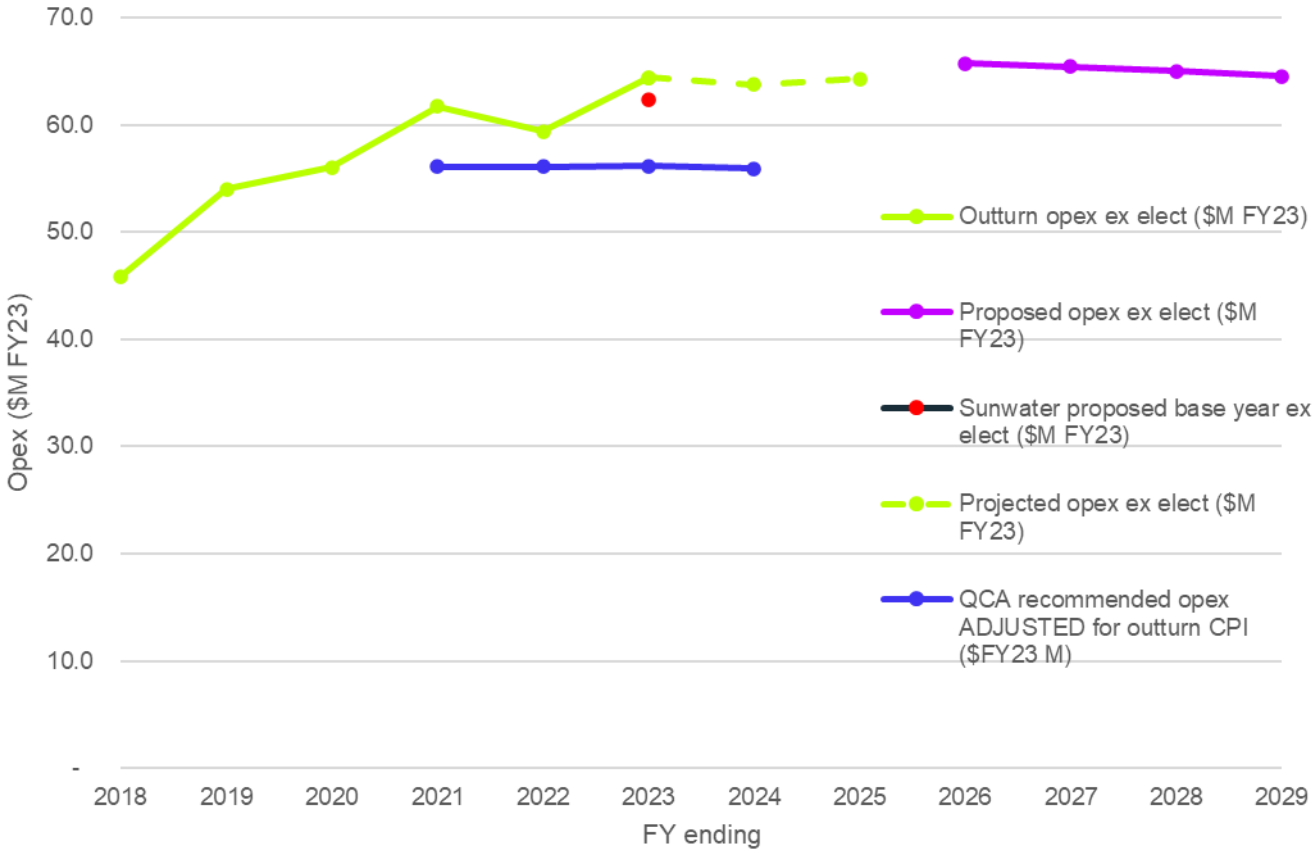
[92] Series ID A2325846C downloaded from ABS website on 18 January 2024. Note that there appears to be a transcription error in the historical CPI index used in Sunwater's spreadsheet '09 OPEX_Electricity_Final Values' meaning that historical figures converted to $FY23 will not all match.

[93] Sunwater spreadsheet '01 SunW Pricing Model RAB'

[94] Rural irrigation price review 2025–29: Guidelines for pricing proposals, Queensland Competition Authority, March 2023

Electricity expenditure has been removed from historical and projected opex in the future below to allow an assessment of the underlying non-electricity expenditure. We also present an alternative version of QCA's recommended opex which has been adjusted for the difference between assumed and outturn CPI from 2019[95].

Figure 5-3 – Historical and proposed total regulated opex EXCLUDING ELECTRICITY



Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values', QCA 2020 Final Report and ABS CPI data.

5.3 Assessment of proposed baseline year opex

5.3.1 Sunwater's proposed baseline year

Sunwater has proposed FY23 as the base year as it is the most recent set of complete 'actuals'. We consider it reasonable to use the most recent year of actuals as the baseline year, **provided that expenditure is efficient in that year and appropriate adjustments are made for costs which are atypical or where conditions vary significantly from representative average conditions due to external factors.**

Sunwater has proposed a number of adjustments to base year opex which we review below.

[95] Based on a simple adjustment to opex based on the CPI from 2019 assumed by QCA in its 2020 recommendations and the outturn ABS CPI All Capital Cities June to June index

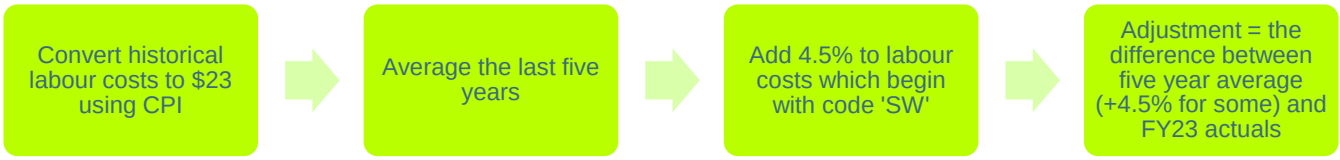
5.3.2 Adjustments to account for non-recurrent costs and expected cost savings or efficiencies

Sunwater has proposed a number of adjustments to the proposed baseline year opex. At aggregate level these lead to a reduction of $0.9M, made up of an *increase* of $1.2M in electricity expenditure due to atypical wet weather and a *reduction* of $2.1M in other expenditure for things like atypical weed management, slashing and mowing costs and labour costs.

The impact of the adjustment differs by scheme with non-electricity adjustments varying from a 9% increase in Lower Fitzroy Supply scheme opex to a 13% reduction in Lower Mary Distribution FY23 opex.

Labour adjustment

Our understanding of the process used by Sunwater to derive the labour adjustment is summarised as follows:



The overall effect is a reduction of $0.2M p.a. or 2% because average historical costs are lower than the costs in FY23.

We understand that the 4.5% adjustment relates to the increase foreseen in the Enterprise Agreement (EA) which sets out rises of 4.5% p.a. coming into force from 1 July 2022 and again on 1 July 2023[96]. We asked Sunwater to explain why the 4.5% adjustment has been applied to real term prices given that the EA increase appears to be a nominal rather than real terms increase (suggesting that CPI should be netted off to turn it into a real term change).

Sunwater has defended its approach[97] saying that the EA increase is backdated because the previous EA expired on 30 June 2022, and the replacement was not agreed until September 2023 and included a provision for backpay to 1 July 2022. Sunwater also says that it *"has not used a multi-year averaging approach and does not believe that a multi-year averaging approach is a suitable methodology for determining base year labour costs where labour costs have been increasing due to increasing compliance obligations"* and that it "*has a clear strategy to address capability and safety related business drivers in a constrained labour market".*

We find this explanation confusing as Sunwater does appear to have used a multi-year averaging approach[98] and does not explain why the 4.5% should be applied to the average of the previous five years and not simply to the years affected by the backdated EA costs i.e. FY23 given that the costs are being averaged in 'real' $FY23 terms.

Rather than consider this as a non-recurrent cost adjustment we have reviewed Sunwater's direct labour cost performance and recommended an adjustment as set out in Section 5.3.3 below.

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[96] Sunwater document OX016 "Sunwater Enterprise Agreement 2022-2025". Note this this is then followed by a 1 July 2024 increase of 3.5%

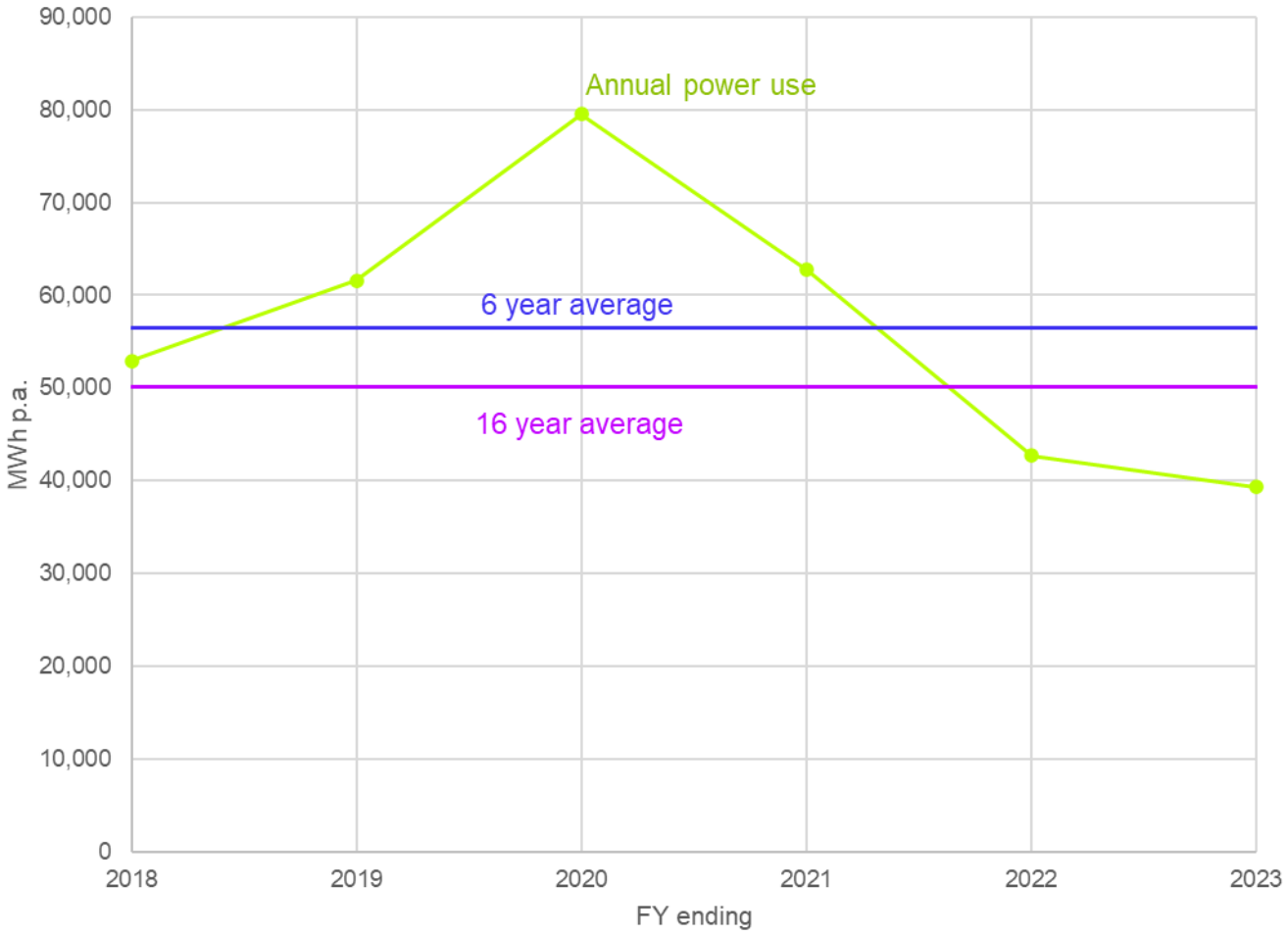
[97] Sunwater document "RFI_62_Base year opex_v2"

[98] Indeed the spreadsheet provided with RFI_62 refers to the calculations as "5 year real term average" and "5 year real term average plus 4.5% EBA adj"

Electricity adjustment

Sunwater has proposed an adjustment to base year opex due to lower electricity use. It explains that "*The Bureau of Meteorology stated that the 2022-23 North Queensland wet season was the sixth wettest season on record*". This is seen in the power consumption data seen below with FY23 power consumption being 30% below the six-year average and 22% below the long-term average.

Figure 5-4 – Power use by year



Source: Sunwater proposal Table 24

Sunwater has carried out detailed modelling of electricity demand at a scheme level. Peak demands have been derived by using five years of detailed data and averages have been rescaled to the 16-year average at individual scheme level (where 16 years is the extent of records Sunwater apparently has available).

We consider that the approach taken by Sunwater, in using detailed scheme by scheme modelling and scaling to the longest possible average, appears reasonable and recommend accepting this adjustment.

Other adjustments

Separate to the labour and electricity adjustments above, Sunwater has proposed a reduction of $1.9M of which $0.9M relates to contractor costs and $1.0M 'other direct' costs partially offset by an increase of just under $0.1M for materials.

Sunwater explained that the process it undertook involved reviewing spend in FY23 and discussion with operational managers where differences were identified[99].

Sunwater has explained that contractor costs were higher than usual in FY23 due to non-chemical weed control (slashing and mowing) activity being greater than average due to favourable non-aquatic weed growing conditions. This led to costs being $1.2M higher than normal. This is offset by $0.3M adjustments for costs being below historical averages. Sunwater has applied these adjustments to 13 of the schemes[100] using the five-year average. It is not known how the schemes were selected but it is assumed it was in consultation with operational managers.

Given that the purpose of the adjustment is to reflect more 'usual' conditions, we have compared Sunwater's proposed base year contractor opex to historical averages. This suggests that, whilst Sunwater's total proposed opex is relatively in line with average historical spend at $0.07M or 2% above it, the proposed base year opex for number of the schemes varies in percentage terms. **We therefore recommend that base year contractor spend be adjusted to reflect the FY18-23 average for all schemes (an aggregate reduction of $1.0M) instead of Sunwater's proposed $0.9M reduction.**

Within the 'other' category, Sunwater has applied a -$0.3M adjustment for legal fees related to a settlement activity**. We consider it reasonable remove this expenditure and recommend accepting this adjustment.**

Sunwater has also proposed an adjustment of +$0.1M for materials *"following analysis of long-term usage of key materials, including acrolein".* The proposed expenditure appears to be approximately in line with historical average spend and is below the QCA 2020 inflation-adjusted recommendation. As such **we recommend accepting the proposed adjustment.**

Sunwater has also applied a downward adjustment of $0.6M reflecting atypical levels of rental and hire equipment costs in FY23 due to a one-off effort to bring drain channels and access road areas up to standard. Sunwater expects that these costs will fall to more historical levels across the price path period as activity returns to normal levels. **We recommend largely accepting these adjustments but amending them to reflect historical average opex for each scheme.** This results in a reduction of $0.7M.

Sunwater appears to also have made a number of other adjustments to some of its 'other direct' costs in its adjustment spreadsheet[101]. based on five-year averaging. This results in a reduction of $0.1M. We asked Sunwater to explain the adjustments. In RFI 27 Sunwater explained that operational managers were asked to provide explanations for differences. However, the response did not set out a structured process, explanation or criterion by which some differences were accepted and others not. We found that **the explanation of the logic of these adjustments was not clear and we have not therefore recommended accepting them.**

The recommended adjustments are summarised in Section 5.3.4.

[99] Sunwater document RFI_27
[100] The schemes are Bundaberg Supply, Burdekin Supply,Callide Supply,Eton Supply, Lower Mary Supply, Mareeba Supply, Nogoa Supply, Pioneer Supply, Proserpine Supply, Bundaberg Distribution, Burdekin Distribution, Lower Mary Distribution and Mareeba Distribution
[101] Sunwater spreadsheet '09 OPEX_Electricity_Final Values'

5.3.3 Reasonableness of variations from the QCA recommended opex

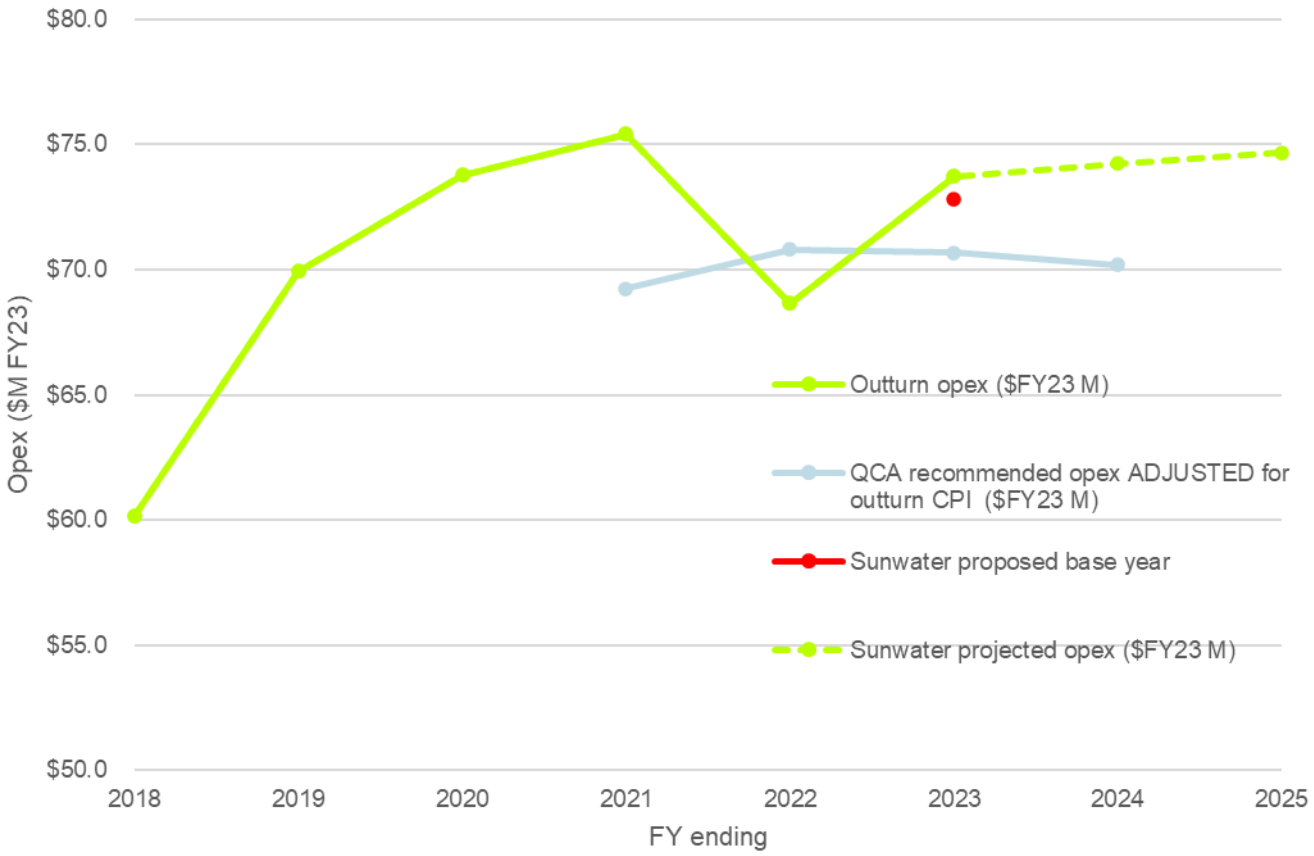
We examine below the difference between outturn opex and QCA's 2020 recommendation[102] and then the changes in expenditure over time.

Variance from QCA's recommendation

Eton distribution was one of the schemes reviewed by QCA in its 2020 Price Review. At the end of March 2020, Eton Irrigation took over ownership and operation of the scheme[103]. As a result, opex related to the scheme is not included in Sunwater's historical and projected opex. To enable a like-for-like comparison we have adjusted QCA's 2020 recommendation to remove the Eton distribution scheme.

Opex has been on a generally increasing trend, with only FY22 being below the QCA recommendation. Sunwater projects that expenditure in FY24 will remain higher ($4.3M or 6% in nominal terms) than QCA's 2020 recommendation.

Figure 5-5 – Historical and proposed total regulated opex



Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values' and QCA 2020 Final Report.

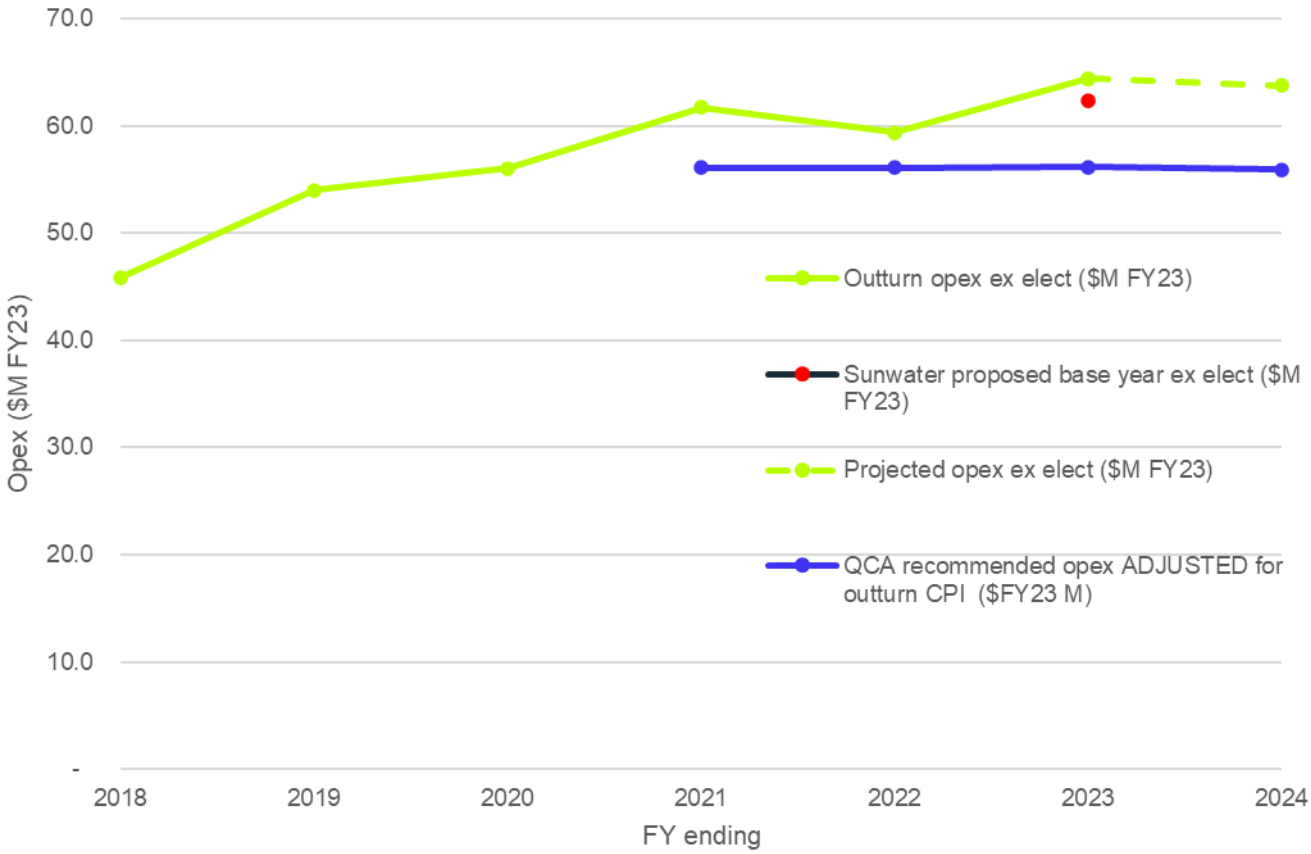
[102] In this section QCA's recommended opex has been adjusted for the difference between QCA assumed and outturn CPI since 2019.

[103] Ref https://www.sunwater.com.au/wp-content/uploads/Home/Schemes/Eton/Customer_Briefing_Eton_March_2020.pdf

Note: Eton Distribution has been removed from the QCA recommended figures and the y-axis has been truncated.

Opex in FY22 was below QCA's 2020 recommendation and in real terms was at the lowest level since FY18. Much of the variation appears to be due to lower electricity expenditure. This becomes clear when examining the difference between outturn and recommended opex excluding electricity expenditure. From this it is clear that Sunwater's 'underlying' opex was above QCA's recommendation in FY22.

Figure 5-6 – Historical regulated opex EXCLUDING ELECTRICITY



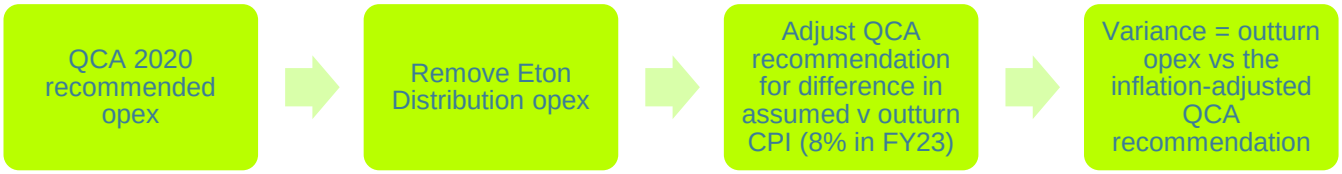
Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values', QCA 2020 Final Report and ABS CPI data.

Sunwater has provided an analysis of the differences between its adjusted base year expenditure and QCA's 2020 recommendation in its proposal. The proposal has identified upward cost pressures resulting from:

- increased direct labour and support roles to better manage risk, and *"ensure Sunwater is able to meet customer service standards now and into the future".*
- increase in 'other direct costs' due to the need for additional hire equipment, increase to compulsory land taxes. See discussion below.
- increased investment in information technology and increased compliance requirements, see Sections 3.3.2 and 4.1.
- increased focus on safety with impacts on procurement effort and compliance costs.

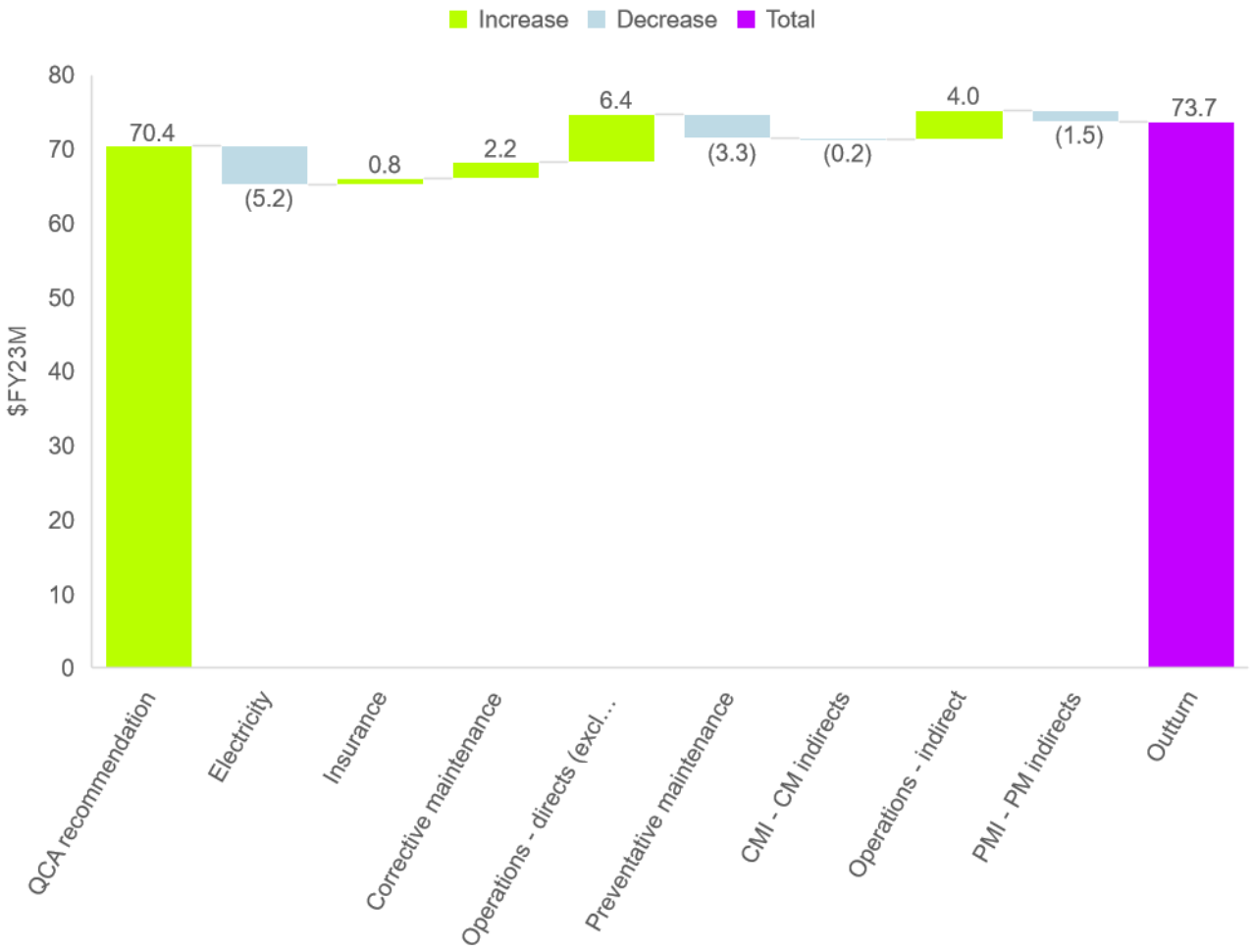
Our analysis of variance between Sunwater's adjusted base year opex and QCA's 2020 recommendation shows a similar picture with lower electricity spend outweighed by higher direct and non-direct costs.

The process used to derive our comparison is summarised as follows:



The results are presented by activity and cost type below.

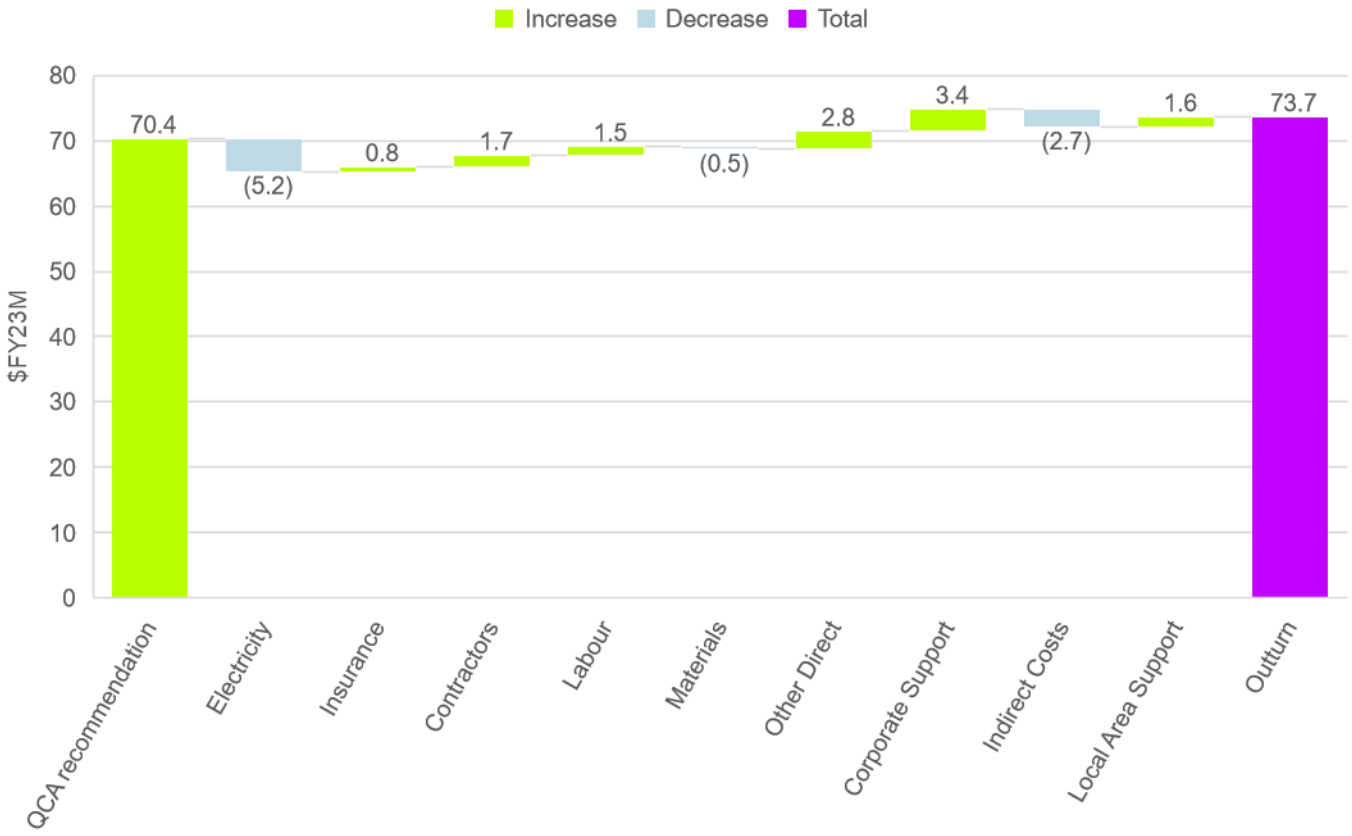
Figure 5-7 – Comparison of FY23 opex with inflation adjusted QCA recommendation by activity code



Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values' and QCA 2020 spreadsheet "QCA recommended opex - 2020 review (excl Eton distribution system)".

Note: this assumes IGEM costs are part of "Operations-indirect"

Figure 5-8 – Comparison of FY23 opex with inflation adjusted QCA recommendation by cost type



Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values' and QCA 2020 spreadsheet "QCA recommended opex - 2020 review (excl Eton distribution system)".

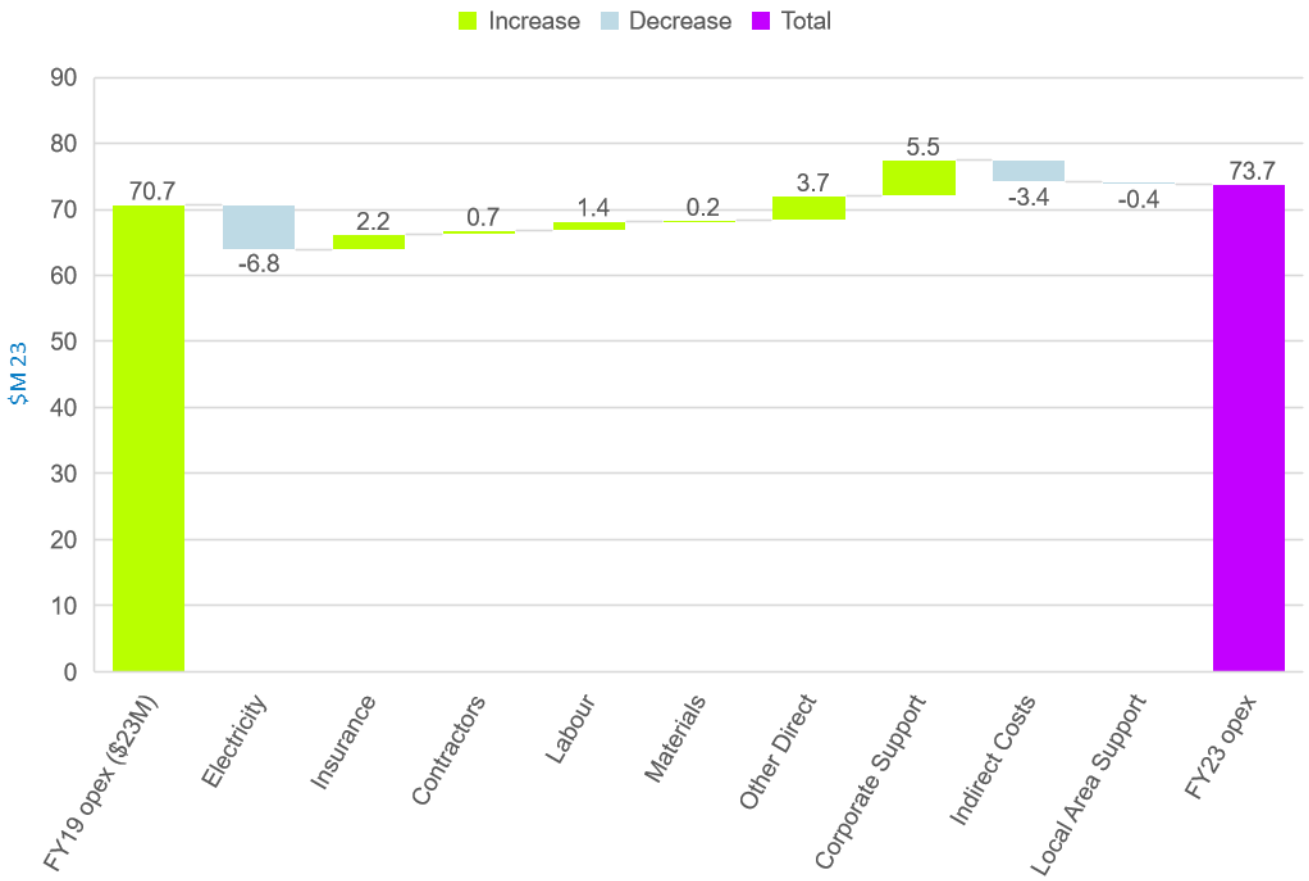
Note: This assumes IGEM costs are part of "Indirect costs"

Changes in opex over time

The change in opex from FY19[104] to FY23 provides a similar conclusion, with reductions in electricity expenditure offset by higher insurance and direct costs. Similarly, there has been an overall increase in support/indirect costs with lower indirect offset by greater corporate and local area support costs.

[104] In this Section, unlike in Section 3, we have examined the change in expenditure since FY19 rather than FY20. That is because, whilst QCA's recommended non-direct costs were based on FY20 budget figures, QCA's recommended direct opex were based on a review of historical expenditure and used FY19 labour utilisation rates for example.

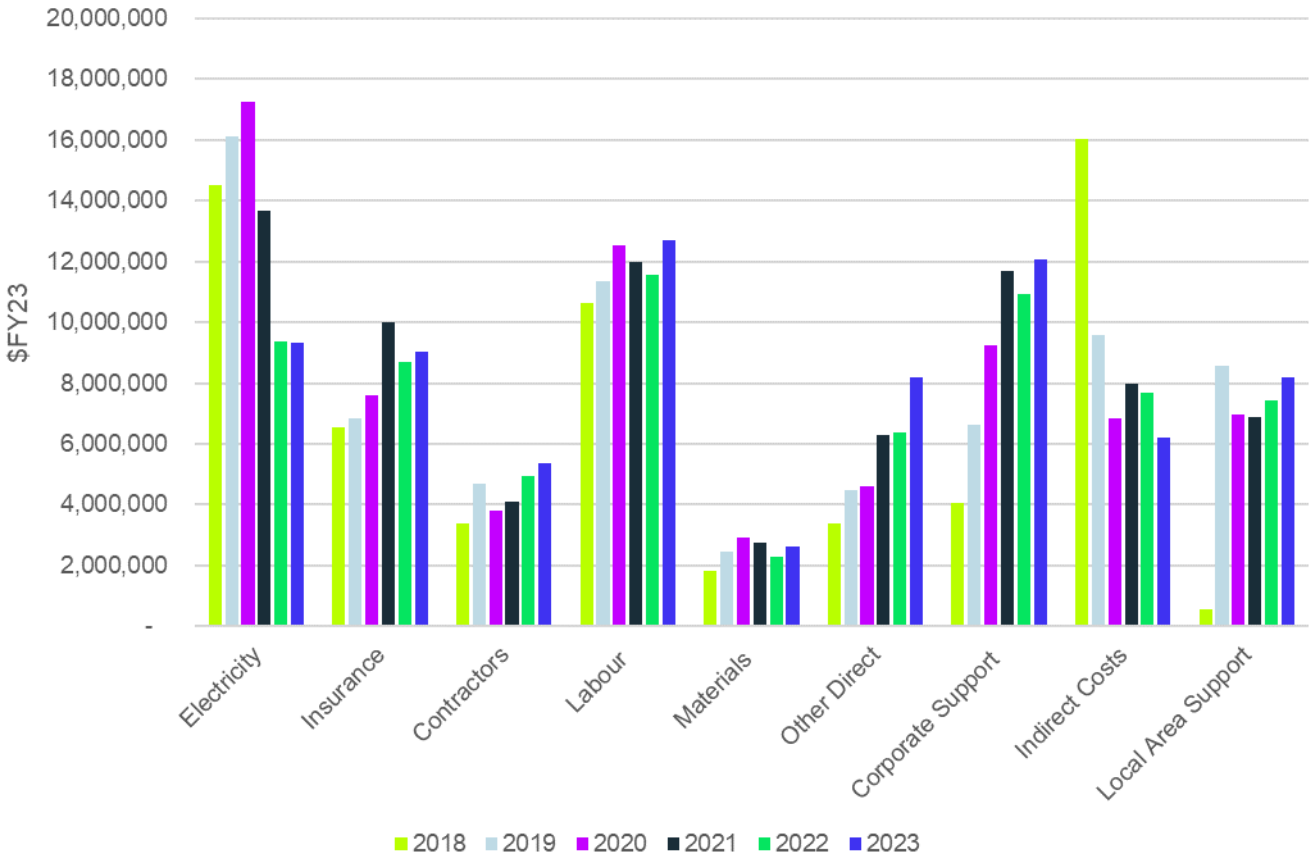
Figure 5-9 – Change in opex from FY19 to FY23 by cost type ($FY23 M)



Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values'

A similar analysis presented on an annual basis:

Figure 5-10 – Historical opex by cost type



Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values'.

Note that 'indirect and support costs' includes corporate support, indirect costs and local area support.

In the following sub-sections, we examine the reasonableness of the changes in labour and electricity expenditure. Insurance costs are discussed in Section 5.7.1 and the potential for an electricity review event is also discussed in Section 5.7.2. We have not addressed contractor costs further because the recommended $1.0M base year reduction outweighs the increase of $0.7M from FY19 to FY23.

Labour costs

Labour costs made up 34% of direct opex and 20% of total opex (both excluding electricity) in FY23. They are also the means by which non-direct costs are allocated to activities and schemes so have a significant impact on scheme opex.

In its 2020 report, QCA rejected Sunwater's claim that escalation should be based on Enterprise Agreements (EAs). Instead they recommended basing escalation on historical costs using market-based escalation rates but accepted some of Sunwater's case for additional labour costs based on adjusted labour utilisation rates.

Sunwater's 2023 proposal makes it clear that there has been a significant increase in operations and maintenance (O&M) FTEs in recent years, as summarised below.

Table 5-1 – Operations and maintenance FTEs

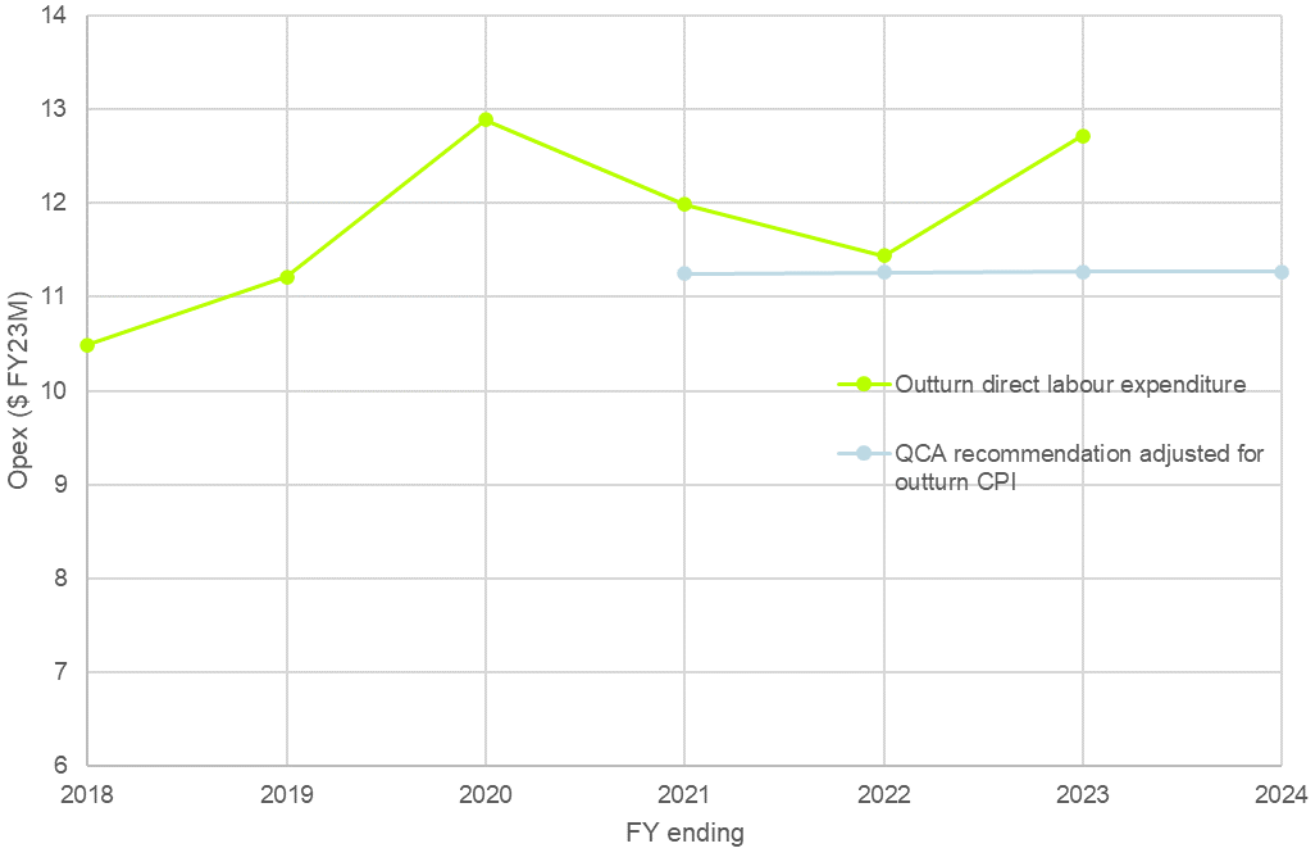
FY ending	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
FTEs projected by Sunwater in 2019							204	197	197	197	197
Locally managed scheme FTE transfers from Sunwater						6	13	6			
Outturn FTEs	229	231	201	206	211	213	211	210	204	228	242
Outturn FTEs with locally managed FTEs added back in	229	231	201	206	211	219	230	235	229	253	267

Source: Table 30, Sunwater proposal, Figure 19, Aecom 2020 Opex Review and RFI 135

It is understood that a restructuring led to the reduction in FTEs seen in FY15. Subsequent to this, the transfer of 25 FTEs to locally managed schemes led to a small net reduction from FY17 to FY20. Adding the transferred FTEs back into the assessment suggests that there has been an underlying increase of 32 FTEs or 14% on a like-for-like basis from FY20 to FY23.

Expenditure has exceeded QCA's recommended level in all years in the current period as summarised below.

Figure 5-11 – Direct labour costs compared to QCA recommendation



Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values' and QCA spreadsheet "QCA recommended opex- 2020 review".

Note: Truncated y-axis and QCA recommendation has been adjusted for the difference between outturn and assumed CPI from FY19 as well as subsequent inflation.

Sunwater's proposal lays out a number of explanations for the increases in direct and support labour FTEs and costs, including:

- ageing workforce: "*a workforce planning strategy to ensure Sunwater was appropriately managing the risk of our ageing workforce on its operations and services to customers (succession planning)"*. Sunwater states that 60 of the 242 O&M employees are over 55 years old and that the age profile *"created a need for ongoing investment in graduates, cadets and apprentices to ensure sufficient operational staff and knowledge as employees retire. This led to 15 additional graduates, cadets and apprentices and an additional electrician".*

- historical lean rostering: *"recognition that lean rostering resulted in excessive leave balances and or overtime accrual, fatigue related safety risks, and some attrition due to workload".*

- safety: although no significant details are provided of how this has led to additional direct labour costs, except as relates to planning managers below.

- other business resilience and operational risks leading to employment of:

    - six regionally based project managers *"to deliver an increasing number of renewals projects as our assets age".*

- planning managers, planners and coordinators *"to ensure work is planned and carried out safely, effectively and efficiently and to deliver reliable assets that meet the needs of our customers".*

- additional trades staff and apprentices (four) *"as part of the insourcing strategy at the Bundaberg workshop (to address skills issues and availability of contractors to refurbish large pump sets, valve trains and actuators)".*

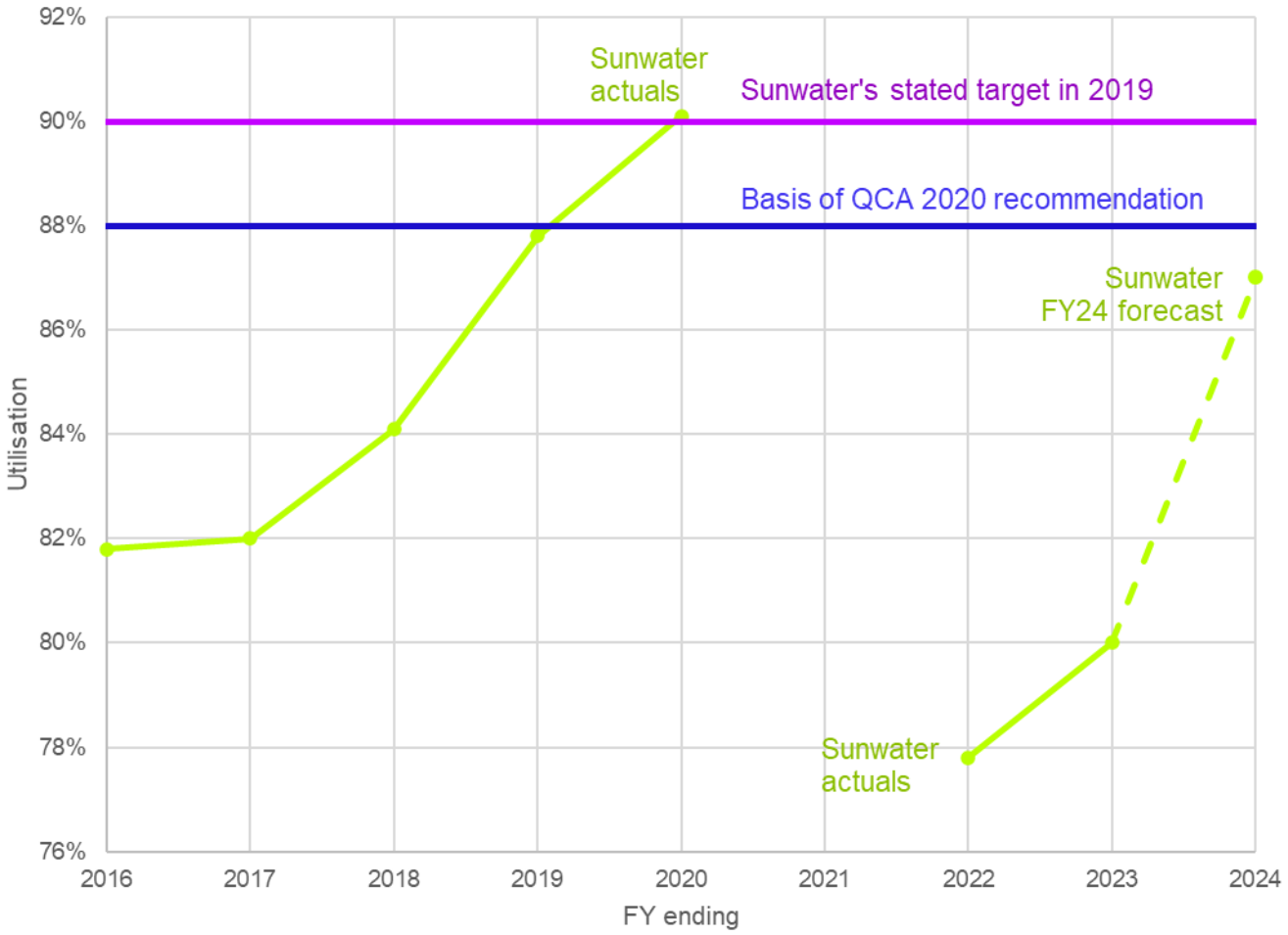
- a net increase of four FTEs in the asset management function *"to improve skills and expertise, and therefore the efficacy and efficiency of the function".*

Linked to the above Sunwater also explains that *"the number of hours charged to schemes at higher rates has increased from 2018 to 2023. This is due to an increased level of seniority and skill aligned with Sunwater's strategic direction to build business resilience and succession planning requiring additional supervisory and training hours with more senior resources."*

The other reasons provided by Sunwater relate primarily to non-direct labour costs (e.g. internal functions related to procurement, legal, insurance, IT etc).

Sunwater measures the proportion of time booked by O&M staff to direct charging activities and reports this as 'utilisation'. Sunwater's recent utilisation rates are significantly below historical levels and below both its own target as stated in 2019 and the figure used as the basis of QCA's 2020 recommendation as can be seen below.

Figure 5-12 – Utilisation levels



Source: Table 31, Sunwater proposal and QCA 2020 report.

Note: Truncated y-axis. FY24 figure relates to July to Nov 2023 only. Data not available for FY21 due to a system change causing data issues.

Our view of Sunwater's labour costs is that FTEs and costs have increased and Sunwater has not been able to draw a clear link between this increase and external changes in obligations. Sunwater has provided a number of explanations in its proposal and subsequent discussions but has not provided quantification or robust explanation of how these have led to greater costs. In terms of the explanations provided we note that:

- Increasing staff numbers to displace overtime and replace staff lost to attrition is not in itself a driver for net increases in labour costs as there should be offsetting reductions.
- The explanations related to an ageing workforce do not appear convincing based on the information provided to us as less than 25% of the O&M workforce is quoted as being over 55, which is similar to what we would expect if the workforce were evenly distributed by age[105] and is not indicative of a workforce with a significant skewed age but rather appears to be a business-as-usual staff turnover challenge.

[105] E.g. if a career is assumed to last 46years (from 21 to 67 years old), with evenly distributed age profile we would expect 12 of 46 or 26% of the workforce to be above 55 years old

- The recent EA does not justify a net increase in direct labour opex given that it also commits Sunwater staff to achieving a productivity offset equal to half of the increase and CPI since FY22 has been significant.

- We also note that as staff numbers have increased (in like for like terms) utilisation has reduced significantly and is below its historical performance, Sunwater's 2019 target and the basis of QCA's recommendation. In its proposal, Sunwater states that the utilisation rates in FY21 and FY22 were impacted by COVID-19. This may be the case. However, it does not explain the continued lower levels in FY23.

QCA recommended an efficient level of direct labour expenditure in 2020. Our view is that, with the exception of some safety-related activities, the increase in costs is due to endogenous factors. We therefore consider that, **with the exception of these safety costs, Sunwater has not justified the increase in costs, why customers should pay higher labour costs than QCA recommended and why it was not able to manage its labour costs within the funding envelope available to it.**

As also set out in Section 3, we do consider it reasonable to accept Sunwater's assertion that safety responsibilities and focus have materially evolved since 2020 and that this represents an exogenous driver. **We have recommended accepting the increased direct labour costs allocated to the safety cost code ('122 - Safety') and have estimated this justified increase in expenditure for regulated activities as $0.3M p.a[106].**

The only other potential exception to our general finding, in terms of justification, relates to the in-sourcing at Bundaberg workshop. However (1) this should be offset in savings in contractor expenditure in order to be justified and (2) it relates to refurbishment of large pump sets, valve trains and actuators and is therefore to be classified as renewals rather than opex so does not affect the recommended expenditure in this Section.

We therefore consider that QCA's 2020 recommended level of labour opex, adjusted for the additional safety costs, remains the appropriate level for the base year and recommend an adjustment of -$1.2M p.a. equal to the difference between outturn FY23 labour expenditure ($12.7M) and the QCA recommendation (adjusted for outturn CPI) of $11.2M in $FY23 terms[107] plus the recommended additional $0.3M safety costs.

Given that safety was one of the explanations for increased expenditure put forward by Sunwater, **we also recommend that Sunwater develop a structured risk analysis and strategy for workplace health & safety (and other emerging drivers) leading to a prioritised improvement plan to enable a clearer link between drivers and expenditure. This will help to inform future price reviews as well as ensuring that the actions taken are appropriate.**

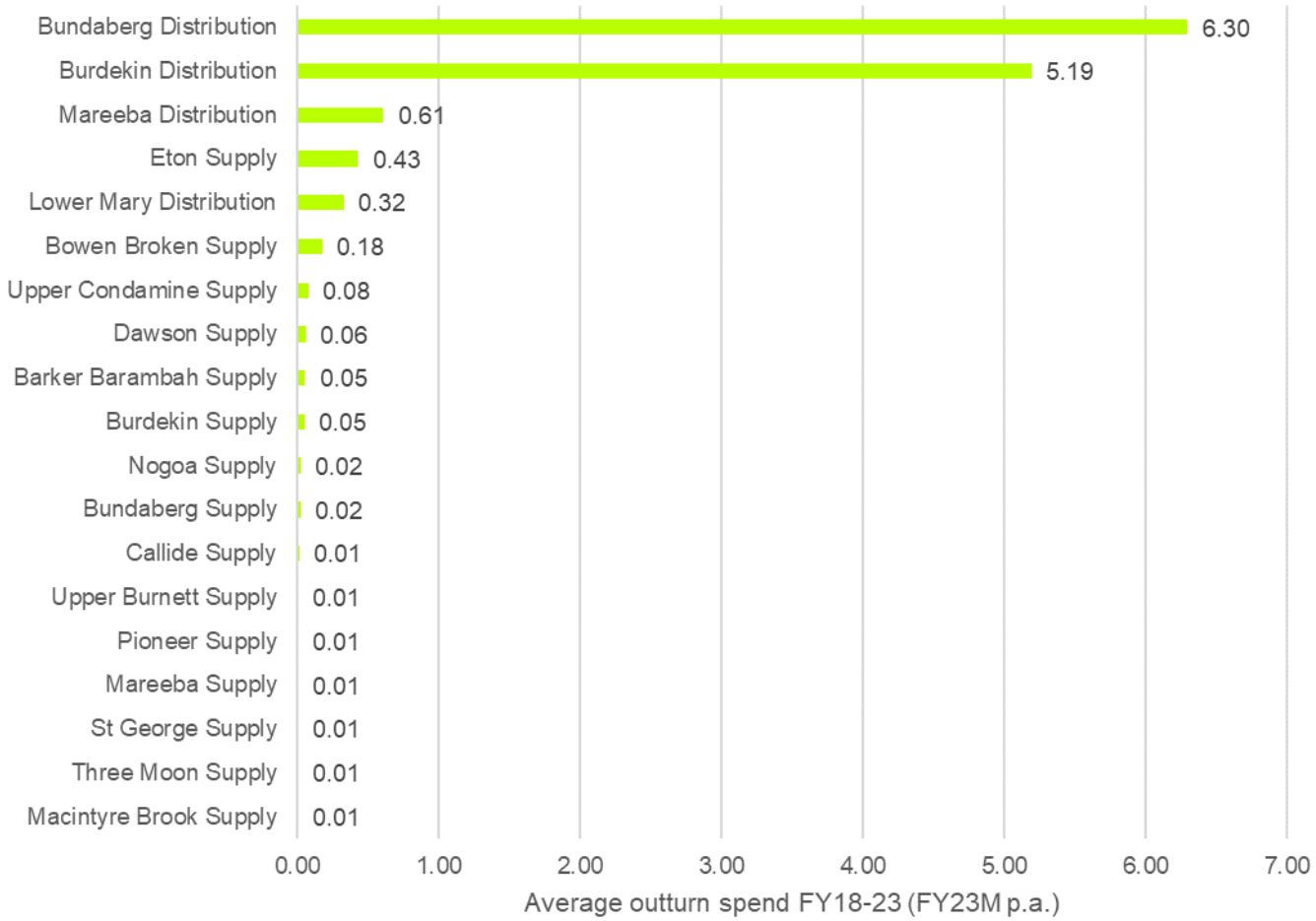
Electricity

Distribution schemes make up the vast majority of Sunwater's regulated schemes' energy use as can be seen below.

[106] This is based on regulated schemes making up 48% of total indirect labour cost recoveries and a $0.6M p.a. real terms increase in costed labour from FY20 to FY23 against the cost code '122 - Safety' according to Sunwater spreadsheet 'RFI_68_QCA RFI data labour charging (2)'

[107] These figures appear not to reconcile because they are shown to one decimal place

Figure 5-13 – Average electricity costs by scheme



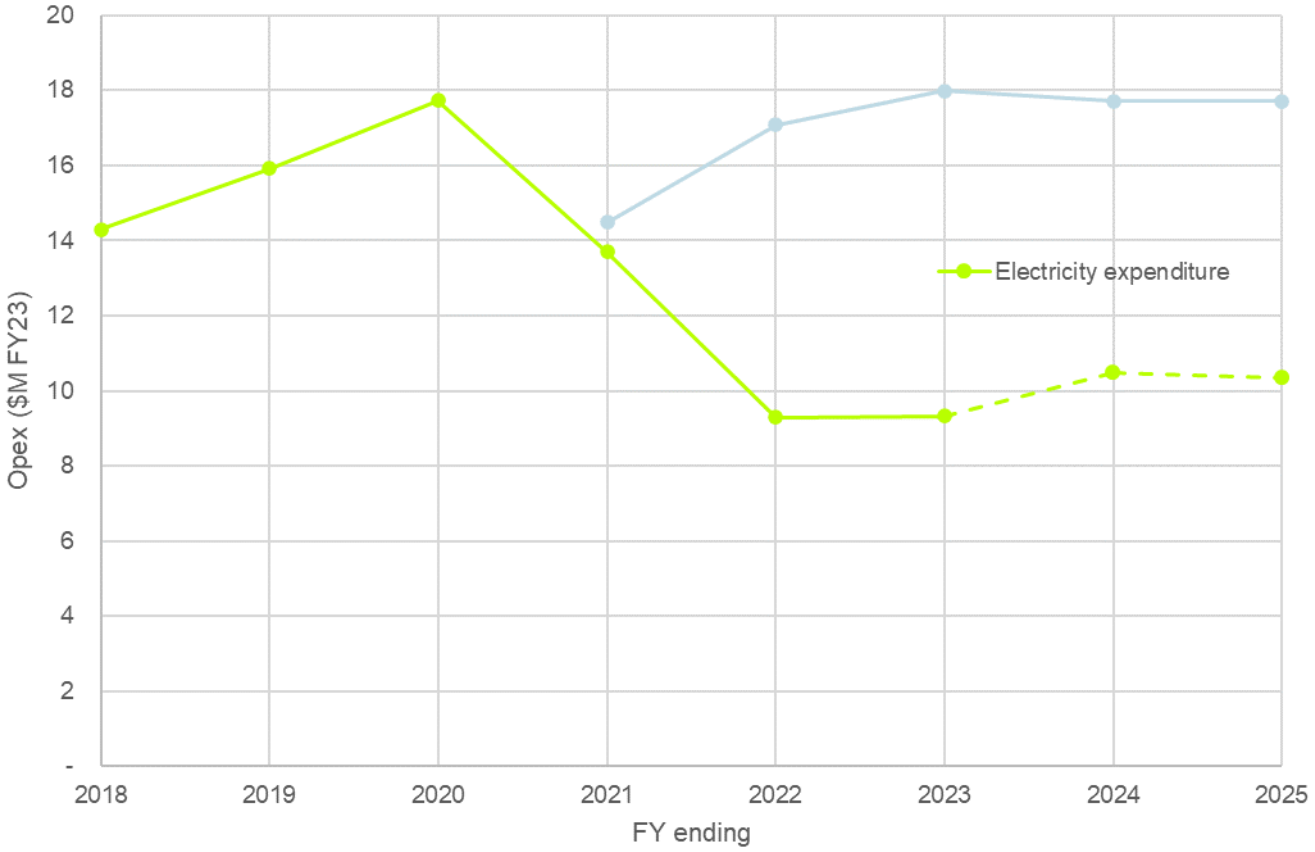
Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values'

In its 2020 report QCA accepted Sunwater's June 2019 base year electricity cost estimates for bulk WSSs across its schemes totalling $984k (in $FY19).

For distribution schemes, where power use is more clearly linked to consumption, QCA derived its recommended base year electricity costs by analysing average water usage from FY14 to FY19 and applying the FY20 electricity tariff for each site. This resulted in a recommended base year electricity spend of $11.3M (in $FY19), of which $9.2M was estimated to be variable and $2.1M fixed. Removing Eton Distribution, QCA's recommendation was a total of $10.8M, of which $8.7M was variable.

As highlighted in Figure 5-4, power use was significantly below historical averages in FY22 and FY23. This helped Sunwater to spend significantly less than the QCA allowance as summarised below.

Figure 5-14 – Electricity costs compared to QCA recommendation



Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values' and QCA spreadsheet "QCA recommended opex- 2020 review".

Note: QCA recommendation has been adjusted for the difference between outturn and assumed CPI from FY19 as well as subsequent inflation.

Table 5-2 – Variance between QCA recommendation and outturn expenditure in FY21 to FY23 ($M23)

	QCA FY21 to 23 allowance adjusted for outturn CPI	Outturn FY21 to 23 expenditure	Total FY21 to FY23 variance	
Burdekin Distribution	$19.69	$11.94	$-7.75	-39%
Bundaberg Distribution	$20.01	$15.06	$-4.95	-25%
Eton Supply	$1.60	$0.98	$-0.62	-39%
Lower Mary Distribution	$1.35	$0.85	$-0.50	-37%
Bowen Broken Supply	$0.88	$0.58	$-0.30	-34%
Mareeba Distribution	$1.88	$1.72	$-0.16	-9%
Burdekin Supply	$0.44	$0.28	$-0.16	-36%
Three Moon Supply	$0.08	$0.01	$-0.07	-89%

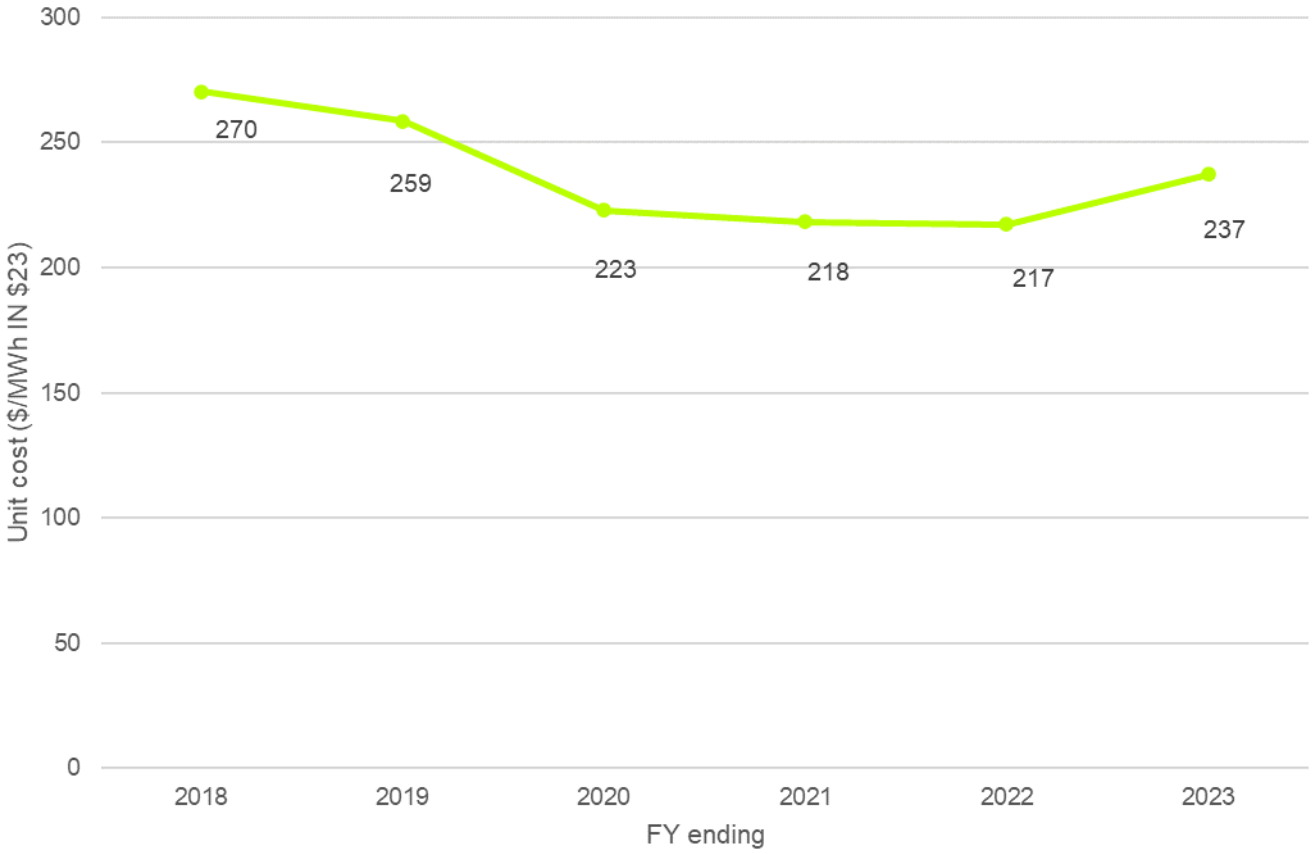
Dawson Supply	$0.20	$0.16	$-0.04	-20%
Proserpine Supply	$0.03	$-	$-0.03	-100%
Barker Barambah Supply	$0.16	$0.13	$-0.03	-18%
Nogoa Supply	$0.07	$0.05	$-0.02	-35%
St George Supply	$0.02	$0.02	$-0.01	-25%
Bundaberg Supply	$0.04	$0.03	$-0.00	-7%
Lower Fitzroy Supply	$0.01	$0.01	$-0.00	-8%
Macintyre Brook Supply	$0.01	$0.01	$-0.00	-1%
Chinchilla Weir Supply	$-	$-	$-	n/a
Maranoa Supply	$-	$-	$-	n/a
Cunnamulla Weir Supply	$-	$-	$-	n/a
Lower Mary Supply	$-	$-	$-	n/a
Upper Burnett Supply	$0.02	$0.03	$0.01	30%
Boyne Supply	$-	$0.01	$0.01	n/a
Upper Condamine Supply	$0.34	$0.35	$0.01	3%
Pioneer Supply	$0.02	$0.03	$0.01	49%
Callide Supply	$0.02	$0.04	$0.02	123%
Mareeba Supply	$0.00	$0.03	$0.03	785%
TOTAL	$46.87	$32.30	$-14.57	-45%

Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values' Values' and QCA spreadsheet "QCA recommended opex- 2020 review".

Note: QCA recommendation has been adjusted for the difference between outturn and assumed CPI from FY19 as well as subsequent inflation.

The average unit cost paid by Sunwater also contributed to this lower spend. It reduced by c.14% in FY20 (in real terms) and largely stayed at this lower level with some reductions in FY21 and 22 followed by an increase in FY23. As set out below, some of Sunwater's sites are on regulated retail tariffs and so changes in the unit price of electricity for these sites to some extent reflects the changes in regulated prices but also decisions around (1) switching between regulated tariffs where applicable (2) decisions around remaining on the regulated tariff or switching to the whole of government arrangement and (3) semi-technical factors such as power correction.

Figure 5-15 – Average electricity costs in $/MWh over time



Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values' Values' and Table 24 Sunwater proposal

Sunwater has taken a number of actions which have helped to contribute to this reduction. It now procures its electricity in two ways:

1) Negotiated Wholesale Market Contracts ("contestable")

The Queensland Government Procurement Office established a whole of government electricity supply arrangement for a 10-year contract term commencing in January 2019. Sunwater evaluated this and entered the agreement effective from 1 January 2020 for the remaining nine years. Some 78% of power is now purchased through this agreement.

2) Regulated Retail Tariffs

These tariffs are determined by QCA annually and now make up approximately 22% of energy use, mainly smaller use sites. The number of sites on this tariff has been reducing over time as regulated tariffs have increased.

Sunwater carries out an annual review of the optimal tariff for all of the schemes on a regulated retail tariff. There are a number of factors which have meant that it is currently preferable to maintain some schemes on this, including banding (e.g. some sites would move from small tariff to large tariff on the contestable tariff) and the mix of fixed versus variable charges for sites with intermittent use. It is also notable that large customers cannot return a scheme to a regulated retail tariff once they enter the contestable market.

The annual review evaluates different regulated retail tariffs as well as contestable tariffs. It is based on a minimum of four years of data and examines whether a change would have been better in each of the years.

As a result of these reviews, the team has been able to make a wider number of savings beyond identifying a cheaper tariff. For example, it became apparent that Yarramalong PS was being reclassified from a small to a large user tariff. The team found that the operators were turning all three pumps on at the same time to test the equipment. By changing this operation to single pump tests Sunwater was able to save approximately $15k p.a.

Sunwater has now installed interval meters for all pump stations and has carried out Energy Audits, starting in 2020, which examined the potential for alternative generation, operational optimisation, and efficiency projects (power factor correction, variable speed drives etc). These have been completed for all but five of the smallest use schemes and a Power Factor Correction Study remains in progress. They have led to the installation of 159kW of small-scale PV and the bringing forward of some pump refurbishment.

It is clear that Sunwater has made savings as a result of external factors (weather), procurement and some savings from energy audits. Some of these savings have been shared with customers through the Electricity Cost Pass Through (ECPT) mechanism, which is discussed further in Section 5.7.2 below.

We consider that Sunwater has good processes and strong management in place to ensure efficient electricity expenditure and that the proposed base year expenditure is prudent and efficient.

Other direct opex

'Other direct' costs is one of the other significant areas of variance from QCA's recommendation (see Figure 5-8 above). This typically covers things like plant, equipment, vehicles, local authority rates and land tax, buildings and travel costs.

We examine below the most significant changes in other direct costs since FY19. The largest driver of the change ($1.1M) is the real terms increases in local authority rates and land tax. The codes related to vehicles appear to largely balance each other out and are due to a coding difference.

We consider that land tax and local authority rates are exogenous factors and recommend accepting these increases. The changes in the leased vehicle and 'MV operating leases' appear to be largely coding and cost neutral. We do not recommend an adjustment related to these costs.

We asked Sunwater to explain the increases in 'rental & hire' and 'plant & equipment' costs (those not already adjusted for in its base year adjustment). In RFI 134 it has explained that the increase in costs is due to above inflation increases in market rates in the locations in which it operates and greater focus on corrective activities being addressed when identified *"in place to better schedule and plan work orders for resources given the travel distances to our assets and has had an impact of increasing corrective maintenance activity"*.

It has provided examples of the hourly rates charged for plant hire and the increases from 2019 to 2023. The simple average of the increases quoted was 19.6% for excavators and 11.5% for cranes. These compare to a 16% increase in CPI over the same period. We are therefore not convinced that the evidence provided to us supports the view that there has been a significant real terms increase in rental costs.

However, we recognise that there is inter-annual variability in these costs due to external factors and FY19 appears to have been a low year (the lowest in real terms from FY18 to FY23). We therefore consider that the averaging approach we have applied to make the base year adjustment is appropriate and no further adjustment is required.

Table 5-3 – Change in 'other direct' opex from FY19 to FY23 ($FY23 M)

Ref	G/L account name	Change in opex ($M23)	Change in opex after Sunwater base year adjustments ($M23)	% change (after base year adjustments)	Comment
1	Rental & Hire - P&E	1.1	0.5	+86%	We have recommended a slightly larger reduction than Sunwater. There is significant inter-annual variability, and we consider the base year adjustment to be appropriate.
2	Charges-Leased Vehicles	1.3	1.2	n/a (was zero in FY19)	Appears to relate to fleet and be offset by (6) below
3	Local Authority Rates	0.8	0.8	+66%	Exogenous factors. We recommend accepting
4	Land Tax	0.3	0.3	+237%	
5	Plant & Equip Maintenance	0.2	0.2	+341%	Same conclusion as for rental & hire above.
6	MV Operating Leases	-1.1	-1.1	-96%	See (2) above
	TOTAL	3.7	2.7	+59%	

Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values'.

Note: Only includes changes of more than $0.2M p.a.

5.3.4 Recommended baseline year expenditure reflecting efficient recurrent ongoing costs

We present below a summary of our recommended adjusted base year direct opex. We also summarise the variance from QCA's 2020 recommended opex. At first glance, it may appear that our recommended direct opex is below QCA's recommended spend. However, this is because electricity costs are significantly below the assumption in 2020 whereas other direct costs are significantly above the assumption.

Table 5-4 – Recommended base year expenditure

	Sunwater's proposed adjustments	Our recommended adjustments	Comment
FY23 outturn opex	73.7		
Remove non-direct costs	*-26.5*		
FY23 outturn direct opex	47.2		
Electricity	1.2	1.2	Accept Sunwater's adjustment
Labour	-0.2	-1.2	To reflect lack of adequately supported justification for divergence from QCA 2020 recommendation and acceptance of some additional safety expenditure
Contractor	-0.9	-1.0	Historical averaging
Legal settlement	-0.3	-0.3	Accept Sunwater's adjustment
Materials	0.1	0.1	Accept Sunwater's adjustment
Rental & hire	-0.6	-0.7	Historical averaging
Other adjustments	-0.1		Not recommended as the logic is not clear
Total adjustments	*-0.9*	*-1.9*	
Adjusted base year direct opex	46.3	45.3	
Inflation-adjusted QCA 2020 recommendation for FY23	46.3	46.3	
Variance from QCA 2020 recommendation *Of which:*	*+0.1*	*-1.0*	
Variance in normalised electricity costs	*-4.0*	*-4.0*	*Difference between SW BY electricity costs and QCA recommendation*
Variance in other direct opex	*+4.1*	*+3.0*	

5.4 Prudency and efficiency of proposed step changes

Sunwater has proposed one step-change. This relates to the ongoing expenditure related to the CASPr project. As it is a corporate project it is reviewed under non-direct costs in Section 3.6.

5.5 Cost escalation

5.5.1 Sunwater's proposal

Sunwater has proposed different cost escalation approaches and factors for different cost types as summarised below.

Table 5-5 – Cost escalation factors (%) from Sunwater's proposal

Cost category	Basis	FY24	FY25	FY26	FY27	FY28	FY29
Electricity (seven schemes)	Bespoke scheme-by scheme forecasts						
Electricity (other)	1 July 2023 price changes and General inflation index	Known price increases	3.10	2.98	2.8	2.75	2.50
Insurance	Insurance index	21.00	10.73	2.98	2.87	2.75	2.50
Labour	Labour index	4.50	3.50	3.50	2.98	2.47	2.47
Contracted services, materials, other opex	General inflation index	3.60	3.10	2.98	2.85	2.75	2.50
Support costs	50:50 labour and general inflation index	4.05	3.30	3.24	2.93	2.61	2.49

Source: Table 12 Sunwater proposal

We examine below the consistency of the general inflation index (CPI) used by Sunwater and the proposed approaches to the other major cost categories.

5.5.2 Consistency of inflation forecast with QCA's guidance

QCA provides guidance on inflation forecasting[108], excerpts of which are copied below:

> *Our position, under the existing monetary policy framework, is to:*
>
> - *derive CPI forecasts using short-term RBA forecasts for the first two years ahead and derive forecasts up to the fifth year ahead using a linear glide path from the RBA's short-term forecast in year 2 to a rules-based anchor-point forecast in the fifth year ahead*
> - *use the annual CPI forecasts derived from this approach for relevant escalation purposes*
> - *derive the geometric mean of the annual forecasts produced over the applicable regulatory period to estimate expected inflation for capital revenue purposes*
> - *assume the midpoint of the RBA's target range (2.5%) beyond the fifth year ahead, in the limited circumstances that this longer-term forecast is required.*
>
> *Were there to be a fundamental shift in the Australian monetary policy framework, we would revisit our position seeking stakeholder input through an appropriate consultation process.*
>
> *…Our position on the appropriate treatment of other methodological issues is to:*
>
> - *use headline CPI, rather than trimmed mean estimates, as the appropriate measure of general CPI inflation in revenue and price modelling, other than in abnormal and transient economic circumstances, when the appropriate measure will be considered on a case-by case basis at the time of the review process..*
> - *use national CPI for capital revenue purposes (i.e. inflation deduction and RAB indexation), and use location-specific (Brisbane) cost escalators in cases where there are underlying cost drivers that are materially different to the national CPI inflation measure…*

It is important to note that QCA makes it clear in its guidance that it *"does not prescribe a binding inflation forecasting methodology for future regulatory reviews"* and that stakeholders are able to submit alternative methods which QCA will consider on their merits.

We comment below on a number of aspects of CPI forecasts used by Sunwater.

Inflation period end dates

Sunwater has used the Reserve Bank of Australia (RBA) August 2023 forecasts[109] for CPI for FY24 and FY25, basing it on the 'change over year' to June 2024 and June 2025 respectively i.e., financial year-end inflation. This is not necessarily inconsistent with the guidance above but may be inconsistent with its use of 'ABS CPI All Capital Cities March on March' in Sunwater's analysis of historical opex[110]. Whilst the RBA forecasts used were only available at half year intervals it may have been possible to infer March estimates for them or to have used June-to-June forecasts

[108] QCA Inflation forecasting- Final Position Paper, October 2021. See Inflation forecasting (qca.org.au)
[109] Statement on Monetary Policy: Forecast Table- August 2023, RBA (Forecast table – August 2023 | RBA)
[110] For example, Sunwater spreadsheet '09 OPEX_Electricity_Final Values'.

in the historical analysis. In our analysis we have used a March-on-March index but allowed for the use of a June-to-June forecast.

We note that note that there will be RBA short-term forecasts for FY26 and FY27 prior to publication of QCA's draft report and it is therefore likely that QCA will update Sunwater's estimates for these years with the more up-to-date forecasts.

Anchor point and glide path

Sunwater has used an anchor point forecast of 2.75% for FY28. This is based on the QCA guidance that:

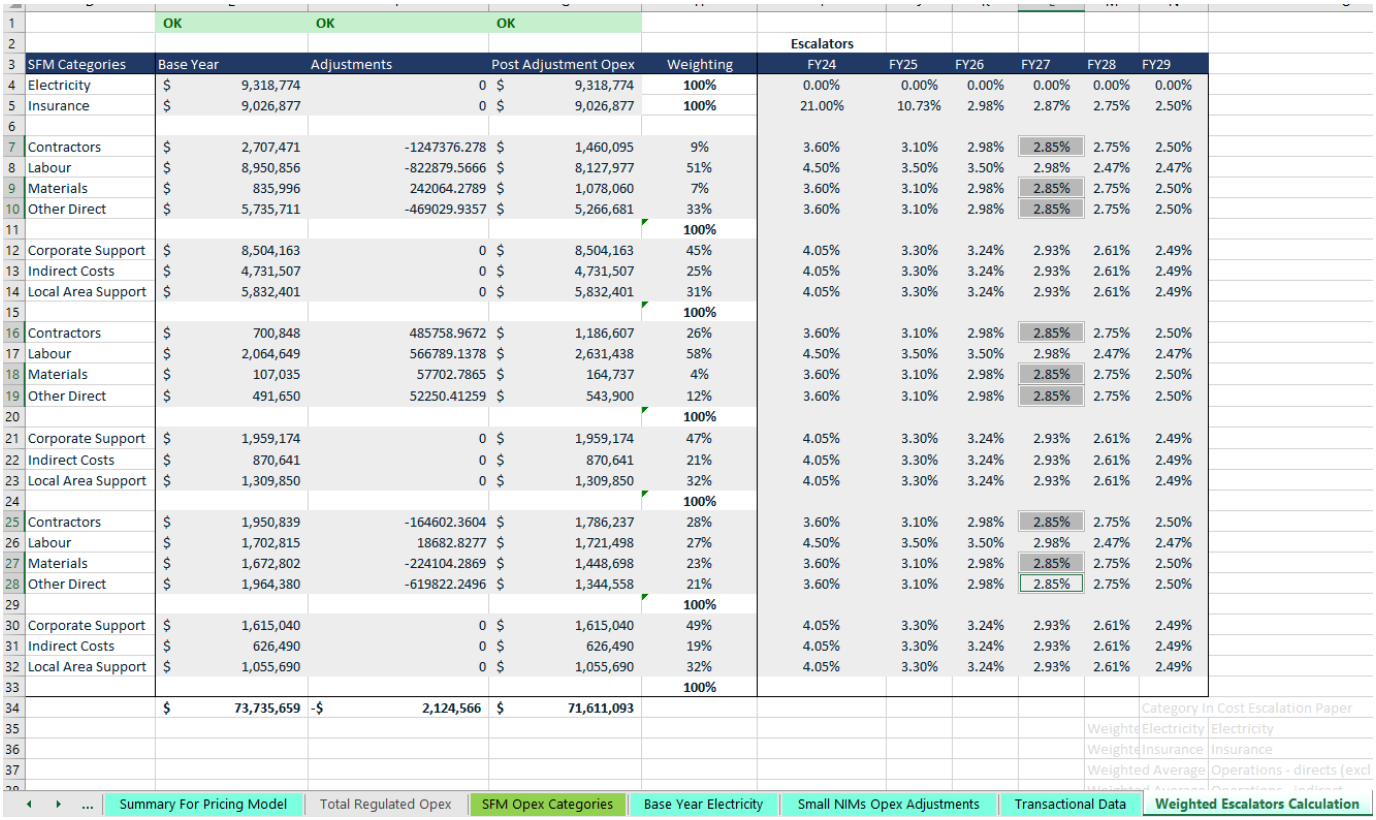
> *The anchor point depends on the RBA's second-year inflation forecast (as a proxy for prevailing economic conditions). For example, if the second-year forecast is:*
>
> − *less than or equal to 2 per cent, the anchor point could be set at 2.25 per cent*
>
> − *between 2 per cent and 3 per cent, the anchor point could be set at 2.5 per cent*
>
> − *greater than or equal to 3 per cent, the anchor point could be set at 2.75 per cent.*

Given that the RBA's forecast was (and remains in April 2024[111]) for inflation to June 2025 to be above 3% the use of 2.75% as the year 5 anchor appears to be consistent with the guidance. However, we also note that the February 2024 RBA forecast projects inflation of 2.6% to June 2026 meaning that the RBA is expecting inflation to be below the FY28 anchor point in FY26. We also note that further RBA forecasts are likely to be released and that it may be appropriate to reflect these in QCA's recommendations.

We note that the glide path appears to be correctly set out in Table 9 of Sunwater's proposal with a figure of 2.87% in FY27. **However, there appears to be a small error in how it has been used in the escalation calculations and in Table 12 of the Proposal where a figure of 2.85% has been used rather than 2.87%.**

[111] Statement on Monetary Policy – February 2024, RBA. Outlook | Statement on Monetary Policy – February 2024 | RBA.

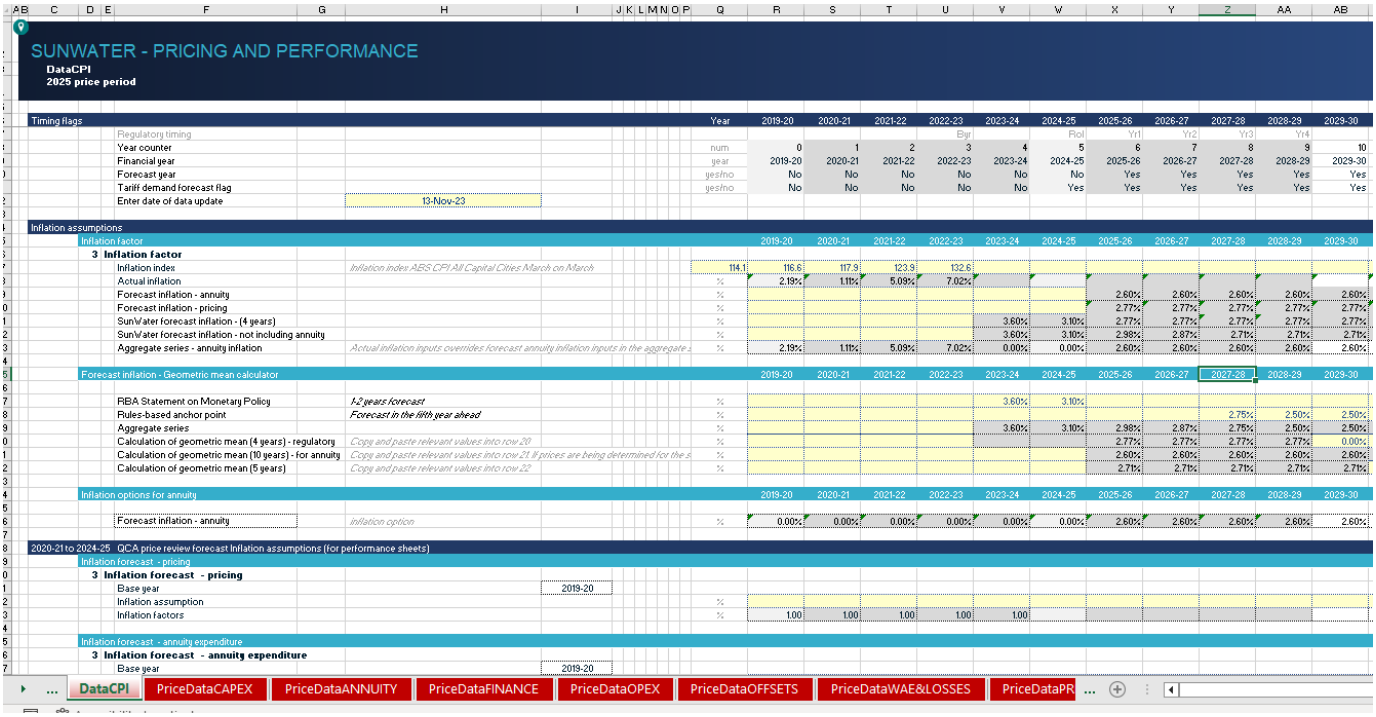
Excerpt from Sunwater spreadsheet '09 OPEX_Electricity_Final Values'.



		OK		OK		OK							
								Escalators					
3	SFM Categories	Base Year		Adjustments		Post Adjustment Opex	Weighting	FY24	FY25	FY26	FY27	FY28	FY29
4	Electricity	$	9,318,774	0	$	9,318,774	100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5	Insurance	$	9,026,877	0	$	9,026,877	100%	21.00%	10.73%	2.98%	2.87%	2.75%	2.50%
6													
7	Contractors	$	2,707,471	-1247376.278	$	1,460,095	9%	3.60%	3.10%	2.98%	2.85%	2.75%	2.50%
8	Labour	$	8,950,856	-822879.5666	$	8,127,977	51%	4.50%	3.50%	3.50%	2.98%	2.47%	2.47%
9	Materials	$	835,996	242064.2789	$	1,078,060	7%	3.60%	3.10%	2.98%	2.85%	2.75%	2.50%
10	Other Direct	$	5,735,711	-469029.9357	$	5,266,681	33%	3.60%	3.10%	2.98%	2.85%	2.75%	2.50%
11							100%						
12	Corporate Support	$	8,504,163	0	$	8,504,163	45%	4.05%	3.30%	3.24%	2.93%	2.61%	2.49%
13	Indirect Costs	$	4,731,507	0	$	4,731,507	25%	4.05%	3.30%	3.24%	2.93%	2.61%	2.49%
14	Local Area Support	$	5,832,401	0	$	5,832,401	31%	4.05%	3.30%	3.24%	2.93%	2.61%	2.49%
15							100%						
16	Contractors	$	700,848	485758.9672	$	1,186,607	26%	3.60%	3.10%	2.98%	2.85%	2.75%	2.50%
17	Labour	$	2,064,649	566789.1378	$	2,631,438	58%	4.50%	3.50%	3.50%	2.98%	2.47%	2.47%
18	Materials	$	107,035	57702.7865	$	164,737	4%	3.60%	3.10%	2.98%	2.85%	2.75%	2.50%
19	Other Direct	$	491,650	52250.41259	$	543,900	12%	3.60%	3.10%	2.98%	2.85%	2.75%	2.50%
20							100%						
21	Corporate Support	$	1,959,174	0	$	1,959,174	47%	4.05%	3.30%	3.24%	2.93%	2.61%	2.49%
22	Indirect Costs	$	870,641	0	$	870,641	21%	4.05%	3.30%	3.24%	2.93%	2.61%	2.49%
23	Local Area Support	$	1,309,850	0	$	1,309,850	32%	4.05%	3.30%	3.24%	2.93%	2.61%	2.49%
24							100%						
25	Contractors	$	1,950,839	-164602.3604	$	1,786,237	28%	3.60%	3.10%	2.98%	2.85%	2.75%	2.50%
26	Labour	$	1,702,815	18682.8277	$	1,721,498	27%	4.50%	3.50%	3.50%	2.98%	2.47%	2.47%
27	Materials	$	1,672,802	-224104.2869	$	1,448,698	23%	3.60%	3.10%	2.98%	2.85%	2.75%	2.50%
28	Other Direct	$	1,964,380	-619822.2496	$	1,344,558	21%	3.60%	3.10%	2.98%	2.85%	2.75%	2.50%
29							100%						
30	Corporate Support	$	1,615,040	0	$	1,615,040	49%	4.05%	3.30%	3.24%	2.93%	2.61%	2.49%
31	Indirect Costs	$	626,490	0	$	626,490	19%	4.05%	3.30%	3.24%	2.93%	2.61%	2.49%
32	Local Area Support	$	1,055,690	0	$	1,055,690	32%	4.05%	3.30%	3.24%	2.93%	2.61%	2.49%
33							100%						
34		$	73,735,659	-$	2,124,566	$	71,611,093						

Summary For Pricing Model | Total Regulated Opex | SFM Opex Categories | Base Year Electricity | Small NIMs Opex Adjustments | Transactional Data | Weighted Escalators Calculation

It is also not clear to us why different numbers have been used for CPI inflation assumptions in Sunwater's RAB model, excerpt below.



SUNWATER - PRICING AND PERFORMANCE

DataCPI
2025 price period

Timing flags			Year	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
	Regulatory timing						Bgn		Pool	Yr1	Yr2	Yr3	Yr4	
	Year counter		num	0	1	2	3	4	5	6	7	8	9	10
	Financial year		year	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
	Forecast year		yes/no	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
	Tariff demand forecast flag		yes/no	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
	Enter date of data update	13-Nov-23												
Inflation assumptions														
Inflation factor				2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
	3 Inflation factor													
	Inflation index	*Inflation index ABS CPI All Capital Cities March on March*	114.1	116.6	117.9	123.9	132.6							
	Actual inflation		%	2.19%	1.11%	5.09%	7.02%							
	Forecast inflation - annuity		%							2.60%	2.60%	2.60%	2.60%	2.60%
	Forecast inflation - pricing		%							2.77%	2.77%	2.77%	2.77%	2.77%
	SunWater forecast inflation - (4 years)		%					3.60%	3.10%	2.77%	2.77%	2.77%	2.77%	2.77%
	SunWater forecast inflation - not including annuity		%					3.60%	3.10%	2.98%	2.87%	2.71%	2.71%	2.71%
	Aggregate series - annuity inflation	*Actual inflation inputs overrides forecast annuity inflation inputs in the aggregate*	%	2.19%	1.11%	5.09%	7.02%	0.00%	0.00%	2.60%	2.60%	2.60%	2.60%	2.60%
Forecast inflation - Geometric mean calculator				2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
	RBA Statement on Monetary Policy	*1-2 years forecast*	%					3.60%	3.10%					
	Rules-based anchor point	*Forecast in the fifth year ahead*	%									2.75%	2.50%	2.50%
	Aggregate series		%					3.60%	3.10%	2.98%	2.87%	2.75%	2.50%	2.50%
	Calculation of geometric mean (4 years) - regulatory	*Copy and paste relevant values into row 20*	%							2.77%	2.77%	2.77%	2.77%	0.00%
	Calculation of geometric mean (10 years) - for annuity	*Copy and paste relevant values into row 21 If prices are being determined for the s*	%							2.60%	2.60%	2.60%	2.60%	2.60%
	Calculation of geometric mean (5 years)	*Copy and paste relevant values into row 22*	%							2.71%	2.71%	2.71%	2.71%	2.71%
Inflation options for annuity				2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
	Forecast inflation - annuity	*Inflation option*	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.60%	2.60%	2.60%	2.60%	2.60%
2020-21 to 2024-25 QCA price review forecast inflation assumptions (for performance sheets)														
Inflation forecast - pricing														
	3 Inflation forecast - pricing													
	Base year	2019-20												
	Inflation assumption		%											
	Inflation factors		%	1.00	1.00	1.00	1.00	1.00						
Inflation forecast - annuity expenditure														
	3 Inflation forecast - annuity expenditure													
	Base year	2019-20												

DataCPI | PriceDataCAPEX | PriceDataANNUITY | PriceDataFINANCE | PriceDataOPEX | PriceDataOFFSETS | PriceDataWAE&LOSSES | PriceDataPR

Source: Sunwater spreadsheet: 01 SunW Pricing Model RAB

As noted above there will be RBA short-term forecasts for FY26 and FY27 prior to publication of QCA's draft report and it is therefore likely that the anchor point will move to FY30.

Inflation beyond Year 5

The use of 2.5%, the mid-point of the RBA target beyond year 5 (i.e. from FY29 on) appears to be consistent with the guidance. This is based on the assumption that the first year of the forecast is FY24 given that the proposal was submitted in October of 2023.

Our recommended CPI cost escalation factors are set out below:

Table 5-6 – Recommended CPI cost escalation factors

	FY24	FY25	FY26	FY27	FY28	FY29
Sunwater proposed cost escalation	3.60	3.10	2.98	2.85	2.75	2.50
Recommended cost escalation	3.60	3.10	2.98	2.87	2.75	2.50

Note: The only difference is the correction to the FY27 figure.

5.5.3 Electricity

Sunwater's approach to projecting future electricity prices is to use actual escalation projections where available and for other years. It has carried out the projections on a National Meter Identifier (NMI) basis as follows:

- If the NMI is covered under the whole of government agreement, Sunwater has used the NMI specific electricity escalation for FY24 to FY2028 with FY29 escalated using CPI.
- If the NMI is not covered under the whole of government agreement, Sunwater has used the QCA regulated prices Determination[112] for FY24 based on the NMI tariff and then CPI thereafter.

The result is that:

- Twelve schemes have a very simple projection based on 26.8% in FY24 and CPI thereafter. The FY24 figure is based on QCA's estimate of the increase faced by typical customers on the main small business tariff (tariff 20) following its Final Determination. These are all water supply schemes: Barker Barambah, Boyne, Bundaberg, Burdekin, Callide, Lower Fitzroy, Macintyre Brook, Nogoa, Mareeba, Pioneer, Proserpine and Three Moon. These schemes all have low electricity costs ($0.2M in total across all of them in FY23). We note that the CPI index used for these schemes does not contain the error in FY27 discussed above.
- We also note that two schemes have slightly different FY24 cost escalation factors in FY24:

[112] Regulated electricity prices for regional Queensland 2023–24: Final Determination, July 2023 QCA. Regulated electricity prices for regional Queensland 2023–24 (qca.org.au)

- Upper Burnett WS has 26.84% cost escalation; and
- St George WS has 25.36%.

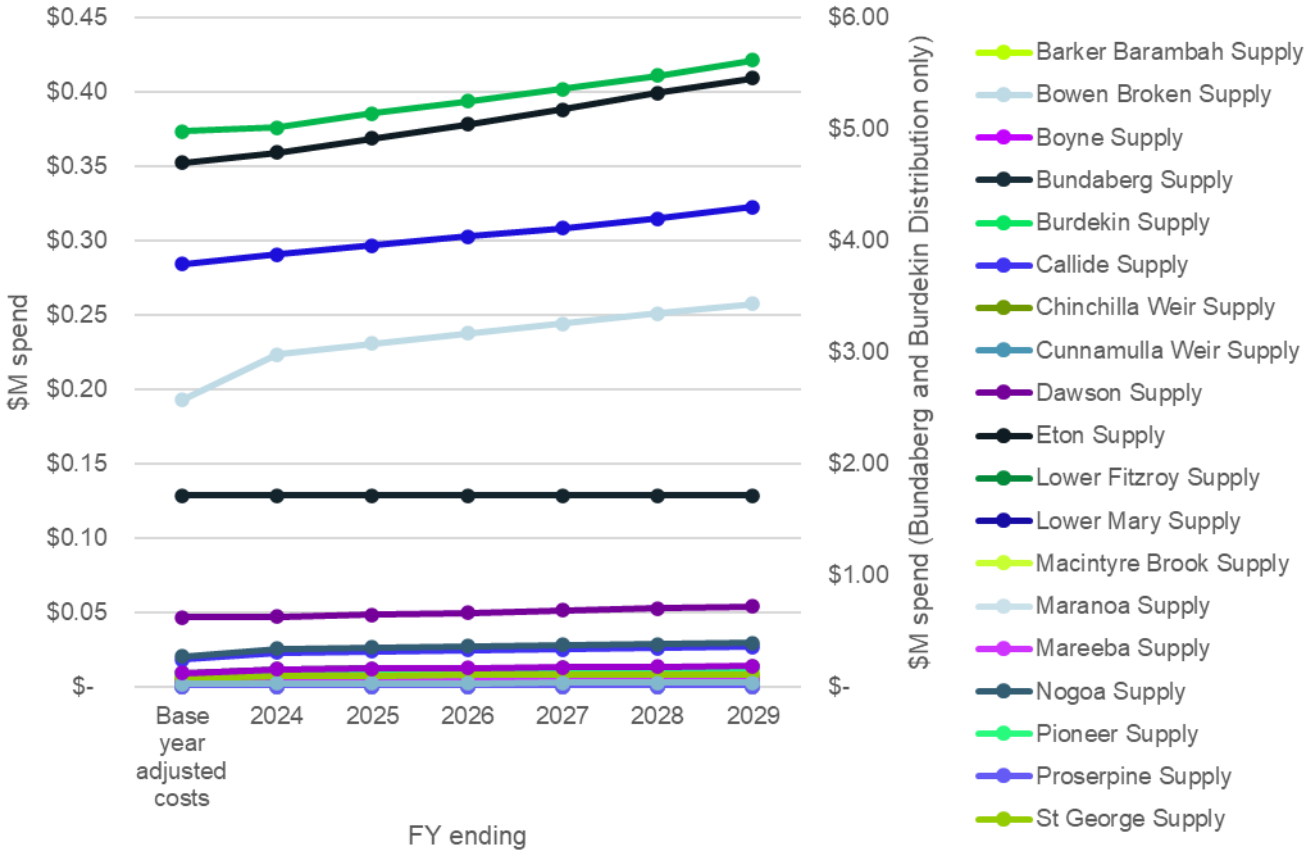
In RFI 136 Sunwater has explained how these escalation rates have been derived based on the different retail tariffs applying to the NMIs within the schemes.

We consider the proposed approach for these schemes to be reasonable.

- Dawson WS scheme initially had the very simple projection applied. However, in RFI41, Sunwater provided amended cost escalation factors for this scheme. The proposed escalation for Dawson WS has been amended because Sunwater recently completed a review of its retail electricity tariff arrangements and identified opportunities to re-assign some sites to cheaper electricity tariffs. This has led to savings which Sunwater has reflected in lower cost escalation factors.
- A further four schemes have no material electricity costs so no electricity escalation factor is proposed. These schemes are Chinchilla Weir Supply, Cunnamulla Weir Supply, Lower Mary Supply and Maranoa Supply.
- This leaves seven schemes which Sunwater has modelled in detail using monthly data broken down into contestable and regulated prices. For regulated prices, the model uses QCA's Final Determination tariffs for FY24 and CPI inflation for FY25 to FY29. For contestable prices, it uses prices from the Whole of Government contract. It assumes no further shifts from regulated to contestable prices. The schemes modelled in this way are Burdekin IS, Bundaberg IS, Eton WS, Bowen Broken WS, Lower Mary IS, Mareeba IS, and Upper Condamine WS. As with Dawson, Sunwater has proposed amendments to the proposed escalation rate for Lower Mary IS following a change in tariff and associated savings.

Sunwater's proposed electricity cost projections are summarised below.

Figure 5-16 – Electricity cost projections ($M nominal)



Source: Analysis of Sunwater spreadsheets 'RFI_41_V2 Updated Electricity Data' and '09 OPEX_Electricity_Final Values'

We have reviewed the modelling undertaken by Sunwater. Our view is that the approach taken by Sunwater appears reasonable and **we have not recommended any adjustments to it.** There is a possibility that new, more cost-effective tariffs may emerge, and that benefits may emerge from the Power Correction Factor study but this is balanced against a backdrop of wider price volatility. The whole of government agreement ends in mid FY29. Sunwater has assumed 2.5% escalation in that year in line with CPI. **This appears reasonable given it is nearly six years away, but we acknowledge there is a risk that a favourable tariff is not available to replace the current arrangement.**

With this in mind, we also **recommend that Sunwater revisits its energy efficiency plans during the next price path with a view to presenting an efficiency strategy at the next price review**. As the current whole of government arrangements expire, price changes may make it significantly more attractive to implement energy efficiency/self-generation projects.

5.5.4 Insurance

Sunwater's proposed approach to forecasting insurance is to apply projections informed by [redacted] its broker, for FY24 and FY25 and use CPI as the basis of escalation thereafter.

In its proposal Sunwater makes the point that *"Premiums are based on two factors, the value of the assets being insured and the premium applied to the policy type"*. The value of the assets is referred to as DAV as set out in Section 3.6.

In projecting escalation for FY24, Sunwater assumed an 11% increase in DAV and a 10% increase in premiums across policy types, leading to a 21% increase. For FY25 it assumed no increase in DAV but a 10.73% increase in premiums based on the assumption of 5% real terms increase in addition to inflation which was stated to be 5.73% at the time of forecast.

Sunwater now has the outturn premiums for FY24, and the increase was significantly lower than had been anticipated. In total its insurance costs (for the whole corporation rather than for regulated schemes) increased by 9.2% in FY24. This results in an increase of 10.9% in direct insurance costs[113] for the regulated schemes. This figure is higher than the overall Sunwater increase because of the effects of the 11.5% rise in the Industrial Special Risks (ISR) policy which is allocated as a direct cost as summarised below.

Table 5-7 – Comparison of Sunwater insurance costs in FY23 and FY24 ($k nominal)

Insurance class	FY23	FY24	Increase compared to FY23	
	$	$	$	%
Environmental Impairment Liability				0.0
Heavy Motor				18.4
Marine Cargo				2.7
Marine Hull Commercial				20.8
Personal Accident				0.0
Travel				21.6
Fee				7.5
ISR*				11.5
Liability*				5.1
Directors and Officers Liability				-1.1
Crime				0.
Statutory & Business Practices Liability*				13.5
Contract Works*				-3.6
TOTAL				**9.2**

Sources: analysis of Sunwater spreadsheets "RFI35_Asset data DAV FY24 Premium allocation" and "RFI35_Asset data DAV FY23 Premium allocation".

Notes: Cost is based on the "Amount in GL" i.e. excluding GST but including stamp duty and fees. * Denotes policies which are treated as direct costs and allocated to schemes by DAV.

Sunwater has not proposed to amend its FY25 escalation factor as it has forecast the increase in DAV to be 6.8% *"used the last quarterly ABS index[114] movement % as at Sep2023 to forecast the Dec2023 and Mar2024 ABS index values (yet to be published)"*[115] and [redacted] advice on FY25 premiums which assumed a 5.0% rise in ISR premiums

[113] i.e. those recovered as direct costs by DAV allocation as opposed to those recovered through corporate overheads. The increase is based on a comparison of the estimated regulated insurance provided by Sunwater in "RFI35_Asset data DAV FY24 Premium allocation" i.e. $10,010k and the FY23 outturn figure of $9,027k from "09 OPEX_Electricity_Final Values"

[114] Understood to be the index: '3101 Road and bridge construction Queensland'

[115] "Sunwater Insurance Program IPP25" presentation given by Sunwater on 2 February 2023

and 6.0% rise in liability premiums in addition to asset value increases. It estimates that, on this basis, it will face a 12.1% increase in ISR costs but has proposed to maintain its 10.73% forecast.

However, the rate of increase in the '3101 Road and bridge construction Queensland' index has been slower than Sunwater assumed. Based on the first three quarters of the March 23 to March 24 year expected to be used to calculate the DAV for FY25, the annualised rate of increase in the index appears to be running at 3.67% rather than Sunwater's expected 6.8% as summarised below.

Table 5-8 – Comparison of Sunwater insurance costs in FY23 and FY24 ($k nominal)

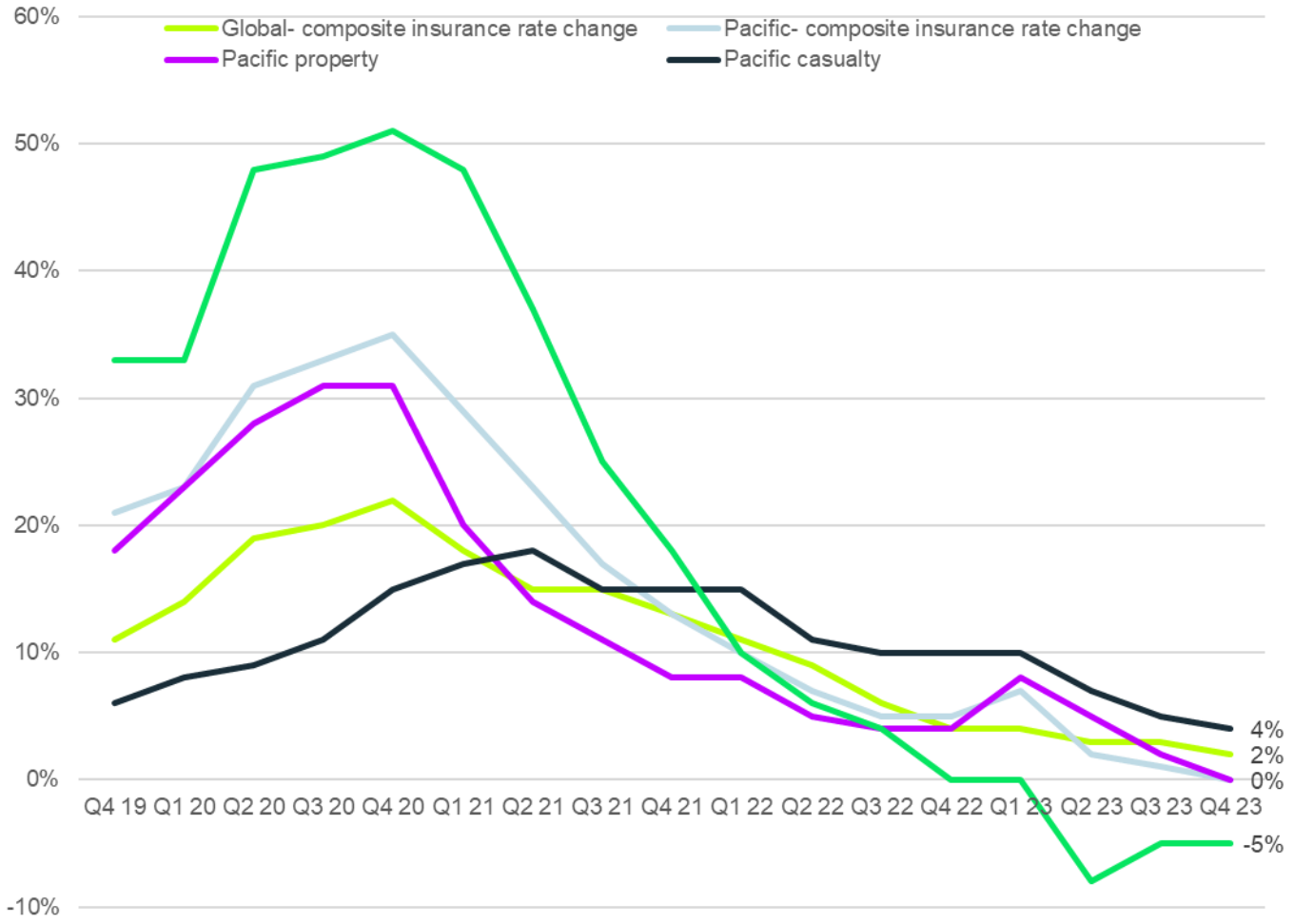
	2023-Q1	2023-Q2	2023-Q3	2023-Q4
Index	135	135.6	138.4	138.7
Quarterly change (%)	0.75	0.44	2.06	0.22
inflation since March 23 (3 quarters)				2.74
Quarterly geometric average (% per quarter)				0.91
Annualised equivalent (% p.a.)				**3.67**

Source: Analysis of ABS index '3101 Road and bridge construction Queensland'[116]

We also note that [redacted] 5% and 6% rises appear to be assumptions rather than projections and that their most recent update points to a general cooling in the rate of premium increases with Pacific property premiums rate changes having fallen to zero in Q4 2023 and D&O rate changes having become negative.

[116] Downloaded in March 2024 from: .Stat Data Explorer (BETA) • Producer Price Indexes by Industry (abs.gov.au)

Figure 5-17 – Rates of change in insurance premiums



Source: Analysis of Marsh Digital Report: Pacific Insurance Market Pricing[117]

We have recommended an alternative escalation assumption for FY25 of 5.67%. This is based on the annualised 'road and bridge' index of 3.67% and an allowance of 2% for premium increases. This is loosely based on the global composite insurance rate change in Q4 2023, which we note is higher than the Pacific composite and property rates of 0%. We consider it reasonable and potentially generous in some ways, in that the premium increases in [redacted] update are assumed to already take account of underlying asset value changes, thereby potentially double counting nominal price increases. We understand from the discussions in interview that maximum foreseeable losses are not expected to increase in FY25. We also understand that there is some potential for savings by increasing the ISR deductibles as discussed in Section 5.7.1. However, we consider it reasonable to make some allowance for premium increases given the potential for Sunwater's circumstances to vary from the market norm and/or for premiums to continue to evolve.

The recommended escalation is summarised below.

[117] Downloaded in March 2024 from Pacific Insurance Rates | Market Index | Marsh

Table 5-9 – Recommended insurance cost escalation factors (%)

	FY24	FY25	FY26	FY27	FY28	FY29
Sunwater proposed insurance cost escalation	21.00	10.73	2.98	2.87	2.75	2.50
Recommended insurance cost escalation	10.89	5.67	2.98	2.87	2.75	2.50
Comment	Sunwater's revised estimate using FY24 actual premiums	Updated view of road and bridges index + 2% premium increase	Accept Sunwater's proposed CPI escalation			

5.5.5 Labour

In its position paper on inflation forecasting QCA comments on the approach to labour cost escalation as follows:

> *For labour cost escalation, we have previously used Queensland Treasury's most recent forecasts of the Queensland wage price index (WPI) for up to three years ahead, with the long-term (10-year) historical average Queensland WPI thereafter. We consider that the Queensland Treasury is a reliable source of information, and its data is publicly available and therefore transparent. We consider the WPI to be the best estimate of wage cost escalation, as it measures the pure price change in labour costs independent of compositional changes such as variations in the quality or quantity of work performed.*

Sunwater's proposed approach to labour cost escalation can be summarised as:

- FY24: the uplift agreed in the most recent EA, applied as 4.5%.
- FY25 & FY26: Queensland Treasury & RBA wage price index forecast for FY25 of 3.5%.
- FY27: linear glide path from the FY26 to the FY28 level (i.e. the average of FY26 and FY28).
- FY28 and FY29: 10-year simple average of the QLD WPI all sectors. This is based on analysis by Sunwater's consultants which used forecasts for FY23 and FY24.

We consider that the approach to projecting escalation for FY24, FY25 and FY26 appears reasonable. The FY24 increase is based on the amount agreed in the EA and is below the December 2023 Queensland Treasury WPI forecast of 4.75% for FY24. Any banding increases[118] in FY24 should be counterbalanced by recruitment/churn and the productivity benefits to which the EA also commits.

[118] i.e. increases in addition to inflation due to progression up the bands.

The forecasts for FY25 and FY26 are based on the WPI projections in the Queensland Government State Budget 2023-24[119] and the FY25 figures are reaffirmed in the December 2023 Budget Update[120]. These forecasts therefore appear reasonable.

Given that it is available we consider it preferable to use the 2023-24 State Budget WPI forecast of 3.5% for FY27 in lieu of Sunwater's glide path. We have therefore recommended a labour cost escalation rate of 3.50% in FY27.

We have also revisited the assessment of the long-term historical Queensland WPI now that actuals are available for FY23. Taking into account the forecast of 4.75% WPI increase in FY24, the geometric mean of the ten-year average (from FY15 to FY24) is estimated to be 2.49%. We have therefore recommended applying this escalation rate for the remainder of the period consistent with QCA's stated approach.

As a general point we note that Queensland Treasury is likely to provide WPI forecasts for FY26 to FY28 when they release their budget papers for FY25 in mid-2024 and consideration could therefore be given to updating these escalation rates at that time.

Table 5-10 – Recommended labour cost escalation factors

	FY24	FY25	FY26	FY27	FY28	FY29
Sunwater proposed labour cost escalation	4.50	3.50	3.50	2.98	2.47	2.47
Recommended labour cost escalation	4.50	3.50	3.50	3.50	2.49	2.49
Comment	Accept Sunwater proposal			Use Queensland Treasury's June 2023 WPI forecast *Consider updating when the Treasury WPI forecast is published*	Geometric mean of FY15 to FY25 Queensland WPI *Consider updating FY28 when the Treasury WPI forecast is published (expected mid 2024)*.	

5.5.6 Support costs

Sunwater has proposed a 50:50 weighting of labour and general inflation for this index as summarised below.

[119] State Budget 2023-24 Budget Strategy and Outlook Budget_2023-24_Strategy_Outlook.pdf accessed in April 2024

[120] From Queensland Government website accessed in March 2024: Economic Overview - Queensland Budget 2023-24

Table 5-11 – Support cost escalation factors from Sunwater's proposal (%)

Cost category	Basis	FY24	FY25	FY26	FY27	FY28	FY29
Sunwater proposal							
Labour	Labour index	4.50	3.50	3.50	2.98	2.47	2.47
	General inflation index	3.60	3.10	2.98	2.85	2.75	2.50
Support costs	50:50 labour and general inflation index	4.05	3.30	3.24	2.93	2.61	2.49

Source: Table 12 Sunwater proposal

Based on a review of non-direct costs in RFI 68, we consider that 50% is a reasonable estimate of the labour proportion of non-direct costs. We therefore recommend maintaining Sunwater's approach. However, we do recommend updating the figures to reflect the labour and inflation escalation rates discussed above.

On this basis, the recommended cost escalation factors are summarised below.

Table 5-12 – Recommended support cost escalation factors (%)

Cost category	Basis	FY24	FY25	FY26	FY27	FY28	FY29
Labour	Labour index	4.50	3.50	3.50	3.50	2.49	2.49
	General inflation index	3.60	3.10	2.98	2.87	2.75	2.50
Support costs	50:50 labour and general inflation index	4.05	3.30	3.24	3.19	2.62	2.50

Source: AtkinsRéalis analysis

5.6 Potential for efficiency

Sunwater's proposal summarises a number of areas of efficiency savings it considers it has been delivering on through its Value Improvement Program in the current period. These include energy efficiency, insurance costs, "finding better ways to balance customer and stakeholder expectations on engagement" and "improving our systems to better support the business in meeting engagement expectations".

Sunwater has built in a cumulating annual efficiency of 0.5% p.a. from FY24 onwards. It has been applied to expenditure which Sunwater considers as 'non-controllable' as well as 'controllable' opex.

We consider that Sunwater has significant potential for opex efficiency, in particular we note:

- Procurement efficiency is likely to be a key lever for efficiency. We were told at interview that the procurement team has doubled in size in the last few years and that Sunwater is developing a maturity pathway over the next five years. We were told that a strategic procurement planning process had started in October 2023 and that Business Unit Procurement Plans were being developed, having been trialled for ICT, with Operations and Infrastructure to follow. These kinds of activities are good practice and have generally already been embedded in efficient utilities. They are supportive of the potential for efficiencies in all externally sourced activities.

- There is potential for continued electricity savings through the implementation of measures emerging from the power correction factor study for example.

- There may be savings from reviewing and increasing insurance deductibles (see Section 5.7.1 below) and continued review of coverage levels.

- Sunwater's Technology Strategic Roadmap (RFI 54) sets out significant improvements in areas such as a technology-enabled workforce and automation as discussed in Section 4.1. This, combined with the significant investments already made in capability improvement and ICT more generally should be a significant efficiency lever.

- Linked to this, Sunwater has proposed a number of new SCADA systems which should lead to performance improvements, savings in travel time and expenses and safety benefits of avoided travel. This is positive but we consider that there is significant potential to scale up SCADA (and the associated savings and benefits) in such a geographically dispersed system and **recommend that a SCADA strategy be developed in order to maximise these benefits.** We consider it likely that scaled up SCADA could pay for itself through reduced travel time and expenses.

- We **recommend that Sunwater undertake and document a process to identify spend-to-save investment proposals and efficient working practice changes**. Where significant investment is required, we recommend embedding the claimed benefits into budgets as is custom at efficient utilities to ensure that they are delivered.

- There are a number of activities areas where costs have increased with limited evidence of links to external drivers and strong cost management. It is therefore likely that strong cost monitoring and control will be helpful in achieving efficiencies.

- We also note that the 2023 Enterprise Agreement commits Sunwater staff to achieving a productivity offset equal to half of the increases as follows:

  > *The payment of the above increases requires your commitment to the productivity offset of half of the wage increase per annum as required by the Government Owned Corporations Act 1993 (Qld) and the Queensland Government's wages policy*

  This is equivalent to a productivity gain of 2.25% in FY24 (following on from 2.25% in FY23) and 1.75% in FY25.

We consider that, with the exception of electricity costs, Sunwater is not at an advanced stage of its efficiency journey, with limited procurement maturity and routine cost overruns compared to QCA recommendations with limited evidence of strong cost control action and reprioritisation (e.g. direct labour costs but also renewals; see, for example, Section 6.5). We consider that these points constitute a strong basis for achieving efficiency and therefore think that Sunwater's proposed 0.5% p.a. efficiency challenge is achievable and it should be possible to exceed it.

5.7 Review events

In its 2020 report QCA said:

> *We recommend… the following events be eligible for the review of associated costs to determine prudency and efficiency:*
>
> - *a material change in electricity prices*
> - *a material change in insurance premiums*
> - *a material change in off-stream pumping costs*
> - *a material change in costs arising from a policy change or regulatory impost*

Sunwater's Proposal proposes a Review Event of $7.9M (in $FY23) for insurance costs incurred above the allowance for the FY21 to FY25 period. It proposes to recover these costs as a revenue adjustment in the next period. We examine below Sunwater's proposed insurance review event and the potential for an electricity review.

5.7.1 Insurance

Justification and management measures

As seen in Figure 5-17, insurance premiums have risen significantly since the 2020 review. This has resulted in premiums rising more than was assumed in the 2020 review. Sunwater has taken action to manage its insurance costs in a number of ways including:

- active engagement with insurers and regular reviews of coverage and identification of potential self-insurance;
- a full revaluation of its assets in 2021 resulting in a reduction in asset values from $13.5B to $11.7B and a reduction in insurance premiums of approximately $0.8M;
- increased the deductibles on liability insurance from [redacted] in FY20 and reduced cover from [redacted]
- self-insurance for cyber risk as it considers it is better to invest in controls.

We also understand[121] that following the issues with Paradise dam, it was excluded from coverage under Sunwater's insurance program for FY21 when it was effectively self-insured. The dam was then brought back within coverage for FY22 after completion of the wall lowering with a higher separate deductible of [redacted]. It was then brought back into the general program in FY23 when significant spills had demonstrated its resilience.

One area where we consider there may be potential to reduce premiums further is to increase deductibles. This is also highlighted by [redacted] in its May 23 report[122] for ISR:

[121] From Sunwater's response to RFI 102
[122] From Sunwater's response to RF I36

We had investigated previously; the effect of the high deductible (currently [redacted] would make to pricing. The savings were very minimal. We can revisit this but to make a reasonable saving Sunwater would need to consider deductible of $20m. ***This could give a saving between 5-10%.***

We consider this is worth further investigation as a saving of 10% in ISR premiums would result in a saving of approximately $1.0M p.a. (Sunwater total) and a deductible of $20M would still represent less than 6% of annual operating revenue[123].

However, we have not applied this saving retrospectively as we recognise that it is difficult to know with certainty what the impact would have been and it may have taken time to negotiate and achieve the savings.

On balance we consider that Sunwater has taken appropriate steps to manage and mitigate the increases in costs in the insurance market and that the insurance cost overspend was prudent and efficient.

Quantification of the impact

Sunwater's proposed review event is built up on the basis of the following assumptions. We note that Sunwater is seeking the review event to cover higher 'direct' insurance expenditure only, i.e. not the policies recovered through corporate overheads.

Table 5-13 – Sunwater's proposed insurance review event ($FY23 M)

Cost category	FY21	FY22	FY23	FY24 Forecast	FY25 Forecast	TOTAL
Total insurance cost	13.2	13.2	14.4	16.6	17.9	**75.3**
Regulated scheme insurance cost	9.2	8.3	9.2	9.1	9.8	**45.6**
QCA recommendation	7.6	7.6	7.7	7.4	7.4	**37.7**
Under recovery	1.6	0.6	1.5	1.8	2.4	**7.9**

Source: Table 15 Sunwater proposal

To derive the $FY23 prices Sunwater has applied the following process. The same conversion rate has been applied to QCA's recommendation.

[123] Based on FY23 operating revenue of $360M as reported in the 2022-23 Annual Report.

Table 5-14 – Sunwater's proposed conversion to FY23 prices ($M)

Cost category	FY21	FY22	FY23	FY24 Forecast	FY25 Forecast
Regulated scheme insurance cost ($nominal M)	8.9	8.1	9.2	9.8	10.8
Inflation	1.84%	1.72%	6.01%	6.75%	3.00%
$FY23 conversion factor	96.5%	98.3%	100.0%	106.8%	110.0%
Regulated scheme insurance cost ($FY23 M)	9.2	8.3	9.2	9.1	9.8

Source: Table 2 Sunwater response to RFI32

It appears that this assessment may contain several errors:

- Regulated scheme (direct) insurance costs in FY23 are reported to be $9.0M rather than $9.2M in Sunwater spreadsheets such as "09 OPEX_Electricity_Final Values" and 'RFI35_Table 4_Updated insurance with 2023-24 Actuals"

- The conversion factor appears to be misapplied. For example, Sunwater's assessment of inflation between FY22 and FY23 is 7.0%[124] suggesting that the conversion factor for FY22 expenditure to convert to FY23 expenditure should be 93.4% not 98.3%

We have prepared an alternative assessment of the review event claim with the FY23 figures corrected and the FY24 and FY25 figures updated to reflect outturn FY24 premiums and recommended escalation as discussed in Section 5.5.4. We have also applied two different cost escalation indices as set out below. This results in a slightly larger estimate of the difference between expenditure and QCA's 2020 allowance. As stated above, we consider that Sunwater's insurance expenditure was prudent and efficient and therefore recommend accepting these additional review event costs.

[124] As used in Sunwater's spreadsheet (09 OPEX_Electricity_Final Values) and understood to be based on 'Inflation index ABS CPI All Capital Cities March on March'

Table 5-15 – Alternative calculation of the insurance review event ($FY23 M)

Cost category	FY21	FY22	FY23	FY24 Based on actuals	FY25 Forecast	TOTAL
Nominal ($M)						
Regulated scheme insurance cost	8.9	8.1	9.0	10.0	10.6	
QCA recommendation	7.3	7.5	7.7	7.8	8.1	
Difference	1.6	0.6	1.3	2.2	2.5	
Conversion factors to $FY23						
Conversion factor using All Capital Cities March on March	89%	93%	100%	104%	107%	
Conversion factor using All Groups – June ended	89%	94%	100%	104%	107%	
Overspend compared to QCA recommendation in $FY23						
Using All Capital Cities March on March	1.7	0.6	1.3	2.1	2.3	**8.1**
Using All Groups - June ended	1.7	0.6	1.3	2.1	2.3	**8.1**

Sources: Analysis of Sunwater spreadsheets '09 OPEX_Electricity_Final Values' and 'RFI35_Table 4_Updated insurance with 2023-24 Actuals' and ABS inflation indices

Note: QCA recommendation for FY25 is based on the FY24 figure with CPI escalation. All figures exclude Eton Distribution.

The most appropriate way to allocate the cost of this review event to the different regulated schemes is likely to be according to the proportion of DAV as that is also the basis by which the costs are allocated on an annual basis.

5.7.2 Electricity

Sunwater has not proposed a review event for its electricity costs which have been lower than QCA's 2020 recommendation as set out in Section 5.3, explaining in its proposal that:

Sunwater does not propose that a review event be applied to the materially lower electricity costs on the basis that it has already returned these savings to customers via the three-year electricity cost pass-through trial that commenced in 2020-21

However, we note that the ECPT trial lasted three years from FY21 to FY23 and therefore any savings in FY24 and FY25 will not be returned to customers. We also note that the ECPT trial did not apply to all schemes and only applied to the following schemes/customers[125]:

- Barker Barambah Bulk Water Supply Scheme (Redgate Relift – medium priority tariff group)
- Bundaberg Distribution Scheme
- Burdekin-Haughton Distribution Scheme
- Lower Mary River Distribution Scheme
- Mareeba-Dimbulah Distribution Scheme (Channel – Relift tariff group)
- Upper Condamine Bulk Water Supply Scheme (North Branch – medium priority and North Branch – risk A tariff groups)

The focus of our review is on expenditure, and we have not examined revenue and tariffs. We have therefore not examined the potential offsetting effects of the ECPT trial in this assessment. Our recommendations below are based on the gross savings due to lower electricity prices without taking account of any ECPT trial savings returned to customers.

In its 2020 recommendations QCA stated that it accepted Sunwater's June 2019 base year electricity cost estimates for bulk water supply schemes (WSSs). For distribution systems it recommended a fixed cost and variable allowance based on a $/Ml specific to each scheme. QCA's recommended escalation was based on scheme specific factors for distribution schemes (see Table 5-16 below) and AEMO escalation factors for water supply schemes.

[125] Based on Appendix F of Sunwater's proposal

Table 5-16 – QCA's recommended electricity costs for distribution systems ($M nominal)

Scheme	Fixed/variable	FY20	FY21	FY22
Bundaberg	Fixed ($'000)	589	601	2,500
	Variable ($/ML)	51.49	52.48	44.97
Burdekin-Haughton	Fixed ($'000)	1,300	1,325	1,250
	Variable ($/ML)	17.07	17.4	17.88
Lower Mary River	Fixed ($'000)	36	37	40
	Variable ($/ML)	50.53	51.51	73.44
Mareeba-Dimbulah	Fixed ($'000)	133	136	65
	Variable ($/ML)	67.42	68.73	91.43

Source: Table 20, QCA's 2020 report

QCA's 2020 recommendation concerning eligibility for review events was specific to "*a material change in electricity **prices**"* rather than volumes of water or electricity use. In order to assess the potential scale of review event for distribution systems we have therefore assessed the difference between outturn electricity expenditure and the expenditure if prices had been the same (in nominal terms) as those assumed by QCA. These are summarised and converted into $FY23 prices below.

Table 5-17 – Difference between outturn and QCA's recommended expenditure adjusted for outturn prices (distribution systems) in $FY23 M

	FY21	FY22	FY23	FY24 (projection)	FY25 (projection)	FY21 to FY25 total
Bundaberg						
Water usage (Ml)	132,420	54,738	62,656	79,573	79,573	
Expenditure if price had been as per QCA recommendation ($M nominal)	7.6	5.0	5.4	6.3	6.5	
Outturn expenditure ($M nominal)	5.6	4.1	4.4	5.0	5.1	
Difference ($M nominal)	-1.9	-0.9	-1.0	-1.2	-1.3	
Difference ($FY23M)	-2.2	-1.0	-1.0	-1.2	-1.2	-6.5
Burdekin-Haughton						

Water usage (Ml)	266,638	275,069	190,050	224,724	224,724	
Expenditure if price had been as per QCA recommendation ($M nominal)	6.0	6.2	4.7	5.4	5.6	
Outturn expenditure ($M nominal)	4.8	3.0	3.4	3.9	3.9	
Difference ($M nominal)	-1.2	-3.2	-1.4	-1.6	-1.7	
Difference ($FY23M)	-1.3	-3.4	-1.4	-1.5	-1.6	-9.1
Lower Mary River						
Water usage (Ml)	5,825	922	2,169	4,540	4,540	
Expenditure if price had been as per QCA recommendation ($M nominal)	0.3	0.1	0.2	0.4	0.4	
Outturn expenditure ($M nominal)	0.3	0.3	0.3	0.4	0.4	
Difference ($M nominal)	-0.1	0.2	0.1	0.0	0.0	
Difference ($FY23M)	-0.1	0.2	0.1	0.0	0.0	+0.2
Mareeba-Dimbulah						
Water usage (Ml)	6,636	6,085	5,134	5,134	5,134	
Expenditure if price had been as per QCA recommendation ($M nominal)	0.6	0.6	0.5	0.6	0.6	
Outturn expenditure ($M nominal)	0.6	0.5	0.6	0.6	0.7	
Difference ($M nominal)	0.0	-0.1	0.0	0.1	0.1	
Difference ($FY23M)	0.0	-0.1	0.0	0.1	0.1	0.0
Total						
Difference ($M nominal)	-3.2	-4.1	-2.3	-2.7	-2.9	
Difference ($FY23M)	-3.6	-4.3	-2.3	-2.6	-2.7	-15.4

Source: Analysis of RFI 70, RFI 145, Table 20, QCA's 2020 report, Sunwater's spreadsheet '09 OPEX_Electricity_Final Values' and water usage figures provided by email by QCA

Note: FY24 and FY25 expenditure figures are based on the projections in '09 OPEX_Electricity_Final Values'. The volumes are based on the long-term average figures assumed in QCA's projections126. QCA's recommended expenditure in FY23 and FY24 is based on the escalation factors set out in Table 19 of QCA's 2020 report. The FY25 figure is based on Sunwater's CPI projection.

This analysis suggests that electricity prices have been sufficiently different to lead to a material saving compared to QCA's expected prices for Bundaberg and Burdekin-Haughton but not for Mareeba-Dimbulah. It also suggests that Lower Mary River has seen higher costs than would be expected based on QCA's expected prices. We note, however, that expenditure in Lower Mary River has nonetheless been lower than QCA's allowance because of lower water usage.

Carrying out a similar assessment to isolate the effect of prices for bulk water supply schemes is more challenging as QCA's recommendation was based on Sunwater's proposed fixed expenditure amounts and was not specifically linked to water or energy usage. For these schemes we have therefore compared outturn expenditure to QCA's recommendations in nominal terms and then converted the differences to $FY23 values. The results are summarised below. This suggests that overall water supply scheme electricity costs are expected to be $1.1M less than QCA's 2020 recommendation.

Of these schemes, consistent power consumption and price data are only available on a like-for-like basis for Bowen Broken and Eton Supply schemes. These indicate that average power consumption from FY21 to FY23 was higher than in FY19[127], suggesting that the savings for these schemes have been achieved despite increased consumption rather than because of it.

[126] As set out in tab 'TargetSchemeKWh' of Sunwater spreadsheet 'RFI_145 LongTermLoadProfileBuilder_ForIPP25modelling_RFI13submission'

[127] Based on analysis of Sunwater spreadsheet "RFI13_FY24 Master_Portfolio_Snapshot_ForIPP25_IrrigatorsOnly FY23 as Avge Baseline" average power consumption between FY21 and FY23 was 561MWh p.a. for Bowen Broken Supply and 1,327MWh p.a. for Eton Supply compared to 546MWh and 1,150MWh in FY19

Table 5-18 – Difference between outturn QCA's recommended electricity costs for water supply systems ($FY23M) [only schemes with a difference of more than $0.05M]

	FY21 to FY23 variance from QCA's recommendation	FY21 to FY25 variance from QCA's recommendation
Barker Barambah Supply	-0.01	-0.09
Bowen Broken Supply	-0.18	-0.28
Burdekin Supply	-0.11	-0.32
Callide Supply	0.02	0.06
Eton Supply	-0.42	-0.60
Three Moon Supply	-0.06	-0.10
Upper Condamine Supply	0.05	0.15
Total (all WSSs)	-0.70	-1.13

Source: Analysis of Sunwater spreadsheet '09 OPEX_Electricity_Final Values' and QCA 2020 spreadsheet "QCA recommended opex - 2020 review (excl Eton distribution system)".

Note: positive difference means that expenditure was higher than QCA's recommendation, negative difference that it was lower. QCA's recommended expenditure in FY25 is based on FY24 figure from the QCA spreadsheet escalated using Sunwater's FY25 CPI projection.

As set out in Section 5.3.3 we consider that Sunwater has good processes and strong management in place to ensure efficient electricity expenditure and that its expenditure in the current pricing period is prudent and efficient.

Through the use of the whole of government arrangement, the electricity prices available to Sunwater have been significantly lower than expected at the time of QCA's 2020 recommendations. The assessment above suggests that the lower prices have led to significant savings for many schemes when compared to what expenditure would have been had the prices assumed in QCA's 2020 recommendation materialised. This appears to meet the definition of a material change in electricity prices and therefore a review event may be possible.

We note that the savings based on price are lower than the total savings relative to QCA's recommendation despite water usage being higher than assumed by QCA for three of the schemes as can be seen below. We consider it likely that this is because the tariffs and/or actual consumption during this period have had a different balance of fixed and variable charges than assumed by QCA in its 2020 recommendations.

Table 5-19 – Comparison of savings based on price and total projected savings for distribution systems

	Water usage assumed in QCA's 2020 report	Water usage FY21 to FY23 average	FY21 to FY25 savings based on price	FY21 to FY25 savings based on total spend
Bundaberg	75,682	83,271	6.5	10.1
Burdekin-Haughton	232,035	243,919	9.1	13.9
Lower Mary	4,975	2,972	-0.2	0.8
Mareeba-Dimbulah	5,067	5,952	0.0	0.2
TOTAL	317,759	336,114	15.4	24.9

Source: Analysis of RFI 70, RFI 145, Table 20, QCA's 2020 report and Sunwater's spreadsheet '09 OPEX_Electricity_Final Values', QCA 2020 spreadsheet "QCA recommended opex - 2020 review (excl Eton distribution system)" and water usage values received from QCA 9 May 2024

Note: savings based on total spend are a comparison of Sunwater's actuals to FY23 and projections for FY24 and 25 against QCA's recommendations from the QCA 2020 spreadsheet escalated in FY25 by CPI.

In conclusion:

- We recommend that consideration be given to applying a review event to the distribution schemes. We have prepared an estimate of the savings due to price equal to $15.4M as set out above. The figures presented are 'gross' and are before any potential offset which QCA may want to apply for the savings returned to customers through the electricity cost pass through trial.

- We recommend that a review event be applied to the expenditure savings for WSSs. The WSSs for which we have consistent power consumption data, and which represent two of the most significant underspends (Bowen Broken and Eton), have achieved the savings despite higher power consumption than in FY19. This strongly supports the assertion that the savings have been achieved through lower electricity prices.

- There is some inter-annual variability in power consumption for WSSs and some schemes have seen higher expenditure than QCA's 2020 recommendation. Rather than applying positive review adjustments for some schemes and negative for others, we suggest allocating the aggregate WSS scheme saving across all schemes pro-rata to QCA's FY23 recommendation or similar.

- We note that it may be beneficial to update this assessment using FY24 outturn water usage and expenditure figures when they become available.

6. Renewals expenditure

This section reports on our review of Sunwater's non-billing renewals expenditure. We start the section with a summary of Sunwater's general approach to renewals based on information received and observations. We then outline our methodology to the prudency and efficiency assessment.

We present our assessment of renewals for each historical and forecast renewals. Within each sub-section, we discuss our findings from our sample project/program detailed review and any systematic findings as well as recommendations. The forecast renewals assessment includes expenditure proposed for the interim period (FY25), the next price path (F26-FY29) as well as for the period beyond the price path (FY30-FY58)

Key findings: Historical renewals (FY20-24):

- Over the FY20-24 period, Sunwater expects to have overspent its QCA allowance by $75.9M ($FY24) or 78%.
- Our detailed review included a sample of six historical renewals projects, which covered several types of assets, drivers, and across different schemes. The reviewed sample ($36.1M) represented 21% of historical renewals expenditure ($173.9M).
- Our review found that Sunwater has significant room for improvement in its asset management and planning as well as project scoping and scope management.
- To broaden our assessment, in addition to the detailed review, we also undertook a high-level desktop review of 34 historical renewals projects justification documents, covering $79.3M in expenditure. We have recommended three adjustments to historical renewals:

1. We concluded that the Ben Anderson Barrage Gate Replacement project had incurred higher expenditure than was justified and have recommended an adjustment to reflect our findings.
2. We have extrapolated from the sample of projects reviewed and the Ben Anderson adjustment and have recommended an adjustment of $1.7M or 1% of the total historical renewals expenditure to reflect that Sunwater should have been able to carry out more robust scope management.
3. We also recommend including the insurance contributions identified by Sunwater, which were not included in its submission, to the roll-forward. These represents $8.5M in insurance proceeds across 12 schemes.

Key findings: Future renewals:

We have recommended a number of adjustments to Sunwater's proposed future renewals expenditure to take account of the following:

- The proportion of direct labour which Sunwater assumed for future renewals was significantly higher than recent actuals (118% increase). To determine the level of non-direct costs to be allocated to renewals expenditure, we recommend utilising an allocation of 12% of pre-overhead renewals expenditure to labour, aligning with Sunwater's average of FY20-23 actuals. This allocation adjustment impacts the overhead costs applied to the recommended pre-overhead renewals expenditure.
- Sunwater's assumed asset life and replacement date appear to be too low and early for some asset types, specifically for assets with 20-year assumed asset life. We recommend delaying the replacement of assets with

20-year life assumption by six years. This results in an adjustment of $3.4M to the post-overhead renewals over the period beyond the price path.

We also recommend specific adjustments related to:

- Duplication of dam safety spend in the renewals and dam safety management program of $0.9M between FY25 and FY29.
- We recommend that Sunwater utilises the average age of its meter assets to determine its long-term meter renewal program. This results in an adjustment of $8.3M from FY25 to FY58.

Throughout the review of Sunwater's historical and future renewals expenditure, we have made recommendations for improvements that could deliver cost savings in the future. These include better tracking of outturn expenditure compared to QCA allowance. We consider that this will be an indicator of Sunwater's level of asset management and planning. Better tracking will allow Sunwater to better re-prioritise and understand its position in relation to its initial plans.

We also recommend the application of catch-up efficiency to reflect areas of potential improvement from our findings that could offer cost savings. These catch-up efficiencies are in the following areas:

- Project development and decision making: 2% efficiency challenge starting FY26 and applied to the overall renewals program.
- Value engineering: Phased efficiency challenge starting in FY26, reaching 5% in FY29 and applied to the renewals in the period beyond the price path.
- Procurement: Efficiency challenge starting with 0.5% in FY26 to 3% in FY29 and applied to renewals expenditure beyond the price path.

These adjustments result in recommended non-billing renewals expenditure of $26.4M for FY25, $99.0M for FY26-29, and $413.7M for FY30-58.

6.1 The pricing proposal

Sunwater's pricing proposal presents its renewals expenditure over the current price path as well as its proposed future renewals expenditure over the next price path[128]. The following points represent key elements of Sunwater's historical and future proposed renewals expenditure:

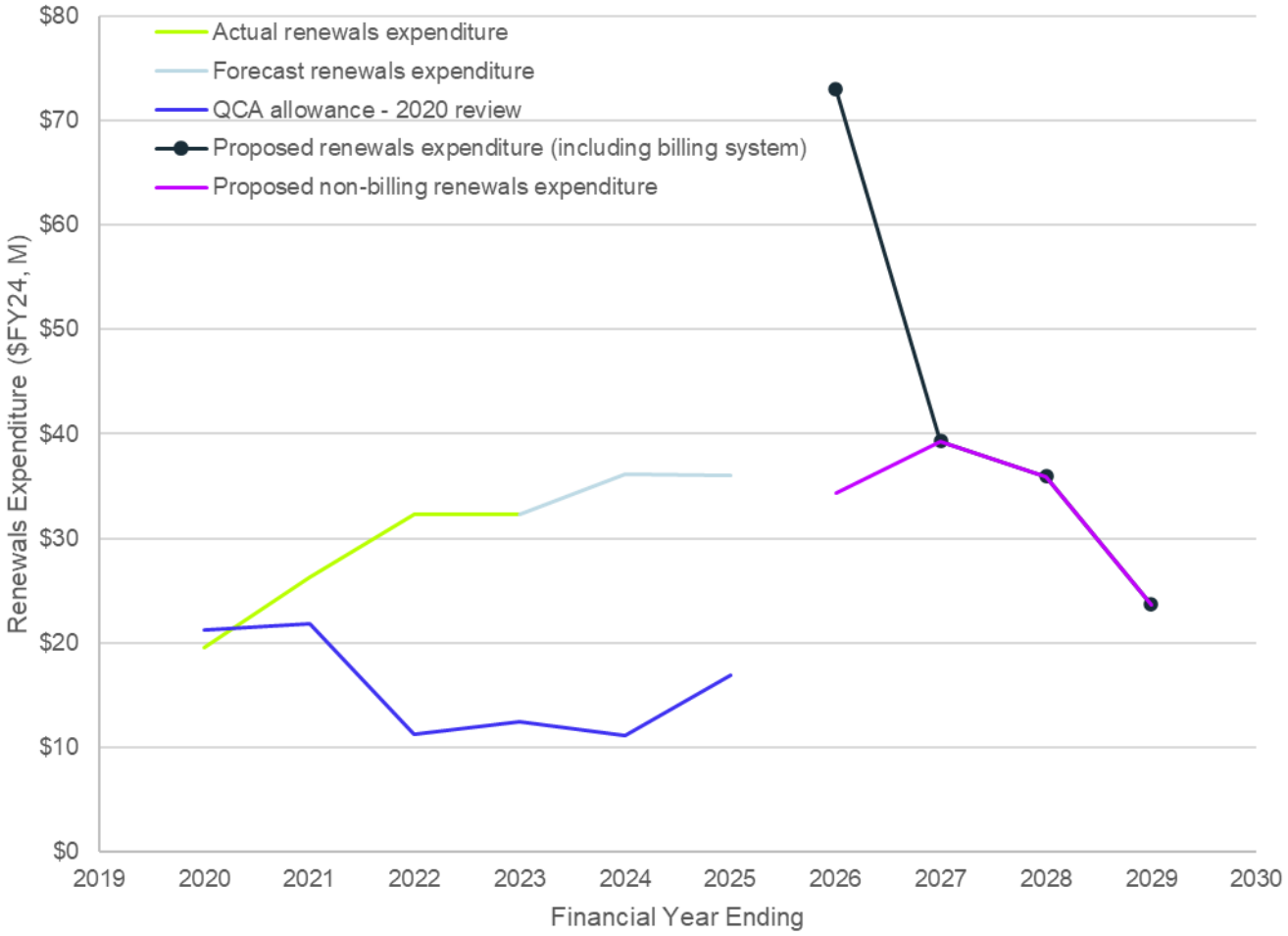
1. **Moving from an annuity-based model to RAB.** Sunwater has proposed to transition its renewal expenditure recovery model to a RAB-based approach.
2. **Actual and forecast expenditure.** During the current price path, Sunwater forecasts a total renewals expenditure of $194.2M in nominal terms ($182.7M in $FY24), i.e. $91.0M ($88.1M in $FY24) higher than the QCA renewals allowance established for the current price path.
3. **Future non-billing renewals expenditure**. The proposal sets out non-billing renewals expenditure of $187.9M in nominal terms (or $133.3M in $FY24) over the next pricing path.

[128] Irrigation Pricing Proposal 2025-2029, Sunwater, November 2023

4. **Billing system renewal build cost:** $40.7M in nominal terms or $38.6 in $FY24 for the billing system build cost and implementation.

Sunwater's historical and proposed renewal expenditure is summarised graphically below.

Figure 6-1 – Historical and proposed total regulated renewals expenditure ($FY24 M)

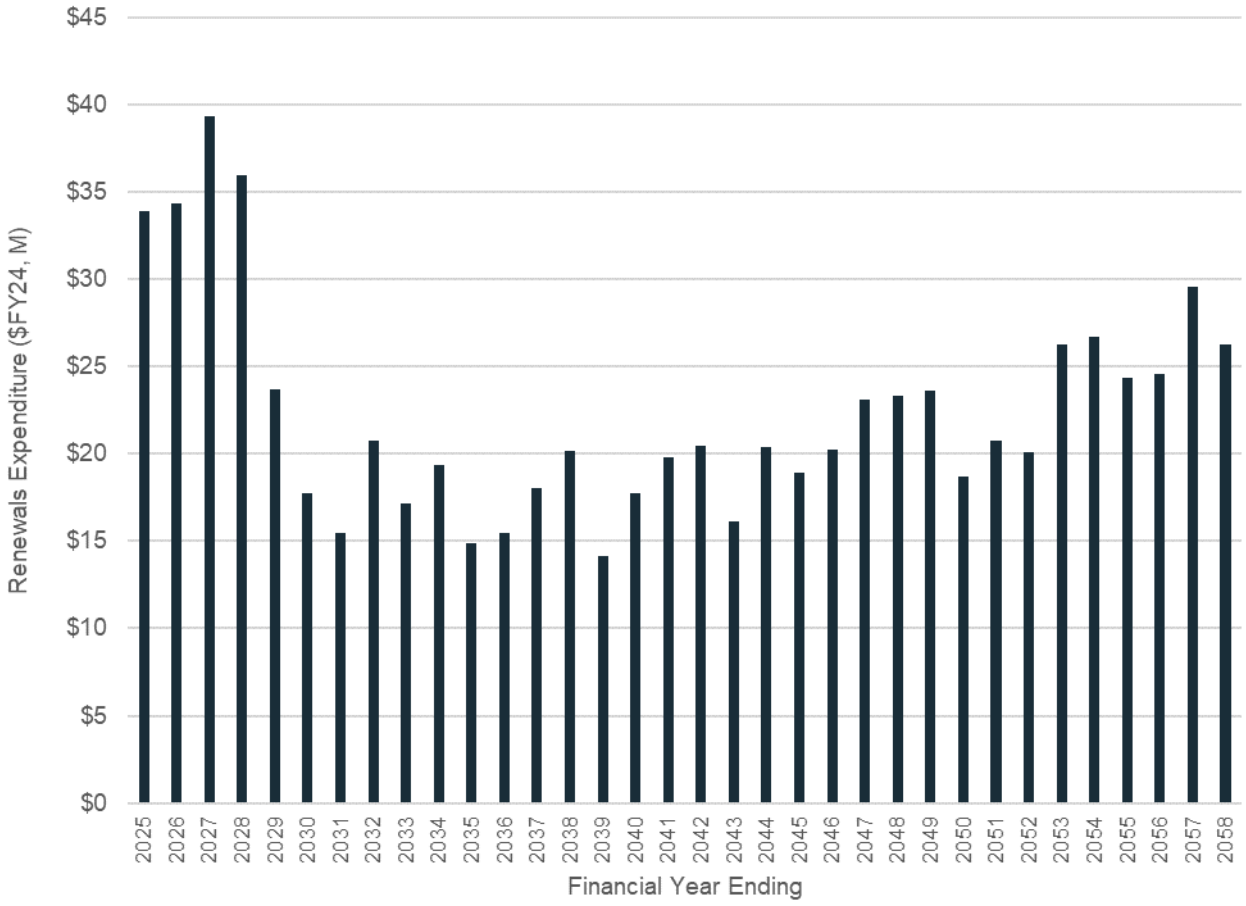


Source: RFI1_RFI2_IPP20_Renewals allowances.xlsx, Sunwater, December 2023 and 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

5. **Outside the price path (2030-2058) renewals expenditure:** the annuity-based renewals recovery requires Sunwater to forecast its 33-year renewals expenditure program. Sunwater proposes a renewal expenditure of $1,042.6M in nominal terms or $594.3M ($FY24) for the period outside of the price path (2030-2058). The figure below illustrates the level of expenditure forecasted for the period between 2025 and 2058.

    a. We note that Sunwater has stated that the cumulative forecast *"is likely a significant under-estimate of the actual expenditure required across this period, however the challenges of developing a robust long-term forecast are one of the primary reasons for the proposed shift to a RAB-based approach."*

Figure 6-2 – Level of expenditure proposed over the period of 2025-2058 ($FY24 M)



Source: 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

6.2 Renewals review methodology

The QCA, in its guidelines, defines prudency and efficiency in its assessment of renewals expenditures and other capex[129]. Box 1 below extracts the definitions from the guidelines document.

Box 1: QCA's prudency and efficiency assessment of renewals and other capex

QCA's assessment involves assessing the need for the expenditure and the appropriateness of the timing, scope, standard and costs associated with the proposed projects.

QCA considers renewals and other capex is prudent if it can be justified by reference to an identified need or cost driver. That is, the renewals and other capex is necessary to:

- replace, refurbish or upgrade existing infrastructure or build new assets
- meet legal or regulatory obligations

[129] Guidelines for pricing proposal – rural irrigation price review 2025-29, QCA, March 2023

- achieve an outcome that is explicitly endorsed or desired by customers (for example, agreed service levels)
- achieve broadly accepted changes in community expectations in relation to corporate responsibility (such as commitment to climate change mitigation).

In assessing prudency, QCA will consider whether the proposed expenditure timing is appropriate (based on lowest whole-of-life costs).

QCA considers renewals and other capex is efficient if:

- the scope of the works represents the best means of achieving the desired outcomes after having regard to the options available, including non-network solutions, and substitution possibilities between opex and capex
- the standard of the works conforms to technical, design and construction requirements in legislation, industry and other standards, codes and manuals
- the cost of the defined scope and standard of works is consistent with conditions prevailing in the markets for engineering, equipment supply and construction.

Our review methodology takes into consideration Sunwater's delivered and proposed projects and programs as well as its overall planning of renewals. To assess Sunwater's expenditure, we undertook a detailed review of its renewals planning processes and selected a representative sample of historical and forecast projects and programs in the context of QCA's prudency and efficiency definitions.

For the selected projects and programs we present our assessment to reflect answers to QCA's efficeincy and prudency tests. Our assessment approach to the samples is summarised in the table below, showing the sub-headers of the project/program review and how they address QCA's efficiency and prudency tests.

Table 6-1 – Selected historical and future projects and programs assessment against QCA's efficiency and prudency tests.

Topic	Prudency	Efficiency
Historical selected projects		
Project Background	• The project need to deliver the required services that is agreed with by customers • Endorsement of the project by customers • Legislative and regulatory obligations and requirements	• Scope definition that represents the required works
Solution identification	• Consideration of the timing of the project	
Procurement		• The application of procurement process that is conducive to receive competitive pricing that reflects the market
Delivery		• The delivery of the project is consistent with the defined scope
Forecast selected programs		
Program background	• The need for the program to deliver the services • The program's alignment with legislative and regulatory obligations	• Definition of the scope is clear and provides the works required to achieve outcomes
Solution identification	• Consideration of timing and application of asset planning	• Consideration of options to deliver the works at the best price
Costs		• Application of costs that reflect the scope requirements

6.2.1 Project and program sampling

In our review of Sunwater's renewals expenditure program, we undertook a detailed review of a representative sample of projects and programs to assess for efficiency and prudency. The sampling of projects and programs was carried out for both historical (current price path) and proposed (future price path) expenditure. For the period beyond the pricing path (2030-2058), we utilised the proposed expenditure sample to inform our review of Sunwater's 30-year long planning and estimate.

6.2.1.1 Historical renewals expenditure

At the time of the sample selection, Sunwater did not provide historical renewals expenditure for each project. However, in its pricing proposal submission, Sunwater provided justification documents for a selection of historical projects and programs representing 53% of the total historical renewals expenditure. We understand that the projects with justification documents represent the largest expenditure by value. Based on the justification documents, QCA supplied a spreadsheet including expenditure values for all projects presented in the justification documents. We utilised this spreadsheet to identify a sample of six projects that we reviewed in detail. The selected projects represent approximately 25% of the total historical expenditure (FY20-24).

These projects were selected based on:

- **Amount of expenditure:** we sorted projects based on their value to capture projects that have significant spend.
- **Asset category:** to understand Sunwater's process and approach to deliver projects across different asset categories, we aimed at selecting a sample that covers a range of assets (dams, weirs, pumpstations, and switchboards).
- **Driver:** we sought to select projects that represent a collection of drivers (safety, renewal, compliance).
- **Schemes:** the sample was also informed by the location of each project, aiming to cover a wider range of schemes to highlight differences and similarities in performance within Sunwater's area of operation.

The table below shows the selected projects along with the selection criteria.

Table 6-2 – Selected historical renewals expenditure sample for detailed review

Project description	Expenditure ($FY23 Million)	Asset category	Driver	Scheme
Callide Dam Gates Vibration Study	14.8	Dam	Safety	LBC - Callide WS
Coolmunda Dam Variable Counterweight (VCW) project that includes design, procurement, fabrication, and installation of 4 VCWs in gates 1 & 2.	6.7	Dam	Renewal	IBT - Macintyre Brook WS
Refurbishment of Silverleaf Weir	4.4	Weir	Renewal	BBR - Barker Barambah WS
Comprehensive Risk Assessment (CRA) of Teemburra Dam including delivery of input studies, as appropriate.	4.2	Dam	Compliance	ABP - Proserpine WS
Replacement of switchboard at the Owanyilla Pump Station and replacement of the low voltage switchboard at the Main Road pump station	4.0	Switchboard	Renewal	BIC - Lower Mary IS
Electrical system upgrade at Woongarra Pump Station	2.1	Pumpstation	Renewal	BIG - Bundaberg IS
TOTAL	**36.1**	**3 asset categories**	**3 drivers**	**6 schemes**
Sunwater 2020-2024 actuals and forecast	**146.7**			
Reviewed projects as % of total	**25%**			

Source: Justification documents provided by Sunwater for specific historical capex projects, Sunwater, November 2023

It is worth noting that the drivers included in the table above are designated by AtkinsRéalis based on the description of each project. These are not necessarily distinct and may overlap with each other in relation to their objectives.

6.2.1.2 Proposed renewals expenditure

We utilised information provided by Sunwater to select a sample of programs for a detailed review. Sunwater's pricing proposal for the future price path mapped out the expenditure against programs. Therefore, our selection focused on reviewing programs.

We aimed to cover programs with significant spend as well as cover a range of asset categories, consistent with the historic projects review. We understand that within each program, projects respond to all needs in the regulated schemes under Sunwater's operation. The following table provides the selected projects along with commentary on the selection.

Table 6-3 – Selected proposed future renewals expenditure sample for detailed review ($FY24 M)

Program	Expenditure - Future price path (2026-29)	Expenditure - Outside the price path (2030-58)	Asset category	Comments
Billing System - build costs	38.6	-	Corporate	Sunwater classified this item as a renewal capital program. This represents the largest renewal expenditure proposed for the future price path
18. Dam Instrumentation Program	23.8	0.2	Dams	This item is the largest non-billing renewal expenditure item and relates to the 'dams' asset category which is significant to Sunwater's operation
20. Dam Safety Management Program	12.2	0.4	Dams	This item was selected in consultation with QCA and represent a large spend in the future price path renewals program
2. Meter Renewal Program	8.6	55.8	Meters	The meter renewal program is a significant expenditure that allows investigation of a different asset group
1. Switchboard and Control Renewal Program	7.6	41.0	Switchboards	Significant spend and allows for investigation of a different and important asset category
11. Channel re-lining and re-shaping	4.0	20.4	Channels	Significant spend and allows for investigation of a different and important asset category
TOTAL Selected	97.1	117.8	5 asset categories	
% of total	**55%**	**20%**		

Source: 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

We note that the sample selection for the proposed future renewals expenditure represents 55% of Sunwater's overall renewals expenditure program over the future price path. For the period beyond the price path, the selected programs represent 20% of the estimated long-term renewals cost.

6.3 Historical renewals

In this section, we present our review of Sunwater's historical renewals expenditure included in its pricing proposal. This covers Sunwater's renewals expenditure over FY20 to FY24. This is an ex-post review that allows the regulator to assess for and potentially remove inefficient expenditure from the pricing model.

6.3.1 Selected projects sample

Our detailed review of the selected projects included:

- In-person meetings at Sunwater's offices with relevant Sunwater staff.
- Specific requests for information to investigate Sunwater's internal processes, procurement, and delivery.

Our detailed review aimed at assessing Sunwater's prudency and efficiency per QCA's definitions. The following sub-sections will present each reviewed project along with our assessment, findings, and recommendation.

6.3.1.1 Callide Dam Gates Vibration Study

Project Background

During the current price path, Sunwater undertook a refurbishment of the spillway gates at the Callide dam in the Callide Valley bulk water scheme (WLBC). The driver for the refurbishment was to maintain mandatory standards and service reliability. Since the construction of the dam, the radial gates were engaged on seven occasions. According to Sunwater's documentation, during spillway events of 2013, 2015, and 2017, the gates were observed to vibrate during the operation. This vibration was seen as a risk as it can cause damage to the structure and ultimately present unsafe conditions. Studies were carried over in 2019 and 2020 recommending potential rectification methods to improve the gates and reduce the vibration issue.

In mid-2020, a Comprehensive Risk Assessment (CRA) project initiated a gate reliability study, which found that welds on the gates had experienced significant cracking. It was then recommended that the gates be removed from service and repaired offline. Sunwater initiated the project to refurbish the gates in 2021 and completed it in May 2023. The total budget for the project was $15.2M ($FY24).

This project was not included in Sunwater's 2020-25 pricing proposal and was only included and assessed during the pricing path term.

Options assessment

Sunwater provided three documents that highlight the options assessment process that it undertook as part of the delivery of the project. In particular, Sunwater engaged [redacted] to assess the options to remove the gates from service. [redacted] provided an options assessment memo[130] including its assessment of the options and recommendation. The final recommended option included the removal of the entire front gate face as a single lift, and subsequent lowering of the fixed counterweight. This allows the gates to be placed in a laydown area where the maintenance and refurbishment will take place.

[130] Callide Dam Gates Project - Remove Gates from Service – Option Assessment Memo (P21046-MEM-M-001)

In addition, [redacted] provided a structural assessment[131] of the dam gates to identify the root cause of vibration and fatigue issues as well as develop remedial design solutions. The document presented opinion and recommendations regarding the gates' vibration issue.

Procurement

Sunwater broke down the works for this project into four work packages (WP) which allows Sunwater to complete the work concurrently to ensure efficient delivery. According to Sunwater's justification document for this project[132], a competitive tender process was undertaken for the delivery of this scope.

The following are the four work packages for this project, with a brief summary of works undertaken by selected contractors:

- WP1 – Gate Removal and Condition Assessment - [redacted] developed the construction methodology for the removal of the gate faces and developed the designs for the temporary work required to enable construction works. Peer reviewed by the TRP.
- WP2 – Temporary Supply Increase Weir Boards - [redacted] developed a re-design of the previously installed weir boards for the temporary raising of the fixed crest, if this was required to be installed and subject to customer consultation.
- WP3 – Gate Remediation, Installation and Commissioning
  - WP3a – [redacted] undertook the investigation, modelling and design of a solution to address the gate vibration.
  - WP3b – [redacted] completed the peer review of Sunwater's previous investigations and modelling.
  - WP3c – [redacted] completed the remediation works (gate stiffening). The Installed solution addressed gate vibration. Re-install the gate faces and commissioning activities.
- WP4 – Manual Gate Control Upgrade – Sunwater internal engineers designed and implemented the upgrade to manual gate control. A conceptual design was developed before being risk assessed by the project team prior to finalising the scope.

Delivery

The delivery of the project was managed by Sunwater's internal resources with assistance from the internal engineering team. Sunwater's P3MF framework was followed to deliver the project with approval for budget to cover the investigation, design, and development of project scopes. The initial budget for investigation was approved in February 2021 for $4.8M ($FY24). After the investigation phase, the budget was increased by $10.7M ($FY24) in May 2021, once the scope has been finalised. This represents a total approved budget of $15.5M ($FY24).

At the time of this review, and from information provided by Sunwater, the Callide Dam gates vibration project was confirmed as completed in 2023 with an actual outturn cost of $15.2M ($FY24).

Assessment of prudency and efficiency

The Callide dam vibration project was established during the price path and was not proposed in Sunwater's price submission for the current price path (FY21-25). Therefore, we are not able to compare the cost performance with QCA's allowance. In our recommendation section, **we recommend that Sunwater should track the costs of projects against QCA allowance to understand how it can better re-prioritise and therefore become more prudent in the implementation of renewal programs. The tracking and re-prioritisation based on regulatory**

[131] Bonacci Structural Assessment of Callide Dam Radial Gates Vibration (eDocs #2747424)
[132] Justification Summary - Callide Dam - Radial Gate Investigation Stage 1, Sunwater, November 2023

allowance reflects the utilities long-term planning and costing approach. For example, utilities who can deliver services and be within allowance range are considered to have robust long-term planning and understanding of their assets. We also appreciate and understand that during the regulatory period utilities may face emerging issues that are not initially included in the pricing proposal. Tracking budgets against and re-prioritising based on regulatory allowance is considered a standard practice by regulated businesses.

We consider that Sunwater has an opportunity for efficiency in improving its understanding of its assets. As shown above, the original budget has increased significantly after investigation. We have considered if Sunwater could have achieved savings if it had carried out more comprehensive initial project scoping. This is difficult to assert with confidence as procuring works in more comprehensive packages rather than using variations to manage scope is not always more efficient. It is therefore challenging to quantify the savings that would have been accomplished as a result of accurate identification of scope.

To mitigate these issues for future projects, **we recommend that Sunwater carry out and document scope challenge throughout the delivery of the project to determine opportunities for efficiencies. This may include re-thinking the timing and scope in relation benefits to customers.**

Overall, we understand that the project was established in response to a dam safety regulatory requirement to undertake assessment and was delivered in accordance with Sunwater's systems and processes. We have not recommended specific adjustment for the project.

6.3.1.2 Coolmunda dam counterweights refurbishment

Project Background

Coolmunda Dam, a referable dam[133], has been operational since 1968. One of the critical components of the dam's operation is the Variable Counterweights (VCW) system, which has been in service for 55 years, surpassing its original design life of 50 years.

In adherence to regulatory requirements, a Comprehensive Risk Assessment (CRA) is conducted for each referable dam every five years. The CRA for Coolmunda Dam was initiated in 2020, with [redacted], the consultants, being contracted to undertake the study. As part of the CRA process, [redacted] was tasked with conducting a gate reliability study to evaluate the performance and integrity of the dam's VCW system. The reliability study provided recommendations for necessary upgrades, inspections, testing, and maintenance activities to ensure the continued reliability and safety of the dam's operation.

Based on the findings of the gate reliability study, [redacted] recommended the removal, dismantling, inspection, refurbishment, and reinstatement of the VCW units within the next 2-3 years. Several issues were identified during the assessment:

- **Water ingress:** Slime was observed at the base of four VCW units, indicating water ingress into the float buoyant foam region, which could potentially compromise the structural integrity of the units.
- **Guide wheel issues:** Various issues were identified in the guide wheels of many VCW units, although these issues did not currently impact gate reliability or normal operations. Nonetheless, regular physical testing of the gates every three months ensures their functionality and safety.

[133] A referable dam is one that would, in the event of failure, put a population of two or more people at risk. (Water Supply (Safety and Reliability) Act 2008)

- **Leaking drain valves:** Leaking drain valves were observed in the base of each VCW chamber, highlighting potential weaknesses in the dam's drainage system that require attention to prevent water leakage and potential structural damage.

The Coolmunda Dam VCW project addresses issues raised from the CRA and implements recommendations by [redacted]. The project in this historical expenditure includes a condition assessment of the gates' VCW and establishing a timeframe for replacement or refurbishment.

Sunwater included $6.9M ($FY24) in its submission reflecting renewals expenditure over the current price path (FY20-24).

Options assessment

Sunwater, in its justification document, commented that since the gate reliability study stipulated that the VCW must be investigated, the options assessment focused on the methodology and approach to achieve efficient delivery of the project. Sunwater considered the following options through the design phases:

- **Refurbishment or Replacement of VCW:** The assessment considered the trade-offs between refurbishing the existing VCW units and replacing them entirely. This analysis involved evaluating factors such as the condition of the current units, projected lifespan of refurbished units, and comparative costs of refurbishment versus replacement.

- **Material Selection for Replacement VCW:** Various materials were scrutinized for potential use in replacement VCW units, including lightweight concrete, stainless steel (304 or 316), and galvanized steel. The assessment took into account considerations such as material durability, corrosion resistance, structural integrity, and cost implications associated with each material option.

- **Options for Removal of VCW:** exploring multiple methods for removing VCW units, including utilizing a 500-ton crane downstream, employing bespoke lifting equipment, deploying a crane on the embankment, or utilizing a barge upstream. Logistical challenges, safety considerations, and cost-effectiveness were factors influencing the selection of removal options.

A comprehensive risk analysis was conducted for each option considered during the assessment. This analysis involved identifying potential risks and uncertainties associated with each option, assessing their likelihood and potential impact, and developing mitigation strategies to minimize risks throughout the project lifecycle.

Procurement

Sunwater selected an Owner's Engineer and contractor to undertake the works for this project. For the role of Owner's Engineer, Sunwater opted for a sole source engagement with [redacted]. The decision was influenced by [redacted] recent involvement in conducting a comprehensive risk assessment and condition assessment of the dam gates. This prior engagement provided [redacted] with instrumental insights into the site's conditions and complexities.

To facilitate the detailed design phase, Sunwater issued an Expression of Interest (EOI) to the market, aiming to shortlist two capable contractors to participate in an Early Tender Involvement (ETI) process. The ETI process allowed contractors to collaborate closely during the design phase, ensuring alignment with project requirements and objectives. Ultimately, [redacted] was selected as the Principal Contractor for the works. Their selection was based on factors such as the innovative design for temporary works and their collaborative approach to the ETI process.

Delivery

The engagement for the delivery of the project included both the engineer and contractors. Sunwater's delivery approach involved the installation of a lifting equipment to lift the counterweight and refurbish various components within the counterweight system.

Throughout the project, Sunwater encountered changes and new information that led to variations for both the engineer and contractor. The following table highlights the variations under this project.

Table 6-4 – Summary of variations for the Coolmunda VCW project ($FY23)

Contract	Amount	Comment
Owner's Engineer - [redacted]	[redacted]	
Original Contract value		
Variation 1		Due to the complex nature of the works, undertaking the works on a dam at full supply level, and the significant amount of high-risk temporary works required, it was considered prudent to complete a detailed Hazard Identification (HAZID) and Construction Hazard Assessment and Implication Review (CHAIR) workshop with key stakeholders.
Variation 2		A requirement under the Dam Safety Condition Schedule for Coolmunda Dam is that an as-constructed construction report must be provided to the Regulator within 60 business days following practical completion. To ensure this requirement is met [redacted] will provide inspections during the construction works, prepare, and certify a construction report for the Regulator along with certifying that the works have been completed in accordance with the design. This variation was to retain [redacted] to provide RPEQ certification during the works and then provide the construction report at the end.
Owner's Engineer - [redacted] Subtotal		
Contractor - [redacted]		
Original Contract value		
Variation 1		Change in materials – [redacted] had originally specified stainless steel 304 as the material for construction of the VCWs. However, during review of the shop drawings for fabrication of the VCWs [redacted] identified that 304SS was not suitable for the application and reverted to 316SS. Due to the market increases at that time the cost for raw materials increased.
Variation 2		Gate Restraint – It was identified that an additional gate restraint would be required due to the sequencing of the works. The price was comparable to the other gate restraints with the addition of items identified as part of the design development.
Variation 3		As the temporary works equipment will be retained for works on the remaining 7 gates it was deemed prudent to coat the equipment for storage at a cost of [redacted].

Variation 4	[redacted]	Works Suspension – Due to the weather forecast at the end of 2022 a decision was made to defer the project until the 2023 dry season. This required the contractor to store fabricated equipment, extend insurances and double handle equipment.
Variation 5		Control box and lighting connections – Due to the location of the control boxes and lighting the existing conduits need to be removed from the piers to make space for the VCW lifting frame and then reinstated at the end of the project.
Variation 6		Valve Wedge Modification – the GHD design for the drain valve modifications was in 1968 as built drawings so it was unclear if the modification would work. The modifications did not rectify the issues with the leaking valve requiring further modifications to reduce the valve leakage at a cost of [redacted]
Variation 7		During the installation of the VCW lifting frame condition issues were identified with the existing crane rails to be used for the lifting frame. A RPEQ engineer identified that the bedding material, hold down bolts and grout required replacement prior to the VCW project continuing. The cost of the crane rail repairs is [redacted]
Contractor – Subtotal		
Project Engineer + Contractor Total		

Source: Justification Summary – Coolmunda Dam Variable Counterweight Improvement Project, Sunwater, November 2023

In its presentation about this project, Sunwater clarified that the submission and justification documents include $6.9M ($FY24) for this project. However, this does not account for the variation associated with the crane rails (Variation 7). At the time of the review, Sunwater estimated that the cost of completing the project is $7.6M.

Assessment of prudency and efficiency

The Coolmunda VCW project is understood to be a fulfilment of regulatory obligations to complete the CRA and gate reliability tests. Recommendations from the reliability test and the fact that the VCWs are due for renewal triggered this project. We acknowledge that the VCW project is complex with unknown conditions and requires extensive coordination to ensure successful implementation of the project. However, it appears that Sunwater's scoping, and risk assessment did not recognize this complexity within its initial budget.

We recognize that issues like the crane rails bedding material ([redacted] – Variation 7) are unforeseen and difficult to predict and plan for. Issues like the requirement to report on construction to the regulator ([redacted] – Variation 2), however, should have been initially scoped and budgeted for. Other issues like the material change [redacted] – Variation 1) are understood to be due to the changing market and change in design by the designer. We believe that Sunwater has significant room to improve its scoping and project delivery process to ensure efficient implementation of complex renewals projects.

Additionally, Sunwater did not present a clear initial budget for this project, neither in the justification documents nor the presentation. It appears that Sunwater engaged [redacted] to carry out the design and then [redacted] as contractor by phased internal approvals. We think that Sunwater could have taken a step back to assess the project as a whole with a thorough understanding of the scope and requirement.

Although we do not recommend any adjustments as this project is driven by regulatory requirement (prudent) and there is no evidence that final outturn costs are inefficient, we consider that this project highlights the need for Sunwater to improve its scoping process, project delivery of complex projects, budget approvals, and effective asset management approach.

To address these issues for future renewals projects, **we recommend that Sunwater improves its understanding of its assets' conditions by carrying out routine condition assessments and updating its asset-specific decay curves.** This will allow Sunwater to better initial scoping and therefore limits scope creep and cost increase during delivery.

We also recommend that Sunwater should actively carry out scope challenges during the delivery and take a step-back to re-evaluate timing and consider benefits for customers. This will allow it to establish a better prioritisation of renewals projects while delivering service and without significant impact.

6.3.1.3 Silverleaf weir upgrade

Project Background

The Silverleaf Weir is situated within the broader context of the Barker Barambah Bulk Water Supply system, downstream of the Bjelke Petersen Dam. Serving as a crucial component of this water supply infrastructure, Silverleaf Weir regulates water release to downstream areas, including Joe Sipple Weir and Barker Creek. Originally constructed around 1949 with a design life of 50 years, Silverleaf Weir underwent minor refurbishments circa 2000, involving piping and concrete capping, in efforts to extend its operational lifespan.

Sunwater presented an assessment which reported that the timber elements of Silverleaf Weir were in a state of significant deterioration. Contractors assessing the weir's condition estimated that it may have only 2-4 years left before potential failure. This assessment triggered the need for intervention to ensure the continued functionality and integrity of Silverleaf Weir and the overall reliability of the water supply system it supports.

In response to the urgency posed by the deteriorating condition of Silverleaf Weir, Sunwater initiated a comprehensive project to address the refurbishment or replacement of the weir. This project involved the evaluation of options to determine the most suitable approach for restoring the weir's structural integrity and functionality. Two option analyses, including one conducted externally and another internally reviewed, were carried out to assess the best course of action.

Options assessment

Sunwater undertook two options assessments for the implementation of this project. The first options analysis was carried out by [redacted] external consultant, to assess the refurbishment options. The options study presented the following:

- **Option 1 – Do Nothing:** This option entails taking no action to address the deteriorating condition of the weir. However, based on the inspection findings, this option is not recommended due to the poor condition of the structure. Immediate repairs are deemed necessary within the next six months to mitigate the risk of failure.

- **Option 2 – Replace or Refurbish the Entire Weir:** While full replacement of the structure is considered an option, the associated costs and logistical challenges may render it impractical. Instead, the preferred approach involves refurbishing the entire weir structure. This refurbishment approach aims to improve the Condition State Rating from 4 (poor) to 2 (good) within the next six months, thereby extending the structure's life by another 64 years. The refurbishment is proposed to be completed in two phases, allowing the restoration of the weir's functionality and structural integrity.

- *Phase 1 – Repair of Main Section:* Involves refurbishing the main section of the weir, including treating all exposed timber cut faces with Copper Naphthenate (CN), anchoring new timber using galvanized collar straps and off-centre internal shear pins, and injecting structural epoxy into any voids below concrete.

- *Phase 2 – Repair of North and South Top Sections:* This phase focuses on restoring the North and South top sections of the weir. All timber is treated with Copper Naphthenate (CN), and metal caps are removed from piles, injected with epoxy, and diffused.

- **Options 3 and 4 - Refurbish or Replace the Weir for Short and Long Term:** Offers a short-term solution for implementing phase 1 and a long-term solution for implementing phase 2.

From this study, Option 2 was recommended to refurbish the weir within six months due to the poor condition of the weir. Following the external consultant's study, Sunwater undertook an internal options assessment to explore delivery approaches for the project. The internal study presented the following options:

- **Option 1 – Buy Back Water Allocations:** This option entails the potential buyback of water allocations, but it presents several challenges. Bjelke Petersen Dam was originally constructed to supply water to the Barker Barambah WSS, making the notion of buying back water allocations unpopular. Furthermore, farms relying on irrigation water would be compelled to explore alternative farming methods, introducing additional complexities. Additionally, the absence of demand for water in the area from other sectors, such as mining, means that Sunwater would not generate revenue from water stored in the dam. Moreover, the cost of pumping water to areas where there is demand for irrigation may prove economically unviable.

- **Option 2 – Construct New Steel Sheet Pile Weir Upstream:** This option proposes the construction of a conventional new weir using steel sheet piling upstream, with reinforced concrete slabs for erosion protection downstream. Such a structure offers the advantage of being a low-maintenance solution with a standard life expectancy of 75 years. However, it is essential to consider the associated costs and logistical challenges of building a new weir, including environmental considerations and community impacts.

- **Option 3 – Install Upstream Row of Steel Sheet Piling, Concrete Encase Exposed Timber Work, and Upgrade Outlet Works:** Option 3 involves the installation of steel sheet piling upstream, accompanied by encasing exposed timber work with concrete to reduce oxygen content and upgrading outlet works. This method has proven successful in extending the life of similar Sunwater structures by an estimated 50 years. Notably, Theodore Weir (circa 1999) and Whetstone Weir (2005) underwent refurbishment using similar techniques, demonstrating reliability without known defects as of 2019. This option offers a balance between cost-effectiveness and structural longevity.

- **Option 4 – Do Nothing:** Experts advise against the do-nothing approach due to the precarious state of the weir. With an expected remaining life of only 2-4 years, the structure would be unable to function as intended, necessitating the construction of a new weir. Therefore, opting for inaction is deemed impractical, as it would lead to the imminent failure of the structure and potentially compromise the surrounding environment and water supply system.

Sunwater selected Option 3 as the preferred option as it provides a cost-effective solution with minimal interruption to service to irrigators.

Procurement

A comprehensive procurement plan was devised for the project's delivery, adopting a design and construct approach. The strategy entailed inviting five prospective companies with demonstrated experience working with Sunwater on similar projects to tender for the works. Tender documents, prepared to align with Australian Standards and

Sunwater's internal specifications, were issued to these parties. The tender package included the Sunwater standard specification, supplemented by specifications for site preparation, concrete, and steelwork. Each specification contained relevant design and construction standards pertinent to the specific aspect of the project.

Of the five invited parties, three submitted tenders, while two opted not to participate in the tender process. Following a tender evaluation process, the submitted tenders were assessed against relevant criteria. Upon completion of the evaluation, [redacted] emerged as the successful bidder and was subsequently awarded the contract in 2020.

Delivery

For this project, Sunwater undertook the design, project management, and construction supervision works. The project scope and delivery management plan was prepared for the Silverleaf weir project in August 2019 and included an approved budget of $4.2M ($FY24). The budget included estimates of construction cost, project management, and contingency.

During the delivery, variations equal to the amount of $0.3M were received and approved. The total actual outturn cost of the project was $4.6M ($FY24). The final cost reflects the following breakdown shown in Sunwater's financial system.

Table 6-5 – Breakdown of cost for the Silverleaf weir project as shown in Sunwater's financial system ($FY24)

Category	Total ($FY24)
Admin cost	414.40
Contractors	3,034,196.40
Employee cost	-
Interest	-
Internal labour	499,960.13
Materials	-
Other asset costs	59.05
Other direct costs	10,828.27
Overhead cost	651,789.04
Plant	1,012.17
Service charges	353,846.84
Telephone and occupancy costs	16.58
Travel	25,190.34
Project Total	**4,577,313**

Source: Justification Summary – Silverleaf Weir Refurbishment Project, Sunwater, November 2023

It is also worth noting that the Silverleaf weir project was included in Sunwater's proposed renewals expenditure for the last price path (FY20-24). The cost included in its submission was $4.2M ($FY24). This is $0.4M lower than the outturn cost of the project.

It is worth noting that the Silverleaf weir project was evaluated in the last irrigation pricing review.[134] However, the review only included stage 1 and 2 with a cost of $2.8M ($FY19), where the QCA allowance referenced in the justification document includes stages 1, 2, and 3 with a cost of $3.5M ($FY19).

Assessment of prudency and efficiency

The Silverleaf weir project was triggered by the need to refurbish or replace the weir due to its poor condition. This was visible from the photos shown in the justification document and interview. It was also determined by the external consultant that the weir is likely to fail in the next two years. Sunwater engaged its contractor through a competitive process. The variations and change in scope highlight that there is scope for improvement in project scoping and management.

We consider that the Silverleaf weir refurbishment project to be prudent and efficient, and therefore we have not recommended any ex-post adjustment to this renewal expenditure. We also note that **this project highlights that a good understanding of asset condition and refurbishment requirements may lead to better cost estimation and therefore improved project management of contractors.** It is then reasonable to assert that improving understanding of asset conditions and project management may potentially lead cost savings. We recommend an efficiency challenge to future renewals relating to these potential improvements in Section 6.5.

6.3.1.4 Teemburra dam comprehensive risk assessment (CRA)

Project Background

The Teemburra Dam Safety Improvement Project (TDSIP) was initiated by Sunwater in response to recommendations from a Comprehensive Risk Assessment (CRA) conducted in 2009 and a 20-Year Dam Safety Review (DSR) completed in 2018. The CRA identified several key areas for improvement, including raising the main dam parapet wall and crest elevations of Saddle Dams, as well as extending saddle dam filters to crest level. Similarly, the DSR highlighted the need for upgrades to meet safety requirements, such as raising dam walls and conducting physical modelling of the spillway.

As a result of these findings, the TDSIP was established to address dam safety concerns, particularly as Teemburra Dam was classified as a Dam Safety Action Class 3 due to societal risk being above ANCOLD's Limit of Tolerability line. However, resource constraints and prioritization of other dam safety improvement projects delayed the execution of the TDSIP. The project underwent initiation and evaluation phases, primarily focused on risk reduction investigations and assessments, culminating in the update of the CRA.

The project initially commenced as a Dam Safety Improvement Project (DSIP). However, in August 2021, a review revealed that the majority of the costs incurred were associated with CRA activities rather than DSIP-related initiatives. Consequently, the project was transferred to a new CRA project to more accurately reflect its scope and objectives.

Sunwater included $4.3M ($FY24) in historical renewals expenditure against this project with the majority of costs reflecting the transfer of cost from DSIP to regulated business for works completed between FY18-22.

Options assessment

The Teemburra project was initiated to address the risk profile associated with Teemburra Dam, with initial focus on implementing physical improvements. The initiation business case outlined three delivery options:

- **Option 1:** This approach proposed bundling the Failure Impact Assessment (FIA) review, Computational Fluid Dynamics (CFD) analysis, Comprehensive Risk Assessment (CRA), and preliminary engineering scope

[134] Rural Irrigation Capital Expenditure Review – Sunwater, Appendix E, Page 601, AECOM, January 2020

into a single consultant package. By consolidating these tasks, the aim was to streamline procurement processes, achieve cost efficiencies, and expedite the preliminary engineering phase.

- **Option 2:** Similar in scope to Option 1, this option recommended awarding separate engineering consultants for the FIA review, CFD analysis, CRA, and preliminary engineering tasks. Under this approach, each scope of work would need to be completed sequentially, with one phase finishing before the next commenced. While providing flexibility, this option could potentially extend the project timeline and require additional internal resources for procurement and project management.

- **Option 3:** This option involved taking no action, which would result in non-compliance with regulatory dam safety requirements and a failure to uphold Sunwater's commitment to ensuring the integrity of its dam infrastructure.

Each option was evaluated based on factors such as resource constraints and internal capabilities at Sunwater, with the decision ultimately guided by considerations of efficiency, cost-effectiveness, and regulatory compliance.

Option 1 emerged as the favoured choice following a qualitative cost analysis and comprehensive comparison with alternative options. Each option underwent a brief evaluation based on typical project indicators, including benefits, time, costs, and project delivery.

Procurement

The project was delivered in an iterative process to close gaps in knowledge and review the delivery of input studies and update to the risk profile. At the initiation stages, Sunwater initiated the procurement process in February 2018 for the TDSIP by issuing a Request for Quotation (RFQ) to the market. Throughout the RFQ period, two supplementary notices were provided to ensure clarity and completeness. Eight consulting firms were invited to submit quotations, including [redacted].

Following a rigorous evaluation process detailed in internal documentation, [redacted] emerged as the successful bidder, chosen for their extensive understanding of the project scope and relevant experience in similar endeavours. However, Sunwater stated[135] that the lump sum awarded to [redacted] did not encompass an estimate for completing the preliminary design. This omission was due to one of the supplementary notices withdrawing this aspect of the project, citing challenges in quantifying the effort required before finalizing the Comprehensive Risk Assessment (CRA). Sunwater subsequently allocated a separate budget of an undisclosed amount for the preliminary design, based on components of [redacted] proposal and their demonstrated professional expertise. The contract award for [redacted] was formally approved on 06/03/2018, with [redacted] receiving a work order on 14/03/2018 to commence project activities.

Delivery

The Teemburra CRA project was delivered over FY18 to FY22. Over the four years, multiple projects emerged to address the need to close the gap in analysis and establish the delivery of input studies to update the risk profile. The everchanging state of the project triggered Jacobs to request 42 variation orders where 30 were approved by Sunwater. It is important to note that the original budget approved in FY18 for this project (when it was initially a DSIP project) was $0.8M ($nominal) and Jacobs' contract was awarded at a lumpsum of $0.2M ($nominal) with agreed rates for potential preliminary design works.

Throughout the project, additional works emerged to improve the CRA outcomes. This required the project to request a variation approval on various occasions to increase contingency and allow for additional studies and deal with emerging issues. The 30 approved variations for [redacted] accounted for [redacted] ($nominal) increase to its original

[135] Justification Summary – Teemburra Comprehensive Risk Assessment, Sunwater, November 2023

contract. Additionally, during the CRA, seepage boils were discovered downstream of the saddle dam and an emergency action plan was activated. [redacted] was awarded, under a separate work order, for the role of principal contractor for additional geotechnical ground investigations at a cost of [redacted] ($nominal). The final cost of [redacted] engagement by the end of the project was [redacted] ($nominal).

The figure below highlights the actual timeline of the project.

Figure 6-3 – Timeline of delivery for the Teemburra CRA projects

Source: Snippet from Justification Summary – Teemburra Comprehensive Risk Assessment, Sunwater, November 2023

The final CRA report was delivered on February 2022 and the final cost of the project was $4.3M ($FY24).

Assessment of prudency and efficiency

The Teemburra CRA project has seen complexities across initiation, implementation, project management, and budget transfer. We understand that the initiation of the project was driven by regulatory requirements with initial plans to deliver large-scale safety improvement activities. With that, the implementation plans and budgets were established. However, during project delivery, Sunwater faced challenges due to changes in scope. In its project management, Sunwater appeared to adopt a reactive approach, addressing project budgetary needs as they were brought up by the contractors and experts.

This project emphasises the need for Sunwater to improve its scoping, project management and re-prioritisation. We consider that Sunwater should be able to take a step-back and assess its projects as a whole to limit scope creep during the delivery of the project, acknowledging that a large proportion of the expenditure was associated with an emerging issue (seepage boils). We consider that this project emphasises the opportunity for Sunwater to improve its understanding of its assets' condition, project scoping, and project management. Therefore, **we recommend carrying out and documenting scope challenges and identifying value engineering opportunities**, which we have not observed from this review. This will allow Sunwater to potentially avoid cost increases and delays in delivery.

We have considered if Sunwater could have achieved savings if it had carried out more comprehensive initial project scoping. This is difficult to assert with confidence as procuring works in more comprehensive packages rather than using variations to manage scope is not always more efficient. It is also challenging to demonstrate that cost savings were present in delivering this project as it included emerging issues that needed to be dealt with immediately on site.

We have not applied a specific adjustment to this project as we consider that the need to meet regulatory obligations to be prudent. However, in Section 6.5, we recommend an efficiency challenge to future renewals relating to improvement in project scoping, procurement, and management.

6.3.1.5 Replacement of switchboard at the Owanyilla and Main Road pump stations

Project Background

The project at both the Owanyilla and Main Road pump stations was initiated by Sunwater to address Arc Flash Incident Energy-related issues associated with the switchboards. This decision was based on the internationally recognized methodology outlined in standard IEEE 1584:2018, which had been updated to provide more accurate results tailored to specific switchboard and electrical system characteristics. To effectively manage these risks, Sunwater conducted new detailed Arc Flash Studies and calculations for each site, allowing for the accurate determination of Incident Energies and the implementation of adequate risk controls.

At the Owanyilla Pump Station, the project involved the replacement of the Common Controls and Low Voltage (LV) and High Voltage (HV) Switchboards. This pump station plays a crucial role in supplying water for irrigation customers and supplementing the water supply to Maryborough. Given its significance, any interruption to its operation carries substantial reputational risk. The project aimed to address the risks associated with the 'End of Life' stage for the three major components, rectify the unaddressed Arc Flash exposure, and resolve the lack of a SCADA platform, which was hindering operational effectiveness.

Similarly, at the Main Road Pump Station, the project focused on replacing the Low Voltage (LV) Main Switchboard and Control System. This station is responsible for lifting water from the Owanyilla Diversion Channel into a clay-lined banked balancing storage, supplying farms in the Glenorchy area via a gravity main. The aging LV Main Switchboard and Control Panel, in service since 1989, had become unreliable, with various components failing and posing safety concerns due to exposed live parts. The project aimed to replace these assets, bringing the entire installation up to modern standards.

Sunwater justifies this project based on condition and risk-driven concerns regarding age-related deterioration, the need for timely modernization of SCADA functionality, and the improvement of associated fault-finding capabilities (particularly at Owanyilla). Additionally, the project addresses Arc Flash exposure risks identified through Sunwater's Interim Arc Flash PPE Site-Specific Assessment process and subsequent detailed studies.

The budget included in Sunwater’s justification document for the two project is $4.1M ($FY24), with anticipated completion in FY25 for Owanyilla and FY24 for Main Roads.

Options assessment

Sunwater undertook options assessment for each of the replacement projects. The following table summarizes the options presented by Sunwater in its justification document.

Table 6-6 – Summary of options with benefits and risks

Option	Benefit	Risk
Owanyilla Pump Station		
Option 1 - “Do Nothing”	Minimum short-term cost -limited to testing costs only. Defers high capital cost works for up to approximately 6 years.	Does not address Control System upgrade objectives. Retains current increased risk of HV Switchboard failure.

Option	Benefit	Risk
		Retains current increased risk of non-supply to customers with associated reputational damage.
Option 2 – Control System Upgrade	Fully addresses Control System upgrade objectives. Control system and SCADA platform is upgraded to latest Sunwater standard. Operator familiarity of system - almost identical to that currently in service at Don Beattie PSTN. Defers high capital cost of HV Switchboard works for up to approximately 6years.	Does not address HV Switchboard upgrade objectives. Retains current increased risk of HV Switchboard failure resulting in non-supply to customers and associated reputational damage.
Option 3 - HV SWBD Limited Refurbishment	Partially addresses HV Switchboard upgrade objectives. Minimum capital cost to provide limited short-term reduction of HV Switchboard failure risks.	Does not address Control System upgrade objectives. Retains current increased risk of control system failures. Retains current increased risk of non-supply to customers and associated reputational damage. HV switchboard components that are not refurbished will be beyond accepted serviceable life and will require replacement within 3 - 6 years. Continual testing would be required to maintain conformance and during that time Operators in the vicinity of the HV Switchboard will be at increased risk of being subjected to Arc Flash hazards. Aging busbar insulation that failed initial partial discharge tests may not improve on retesting, leading to failure of other components that are not a part of the refurbishment. Questionable prudency and efficiency in achieving required outcomes.

Option	Benefit	Risk
Option 4 – Full Switchboard Replacement	Fully addresses HV Switchboard upgrade objectives. Minimises exposure to Arc Flash risks.	Does not address Control System upgrade objectives. Retains current risk of control system failures leading to non-supply to customers and associated reputational damage. Larger scope of work, with resultant increase in implementation risk and longer duration shutdown. Higher-order Project Management will be required.
Option 5 – Full Switchboard Replacement PLUS Control System Upgrade	Fully addresses HV Switchboard upgrade objectives. Fully addresses Control System upgrade objectives. Control system and SCADA platform is to latest Sunwater standards with full operator familiarity given similarity to Don Beattie. Minimises exposure to Arc Flash risks.	Largest scope of work of the Options considered, with resultant increase in implementation risk and longer duration shutdown. Highly competent Project Management will be required.
Main Roads Pump Station		
Option 1 – Do Nothing	Deferral of significant capital cost for undetermined years into the future.	No change to existing likelihood of switchboard failures due to ageing components. Higher Community reputational risk – due to increased likelihood of switchboard failure causing inability to meet customer water demands. Higher electrical safety risks including Arc Flash.

Option	Benefit	Risk
Option 2 – Refurbish Switchboard (onsite)	Lower initial capital cost than Option 3. Operator familiarity with existing console retained, with addition of SCADA and PLC control component.	Switchboard frame and compartment volume limits component selection and possible constraints in compliance of AS61439. High risk of Construction cost escalation including discovery of other components unable to be re-used. Significantly longer site construction and testing time requiring the pump station to be shut down for longer. Existing cables may fail testing and require additional cost to replace. Switch room may require extra costs to ensure compliance to current Australian Standards.
Option 3 – Replace Switchboard	Modern switchboard, fully compliant with relevant standards and industry best-practice. Improved reliability – significant reduction in likelihood of switchboard failures. Improved control system, with added functionality including remote SCADA control. Improved performance measurement and ability to better optimise via modern pump trending. Improved electrical safety including reduced Arc Flash risk. Minimum construction risk and time minimum shutdown duration.	Existing cables may fail testing and require additional cost to replace. Switch room may require extra costs to ensure compliance to current Australian Standards for new install, namely fire and access/egress requirements.

Source: Justification Summary – Owanyilla and Main Roads Switchboard renewals, Sunwater, November 2023

Option 5 was selected for implementation for the Owanyilla pump station, while Option 3 was selected for the Main Roads pump station. Both preferred options were selected after the assessment highlighted in the above table.

Procurement

In its procurement process Sunwater opted to consolidate the upgrades of electrical switchboards across four pump stations: Owanyilla, Main Road, Bucca, and Tirroan within the Bundaberg and Lower Mary schemes. The approach

aimed at selecting a contractor capable of delivering the project efficiently and effectively. To initiate this process, Sunwater issued a Request for Quotation (RFQ) via QTenders to the open market, inviting interested parties to submit proposals for detailed design, supply, construction, and commissioning.

To ensure transparency and fair competition, two mandatory site visits were organized, attracting a total of eleven suppliers interested in participating in the procurement process. Subsequently, responses were received from seven contractors, each presenting their proposals for consideration. These proposals underwent an evaluation process, wherein factors such as experience with Sunwater projects, qualifications and expertise of key personnel, detailed project schedules and risk assessments, and the clarity of shutdown methodologies and timeframes were assessed.

Following the evaluation, [redacted] emerged as the selected contractor for the project. [redacted] selection was based on their capabilities, particularly their track record of successful collaborations with Sunwater, the expertise of their team members, and the robustness of their proposed project execution plan. A contract was then established with [redacted] for the delivery of the works across all four pump stations, with clear delineation of allocated funds for each station.

Key technical requirements and deliverables were outlined in the Technical Specification provided by Sunwater's Technical Services department. These requirements formed the basis for the contractor's scope of work and included detailed documentation such as safety in design reports, certified design calculations, as-constructed drawings, testing and commissioning plans, and compliance sheets for switchboard testing. The specifications aimed to ensure the quality, safety, and compliance of the project deliverables.

Delivery

[redacted] contract of [redacted] included the works for the four pump stations, of which Owanyilla was [redacted] and Main Road was [redacted] The delivery of the works was managed by Sunwater and is expected to be completed in FY25 for Owanyilla and FY24 for Main Road.

The final project budget, including forecast, provided by Sunwater is $4.1M ($FY24). This is significantly higher than the budget included in Sunwater's submission to QCA for the last price path. The submission included three projects associated with the Owanyilla Pump Station and one project related to the Main Roads Pump Station. For the Owanyilla Pump Station, a budget totalling $0.75M allocated between 2020 and 2024 was presented to the QCA. Additionally, a budget of $6,700 for the year 2020 was proposed for the Main Roads Pump Station project[136].

Per Sunwater's justification document[137], the budget estimate for the Main Roads Pump Station saw an increase compared to the previous submission due to the inclusion of additional expenses related to the switchboard replacement project. In the prior submission, only an initial options study was considered, with no provision made for the subsequent adoption of switchboard replacement. Consequently, the revised estimate encompassed the full scope of the project, leading to the higher budget allocation for the year 2020.

Regarding the Owanyilla Pump Station, although the submission encompassed plans for the replacement of the switchboard over a span of two years, Sunwater provides that the total estimate was inadequate to cover prevailing market rates. This discrepancy between the budget estimate and actual market costs necessitated a reassessment of the financial projections to ensure alignment with realistic expenditure expectations.

[136] Justification Summary – Owanyilla and Main Roads Switchboard renewals, Sunwater, November 2023
[137] Ibid

Assessment of prudency and efficiency

The two projects to replace the switchboard were driven by the condition and asset life of the switchboards. Both projects were included in the last price path submission, although the scope included for the Main Road pump station was much smaller. Sunwater engaged the contractor on multiple similar scopes to attract competitive market pricing for the works. We consider that the renewals expenditure for the replacement of both pump stations to be prudent and efficient.

It is worth highlighting that Sunwater's forecast for renewals during the last price path submission was not reflective of the outturn costs for the two projects. This was due to two factors:

- **Inadequate cost projections:** Costs included in Sunwater's renewals forecast system do not represent current market pricing as was the case for the Owanyilla pump station.

- **Lack of robust asset management planning:** Sunwater did not include the Main Road pump station project due to its lack of understanding in its asset condition and therefore not being able to plan its replacement along with the Owanyilla pump station prior to the start of the price path.

We think that Sunwater has opportunities to improve its asset management planning and processes to clearly identify the extent of renewals and their estimated costs prior to internal approvals. **This can be achieved by seeking more current cost estimates and increase knowledge of its assets' conditions.** We note that both these factors are recognized by Sunwater in its submission documents[138]. Therefore, we consider that there are opportunities for efficiency that Sunwater can improve its processes to achieve and have recommended an efficiency challenge to reflect this improvement in future renewals, further discussed in Section6.5.

6.3.1.6 Woongarra pumpstation upgrade

Project Background

As of 2017, the Woongarra Pump Station operated as a wet-well river-lift pump station positioned on the southern bank of the Burnett River, situated within the Bundaberg Water Supply Scheme. Initially constructed in 1980, the station featured the installation of pumps and motors. Its infrastructure comprised five Kelly & Lewis single-stage vertical mixed-flow diffuser type pumps, specifically model 610 MFD V, each designed with a duty of 850 L/sec at a head of 35 meters, powered by 375 kW electric motors.

Functionally, the pump station facilitated the conveyance of water harvested from the river through five distinct buried rising mains to the Woongarra Balancing Storage located on the riverbank. Subsequently, water from the balancing storage would be transferred into the Woongarra and Alloway main channel distribution systems to meet regional water demand.

The electrical and ancillary systems of the station encountered various faults, leading to instances of pump downtime and a subsequent loss of pumping hours. Typically operating during off-peak tariff periods to align with demand requirements, these instances of downtime occasionally necessitated pumping activities outside designated hours. Such deviations incurred additional costs in peak tariff power consumption, alongside expenses associated with rectifying the identified faults.

An investigation by [redacted] in 2009 highlighted recommendations for future planning regarding the replacement of both boards, including the high-voltage (HV) and common control boards. The rationale behind these

[138] Sunwater's proposal stated that it is undertaking a project to upgrade its decay curve for its assets and in the justification document, it used the word "inadequate" to describe the initial cost presented in the last price path.

recommendations stemmed from considerations such as the age of the switchboard and the limited availability of spare components. Condition assessments recorded in the SAP database from 2016 indicated the aging condition of the switchboards, assigning a rating of '5' indicating major deterioration rendering the asset virtually inoperable.

The project was completed in FY21 with an expenditure of $2.2M ($FY24) over FY20 to FY24. It is noted that there is $0.5M of expenditure that was completed for this project prior to FY20.

Options assessment

The options assessment conducted in 2010 by Sunwater aimed to explore potential solutions for replacing the boards and identifying necessary upgrades for the pump station. The study outlined three main options:

- **Option 1:** This option proposed the replacement of the HV and LV electrical switchboards, PLC/SCADA systems, LV transformer, and incoming mains cables while retaining the existing pumps, motors, and ancillary equipment. The comprehensive replacement of electrical equipment with modern systems would facilitate a fully integrated system, particularly enhancing functionality in terms of PLC/SCADA capabilities.

- **Option 2:** This alternative involved a complete replacement of all pump station equipment, including new pumps and a new high-voltage switchboard, with the aim of eliminating pump start-up faults.

- **Option 3:** This option entailed a comprehensive refurbishment of the pump station, including the replacement of pumps, high and low voltage switchboards, PLC/SCADA systems, and the low-voltage transformer.

Following the assessment, the recommended option was Option 1, which proposed retaining the existing pumps while replacing the electrical equipment. The recommendation was subsequently approved by the Manager Engineering Infrastructure (South).

Procurement

Per Sunwater's justification document[139], the procurement plan for the Woongarra pump station electrical upgrade project aimed to ensure compliance with Sunwater's Procurement Policy while securing the most advantageous outcome for the organization. The chosen process involved open market participation, with requests for offers advertised on the QTenders website.

The tender for the supply and installation component of the project was released to the market in April 2019, resulting in four conforming offers being received. Among these, three offers were relatively similar in price, while the fourth was notably higher. The breakdown of tendered prices, excluding GST, is as follows ($FY19):

[redacted]

Following an assessment of the mandatory criteria and non-price weighted criteria using a lump sum price model, the evaluation committee awarded the tender to [redacted]

[139] Justification Summary – Woongarra pump station electrical upgrade project, Sunwater, November 2023

Delivery

The works for the Woongarra Pump Station Electrical Upgrade Project were executed in accordance with the Design and Construct lump sum contract with milestone payments.

During the execution of the project, one budget variation was endorsed due to the tested market value of the works exceeding the initial estimates provided in both the options study and project scoping exercise. However, this variation did not exceed the allocated project budget. The project manager reviewed and approved several minor variations to the contract value, all of which were covered by the contract contingency. These variations were summarized and managed within the framework of the contract, which ensured that the project was completed within the allocated budget.

The final outturn cost for this project is $2.2M over the FY20-24 period and $0.5M prior to the period. It is worth noting that this project was included in Sunwater's last price submission with expenditure over FY19-FY21 of $2.2M ($FY24).

Assessment of prudency and efficiency

By the beginning of the current price path, the project was well developed with robust understanding of cost and delivery. The project was procured utilising open tendering to receive competitive market price. The delivery and management of the project was thorough, which allowed the team to minimise variation costs.

We consider that the renewals expenditure for the Woongarra pumpstation electric upgrade project to be prudent and efficient.

6.3.2 Wider program assessment

From our review of selected historical renewals projects and Sunwater's governance and procedures, we found issues relating to its long-term asset management and planning. We also found that Sunwater's approach to scoping of projects underestimates and underappreciates complexities. These issues lead to cost increases at the budgeting process[140] and during project delivery. This was particularly present in projects that were not identified during the last price path and not included in the QCA allowance.

Sunwater provided justification documents for a selection of projects totalling $90.8M, which represents 54% of the total renewals expenditure for FY20-24. These documents included the QCA allowance, if applicable, and reasons for any variances. Projects with a QCA allowance accounted for 50% of the total expenditure in the justification documents, while the other 50% pertained to projects without a QCA allowance. There were 49 projects with a QCA allowance and 24 without.

In a desktop review, 34 justification documents were examined, covering $79.3M in historical renewals expenditure, or 87% of the expenditure included in the justification documents. Of these, 22 projects had a QCA allowance (totalling $37.7M) and 12 did not (totalling $41.5M).

It is worth noting that the three of the 12 projects with no QCA allowance included in the desktop review were reviewed in detail as part of the selected sample for historical renewals assessment. The majority of these projects relate to CRA studies and investigations, and address safety related issues. We found no evidence that the projects in this category were inefficient or imprudent.

[140] We understand from asset management documentation and interviews with Sunwater that five-year plans are developed for renewals with budgets being established annually.

In this section, we have utilised the justification documents provided by Sunwater for historical renewals expenditure to undertake a high-level desktop review. This aims to broaden our assessment of the overall historical renewals program and has helped us form a comprehensive view regarding areas of improvement for Sunwater. In this desktop review, we evaluated:

- **High-level prudency and efficiency information:** To evaluate for prudent and efficient renewals expenditure based on information in the documents. We assessed the information for any apparent patterns or themes in accordance with the prudency and efficiency definitions stated in the methodology above.

- **Presence of QCA allowance:** This allows us to understand if the projects were identified at the last price review, which is an indication of Sunwater's long-term asset management and planning. For example, projects with no QCA allowance indicates that they were not included in the five-year renewal plan at the time of the price path. Are these projects in response to new emerging issues such as unforeseen asset failure, change in regulations, weather related incidents, etc.? or could they have been planned and predicted?

- **Overspend/underspend compared to QCA allowance:** To evaluate the reasons for cost increases compared to estimates identified in the last price review. Is this due to poor cost estimation approach, understanding of conditions, emerging issues, or other reasons?

For projects with QCA allowance, we investigated the reason for the overspend to understand its implications for Sunwater's overall performance against the QCA allowance. Sunwater's explanation of the overspend was brief for each document, and therefore we have used the following designations:

- **Scope increase:** assigned to projects where the overspend was related to increase in scope. This encompasses projects where the scope either addressed:
    - The renewal of an additional asset
    - Required additional studies
- **Cost estimate:** Projects with costs changing due to lack of robust estimation at the time of the last price path review.
- **Emerging issues:** This relates to projects that were identified at the last price path review but face an emerging challenge during implementation of the project (e.g., flood damage)

From the desktop review, we found that the overwhelming majority (86%) of variance was due to scope increase. This was mostly due to the initial project included in the QCA allowance having an assumption of limited scope (condition assessment only, fewer part replacement, etc.), while during project planning and delivery the renewal scope increases to address issues relating to unknown conditions. Appendix A includes a summary table of findings for each project included in the desktop review.

The total variance for reviewed projects is $20.9M with the majority attributed to scope increases. The following table provide a breakdown summary of reviewed projects for each overspend reason.

Table 6-7 – Breakdown of variance by reasons for overspending for sample projects reviewed

Reason for overspending	Variance ($FY24, M)	% of reviewed variance (projects with QCA allowance only)
Scope increase	18.3	88%
Cost estimate*	2.0	11%
Emerging issues	0.6	3%
Total variance	**20.9**	**100%**

Source: Sunwater justification documents for historical renewals expenditure, Sunwater, November 2024

Note*: Includes project 126 which had two reasons for overspending (scope increase and cost estimate).

Based on our desktop review, we found that one project may have accelerated asset replacement without robust justification. The remaining projects reviewed highlighted the need for Sunwater to improve its project planning and scoping, which we believe can potentially result in efficiency savings.

6.3.3 Recommended adjustments

We set out below three adjustments which we recommend be applied to historical renewals. The effects of these adjustments on recommended expenditure are summarised in Section 6.6.

6.3.3.1 Adjustment 1: replacement of the Ben Anderson Barrage shutters

As highlighted in the assessment table above, Sunwater included in its proposal a project to replace the Ben Anderson Barrage shutters (Project 117). Initially, Sunwater had planned to replace these shutters at a rate of 10 shutters a year starting in 2019[141]. This initial plan was associated to an expenditure of $2.1M to replace 60 shutters over 2019 to 2024. However, Sunwater's justification document states that a decision was made to replace all 110 shutters by 2026.

According to Sunwater the current strategy "*will result in a significant stockpile of items awaiting site installation*."[142] Additionally, a study to evaluate options of the appropriate mix of refurbishment and replacement was due to be completed in December 2023. We consider that the need to replace all shutters within the period proposed by Sunwater is not robustly justified. Replacing all shutters at once is not consistent with the assertion that shutters will be stockpiled. This implies that it would have been more prudent for Sunwater to continue with its plan to have a phased replacement of the shutters. However, we think it is reasonable that the replacement of shutters would occur in the future price path and beyond.

Therefore, we recommend an adjustment to reflect a more prudent expenditure profile for replacement of the shutters, with an assumption to complete the full replacement of the shutters by 2030. This is based on replacement of 10 shutters per year for 11 years, starting in FY20 (110 Shutters) consistent with Sunwater's initial renewal plan.

[141] Historical Expenditure Review Justification Summary – 2BU01 Replace Ben Anderson Barrage Shutters, Sunwater, November 2023

[142] Historical Expenditure Review Justification Summary – 2BU01 Replace Ben Anderson Barrage Shutters, Page 8, Sunwater, November 2023

We note that Sunwater has spent $1.4M ($FY24) between FY20 to FY23, at an average annual spend rate of $0.3M. In our assessment of the project, we consider that Sunwater should be able to deliver the full replacement utilising this rate of spend. Therefore, we recommend an expenditure related to the Ben Anderson Barrage Shutters of $0.3M per year starting in FY24 and ending in FY30. This provides a post-overhead adjustment of $0.7M for FY24 and a pre-overhead adjustment of $1.5M for the period between FY25 to FY58.

In our application of the adjustment, we have considered pre- and post-overhead renewals expenditure. The difference in approach relates to our recommendation regarding labour cost allocation and overheads applied to future renewals expenditure (see Section 6.4.2). Since there are no labour cost allocations or overhead adjustments applied to FY24, our recommended expenditure and adjustment for this year is carried out using post-overhead values proposed by Sunwater. The table below summarises our recommended adjustment for the Ben Anderson Barrage Shutters.

Table 6-8 – Summary of recommended expenditure for the Ben Anderson Barrage Shutters replacement project

	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY20-24	FY25	FY26-29	FY30-58
Sunwater Proposed (post-overhead)	0.3	0.3	0.5	0.3	1.1	1.4	1.5	0.2	-	-	-	2.5	1.4	1.7	-
Recommended (post-overhead)	0.3	0.3	0.5	0.3	0.3	-	-	-	-	-	-	1.7	-	-	-
Adjustment (post-overhead)	-	-	-	-	(0.7)	-	-	-	-	-	-	(0.7)	-	-	-
Sunwater Proposed (pre-overhead)	0.2	0.2	0.3	0.3	0.5	0.9	1.0	0.2	-	-	-	1.6	0.9	1.1	-
Recommended (pre-overhead)						0.3	0.3	0.3	0.3	0.3	0.3		0.3	1.1	0.3
Adjustment (pre-overhead)						(1.1)	(1.2)	0.0	0.3	0.3	0.3		(1.1)	(0.7)	0.3

Source: 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023 AND *RFI_15 – Renewal Response.xlsx*

6.3.3.2 Adjustment 2: non-sampled historical renewals projects

In our assessment of Sunwater's historical renewals expenditure, we have identified issues relating to scope identification and management. These issues contributed to significant scope increases for majority of its renewal expenditure program compared to costs proposed in the last review.

In Section 6.5 we discuss opportunities for efficiencies that could offer cost savings for renewals. We consider that Sunwater could and should have taken some of these measures to improve efficiency in the current price path. These improvements could be made in areas such as:

- **Scope Management:** Sunwater faced several changes during the delivery of its renewal projects. Concretely, our review of the Ben Anderson Barrage shutters expenditure suggests that scope is not always tightly managed.

- **Procurement:** during the interviews, Sunwater acknowledged that it is in its early stages of maturity. Our review of historical projects indicated that Sunwater had utilised a traditional approach to procurement – executing contracts in accordance with its procurement guidelines. We have not observed evidence of advanced procurement approaches such as the use of data and analytics or use of framework partnerships.

Because of issues identified in our review of historical expenditure, we consider that it is reasonable to extrapolate the recommended adjustment from the sample of reviewed projects to the non-sampled expenditure. Our recommended adjustment for the Ben Anderson barrage shutters replacement of $0.7M represents a 1% adjustment in relation to the reviewed expenditure of $78M ($36.1M detailed review and $41.8M brief review).

To extrapolate this adjustment to non-sampled historical renewals expenditure, we recommend applying an adjustment to Sunwater's overall historical renewals expenditure program of $0.9M, in addition to the specific adjustment applied for the Ben Anderson Barrage shutters replacement project. These recommended adjustments provide a total historical adjustment of $1.7M or 1% of the total historical renewals expenditure. The table below summarises our recommended adjustments.

Table 6-9 – Historical renewals recommended adjustment for sampled and non-sampled renewals expenditure ($FY24, M)

	Values ($FY24, M)
Value of ex-post projects reviewed - Detailed sample	36.1
Value of ex-post projects reviewed - Brief Review sample	41.8
Ex post adjustments recommended (FY20 to FY24)	(0.7)
% adjustment in relation to reviewed expenditure	-1%
Adjustment applied to non-reviewed historical renewals expenditure	(0.9)

Source: 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023, RFI_15 – Renewal Response.xlsx and Sunwater historical renewals expenditure justification documents.

Note: totals do not reconcile due to rounding.

6.3.3.3 Adjustment 3: insurance contributions

In its response to RFI 105, where a request was sent to clarify insurance, Sunwater indicated that insurance proceeds that were finalised as part of the 2020 irrigation pricing review were not included in the roll-forward. Sunwater acknowledged that this was an oversight, and the insurance proceeds should be included in the roll-forward. The following table shows the insurance proceeds recognised in FY20.

Table 6-10 – Insurance proceeds from 2011 and 2013 flood events recognised in FY20 ($FY24, 000's)

Scheme	Values in thousands
Water supply services	
BBB - Bundaberg WS	1,937
BBL - Lower Mary WS	5
BBR - Barker Barambah WS	49
BBU - Upper Burnett WS	189
BBY - Boyne WS	5,912
IBU - Upper Condamine WS	7
LBC - Callide WS	134
LBD - Dawson WS	13
LBF - Lower Fitzroy WS	9
LBT - Three Moon WS	113
Distribution services	
BIC - Lower Mary IS	7
BIG - Bundaberg IS	157

Source: RFI_105_Historical renewals, Sunwater, February 2024

The total insurance contribution included in the RFI response equals to $8.5M. We recommend including the insurance proceeds in the above table in Sunwater's roll-forward for each scheme. We have included a line in our recommended expenditure to account for insurance contributions recognized in FY20.

The following table shows a summary of the total recommended adjustment to be accounted for in the roll forward.

Table 6-11 – Summary of insurance contributions to be accounted for in the roll-forward model for historical expenditure

	FY20	FY21	FY22	FY23	FY24	FY20-24
Sunwater Proposed (post-overhead)	**(8.5)**	**-**	**-**	**-**	**-**	**(8.5)**

Source: RFI_105_Historical renewals, Sunwater, February 2024

6.4 Forecast renewals

This section presents a review of Sunwater's forecast renewals. This includes the transitional year of FY25, the future price path period FY26-29, and the period beyond the price path FY30-58.

6.4.1 Selected program sample

6.4.1.1 Dam instrumentation program

Program background

The dam instrumentation renewals program is a short-term specific program that was developed by Sunwater to ensure that its dam safety and monitoring instrumentations are fit for purpose. Expenditure under this program starts in the FY25 and ends in FY28.

Sunwater has stated that the overall condition of the instrumentation system is unknown and that this causes logistical and operational challenges in assessing the safety of its assets. It also adds that the current system includes some inconsistencies where some instruments may detect nodes of failure, but others do not. Overall, Sunwater states that there is a poor instrumentation coverage across its dam assets.

Sunwater's statement of intent for this program is:

> *To implement a systematic risk-based approach for the monitoring of Sunwater's Referable dams, incorporating critical failure modes gathered from comprehensive risk assessments and ensure instrumentation systems are fit for purpose to provide early warnings of the development of unsafe trends with a high confidence in quality of instrumentation information.*

Sunwater's instrumentation program adopts a three-phase approach to address limitations and ensure the maintenance of its assets in accordance with industry standards, aiming to achieve a level of risk "As Low as Reasonably Practicable" (ALARP). Compliance with ALARP serves as both a regulatory requirement and a robust protection against failures.

In its delivery of this program, Sunwater used a prioritization approach to group dams based on their risk and priority profiles. The prioritization scheme is structured as follows:

- **Group 1 – High Risk / High Priority Dams:** This group comprises a total of 11 dams deemed to pose intolerable risks. Sunwater has allocated the highest priority to addressing these dams, with a target completion date set for July 2028.
- **Group 2 – Medium and Low Risk / Medium Priority Dams:** Dams categorized under medium and low risk are included in this group. Sunwater plans to address the instrumentation needs of these dams following the completion of Group 1, with a target completion date set for post-July 2028.
- **Group 3 – Low Priority Dams:** This group encompasses dams with low priority in terms of risk. It includes 12 dams from Group 2 and a total of three dams. Sunwater aims to complete the instrumentation program for these dams post-July 2028, prioritizing higher-risk structures in earlier phases of implementation.

This program focuses on the 11 dams within the high-risk group shown in the table below.

Table 6-12 – List of Group 1 – High Risk / High Priority Dams

Site	Scheme	Scheme ID
Callide Dam	Callide Supply	WLBC
Fairbairn Dam	Nogoa Mckenzie	WLBN
Fred Heigh Dam	Bundaberg	WBBB
Teemburra Dam	Pioneer River	WKBP
Kroombit Dam	Callide Supply	WLBC
Tinaroo Falls Dam	Mareeba Dimbulah	WMBM
Kinchant Dam	Eton	WKBE
EJ Beardmore Dam	St George	WIBS
Bjelke Peterson Dam	Barker Barambah	WBBR
Cania Dam	Three Moon Creek	WLBT
Coolmunda Dam	Macintyre Brook	WIBT

Source: Dam Instrumentation Program Business Case, Sunwater, November 2023

Sunwater proposes an expenditure of $1.3M in FY25 and $16.7M over the future price path (FY26-29).

Options assessment

In developing this program, Sunwater undertook options assessment to identify methods to implement the upgrade of the dam instrumentation. Each of the options provide a different level of expenditure and outcome to addressing the service need. In the business case, Sunwater presented the following options:

- Option 1: Maintain existing dam safety instrumentation to current standards – focusing on maintaining monitoring systems with variable capabilities across the whole portfolio.
- Option 2: Instrumentation review only – undertake a comprehensive review of Sunwater's dam safety instrumentation system using a well-known framework used in the industry. This option includes operational improvements, and development of enhancement options.
- Option 3: Instrumentation review and new dam safety instrumentation at high priority sites only – undertake a comprehensive review of Sunwater's dam safety instrumentation system and installation and commissioning of new instrumentation where gaps were identified at 11 of the highest priority locations.
- Option 4: Instrumentation review and new dam safety instrumentation at all referable site – undertake a comprehensive review of Sunwater's dam safety instrumentation system and installation and commissioning of new instrumentation where gaps were identified at all referable locations across Sunwater's network.

In its assessment documents, Sunwater has assessed the options for their advantages and disadvantages as well as their alignment with the service need. It also undertook a multi-criteria assessment (MCA) to compare and rank the relative benefits and risks associated with each of the options.

Sunwater selected option 3 as it allows it to address the risk and prioritise the most critical and high priority sites. Option 3 also scored highest in the MCA.

Costs

The below table present the breakdown of Sunwater's proposed expenditure for the dam instrumentation program.

Table 6-13 – Summary of Sunwater's future expenditure for the Dam Instrumentation Renewal Program ($FY24, M)

	2025	2026	2027	2028	2029	FY26-29	FY30-58
Sunwater proposed	**1.9**	**4.8**	**9.1**	**11.4**	**0.0**	**25.3**	**0.0**

Source: 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

The cost for this program has been developed by a specialised project delivery team. The costs are broken down into two phases, with the first phase being for comprehensive review and the second phase for the implementation of the new instrumentation. The following table provides a breakdown of costs included for each phase.

Table 6-14 – Breakdown of costs for each phase of the dam instrumentation program (Pre-overhead $FY24)

Item	Cost ($FY24)	Summary of the work
Phase 1		
Pre assessment works	[redacted]	• Initial works
Independent review of Methodology		• Engage specialist consultant to review methodology and assumptions
Pilot workshop to test Methodology		• Internal Sunwater workshop to discuss asset and test methodology
Assessment review of asset		• Conduct assessment of asset instrumentation
External review, finalization of reports and Phase 1 sign-off		• Final review and sign off
Contingency (10%)		• Standard project contingency adopted by Sunwater
Total		
Phase 2		
Project management		• Procurement of packages for decommissioning/construction works. Workshops with key stakeholders.
Detailed design		• Development of business case/PMP• Involvement in tendering, Gate 3 reviews and contract award. Dam Consultants (TRPs) and Dam safety engineer(s)
Contract management		• Management plan reviews, tender eval, risk registers, workshops etc. Number of program activities
Insurances		• PLSL levy costs
Decommissioning of instruments		• Decommissioning unusable instrumentation - work to be carried out by contractors
Installation and commissioning of new instruments		• Installing new carried out by contractors' instrumentation at location - work to be
Contingency (10%)		• Standard project contingency adopted by Sunwater
Total		

Source: Dam Instrumentation Program Business Case, Sunwater, November 2023

These costs have been applied to each of the Group 1 dams except for Conia Dam where minor adjustments to the total cost were applied. The total pre-overhead cost for this program was estimated at $17.9M as shown in the table below.

Table 6-15 – Dam instrumentation program breakdown by dam location and implementation phase (Pre-overhead, $FY24)

Location	Scheme	Phase 1 - Review	Phase 2 - Delivery	Total
Callide Dam	Callide Supply	[redacted]		
Fairburn Dam	Nogoa MacKenzie			
Fred Haigh Dam	Bundaberg			
Teembura Dam	Pioneer River			
Kroombit Dam	Callide Supply			
Tinaroo Falls Dam	Mareeba Dimbulah			
Kinchant Dam	Eton			
EJ Beardmore Dam	St George			
Bjelke Peterson Dam	Barker Barambah			
Cania Dam	Three Moon Creek			
Coolmunda Dam	Macintyre Brook			
	Total			

Source: Dam Instrumentation Program Business Case, Sunwater, November 2023

Assessment of prudency and efficiency

The dam instrumentation program was developed by a project team with a robust understanding of the gaps and need to deliver services. The program addresses regulatory requirements and reduces safety risks by increasing the knowledge of the current condition of the instrumentation. The cost developed by the project team was presented methodically demonstrating a thorough understanding of the project requirement.

We consider the dam instrumentation program to be prudent and efficiency, and therefore have not recommended any adjustments to Sunwater's proposed forecast expenditure for this program.

6.4.1.2 Dam Safety Management Program

Program Background

The Dam Safety Management program is a specific program that was developed by Sunwater to address regulatory requirements for dam safety. The program is proposed for the following purposes:

- Understand the risk of our dam assets within the regulatory risk criteria to an appropriate level of certainty.
- Identify pathway to reduce dam safety risks to "as low as reasonably practical" (ALARP) required by the Guidelines on Safety Assessments for Referable Dams (DRDMW, 2021)

Sunwater owns and/or operates 23 referable dams and storages throughout Queensland (22 of which Sunwater owns and operates and one which it only operates). Dams within the portfolio are each exposed to different risks and require differing work to ensure compliance with ALARP.

Sunwater proposed a renewals expenditure of $0.7M in FY25 and $11.1M ($FY24) over the future price path (FY26-29) for this program, including overheads.

Solution identification

In developing this program, Sunwater undertook options assessment to explore implementation of the program. Sunwater applied its options analysis guidelines to identify and prioritise the approach of delivery. The following options were included in Sunwater's assessment:

- Option 1: Maintain existing dam safety management approach
- Option 2: Assessment of referable dams above the limit of tolerability
- Option 3: ALARP assessment of referable dams with intolerable risk positions (all referable dams)
- Option 4: Additional risk investigations.

In its decision process, Sunwater considered the outcome, key features, benefits, and cost of each option. Additionally, Sunwater undertook multicriteria analysis to score the options based on its considerations and risk. Option 3 was then selected as the preferred option which was in turn further developed and proposed in its price submission.

Costs

The costs were developed based on Sunwater's previous projects of a similar kind as well as its understanding of the risks. As part of our assessment, we reviewed the breakdown of cost for this program which was developed by a specialised project team and project manager. The breakdown of costs for each dam across scopes are presented in the table below. We note that this cost does not include overheads.

Table 6-16 – Breakdown of the Dam Safety Management Program costs across scopes $M ($FY24)

	ALARP screening and Gate Zero Readiness	ALARP Confirmatory Studies	Additional Risk Investigations	Risk Management Plan Review	Comprehensive Risk Assessment	CRA Recommendation	Total
Peter Faust Dam	-	0.25	-	-	-	-	**0.25**
Wuruma Dam	-	0.25	0.30	-	-	-	**0.55**
Boondooma Dam	-	0.25	-	-	-	-	**0.25**
Isis Balancing Storage	-	0.50	-	-	-	-	**0.50**
EJ Beardmore Dam	-	0.25	-	0.01	0.20	0.22	**0.68**
Leslie Dam	0.12	0.25	0.10	-	-	-	**0.47**
Eungella Dam	-	-	-	-	-	0.10	**0.10**
Fairbairn Dam	-	0.37	0.20	0.01	-	0.13	**0.71**
Callide Dam	0.22	0.25	0.10	-	-	-	**0.57**
Tinaroo Falls Dam	0.12	0.25	0.50	0.01	-	0.50	**1.38**
Kinchant Dam	-	0.25	-	0.01	-	0.47	**0.73**
Bjelke Petersen Dam	-	0.25	-	0.01	-	-	**0.26**
Cania Dam	-	0.25	-	-	-	-	**0.25**
Moura Weir	-	0.25	-	-	-	0.50	**0.75**
Kroombit Dam	0.12	0.15	-	0.01	-	0.07	**0.35**
Woongarra Balancing Storage	-	0.25	-	-	-	0.25	**0.50**
Total	**0.58**	**4.02**	**1.20**	**0.03**	**0.20**	**2.25**	**8.28**

Source: RFI_75 Dam Safety Management Program – Business Case – September 2023.xlsx, Sunwater, February 2024

During our review, we questioned whether there was some duplication in some of the asset scopes in the table above with the renewals program. Therefore, we sent a request to Sunwater to address potential duplication between the two proposed renewals programs. We subsequently found that three dams included duplication of scopes across the two programs. The table below summarises the finding

Table 6-17 – Summary of scope duplication between the dam safety management and dam related works programs

Dam	Project	Dam Related Works Renewals Program (DRWRP)	Dam Safety Management Program (DSMP)	Outcome of review
Kinchant Dam	Post-CRA works in FY26	• Kinchant CRA Recommendation – Dam Break and Consequence Assessment in FY25	• Kinchant CRA Rec – Dam Break and Consequence Assessment in FY26	Remove projects from DRWRP and adjust the DRWRP renewal program.
		• Kinchant CRA Recommendation – Instrumentation testing and maintenance in FY25	• Kinchant CRA Rec – Instrumentation testing and maintenance in FY26	
		• Kinchant CRA Recommendation – Water Testing in FY25	• Kinchant CRA Rec – Water Testing in FY26	
		• Kinchant CRA Recommendation – 3D geo model in FY25	• Kinchant CRA Rec – 3D geo model in FY26	
		• Kinchant CRA Recommendation – Data Compile – Piping memo in FY25	• Kinchant CRA Rec – Data Compile – Piping memo in FY26	
Tinaroo Falls Dam	20 Year Dam Safety Review in FY28	• 20 Year Dam Safety Review in FY28	• 20 Year Dam Safety Review in FY28 and FY29	Remove projects from DRWRP and adjust the DRWRP renewal program.
Kroombit Dam	Various post-CRA works	• Kroombit CRA Recommendation – Stilling basin bathymetric survey for Comprehensive Inspection & large spills in FY25	• Kroombit CRA Rec – Stilling basin bathymetric survey for Comprehensive Inspection & large spills in FY27	Remove projects from DRWRP and adjust the DRWRP renewal program.
		• Kroombit CRA Recommendation – Deformation Survey in FY25)	• Kroombit CRA Rec – Deformation Survey in FY27	
		• Kroombit CRA Recommendation – Intake Room – Inspection and FEA analysis in FY25	• Kroombit CRA Rec – Intake Room – Inspection and FEA analysis in FY27	

Based on the findings, we recommend an adjustment to the Dam Related Works renewals program to remove the duplicate scopes. This results an adjustment to the Dam Related Works program of $0.6M for FY25 and $0.3M for FY26-29.

Assessment of prudency and efficiency

The Dam Safety Management Program is a specific program and has been developed in detail by a project delivery team with clear understanding of the requirements, scope, and risks. This is consistent with our view of Sunwater's renewals program where short-term planning is considered to be robust while the long-term planning for regular refurbishment and replacements is not as mature. We consider the Dam Safety Management renewals expenditure to be prudent and efficient.

For the long-term renewal program, Dam-Related Works, we recommend an adjustment to reflect the removal of duplicate scopes between the dam safety and dam-related works program. We consider this finding to emphasise the need for Sunwater to improve its long-term renewal planning.

6.4.1.3 Metering renewal

Program background

Sunwater proposes a renewal expenditure program to renew its 8,500 customers' metering assets. The meter renewal program is long-term driven by replacement dates in Sunwater's SAP system. Sunwater stated that its metering fleet encompasses a variety of technologies ranging from traditional Dethridge wheels to modern electromagnetic types.

In determining the size and rate of replacement, Sunwater's asset management approach to meters is to run them to failure. Meter failures are identified through operational surveillance, quarterly readings, servicing activities, or customer notifications. Upon identification of failure or imminent failure, Sunwater follows a prioritized action plan, which includes repair using OEM or remanufactured parts, like-for-like replacement, or replacement with a modern equivalent.

The proposed meter renewal program includes an allowance for each scheme. The annual allowance will fund the refurbishment or replacement of a designated number of meters, around 5% of the total meters within the scheme. This renewal rate aims to refurbish or replace meters within their nominal 20-year asset life cycle.

Options assessment

Sunwater did not present alternative options in its business cases for the meter renewals program that was supplied as supporting information to its pricing proposal. We understand from other documents that Sunwater uses its engineering judgement for the best option for more routine projects.

We agree that meter renewal projects are not complex and routine to Sunwater's operation. However, we consider that there is a case for options assessment to include a different rate of replacement than the proposed 5% replacement rate.

Costs

The below table represent the breakdown of Sunwater's proposal for the meter renewal program.

Table 6-18 – Summary of expenditure for the meter renewal program ($FY24, M)

	2025	2026	2027	2028	2029	FY26-29	FY30-58
Sunwater Proposed	**3.0**	**2.2**	**2.9**	**2.2**	**2.2**	**5.1**	**29.3**

Source: 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

Costs developed for this program were per Sunwater's planning process, which utilised the replacement dates and costs received from its contractors. Sunwater presented an indicative range of customer meter costs that is included in this renewals program expenditure. The following table provides the indicative range of prices for meter replacement. We understand that the prices represent direct costs and do not include overheads.

Table 6-19 – Indicative pricing for meter replacement per offtake diameter (excluding overheads)

Offtake Diameter (mm)	[redacted] Quote	Labour installation	Contingency	Total cost per meter
15 - 32	[redacted]	4,350	1,450	[redacted]
125 - 150		7,672	2,557	
400		11,640	3,880	

Source: Meter Renewal Program - Justification Summary, Sunwater, November 2023

We understand that these indicative prices were used to develop the overall expenditure for the meter renewal program.

Assessment of prudency and efficiency

In analysing Sunwater's meters renewal program, we looked at the replacement date and asset life used in its pricing model. We understand that Sunwater uses a 20-year asset life for its meters and replaces meters based on failure and assessment of risk. This is done by condition assessment through operational surveillance, meter reading, and others approaches.

Therefore, we believe that it might be more appropriate to estimate replacement based on the actual average age of the meter assets rather than using the standard 20-year asset life to drive replacement. Using data provided by Sunwater[143], the actual average age of the meter assets is 24.31 years. Given that Sunwater's meters vary in range and types and include assets like Dethrige Wheel, we think it is likely that Sunwater does not need to use the current replacement rate of 5% p.a. for each scheme. We consider that a prudent and efficient replacement would reflect the actual age of the assets, and therefore recommend using a replacement rate reflective of the average age.

We note that the Sunwater replacement date provided in the supporting information data sheet[144] is not always consistent with the asset replacement dates provided in its RFI 50 response. This was raised in RFI 121 to clarify the discrepancy and to use a single source for replacement dates. In its response Sunwater provided that the two sheets are used for different purposes. Sunwater also added that functional locations are not correctly assigned for all assets. Because of this, we were not able to adjust the renewal based on adjustment of timing for the meter assets. Alternatively, we utilised the percent change between the asset life assumed for the long-term renewal and the average age of the asset.

Using an average age of 24.31 years results in a replacement rate of 4% p.a., which is 18% lower than the proposed rate. To apply this recommendation, we applied an annual 18% reduction of the proposed expenditure for the meter renewals program. This provides an adjustment of $0.4M for FY25, $1.1M for FY26-29, and $6.8M for FY30-58. The adjustment is further discussed in the recommended expenditure section.

[143] RFI_50 - Renewals Expenditure.xlsx, Sunwater, February 2024
[144] 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

Our findings from this review emphasise the need for Sunwater to improve its understanding of its assets condition and make replacement decisions based on asset performance rather than standard asset life. **We recommend that Sunwater undertakes routine asset performance and condition assessment which will allow it to plan replacement efficiently and prudently.**

6.4.1.4 Electrical switchboard renewal

Program background

The electrical switchboard renewal program is a long-term renewals program and is largely driven by the assigned asset life for the switchboard assets. These assets serve as a central control and distribution panel for managing the electrical power supply and control circuits of various equipment and systems in the facility, including pumps.

Additionally, the program addresses legal and regulatory obligations relating to electrical safety and safe working environment near electrical equipment. In Sunwater's application of its asset management process, it has planned the replacement and refurbishment dates for its switchboard assets. Sunwater's long-term planning includes switchboard replacement and refurbishment based on the assigned frequency relating to the standard life of the assets and risks. The table below provides replacement and refurbishments periods for switchboard assets.

Table 6-20 – Replacement and refurbishment periods by risk for switchboard assets (years)

Asset Description	Replacement period			Refurbishment period			Condition Assessment Period
	High risk	Med risk	Low risk	High risk	Med risk	Low risk	
HV Switchboard	22	30	36	11	15	18	2
Switch	22	31	35	2			
LV Switchboard	22	30	36	11	15	18	2
Power Supply Unit (rectifier)	19	26	30	2			
Elect Ctrl Gear	13	18	20	2			
Control cable	22	31	35	2			

Source: Electrical Switchboard Renewal Program - Justification Summary, Sunwater, November 2023

Per information received from Sunwater[145], the average age of the switchboard assets is 29.5 years, which is lower than the assumed asset life assigned to switchboards (35 years). There are 302 switchboard assets, of which 120 have exceeded their asset life. Of the 120 assets, 54 assets (45%) have exceeded their assigned asset life by more than five years. As for asset condition, over 80% of Sunwater's switchboard assets have been assessed with an average condition of 2.26 across all assessment categories. The table below summarises the switchboard asset condition.

[145] RFI_50 - Renewals Expenditure.xlsx, Sunwater, February 2024

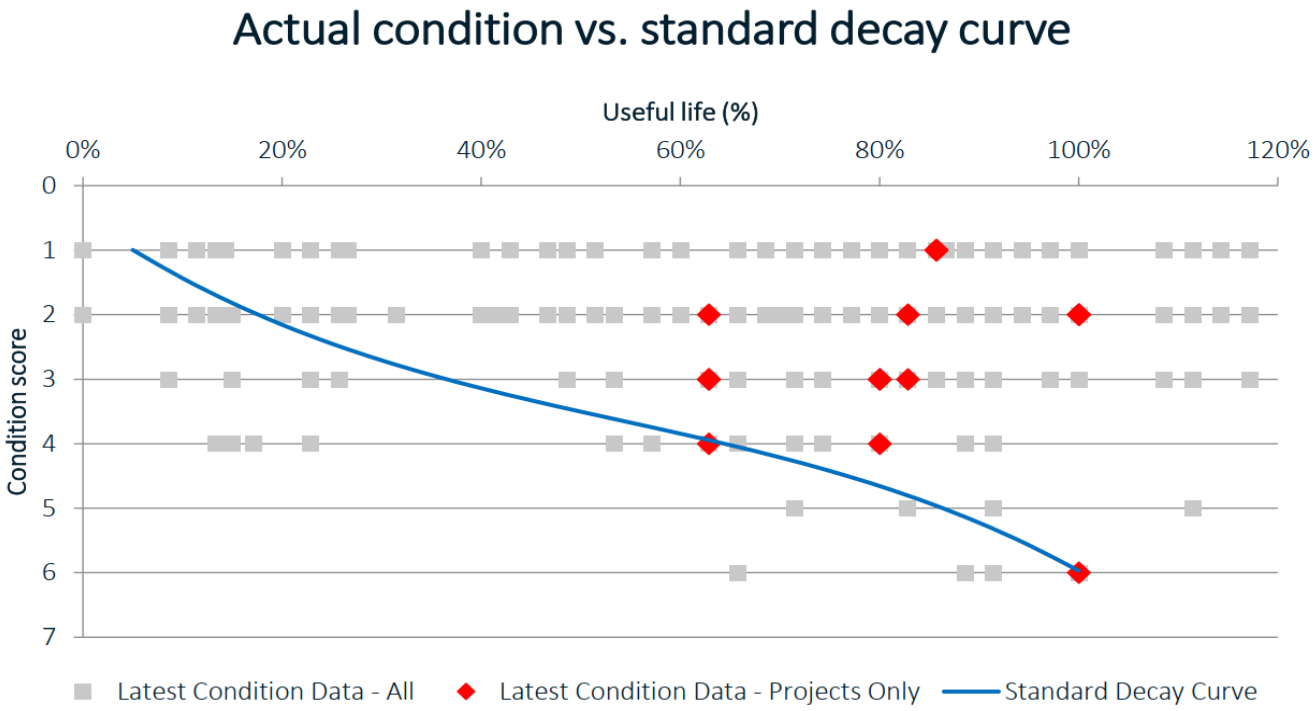
Table 6-21 – Replacement and refurbishment periods by risk for switchboard assets

Assessment category	Structural integrity	Structure movement	Erosion	Function	Pipework condition	Other components
Total # of assets	306					
Assets assessed	249	237	246	241	99	239
Assets assessed as % of total	81%	77%	80%	79%	32%	78%
Average condition	2.16	2.30	3.17	2.13	1.90	1.89

Source: RFI_50 - Renewals Expenditure.xlsx, Sunwater, February 2024

Sunwater asserted that the condition scores of the switchboard assets are better than what would be expected according to the standard asset decay curve. This is illustrated in the figure below showing the actual conditions against a standard decay curve. We understand that Sunwater does not use a standard decay curve to project replacement, but it is currently developing an asset class-specific decay curves[146].

Figure 6-4 – Condition assessment of switchboards against standard decay curve.



Source: Electrical Switchboard Renewal Program - Justification Summary, Sunwater, November 2023

We understand that currently for each annual non-routine renewal plan, Sunwater's regional teams make renewal decisions to undertake renewals of certain assets, in this case switchboard assets. As mentioned previously in the asset planning section, Sunwater has high confidence in the first year of the program and confidence decreases for its long-term projects.

[146] Electrical Switchboard Renewal Program - Justification Summary, Sunwater, November 2023

Sunwater proposes an expenditure for the renewal of switchboards of $8.6M over the future price path (FY26-29) and $38.3M over the period beyond the price path (FY30-58).

Options assessment

Sunwater guidelines on options assessment state that Sunwater will only include options assessment for expenditures greater than 10% of the total annuity expenditure. It also adds that for less complex non-routine projects, Sunwater will use its judgment to select the optimum solution.

For this program, Sunwater provided options assessment for projects included in its justification business cases. The options generally include a do-nothing, refurbish, and replacement options for each project in the justification.

Costs

The breakdown of the switchboard renewals program over time is presented in the table below.

Table 6-22 – Summary of expenditure for the switchboard renewal program ($FY24, M)

	2025	2026	2027	2028	2029	FY26-29	FY30-58
Sunwater Proposed	**7.5**	**2.1**	**1.**4	**3.3**	**1.8**	**8.6**	**38.3**

Source: 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

Similar to the planning process, costs developed by Sunwater have higher confidence for projects to be implemented in the first years of planning and lower confidence for the long-term program. The costs for the long-term programs are populated using Sunwater's latest cost information for similar assets in its SAP system.

The costs in the SAP system may be updated to reflect recent costs; however, some unit costs in the SAP system might not be relevant by the time the project is implemented. This was discussed during the interview stage, where Sunwater stated that it is in the process of improving its cost estimation process and condition assessment, which in turn will potentially enhance its cost projection.

Assessment of prudency and efficiency

In assessing Sunwater's proposed program to renew their switchboard assets, we consider that its planning process lacks robustness, particularly concerning the estimation of costs beyond the initial five years. While their pricing model extends over a 30-year period, the lack of comprehensive understanding of costs beyond the short-term horizon raises concerns about the reliability and accuracy of their cost forecast.

We understand that forecasting costs over a long-term period involves inherent challenges due to factors like technological advancements, regulatory changes, and unforeseen events. However, we think that it is essential for Sunwater to adopt methodologies and strategies that enhance the reliability of their long-term projections.

We have not recommended a specific adjustment as we consider Sunwater might require additional expenditure for this program because of issues identified. However, we have identified opportunities from our review of this program and others relating to the overall renewals expenditure in later sections. **Our recommendations cover the need for Sunwater to establish more robust long-term planning, cost estimation and procurement. This includes developing asset health reporting to optimise renewals activities, establishing evidence-based asset lives to ensure replacement dates reflect condition and performance of assets, and improving its understanding of its assets' condition.**

6.4.1.5 Channel re-lining and re-shaping

Program background

The channel re-lining and re-shaping renewal program is a long-term term program that is mainly driven by replacement and refurbishment dates. For the short-term (first three years), the replacement and refurbishment dates are determined based on risk and condition of assets. For the long-term, those dates are driven by the assumed asset life assigned. We understand that the assigned asset life is also determined by the risk assigned to assets (longer asset life for low-risk assets and vice versa).

The program encompasses a range of activities focused on maintaining Sunwater's channels to prevent water loss and enhance overall system performance. Within the short-term, Sunwater will undertake repairs to identified damaged sections for specific channels as well as refurbishment and re-lining of channels.

Sunwater proposes an expenditure for the channel renewals program of $0.9M for FY25, $4.5M for FY26-29, and $21.5M for the period beyond the price path (FY30-58).

Options assessment

Sunwater did not present options assessment for the program as a whole in its justification summary. We understand that Sunwater only undertakes detailed options assessment for complex projects that are less routine. For the projects included in the justification summary[147], Sunwater provided a simple options assessment considering three options: do nothing, refurbishment, and replacement. However, for the synthetic re-lining project, Sunwater presented a risk and condition assessment of the asset but did not present options and stated that "*QCA previously approved the replacement of the liner*."

Costs

The below tables present a summary of the proposed expenditure for the channel re-shaping and re-lining program.

Table 6-23 – Summary of expenditure for the channel re-shaping and re-lining program ($FY24, M)

	2025	2026	2027	2028	2029	FY26-29	FY30-58
Sunwater proposed	**0.9**	**0.8**	**0.7**	**2.2**	**0.7**	**3.0**	**14.3**

Source: 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

The basis of costs and cost assumptions included in the renewal program are not clear. For the Mareeba system synthetic lining replacement project, Sunwater reviewed the pricing included in its SAP, which increased it by 32% to align with a more recent replacement cost. However, Sunwater does not provide evidence of the need of the increase such as a bill of materials. Sunwater stated that a more robust cost will be developed prior to the replacement project which is scheduled for FY28. Sunwater stated that because QCA previously approved a higher amount for this project in the last price path review, the current proposed value should be considered appropriate.

Assessment of prudency and efficiency

Based on the conversations we have had with Sunwater, its channel renewal management is responsive to customers' needs, particularly during growing seasons, ensuring alignment with agricultural demands. The program's development was chiefly influenced by SAP and is generally in line with historical expenditure.

Looking ahead, Sunwater foresees the refurbishment and replacement of its distribution system channels as part of its upcoming price path. However, interviews revealed a notable gap in Sunwater's comprehension of channel

[147] Electrical Switchboard Renewal Program - Justification Summary, Sunwater, November 2023

conditions, particularly concerning concrete and synthetic lining channels. While acknowledging the challenges inherent in assessing earth channels' condition, there's a perceived need for Sunwater to enhance its understanding of these channels' conditions to better inform its renewal strategies.

We have not recommended any adjustment to the proposed expenditure. However, we note that Sunwater has a gap in its understanding of the channels' conditions and therefore its planning does not appear to be robust and will require a holistic asset management approach to address this gap. This is discussed further in our recommendation section.

6.4.2 Assessment of wider program

Asset life assumptions

We understand that Sunwater's renewals program is strongly driven by asset life assumptions to estimate refurbishment and replacement dates. Sunwater's approach involves assigning asset life and refurbishment occurrences based on the nature of the assets and risk associated with its operation. Critical assets will have higher risk and therefore the asset life assumptions will reflect a lower asset life, and vice versa for lower risk assets.

Our view is that asset replacement and refurbishment dates should be driven by asset condition and performance. We acknowledge that Sunwater only adjusts the replacement date within five years of when the asset life is due or if a condition assessment triggers an earlier replacement. We consider that Sunwater should focus on assigning long term replacement dates based on its understanding of its assets' condition and performance. One way to establish this is by utilising decay curves that are broken down by asset class and are specific to Sunwater's assets. Based on information provided[148], Sunwater has initiated a project to develop asset class-specific decay curves to inform future forecast development.

Sunwater stated that "*In many instances Sunwater's assets last longer than the standard asset life*."[149] This indicates that Sunwater's renewals expenditure program might include replacement projects earlier than anticipated. One way to assess this and potentially reflect a more prudent expenditure would be to look at the current asset life assumption against actual asset age.

In our review of Sunwater's assets, we requested a register of Sunwater's assets with asset type, location, installation date, asset life, and estimated replacement date along with the assessed condition of the assets. We focused our review on assets that have an assigned asset life of less than 30 years. This is due to the nature of utilities assets where assets longer than 30 years become harder to assess.

We found that for assets with an assumed life below 30 years, the average actual age of the asset is higher than the assumption. This is particularly present in assets with an assumed life of 20 years, where the actual average age of the assets is 26.12 years. It is worth noting that the assets with a 20-year asset life assumption represent 24% of Sunwater's assets. All other assets in the table below present the average age of assets under each asset life category as well as the variance.

[148] Irrigation Pricing Proposal 2026-29, page 88, Sunwater, November 2023
[149] Justification Summary – Pumps and Motors Renewal Program, Sunwater, November 2023

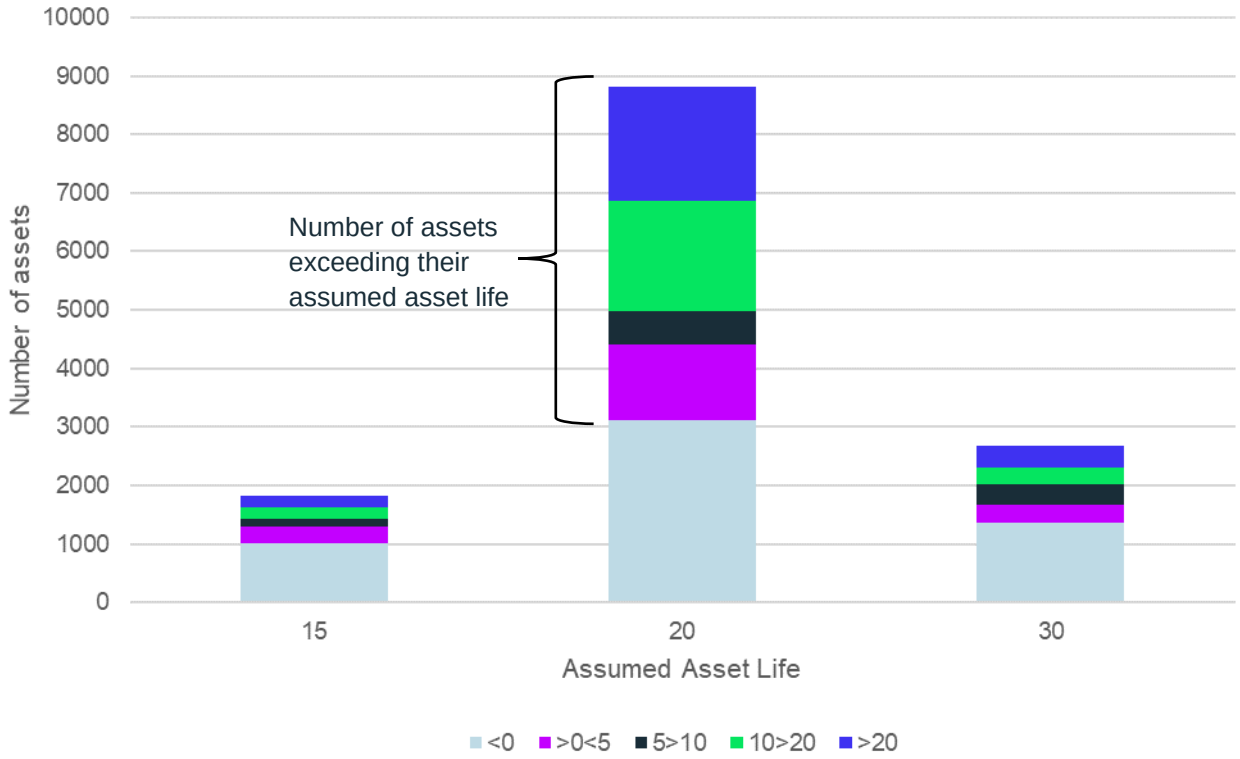
Table 6-24 – Breakdown of Sunwater's average asset age for each asset life category

Assumed asset life	Average asset age	Variance
5	15.21	10.21
10	18.33	8.33
12	30.96	18.96
15	16.02	1.02
20	26.12	6.12
24	36.17	12.17
25	40.26	15.26
30	28.62	-1.38

Source: RFI_50 - Renewals Expenditure.xlsx, Sunwater, February 2024

The figure below presents the breakdown of the variance between asset age and assumed asset life for the three most significant asset life categories under 30 years. The light blue colour at the bottom of the bar represents assets that have not exceeded the assumed life, and the other colours represent the exceeding variance progressively.

Figure 6-5 – Assets breakdown by variance between asset age and assumed asset life



Source: RFI_50 - Renewals Expenditure.xlsx, Sunwater, February 2024

Based on this finding, we consider that Sunwater appears to be applying asset life assumptions that are lower than the actual life of its assets, especially for assets with 20-year life assumption. Therefore, in the absence of an asset condition and performance approach, we recommend that Sunwater's renewals expenditure for replacement of assets with 20-year life assumption be delayed by six years reflecting the actual age of the asset. Our recommendation excludes the following:

- Switchboard and control renewal program: We consider the switchboard program to address critical safety concerns and it is reasonable for switchboard and control items to be replaced within the planned timeline.

- SCADA renewal program: We consider Sunwater's SCADA implementation of this program will be required to increase its efficiency.

- Meter renewal program: This program has been adjusted specifically based on actual asset age.

We recommend that this replacement date adjustment be applied to renewals expenditure for the period beyond the price path (FY30-58). This is due to our understanding that Sunwater takes into consideration asset condition and performance for assets that are due to be replaced within five years.

We have not applied adjustment to other assets with assumed asset life outside of 20 years. This is due to either:

- the number of assets in each assumed asset life category being too small (e.g. assets with an assumed life of 5,10, 12, 24, and 25 years only represent 1.3% of Sunwater's assets, collectively) or;
- that the average actual asset age is immaterially close to the assumed asset life (e.g. actual asset age for assets with an assumed life of 15 years is 16 years).

Our recommendation results in an adjustment of $2.7M ($FY24) over the period beyond the price path (FY30-58). This is shown below in the recommended expenditure section.

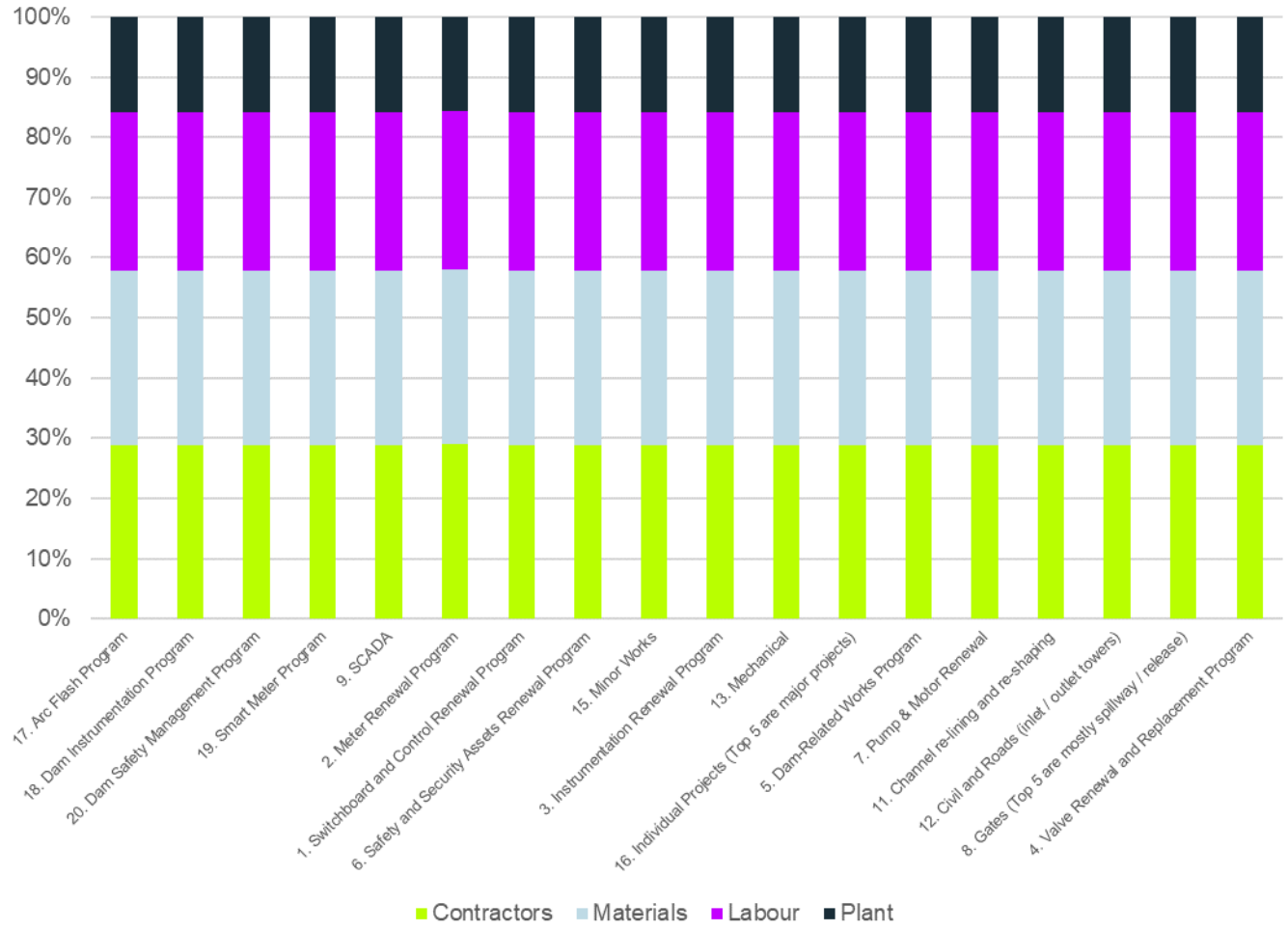
6.4.2.1 Labour costs assumptions

We understand, based on our review, that project costs developed by either the asset management team (long-term) and delivery teams (short-term) do not include overheads. Costs are developed based on each team's understanding of the cost breakdowns between internal labour, materials, plant, and contractor costs. These costs are then given to the finance team where it is inputted into the SAP system and unit rates are applied.

Using Sunwater WMS data for renewals[150], provided in the supporting information along with its pricing proposal, we broke down the renewals expenditure by expense type (Contractors, Materials, Labour, and Plant) to better understand how Sunwater applies overhead costs. The figure below shows the distribution of renewals costs across the four cost groups.

[150] *10 WMS data Renewals Final Values.xlsx*, Sunwater, December 2023

Figure 6-6 – Breakdown of Sunwater's pre-overhead renewals expenditure by cost group



Source: 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

This illustrates that Sunwater applies a uniform cost allocation across the four cost groups, which is consistent with discussions held with Sunwater. For example, a project manager may develop a cost with a breakdown that splits the total costs across the four cost groups with values that are different from the applied allocation included in Sunwater's proposal. We understand that this is due to Sunwater's process to allocate overhead costs across the different business activities. During the interviews, Sunwater stated that the allocation percentages applied to renewals are based on historical labour costs for the renewals program.

In its forecast renewals expenditure, labour costs represent 26% of the total pre-overhead renewals expenditure. Sunwater then applies overhead costs to labour. The overhead rates include indirect costs which are different depending on the scheme. To verify the cost group allocation, we reviewed the cost group breakdown for actual renewals expenditure over the FY20-23 period.

Based on Sunwater's response to our request to break down historical renewals expenditure by cost group[151], we found that pre-overhead labour costs for renewals represented, on average, 12.1% of the total renewals expenditure.

[151] RFI 52 – Sunwater's response, Sunwater, February 2024

The table below shows the actual pre-overhead labour cost as % of the total pre-overhead renewals expenditure over FY20-23.

Table 6-25 – Sunwater's labour costs as % of total renewals expenditure (excluding overheads).

	2020	2021	2022	2023	Average
Labour cost (pre-overhead)	15%	12%	12%	10%	**12.1%**

Source: RFI_52_- Renewal CAPEX by Cost Category - Response.xlsx, Sunwater, February 2024

Sunwater has not provided an explanation as to why the forecast labour cost assumption is significantly higher than that of actual labour cost. In fact, actual labour costs as % of total expenditure have shown a negative trend over FY20-23. We consider that an efficient forecast of labour costs should reflect Sunwater's actual labour costs per its understanding of works required and historical labour costs. Therefore, we recommend that the pre-overhead cost group allocation is adjusted to a level that is reflective of Sunwater's historical expenditure. Section 6.4.3.3 presents our recommended adjustment. We note that adjusting labour costs will impact the overhead costs for the renewals program and therefore the overall forecast renewals expenditure.

6.4.3 Recommended expenditure

6.4.3.1 Program specific

Dam safety management (dam-related works)

We recommend an adjustment to the dam related works renewals program to reflect the removal of duplicate projects that were found during our review of the dam safety management renewal program.

Table 6-26 – Summary of the recommended expenditure for the dam-related works program ($FY24, M)

	FY25	FY26-29	FY30-58
Sunwater Proposed (post-overhead)	5.7	7.6	45.7
Sunwater proposed (pre-overhead)	3.8	4.9	29.2
Recommended (pre-overhead)	3.2	4.9	29.2
Adjustment	*(0.6)*	*(0.3)*	-

Sources: i) RFI_15 - Renewals Expenditure.xlsx, Sunwater, February 2024, ii) 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

Meter renewal

We recommend that Sunwater utilises the average age of its meter assets to determine its long-term meter renewal program. Therefore, we have applied an adjustment to represent a replacement rate that is reflective of the actual age of meters shown in the table below.

Table 6-27 – Summary of the recommended expenditure for the meter renewal program ($FY24, M)

	FY25	FY26-29	FY30-58
Sunwater Proposed (post-overhead)	3.0	9.5	59.1
Sunwater proposed (pre-overhead)	2.0	6.3	38.6
Recommended (pre-overhead)	1.6	5.2	31.8
Adjustment	(0.4)	(1.1)	(6.8)

Sources: i) RFI_50 - Renewals Expenditure.xlsx, Sunwater, February 2024, ii) 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

6.4.3.2 Asset life adjustment

We recommend that Sunwater replace its assets based on asset condition and performance. We understand that Sunwater is undertaking a project to develop asset-class specific decay curves based on its understanding of its assets' conditions and performance. We note that Sunwater's current asset life assumptions appear to be lower than its assets' actual ages, specifically for assets with 20-year life assumption. We consider that it is efficient to apply a replacement date that is more reflective of Sunwater's assets' ages.

We recommend an adjustment that reflects a delay of six years to replacement occurring in the period beyond the price path. We exclude from this adjustment assets related to the switchboard, SCADA, meter renewal programs. The following table is a summary of our recommended expenditure.

Table 6-28 – Summary of the recommended expenditure for expenditure associated with replacement of assets with an assumed life of 20 years (excluding switchboard, SCADA, and meter renewal) ($FY24, M)

	FY25	FY26-29	FY30-58
Sunwater Proposed (post-overhead)	0.3	2.7	16.7
Sunwater proposed (pre-overhead)	0.2	1.8	10.9
Recommended (pre-overhead)	0.2	1.8	8.2
Adjustment	-	-	(2.7)

Sources: i) RFI_50 - Renewals Expenditure.xlsx, Sunwater, February 2024, ii) 10 WMS data Renewals Final Values.xlsx, Sunwater*, December 2023*

We note that in our recommended adjustment for asset lives, we relied on the project description column in the WMS data sheet where we identified assets with 20-year asset life and replacement project using the designation "20Y" and "RPLC." We verified that all projects identified for adjustments included a reoccurring expenditure over 20 years. We found that this was sufficiently accurate in selecting replacement projects with 20-year asset life assumption. We did not use the asset life column in the WMS sheet as it is not consistent with expenditure occurrences[152]. However, we recognize that our approach is limited in capturing all assets with a 20-year assumed asset life as:

- There is a significant proportion of projects that do not include asset life with a designation of "N/A". We think a number of these projects might include the replacement of assets with an assumed life of 20 years.

[152] We discuss this in section 2.1.2, where we found that the asset life data do not align with expenditure. This was also confirmed by Sunwater in its response to RFI 121.

- Some projects might have a different project description format (e.g. generic program name like “Dam Safety Management Program”). It is possible that some expenditure included in these projects covers the replacement of assets with 20-year asset life assumption.

- Sunwater appears to have challenges in assigning consistent naming and asset lives across different the renewals expenditure program.

Therefore, we consider that it is likely that with more consistent data, our recommendation would have covered a larger renewals expenditure value and therefore a larger adjustment would have been applied. As we will state later in the recommendation section, Sunwater should develop a centralised asset life data base that is consistent with the proposed replacement dates and expenditures included in its pricing proposal.

6.4.3.3 Labour cost allocation adjustments

Our recommended allocation of labour costs to the pre-overhead renewals expenditure considers Sunwater’s actual labour costs as a % of the total renewals expenditure. The table below shows the cost group allocation breakdown for historical, budget, and forecast pre-overhead renewals.

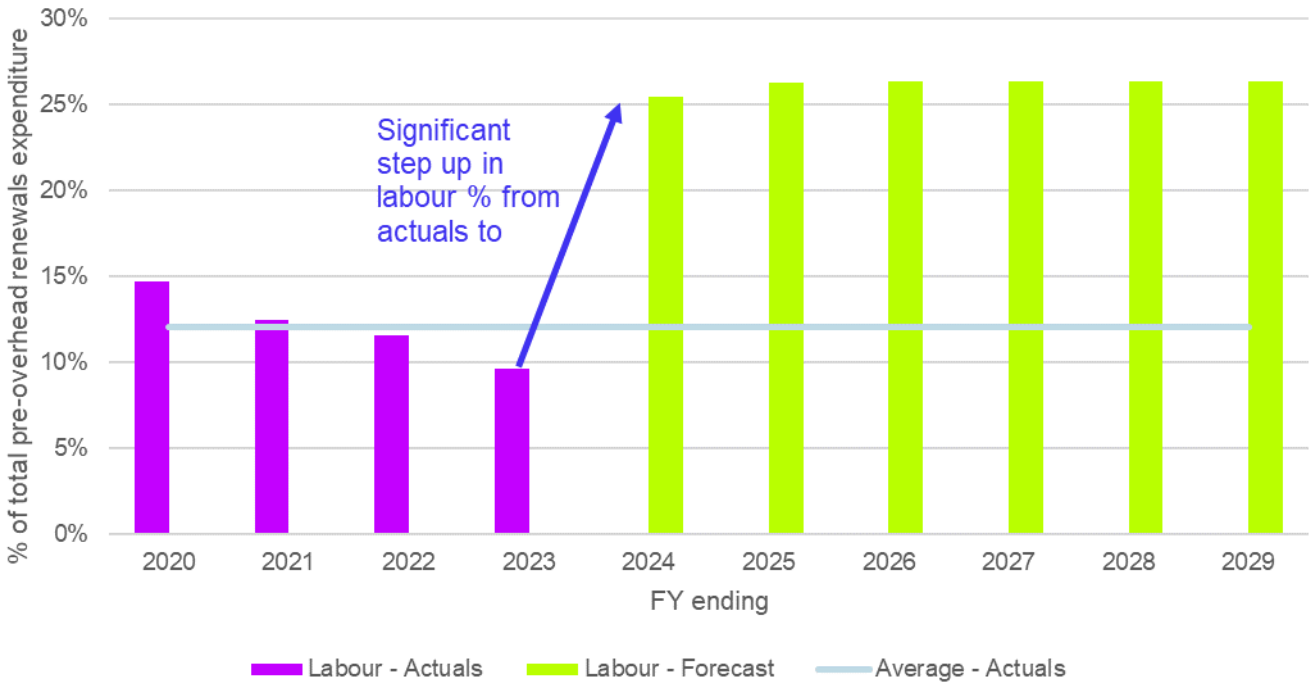
Table 6-29 – Breakdown of average cost group allocation for historical, budget, and forecast pre-overhead renewals.

	FY23	Budget (FY24)	Forecast (FY25 and beyond)
Labour	10%	25%	26%
Other cost groups	90%	75%	74%

Sources: i) RFI_52_- Renewal CAPEX by Cost Category - Response.xlsx, Sunwater, February 2024, ii) 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

The figure below also illustrates the labour cost % of total pre-overhead renewals expenditure over time. This shows that Sunwater’s proposed labour cost allocation assumption is significantly higher than the average actuals (111% increase).

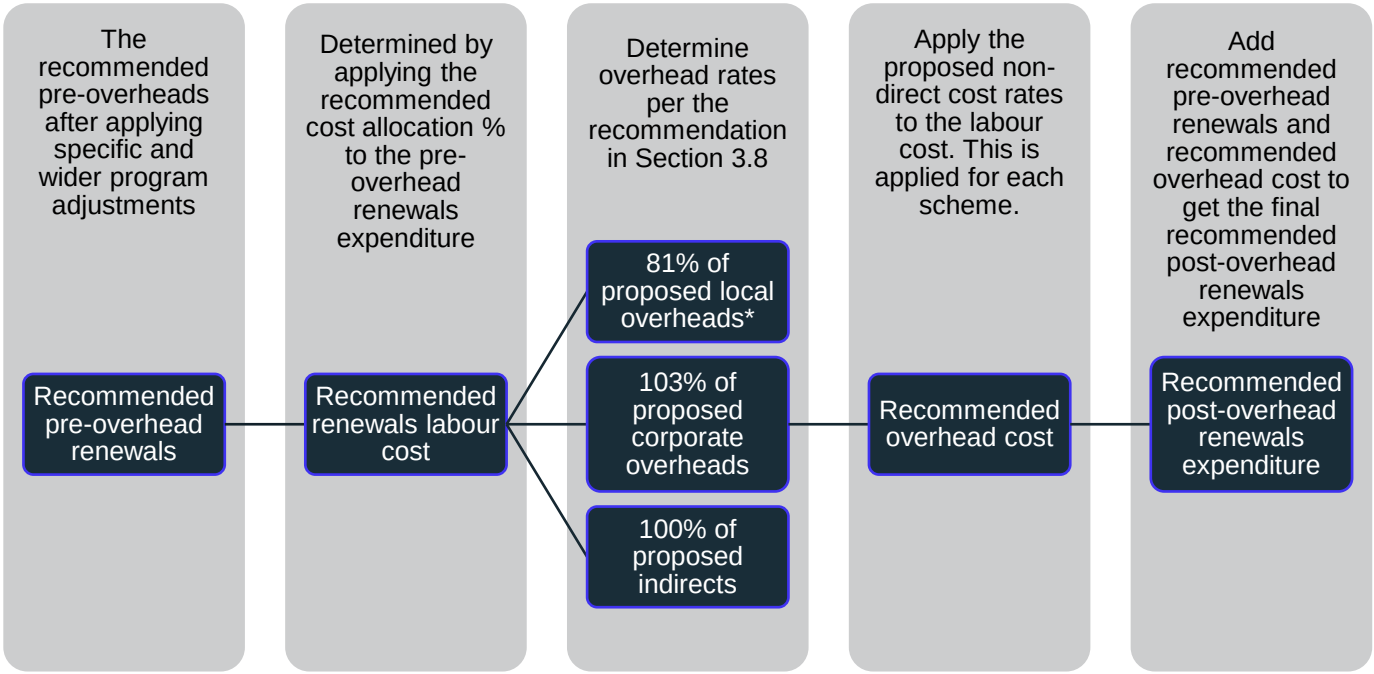
Figure 6-7 – Labour costs as a proportion of renewals expenditure



Sources: i) RFI_52_- Renewal CAPEX by Cost Category - Response.xlsx, Sunwater, February 2024, ii) 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

Labour cost allocation increases by 118% in the forecast allocation compared to actuals. We recommend using the average of actual labour cost allocation over FY20-23, which is equal to 12% of the pre-overhead renewals. We consider that the average of actual allocation provides a more representative forecast of labour cost allocation.

To account for this re-allocation of costs, we present our overall recommended renewals expenditure in pre-overhead terms before re-allocating expenditure across cost groups then apply the uplift for overhead. In applying the overhead rate to recommended labour costs, we utilised the recommended adjustment to indirect cost rates discussed in Section 3.8. The below diagram shows our approach in terms of applying our recommended labour cost as well as our recommended overhead rates.



Note*: The recommended % adjustment was applied to the average of local overheads across the four regions in 2023.

The total uplift values used for the Bulk Supply (WS) and Distribution (IS) schemes are 197% and 185%, respectively. The uplift was applied to pre-overhead labour cost over the review period (FY25 to FY58). This adjustment is reflected in the summary of recommended expenditure section.

6.5 Opportunities for efficiency

In the previous sections, we presented our recommended expenditure based on our review of selected projects. We have also highlighted some wider issues in Sunwater's renewal planning, initial project scoping, and procurement. These issues are not related to a specific project but relate to Sunwater's overall approach to renewals.

We set out below our view on the implications of efficiency challenge on the recommended expenditure.

6.5.1 Catch-up efficiency

Catch-up efficiency is what we consider is required to achieve the performance of a Frontier Company. The efficiency challenge we apply also takes account of what is realistically achievable in the timeframes of a regulatory period.

Sunwater has not applied a catch-up efficiency challenge to address potential improvements. We consider that improvements in renewals planning, procurement, project management and value engineering have not been realised and there are significant efficiencies still to be made to move to the efficient frontier.

We have recommended efficiency challenges for each of these areas as summarised in the table below:

Table 6-30 – Summary of the recommended catch-up efficiency challenge stating justification and % challenge recommended

Area for catch-up efficiency challenge	Justification	Scale of savings
Value engineering (VE)	It is best practice to use VE across all phases of project development and delivery from defining project goals and drivers to scope definition and alternative construction techniques. We have seen little evidence of value engineering in the sample of projects reviewed. Indeed, many of the projects we reviewed saw significant scope creep with few examples of the opposite effect. This lack of use of VE puts Sunwater behind its well-performing peer organisations who have generally embedded VE at all stages of project development and delivery.	Based on industry studies, VE can deliver between 5-15% savings[153]. We recommend applying a phased VE catch-up efficiency challenge starting in FY26 and reaching the lower end of savings, 5%, by FY29 and apply the rate for the rest of proposed renewals expenditure for the period beyond the price path.
Procurement	During the interviews, Sunwater acknowledged that its approach to procurement was at an early stage of maturity, with significant improvements still to be made over a five-year maturity pathway. It is developing business unit procurement plans and looking to identify cross-panel arrangements. Procurement uses a traditional approach of following guidelines with no reference to Procurement strategy found in business cases.	Research suggests procurement savings of the order of 5% to 12%[154] may be achievable. We therefore recommend a phased efficiency starting with 0.5% in FY26 to 3% in FY29, then applied to renewals expenditure beyond the price path. This is due to our expectation (and Sunwater's) that procurement will improve with the new procurement team to delivery cost savings.
Project development and decision making	We consider that Sunwater would benefit from more robust early project scoping, optioneering and decision making. This is also recognised by Sunwater as it acknowledged the need for a better understanding of its asset condition[155]. We believe that with a better understanding of asset condition, Sunwater will be able to better re-prioritise and scope projects which will lead to selection of the least whole life cost feasible	This can be more challenging to quantify as it is more context specific. However, we note that the Australian Building Smart survey suggested that BIM, i.e. better information management and use, alone could improve the productivity of the industry by 6% to 9%. We have recommended applying an

[153] Xiaobin Lin, et a. , Status of value management studies in construction projects: A systematic review, Ain Shams Engineering Journal, Volume 14, Issue 1,2023 Status of value management studies in construction projects: A systematic review - ScienceDirect

[154] E.g. 5.4% savings quoted in "Boosting Construction Productivity Policy Paper", Australian Construction Industry Forum (786 (acif.com.au)) and 12% savings quoted in "The strategic era of procurement in construction", McKinsey the-strategic-era-of-procurement-in-construction-vf.pdf (mckinsey.com)

[155] Sunwater acknowledged the need for improvement in predictive maintenance and asset condition reporting in its 2025-29 irrigation pricing proposal, pages 87-88, November 2023.

	solution unless there is a very good reason not to do this. These changes should help Sunwater make better decisions earlier (including 'don't spend' decisions).	efficiency challenge of 2% for all non-billing renewals expenditure.

The following table shows the recommended catch-up efficiency challenge. The associated impact is shown in Section 6.6.

Table 6-31 – Recommended catch-up efficiency challenge

	FY25	FY26	FY27	FY28	FY29	FY30-FY58
Catch-up efficiency: value engineering	0.00%	1.00%	2.00%	3.50%	5.00%	5.00%
Catch-up efficiency: program development and decision making	0.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Catch-up efficiency: procurement	0.00%	0.50%	1.00%	2.00%	3.00%	3.00%
Total catch up efficiency	**0.00%**	**3.50%**	**5.00%**	**7.50%**	**10.00%**	**10.00%**

6.5.2 Continuing efficiency

The continuing improvement element of efficiency, termed 'Frontier Shift' or continuing efficiency, relates to the underlying increased productivity from new systems and technology that well-performing businesses should achieve even if they are at the frontier. This challenge has been applied across various regulatory reviews in Australia and elsewhere. The below table shows examples of applied efficiencies in recent years.

Table 6-32 – Examples of continuing efficiency challenge applied in recent years in Australia

Utility	Year	Efficiency applied
Sydney Desalination Plant, NSW	2023	Continuing efficiency of 0.7% p.a.
Icon Water, ACT	2023	Capex: 0.42% efficiency adjustment Opex: 1.2% p.a. efficiency adjustment
Seqwater, QLD	2022	None (consultant's recommendation 0.5%)
SA Water, SA	2020	Continuing efficiency of 0.5% p.a.
Sydney Water, NSW	2020	0.8% p.a. (from FY22 onwards)

We note that Sunwater has engaged [redacted] to review its renewals proposal, which resulted an adjustment to its overall program. This adjustment was presented by Sunwater as reflective of an efficient level of spending and it has accepted the [redacted]-recommended adjustment in full[156].

Most of the [redacted]-recommended adjustment is related to deferral of projects, which does not necessarily reflect the logic of a continuing efficiency challenge. However, the [redacted]recommended adjustment includes reductions related to proposed project costs. We think it is reasonable to consider the [redacted]-recommended adjustment to encompass some efficiency challenge.

Therefore, we have not recommended a continuing efficiency challenge to Sunwater's renewals program.

We note that QCA may consider applying a continuing efficiency challenge in future reviews to address Sunwater's approach to planning and reflect the need for it to progress in line with industry trends.

[156] Irrigation Pricing Proposal 2025-29, Page 88, Sunwater, November 2023

6.6 Summary of recommended expenditure

The tables below summarise our recommended renewals expenditure, firstly for the current price path and then for the future.

Table 6-33 – Summary of recommended renewals expenditure over the current price path ($FY24, M)

	FY20	FY21	FY22	FY23	FY24	FY20-24
Sunwater Proposed (post-overhead)						
Total renewals expenditure	27.9	35.8	39.4	34.6	36.1	173.9
Adjustments (post-overhead)						
Specific projects						
Ben Anderson Shutters	-	-	-	-	(0.7)	(0.7)
Non-sampled projects						
Adjustment related to wider issues	(0.1)	(0.2)	(0.2)	(0.2)	(0.2)	(0.9)
Total adjustment	(0.1)	(0.2)	(0.2)	(0.2)	(0.9)	(1.7)
Recommended (post-overhead)						
Recommended non-billing renewals expenditure	27.8	35.6	39.2	34.5	35.2	172.2
Insurance contributions - to be accounted for in the roll-forward	(8.8)	-	-	-	-	(8.8)
Final recommended non-billing renewals expenditure	19.0	35.6	39.2	34.5	35.2	163.4

Recommended future renewals expenditure is summarised below.

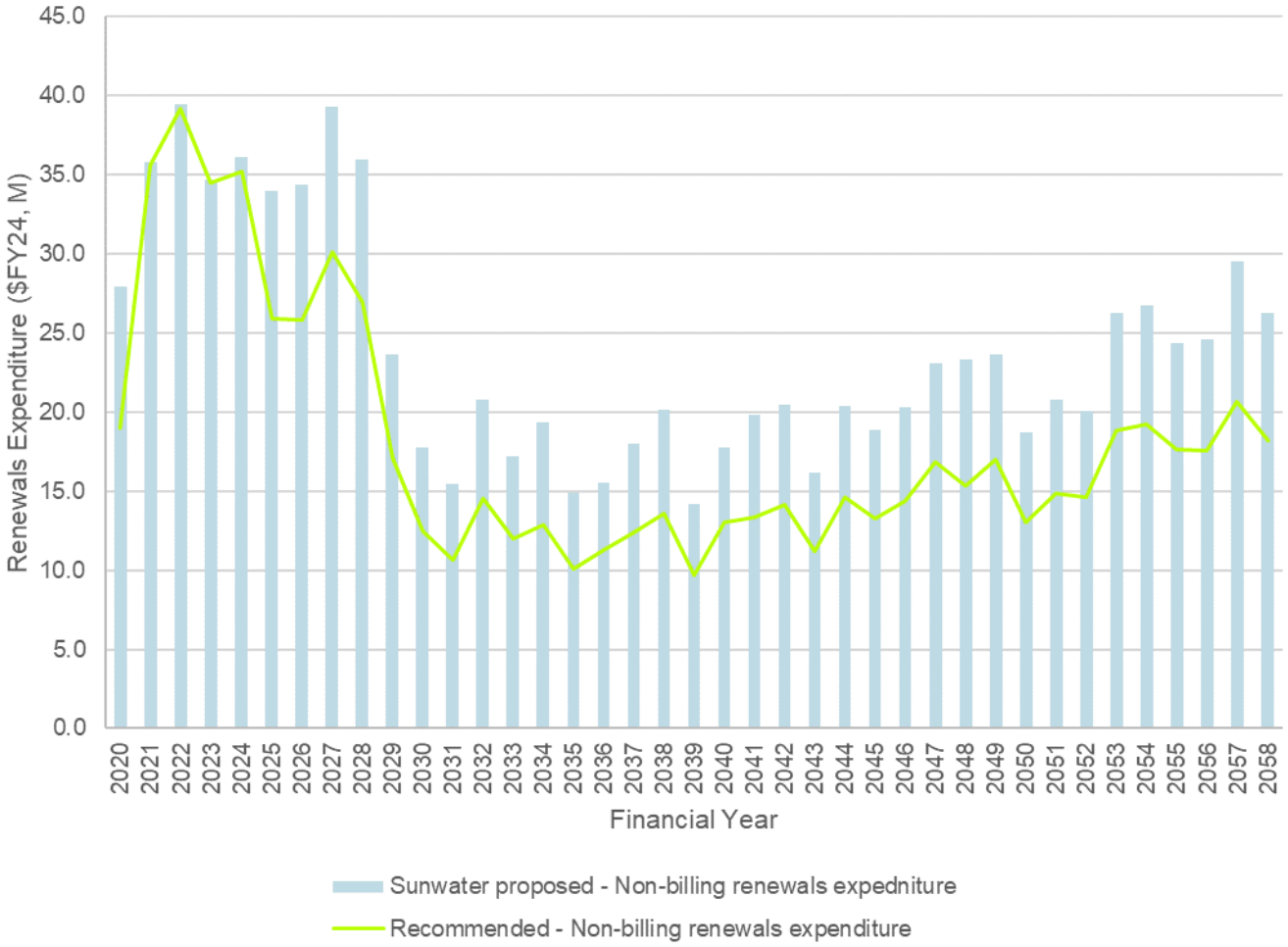
Table 6-34 – Summary of recommended future renewals expenditure ($FY24, M)

	FY25	FY26-29	FY30-58
Sunwater Proposed (post-overhead)			
Total renewals expenditure	33.9	171.5	594.3
Billing system renewal	-	38.2	-
Non-billing renewals expenditure	33.9	133.3	594.3
Sunwater proposed (pre-overhead)			
Non-billing renewals expenditure	22.7	87.9	386.6
Adjustments (pre-overhead)			
Specific projects			
Meter renewal	(0.4)	(1.1)	(6.8)
Dam-related works	(0.6)	(0.3)	-
Ben Anderson Shutters	(0.7)	(0.1)	0.3
Wider program level			
Asset life adjustment	-	-	(3.4)
Recommended (pre-overhead)			
Non-billing renewals expenditure	21.0	86.4	376.7
Recommended labour cost (pre-overhead)	2.5	10.4	45.5
Renewals overhead			
Overhead on labour cost	4.8	20.1	87.0
Post-overhead recommended renewals expenditure	25.9	106.5	463.7
Efficiency challenge			
Catch-up efficiency	0%	3.5% - 10%	10%
Catch-up efficiency adjustment	-	(6.6)	(46.4)
Post-efficiencies recommended Renewals			
Total recommended non-billing renewals expenditure (post overhead)	25.9	99.9	417.3
Total adjustment	(8.1)	(71.6)	(177.0)
Billing system renewal			
Recommended billing renewals expenditure - allocation of cost using Sunwater's current approach	**-**	**5.0**	**-**
Adjustment to billing renewals expenditure	**-**	**(33.2)**	**-**
Total renewals expenditure			
Recommended total renewals expenditure	**25.9**	**104.9**	**417.3**
Adjustment to total renewals expenditure	**(8.1)**	**(104.9)**	**(177.0)**

Source: AtkinsRéalis analysis of renewals expenditure information including 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

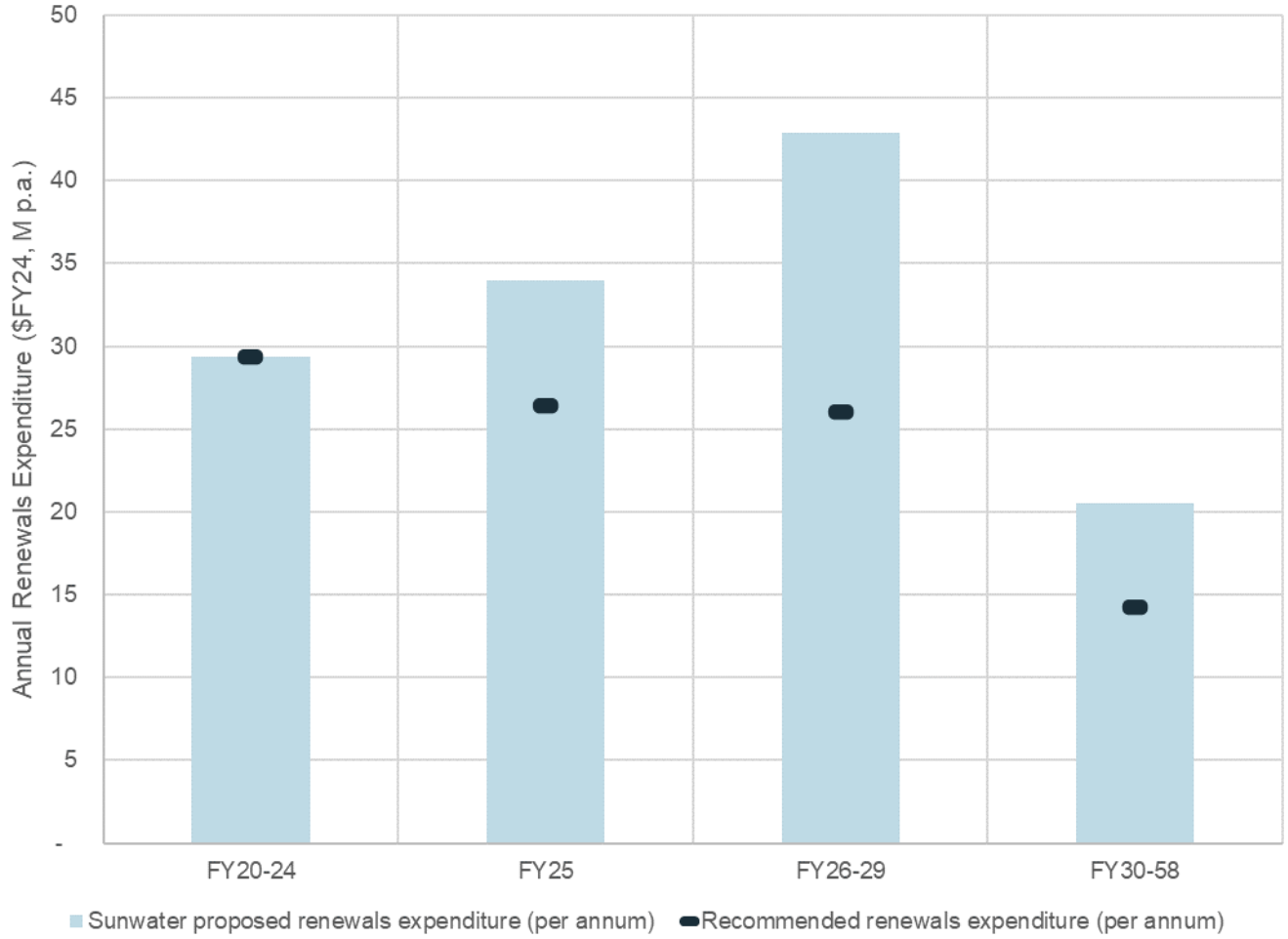
The following figures present a visual summary of our recommendations compared to Sunwater's proposed renewals expenditure.

Figure 6-8 – Summary of recommended non-billing renewals expenditure



Source: AtkinsRéalis analysis of renewals expenditure information including 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

Figure 6-9 – Summary of recommended non-billing renewals expenditure



Source: AtkinsRéalis analysis of renewals expenditure information including 10 WMS data Renewals Final Values.xlsx, Sunwater, December 2023

7. Recommendations

In this section, we summarise our general recommendations for future improvement. We have grouped recommendations into the following areas: efficiency and spend-to-save, expenditure classification and allocation, cost estimation and control, strategy and decision making, procurement, technology and customer service.

The recommendations we consider Sunwater should make include:

- Develop a comprehensive SCADA strategy. We consider it likely that scaled up SCADA could pay for itself through reduced travel time and expenses.
- Undertake and document a process to identify spend-to-save investment proposals and efficient working practice changes.
- Revisit its capitalisation policy. This will be a key step if there is to be confidence in Sunwater's proposed RAB-based approach and the definitions of capex and opex both in ex-ante and ex-post review.
- Review investment coding to allow clearer identification and understanding of drivers and types of investment.
- Develop strong cost estimation tools and methods with a feedback mechanism which allows it to continually improve. This should help to reduce cost overruns and lead to better informed decision making.
- Develop a structured process to carry out and document scope challenge and value engineering (why are we doing this scope, why now, do customers benefit, what can be done to improve the benefit to cost ratio).
- Continual re-prioritisation of works at a portfolio level.
- Develop asset health reporting.
- Develop a structured risk analysis and strategy for workplace health & safety (and other emerging drivers). This will help to inform future price reviews as well as ensuring that the actions taken are appropriate.
- Integrate factors such as bill impact and cost per customer metrics into business cases and budget setting for project justification.
- Develop evidence-based asset lives. This is a key requirement for a robust long term renewals plan.
- Better tracking and demonstration of benefits of ICT and OT investments.
- Set a stretching but achievable Customer Satisfaction target for the future price path.

This section presents our recommendations based on the interviews and documents provided but also our experience elsewhere. These are designed to help to improve performance in the next price period but also prepare the way for future price reviews. These recommendations have been developed as we have carried out the review of Sunwater's rural irrigation pricing proposal rather than a full assessment of Sunwater so are not intended as a comprehensive and fully developed list of potential improvements.

We have grouped recommendations into the following areas: efficiency and spend-to-save, expenditure classification and allocation, cost estimation and control, strategy and decision making, procurement, technology and customer service.

Efficiency and spend-to-save:

We recommend that Sunwater:

- Develops a comprehensive SCADA strategy. This should include scaling up the use of OT such as SCADA for assets such as pumping stations and gates to improve efficiency (operator time and expenses) and reduce safety risk. We consider it likely that scaled up SCADA could pay for itself through reduced travel time and expenses.

- Revisits its energy efficiency plans during the next price path with a view to presenting an efficiency strategy at the next price review. As the current whole of government arrangements expire, price changes may make it significantly more attractive to implement energy efficiency/self-generation projects.

- Undertakes and documents a process to identify spend-to-save investment proposals and efficient working practice changes. Where significant investment is required, we recommend embedding the claimed benefits into budgets as is custom at efficient utilities.

Expenditure classification and allocation

We recommend that Sunwater:

- Reviews its investment coding to allow clearer identification and understanding of drivers (e.g. maintenance, safety improvement, etc) and types of investment (e.g. refurbishment, replace, upgrade) in order to better understand the drivers for change in expenditure and explain this to stakeholders.

- Revisits its capitalisation policy and ensure that it is applied consistently throughout its renewals expenditure. We recommend that Sunwater should clearly identify the term “future economic benefit.” This is expected to include many replacement projects as capital rather than expensed (opex) expenditure and would allow Sunwater to move away from use of routine vs. non-routine to designate between opex and capex.

- Establishes a shadow accounting with a new capitalisation policy that is more in line with industry standards, to assess the impact of the new policy on opex and capex.

- Revisits its cost allocation manual to ensure that costs are directly coded wherever possible and develop a more causal cost allocation approach with appropriate cost allocators identified for different cost areas. We recommend that Sunwater transitions to this causal approach over the next two years to allow time before the next review to have a robust understanding of costs.

Cost estimation and control

We recommend that Sunwater:

- Develops strong cost estimation tools and methods with a feedback mechanism. The best performing utilities monitor the performance of their cost estimation (i.e. outturn v estimates) and find ways to continually improve them. This should help to reduce cost overruns and lead to better informed decision making.

- Develops a structured process to carry out and document scope challenge and value engineering (why are we doing this scope, why now, do customers benefit, what can be done to improve the benefit to cost).

- Carries out and documents active and ongoing re-prioritisation of works at a portfolio level. Circumstances change and well-run utilities carry out continual re-prioritisation of activities to maximise the benefits within

the budget available at program/portfolio as well as project level. This may mean deferring some non-urgent projects and bringing others forward.

- Develops an integrated data set for asset life that is consistent with actual and anticipated replacement dates. The asset life should be established and adjusted based on Sunwater's actual condition and performance of its assets. This will allow a more accurate representation of depreciation and is therefore especially important if a RAB-based approach is adopted.

Strategy and decision making:

We recommend that Sunwater:

- Develops asset health reporting and uses it to optimise maintenance and renewals activities. This can be a powerful tool in communicating to senior management and stakeholders the direction of travel of asset health and underlying risks.

- Develops a structured risk analysis and strategy for workplace health & safety (and other emerging drivers) leading to a prioritised improvement plan to enable a clearer link between drivers and expenditure. This will help to inform future price reviews as well as ensuring that the actions taken are appropriate.

- Integrates factors such as bill impact and cost per customer metrics into business cases and budget setting for project justification.

- Develops evidence-based asset lives. Sunwater has limited confidence in its asset lives, which is a key requirement for a robust long term renewals plan. Sunwater can develop an asset management approach to each group of assets (pumps, switchboards etc..) and have specific asset plans based on performance and condition informed by recent asset renewals.

- Improves its understanding of the condition (and risk) associated with its assets.

Procurement

We acknowledge that Sunwater has identified this opportunity for improvement already and is developing a maturity pathway so we have not laid out specific recommendations except to say that it would be useful to ensure the process of improvement seeks to learn from other utilities' experience.

Technology

We make the following recommendations related to the management of both Information Communications Technology and Operational Technology:

- Technology costs should in our view have been presented by Sunwater in its submission to QCA as they constitute by far the biggest contribution to Corporate costs and should be presented broken down by capitalised costs and opex. There has been a shift to opex solutions and there are also potential trade-offs between capex and opex depending on which solution is selected, so it is essential to consider the total expenditure.

- The ability to estimate costs robustly from the early stages of technology development is key to optimal decision making and ensuring that investments reflect value for money. This feeds directly into an assessment of prudence and efficiency. This is an area that has been work in progress for Sunwater.

- Benefits, especially relating to future efficiency savings, delivered by ICT and OT investments are set out in Business Cases and subsequently in Benefits Management Plans, but the approach to tracking and demonstrating their achievement for historic expenditure could be strengthened to better demonstrate confidence in future delivery. Also, if the efficiencies set out in a Business Case are not realised, or only partially realised, this may lead one to conclude that some or all of the expenditure was not prudent, hence why this is critical in our view to have visibility on the outcomes of the investments. This learning needs therefore to be translated into improved management of future initiatives[157].

- There is potential for collaboration and partnering on areas of emerging or unproven technology which may be happening, but this was not demonstrated.

- The impact of ICT and OT investments should lead in many cases to demonstrable improvements in Customer and Operational KPIs which Sunwater can be monitored against and therefore be held accountable.

Customer service

We make the following recommendations on where we believe there is scope to drive improvements in the service offering and/or efficiency. We recommend that Sunwater:

- Adopts a more proactive approach to customer management. An organisation that thinks Customer First will look at ways to reduce the burden on their customers and anticipate customer needs and problems. This requires a shift away from reacting to customer contacts to identifying issues and also case managing customer engagement in cases where the customer has initiated the contact. This will improve the customer experience and reduce the potential for dissatisfaction. CASPr should contribute significantly to better customer management, but it is also about the ethos and culture within the organisation as well as re-engineering many of the existing customer journeys.

- Provides multiple channels to customers for engagement with Sunwater. This may involve digitalising more processes or allowing customers to undertake these and other activities via the telephone to promote ease of access and speed of response. It may also involve enhancing existing channels or introducing new ones such as WhatsApp or SMS messaging which are particular popular and effective for managing operational issues.

- Considers reducing the Customer Satisfaction Survey to once a year to reduce the risk of survey fatigue from such a relatively small customer base and extend the survey mechanism to include telephone surveys of customers who are calling during the survey period in order to increase the response rate which has been relatively stagnant.

- Sets a stretching but achievable Customer Satisfaction target for the future price path in order to drive innovation and continuous improvement. We have suggested that a score ramping up over the next price path between the 55 to 65 range should not be viewed as insurmountable compared with leading water utilities who may be in the 75 to 85 range. This takes into account both the difference in the attributes of Sunwater's customer base as well as the impact of the implementation of CASPr and other improvements.

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[157] In our opinion, it is not easy to track the benefits and thus there could be a clearer line of sight to demonstrate if IT and OT investments successfully achieve what is set out in Business Cases. Part of the issue is that benefits may not be realised until the next price path (and by the same coin, efficiencies in the current price path may actually be realised from IT investments made in the previous determination). Another challenge is that it is generally not the IT team's responsibility to track those benefits, although from our perspective they should form part of the submission made to justify the IT investments.

APPENDICES

Appendix A. Summary of findings from historical renewals expenditure wider assessment sample

Table A-1 – Summary of projects reviewed against QCA allowance

Project #	Sunwater expenditure ($FY24, M)	QCA approved expenditure ($FY24, M)	Variance	Sunwater's explanation for overspend	Further comment
112	4.6	4.1	0.5	Scope increase - Confirmation of scope requirements.	Selected in detail review sample. No scope-specific adjustment is recommended.
115	3.6	4.2	-0.6	n/a	Sunwater has removed the overspend as it was deemed inefficient in the last price path review
116	4.1	0.9	3.2	Scope increase — budget for study changed to asset replacement	Selected in detail review. Increase relating to arc flash issues.
117	5.6	2.5	3.1	Scope increase - replacement of more assets	Due to acceleration of replacement. Initially, this project included a rate of replacement of 10 shutters a year. However, Sunwater made the decision to replace all shutters in a short period of time.
118	2.2	2.2	-0.1	Cost estimate - higher than expected	Labour and materials cost increases.
119	2.0	0.1	1.9	Scope increase - additional studies	Additional studies to address identified risks.
120	2.2	0.0	2.1	Scope increase - refurbishment to replacement	The increase in scope was in relation to switchboard conditions and arc flash requirement. This is a safety and regulatory issue that was addressed by the increase.
123	1.2	0.1	1.1	Scope increase - partial to full replacement	Condition assessment revealed the need for full replacement. The replacement relates to electrical safety issue.

Project #	Sunwater expenditure ($FY24, M)	QCA approved expenditure ($FY24, M)	Variance	Sunwater's explanation for overspend	Further comment
124	1.2	0.5	0.7	Cost estimate – further investigation	Initial costs did not fully reflect the market and did not address the required scope.
125	1.0	0.1	0.8	Scope increase - additional studies	Studies were needed to complete the CRA.
126	1.0	0.4	0.5	Scope increase/cost estimation - replacement of more components	Replacement was determined based on the age of the asset. Although we consider that assets should be replaced using condition and performance of the asset rather than age, the assets replaced in this project relate to safety from electrical equipment.
127	1.2	0.2	1.0	Scope increase - additional studies	Studies were needed to complete the CRA.
128	0.9	0.1	0.8	Cost estimate - increase in knowledge of condition	Due to a price increase by supplier and provider. Also ordered a full set for refurbishment.
129	0.9	0.1	0.8	Scope increase - options assessment to replacement	Electrical controls were in poor condition.
130	0.9	0.5	0.4	Scope increase - 1 valve to 2 valve replacement	Guard valves in poor condition.
132	0.9	0.3	0.6	Cost estimate - further damage due to large flow	Damage could result in structural integrity issues relating to displacement of materials.
134	0.9	0.2	0.6	Scope increase - additional studies	Studies were needed to complete the CRA.
135	0.8	0.2	0.6		
136	0.8	0.2	0.6		
138	0.7	0.1	0.6		
139	0.7	0.2	0.5		
143	0.7	0.4	0.2		

Source: Sunwater justification documents for historical renewals expenditure, Sunwater, November 2024

AtkinsRéalis

Graydon Jeal
WS Atkins International Limited
Level 22
215 Adelaide St
Brisbane
QLD 4000
Australia

Tel: +61 07 3002 1000
graydon.jeal@atkinsrealis.com